

California Emissions Estimator Model®

User's Guide

Version 2016.3.1

Prepared for:

California Air Pollution Control Officers Association (CAPCOA)

Prepared by:

BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts

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California Emission Estimator Model (CalEEMod)® Version 2016.3.1

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1 Introduction

This User's Guide (Guide) to the California Emission Estimator Model (CalEEMod)® is meant to give the user an introduction on how to use the program as well as to document the detailed calculations and default assumptions made in associated appendices. The purpose of CalEEMod is to provide a uniform platform for government agencies, land use planners, and environmental professionals to estimate potential emissions associated with both construction and operational use of land use projects. It is intended that these emission estimates are suitable for quantifying air quality and climate change impacts as part of the preparation of California Environmental Quality Act (CEQA) documents. In addition, individual districts may rely on the model's emission estimates to show compliance with local agency rules.

CalEEMod utilizes widely accepted methodologies for estimating emissions combined with default data that can be used when site-specific information is not available. Sources of these methodologies and default data include but are not limited to the United States Environmental Protection Agency (USEPA) AP-42 emission factors, California Air Resources Board (CARB) vehicle emission models, studies commissioned by California agencies such as the California Energy Commission (CEC) and CalRecycle. In addition, some local air districts provided customized values for their default data and existing regulation methodologies for use for projects located in their jurisdictions. When no customized information was provided and no regional differences were defined for local air districts, then state-wide default values were utilized. Since resource data and regulations are constantly changing, local agencies should be consulted to determine whether there are any circumstances when updated values should be used in place of the defaults currently incorporated into CalEEMod. A majority of CalEEMod's default data associated with locations and land use is derived from surveys of existing land uses. For any project that substantially deviates from the types and features included in the surveys, site-specific data that are supported by substantial evidence should be used, if available.

The model provides a number of opportunities for the user to change the defaults in the model; however, users are required to provide justification for all changes made to the default settings (e.g., reference more appropriate data sources) in the Remarks box provided at the bottom of the screen before the user will be able to proceed to the next screen. Further, the user should make every effort to ensure that correct data is entered, including the choice and percent reduction of mitigation most applicable to the land use project being evaluated.

1.1 Purpose of Model

CalEEMod provides a simple platform to calculate both construction emissions and operational emissions from a land use project. It can calculate both the daily maximum and annual average for criteria pollutants as well as annual greenhouse gas (GHG) emissions. The output from these calculations can be used in the preparation of quality and GHG analyses in CEQA documents such as Environmental Impact Reports (EIRs) and Negative Declarations. For projects located in the jurisdiction of San Luis Obispo APCD, the model can also calculate the sum of reactive organic gas (ROG) and nitrogen oxide (NO_x) emissions on a rolling quarterly basis. In addition, CalEEMod contains default values for estimating water and energy use

which may be useful for preparing hydrology and energy analyses in other sections of a CEQA document. Specifically, the model can aid the user by conducting the following calculations:

- Short-term construction emissions associated with the demolition, site preparation, grading, building, coating, and paving from the following sources:
 - Off-road construction equipment;
 - On-road mobile equipment associated with workers, vendors, and hauling;
 - Fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads. (Fugitive dust from wind blown sources such as storage piles and inactive disturbed areas, as well as fugitive dust from off-road vehicle travel, are not quantified in CalEEMod, which is consistent with approaches taken in other comprehensive models.)
 - Architectural coating activities (including the painting/striping of parking lots) and paving (ROG).
- Operational emissions for fully built-out land use development from the following sources:
 - On-road mobile vehicle traffic generated by the land uses;
 - Fugitive dust associated with roads;
 - Architectural coating activities (ROG);
 - Off-road equipment (e.g., forklifts, cranes) used during operation;
 - Landscaping equipment;
 - Emergency generators, fire pumps, and process boilers:
 - Use of consumer products, parking lot degreasers, fertilizers/pesticides, and cleaning supplies (ROG);
 - Wood stoves and hearth usage;
 - Natural gas usage in the buildings;
 - Electricity usage in the buildings (GHG only);
 - Electricity usage from lighting in parking lots and lighting, ventilation and elevators in parking structures;
 - Water usage per land use (GHG only); and,
 - Solid waste disposal per land use (GHG only).
- One-time vegetation sequestration changes
 - Permanent vegetation land use changes
 - New tree plantings

Mitigation adjustments to both short-term construction and operational emissions. Several of the mitigation measures described in CAPCOA's Quantifying Greenhouse Gas Mitigation Measures¹ have been incorporated into CalEEMod.

Available at: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

2 Program Installation

The program is distributed and maintained by the California Air Pollution Control Officers Association². The most recent version can be downloaded from www.caleemod.com.

2.1 Operating System Requirements

CalEEMod was programmed by Trinity using Microsoft SQL Compact Edition in conjunction with a Visual Basic Graphical User Interface (GUI). CalEEMod requires the following system requirements:

- Microsoft Windows 8 or 10 Operating System with Microsoft .NET Framework 3.5 (includes .NET 2.0 and 3.0)
- Microsoft Windows XP, Vista, or 7 Operating System with Microsoft .Net Framework 4 or higher
- Microsoft SQL Server Compact 3.5 SP2
- 300 Mb hard drive space available

2.2 Installation Procedures

To install

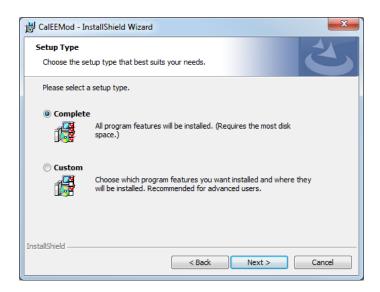
- Be sure to uninstall any previous versions of CalEEMod before installing a new version
 as some file names will be the same potentially confusing the computer. To uninstall for
 most computers, under Settings, Control Panel, Programs and Features, highlight
 CalEEMod and then click 'uninstall.'
- 2. Ensure you have the required Microsoft .Net framework installed on your machine. Microsoft .NET Framework 3.5 is available free from Microsoft at https://www.microsoft.com/en-us/download/details.aspx?id=21, and Microsoft .NET Framework 4.0 or higher is available free from Microsoft at https://www.microsoft.com/en-us/download/details.aspx?id=17851. Once this file is downloaded, unzip the file anywhere on your computer and run the installation file (setup.exe) and follow the instructions on Microsoft's website to locate the appropriate .msi file. To install Microsoft SQL Server Compact 3.5 SP2, go to https://www.microsoft.com/en-us/download/details.aspx?id=5783. For 32-bit computers, you will need to install SSCERuntime_x86-ENU.msi. For a 64-bit computer, you will need to install both the 32-bit and the 64-bit version of the SQL Server Compact 3.5 SP2 MSI files because the existing SQL Server Compact 3.5 applications may fail if only the 32-bit version of the .msi file is installed on the 64-bit computer.
- From <u>www.CalEEMod.com</u>, download the installation file (CalEEMod2016.3.1.exe), click on file and follow the instructions. Pages 5 through 7 show screen shots of the CalEEMod InstallShield Wizard.

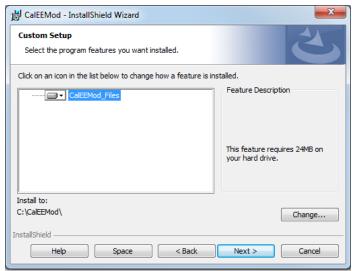
² CalEEMod® 2016 All Rights Reserved by California Air Pollution Control Officers Association.

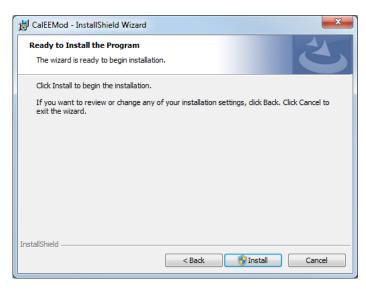
- 4. The default directory for CalEEMod is C:\CalEEMod\. To select an alternative directory location, choose Custom Installation³.
- 5. Click Next until the installation has completed, then click Finish to exit the installer.
- 6. If you have any further trouble installing CalEEMod, verify that you have appropriate user privileges and that your computer meets the operating system requirements.

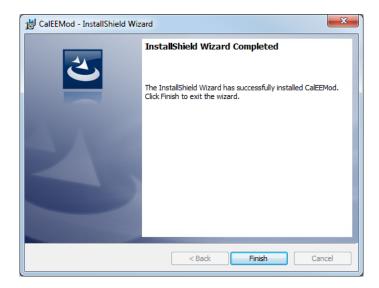


If you use Windows Vista, 7, 8 or 10, file privileges may not allow access rights to some folders during program operations such as C:\Program Files\.



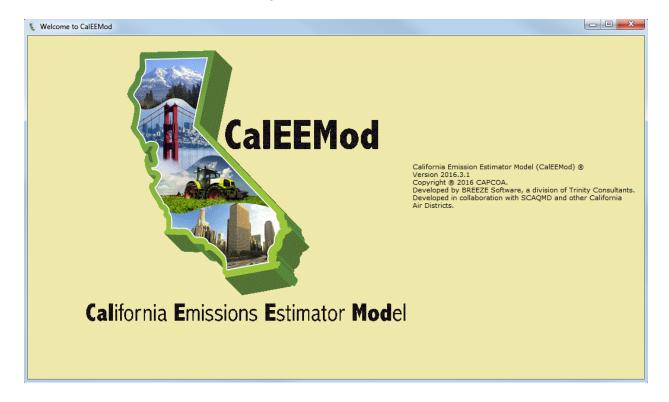






2.3 Starting CalEEMod

After the installation is complete, a CalEEMod short cut icon will be appear on the desktop and CalEEMod will appear in the list of Programs available from the Start Button. To start the model, select CalEEMod from the program files or double click on the CalEEMod short cut icon.



3 Using CalEEMod

3.1 Key Features

CalEEMod is comprised of a linear series of screens with each screen designed with an individual purpose to define features of the project such as project characteristics, construction schedule and equipment, operational activity, mitigation measures, etc. The user will need to input basic information about the project such as location, land use type (e.g., residential, commercial, retail, etc.) and project size and the model will populate later screens with predetermined defaults. The user may override the defaults to input more accurate, project-specific information as appropriate.

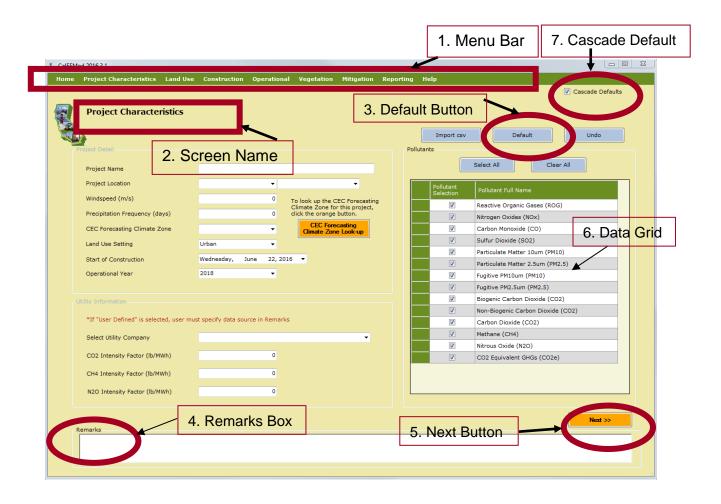
The figure on page 10 identifies some key features of CalEEMod which are described below.

- Menu Bar: A drop down menu bar is found on all screens. For example, the Home menu controls file features such as New Project, Open Project, Save Project, and Save As Project. The Help menu will link to appropriate information for the relevant screen from this User's Guide. All of the other menus will allow navigation between the screens in any order.
- 2. Screen Name: Identifies the name of the current screen.
- 3. Default Button: This button allows the user to restore the program defaults after the user has changed any default values on the screen. User-entered values will be highlighted in yellow to clearly indicate the defaults that have been changed. The user will be prompted to specify whether the default should be restored for the current or last cell on the screen or for the entire screen. The Import csv option will allow the user to load in a .csv file for a specific data grid. Clicking on the Undo button will allow the user to cancel or undo the previous action.
- 4. Remarks: This section is located at the bottom of each screen and it requires the user to enter comments regarding any defaults that have been replaced with user-defined values. The Remarks section is meant to assist project reviewers to determine or assess the justification for user-defined values entered.
- 5. Next Button: When the user clicks on this button, the next sequential screen will appear. As the user progresses through the model, later screens will also show a Previous button that will take the user to the previous screen.
- 6. Data Grid: This is a common box where values for the variables defined across the top are to be filled in with data. The number of rows will automatically be adjusted based on the number of rows of information required to define the information. On some data grids, the last row may have an asterisk (*) and once the user begins adding information to this row, a new row will be added at the end. To delete a row, select the desired row to delete, and hit the delete button on your keyboard. (Deleting information is generally allowed unless the data grid contains a fixed list such as the Pollutant selection list.)

Scroll bars (both horizontal and vertical) may also occur on some data grids, as appropriate.

- 7. Cascade Defaults: CalEEMod has a feature that freezes the automatic downloading of the programmed defaults. Each input screen displays a box called Cascade Default which will be automatically checked to populate defaults in future screens. However, if user unchecks the Cascade Default box, no defaults will be populated in subsequent screens and the user will need to input project-specific data. Unless all the necessary input parameters required for a proper analysis are known, the user should run the model at least once with "Cascade Default" button checked to allow the defaults to be populated. Then, if the user would like to change the project's parameters (e.g., number of dwelling units, building square footage, etc.) without cascading new defaults in later screens, then the user should uncheck the Cascade Default box when in the Land Use screen. This feature may be helpful when the defaults are replaced with project-specific information (e.g., construction schedule, construction equipment, water use, energy use, etc.) and the user would like to evaluate different project scenarios with the same basic project information (e.g., land use type, location, etc.). In addition, by unchecking the Cascade Default box, the following will occur:
 - The defaults in ALL subsequent screens will be frozen.
 - Any changes that are made to screens that follow the Land Use screen (e.g., adding a new construction phase) will not cascade defaults relating to that change or add new tabs (e.g., trips and VMT, dust material movement). Thus, the user will need to manually input project-specific information in order for the impacts to be calculated.
 - If any changes to land use type (e.g., from single family housing to a hospital) are made, the subsequent screens will not reflect the new land use type causing some incorrect calculations (e.g., impacts from energy and water use) to be performed.

When changing or adding a land use type, the user should click on the Cascade Default button so the future screens will be populated with appropriate defaults and the correct calculations specific to the changed or added land use type will occur.





3.2 Home

The Home tab on the file menu bar that controls the file saving and opening features. The available options are:

- New Project
- Open Project
- Save
- Save As
- Exit

The user should select Open Project to open a project that has been previously created and saved or New Project to create a new project. Note that opening a previously saved project will remove any information that has been entered into the GUI unless it has been saved to a file. Save will save the currently loaded project database as a Microsoft Excel file and this file can be closed, and then re-opened later. Save As will allow the user to change the name of the saved project file. Exit will close CalEEMod. The Microsoft Excel file can be edited following the format of the save file to quickly make edits outside of the Graphical User Interface (GUI) but the user will still need to use the GUI in order to report the results. This can be most useful in making changes to construction lists. Data for individual tabs can be uploaded as a .csv file in various places in CalEEMod to minimize the data entry.

3.3 Defining a Project

In order to define a project, the user will need to enter information on both the Project Characteristics screen and the Land Use screen. After entering information on these two screens, CalEEMod will populate all of the other information required to calculate unmitigated construction (unless there is demolition, grading, or site preparation) and operation emissions using default data. If demolition, grading, and/or site preparation activities are part of the project, then the user will need to enter additional information on the appropriate construction screens, including but not limited to, the amount of material to be demolished and transported to or from the site. If site-specific information is not needed for the project, the user can skip this part and jump to the Mitigation screen and enter mitigation measures. After completing the Mitigation screen, the user can proceed to the Reporting screen to select the type of report to be generated for the project.

3.4 Altering Default Data

CalEEMod was designed with default assumptions supported by substantial evidence to the extent available at the time of programming. The functionality and content of CalEEMod is based on fully adopted methods and data. However, CalEEMod was also designed to allow the user to change the defaults to reflect site- or project-specific information, when available, provided that the information is supported by substantial evidence as required by CEQA. If the user chooses to modify any defaults, an explanation will be required in the Remarks box found



at the bottom of the screen to justify and support the modification before the user will be able to proceed to the next screen. Modifications to defaults and the explanations are noted in the output report. Comments in the Remarks box are also included in the report and alert reviewers of modifications to the defaults. Comments are important because they show the user's justification for the modifications, which allows the reviewers the ability to determine whether or not the modifications are appropriate and sufficiently justified.

3.5 Mitigation

Common construction mitigation measures that impact the calculations in CalEEMod have been incorporated as options for the user to select. It is important to note that compliance with fugitive dust rules vary widely by district and include requirements to reduce dust. Even though the fugitive dust rules contain requirements that when implemented, have the effect of mitigating dust emissions, these requirements are not considered to be mitigation per se. For these reasons, requirements such as percentage adjustments to fugitive dust rules have not been incorporated into the unmitigated fugitive dust calculations.

Several mitigation measures from CAPCOA's Quantifying Greenhouse Mitigation Measures have been incorporated including combinations and caps when using multiple mitigation measures. . CalEEMod was designed to include typical mitigation measures that are some of the more effective measures available to development projects. If mitigation measures are not available as options in CalEEMod, the user can alter the inputs in the program to adjust to account for mitigation measures that may be less common. This will require separate runs of CalEEMod files in order to properly account for unmitigated and mitigated scenarios. For more details regarding mitigation, see Subchapter 4.11.

3.6 Reporting

The Reporting tab allows the user to select the type of report (e.g., annual, winter or summer) to present the results of the calculations. The reports can be viewed on screen and then saved as either a Microsoft Excel file or a .pdf file. For more details regarding reporting, see Subchapter 4.11.



4 Detailed Program Screens

4.1 Project Characteristics

The Project Characteristics screen is starting point where the user enters the project name, project location, and selects utility provider, climate zone, and pollutants to be analyzed. The information entered on this screen will trigger project appropriate default data to populate subsequent screens. Any changes entered on this screen will override any previously entered user-defined data and the corresponding default data. The project name will appear in the reports. Each of the information categories on this screen are described in more detail below.

Project Location

To define the region where the project is located, the user is given the option to select Air District, Air Basin, County, or Statewide. The second drop down box will reveal a list of specific locations to the region selected. If the user selects County, It is important to note that there may be some counties that are shared by multiple Air Districts, Air Basins or District-specific subregions and the default values (e.g., on-road vehicle emissions, trip lengths, water supply and treatment electricity use, solid waste disposal rates, amount of paved roads, days of landscaping equipment use, architectural coating emissions, and hearth usage) may vary accordingly. Thus, if the user selects County, the user may also be prompted to select the subcounty area. If you are uncertain about what region to choose for your project location, consult your lead agency.

Wind Speed and Precipitation Frequency

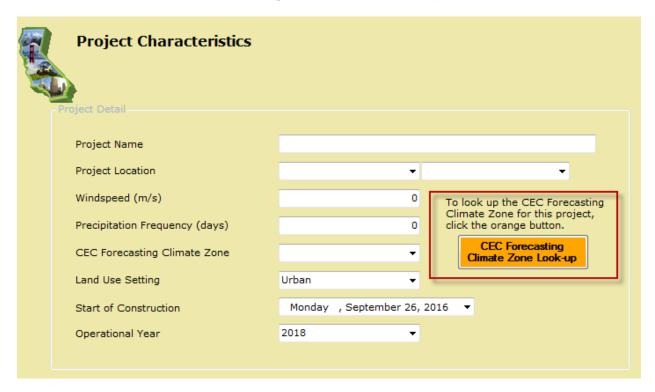
Selection of project location will automatically fill in the default wind speed and precipitation frequency. The user can also choose to override this information and enter a different value. The wind speed, in meters per second (m/s), is used in the fugitive dust calculations. Precipitation frequency, e.g. the number of days per year with a precipitation amount measuring greater than 0.01 inches in one day, is used in the fugitive dust calculations.

Climate Zone

Selection of project location will restrict the climate zones available for the user to choose from based on the climate zones in the project location. The climate zones that have been programmed into CalEEMod are based on the California Energy Commission's (CEC) Forecasting Climate Zones, which are different from the Title 24 Building Climate Zones. The user should determine the correct climate zone by either referring to the figure below or by clicking on the orange button that says "CEC Climate Zone Forecasting Look-up" on the Project Characteristics screen. In addition, the user may also determine the climate zone by city or zip code from the look up tables in Appendix F.



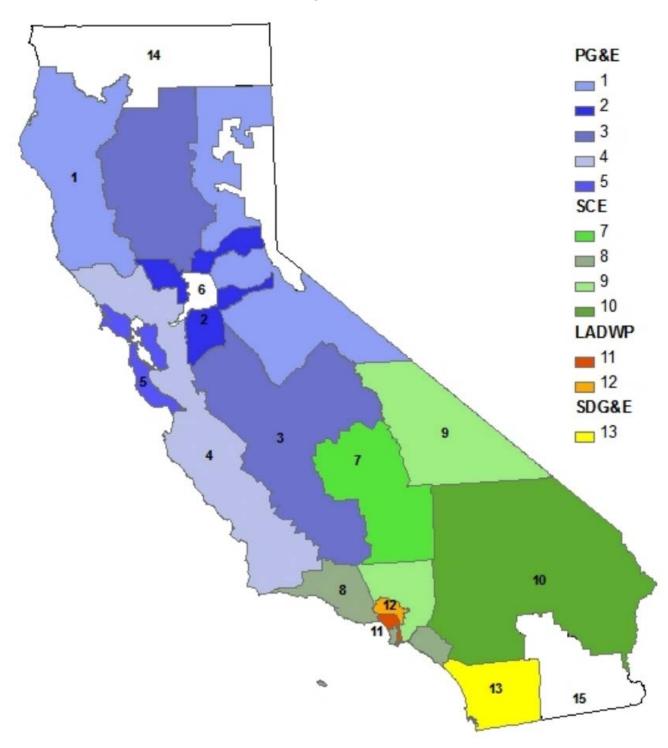
CEC Forecasting Climate Zone Look-up Button



CalEEMod utilizes the Forecasting Climate Zones because the baseline data in the 2002 California Commercial End Use Survey (CEUS) and 2009 Residential Appliance Saturation Survey (RASS), upon which CalEEMod relies, are categorized in this manner. Further information on the calculation of building energy usage, including the application of data specific to the Forecasting Climate Zones, is contained in Appendix E.



CEC Forecasting Climate Zones^{4,5}



Adapted from Figure ES-2 of CEC. 2010. Residential Appliance Saturation Survey. Available at: http://www.energy.ca.gov/2010publications/CEC-200-2010-004/CEC-200-2010-004-ES.PDF
 White spaces represent areas served by other electric utilities not included in survey.



Land Use Setting

The Land Use Setting tab is where the user indicates whether the project is located in a rural or urban setting. The user should contact the local air district for the region where the project is located for guidance on the appropriate Land Use Setting to select.

Start of Construction

To indicate when construction of the project will begin, the user will need to insert a date in the Start of Construction field. The date when construction will start triggers a rolling calendar that starts with the construction start date and follows by various construction phases that will be populated with default date ranges in the Construction screen.

Operational Year

CalEEMod is currently designed to key off of one year to initiate the beginning of the full operation of the project. Thus, to indicate when the project will begin operation activities, the user will need to insert a year. CalEEMod will use this year to determine the appropriate emission factors to be used in all operational module calculations. CalEEMod can accommodate the following years for the initial operational year: 2000, 2005, 2010-2035, 2040, 2045, and 2050. To conduct a backcasting analysis by inserting an operational year that occurs in the past, the selection of years is limited to minimize the file size associated with vehicle emission factors. For a project that consists of multiple phases with operation activities occurring over multiple years, the user should run the model multiple times for the various input parameters for each operational year.

Utility Company

From the drop down list, the user will need to select the appropriate utility company that will serve the project location. . When a specific utility is selected, the intensity factors for CO_2 , CH_4 and N_2O will be automatically populated with defaults applicable to the specified utility. However, if the utility for the project is not in the drop down list, the user may select User Defined and the user will need to manually enter the various intensity factors. In addition, the user will need to identify the utility in the Remarks section.

The intensity factors are used in various modules to calculate the GHG emissions associated with electricity use. The default values are based on CARB's Local Government Operations Protocol (LGO) 6 for CO $_2$, updated public utility protocols for CO $_2$, and E-Grid values for CH $_4$ and N $_2$ O. Each default CO $_2$ intensity factor is based on the latest reporting year available for each utility. Appendix D, Table 1.2 provides the default CO $_2$ intensity factor and reporting year from which the factor was identified for each utility identified in the drop down list. As with other defaults in the model, if a new intensity factor is identified before the defaults in CalEEMod are updated, the user may override the default and provide justification for the change in the Remarks section at the bottom of the Project Characteristics screen.

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⁶ Available at: http://www.arb.ca.gov/cc/protocols/localgov/localgov.htm



Pollutants

CalEEMod provides a list of pollutants with adjacent check boxes for the user to select. Upon starting a new project, all of the boxes are automatically checked and if the boxes remain checked, all pollutants will be quantified and identified in the reports. If user unchecks any of the boxes, the unchecked pollutants will be excluded from the calculations and the reports. Some of the pollutants may overlap other identified pollutants. For example, carbon dioxide (CO₂) is identified on its own, and it is separated into biogenic and non-biogenic categories. In addition, CO₂ Equivalent GHGs represents, all CO₂ emissions plus methane (CH₄) and nitrous oxide (N₂O) as adjusted by their corresponding Global Warming Potential (GWP) weighted value. The GWPs are based on the 2007 IPCC's Fourth Assessment Report (AR4)⁷, and are consistent with 2014 CARB's Scoping Plan Update⁸.

Remarks

As previously explained in Subchapter 3.4, if the user chooses to modify any defaults, the user will be required to provide an explanation or justification in the Remarks section for incorporating user defined (e.g., non-default) values before the user will be able to proceed to the next screen. Any remarks that are entered will be included in the reports and will assist a reviewer in understanding the reasons for a change in the default value (e.g., new trip rate based on a project-specific traffic study conducted by traffic engineers).

4.2 Land Use

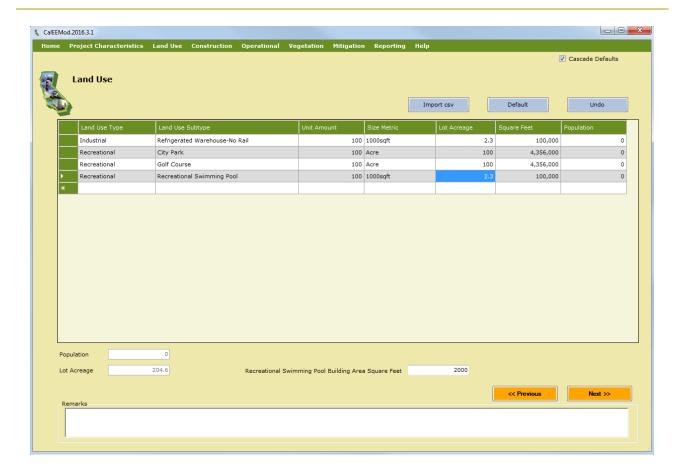
The Land Use screen is where the user identifies the land use(s) that will occur at the project site. The data in the land use types and subtypes, unit amounts, size metric, lot acreage, square feet and population fields determine the default variables that are used in the calculations. It is important to note that for any project that includes a city park, golf course, or recreational swimming pool land use, the user will be prompted to enter the square footage of the buildings associated with these land uses (e.g., restrooms/changing rooms, pro-shop, etc.). By excluding the entire lot size for these three land use types, and instead only using the square footage of the buildings, the calculations for consumer product use will provide a more accurate representation of where these materials are actually used and avoid incorrectly attributing consumer products use to greenspaces and pool water. For more information on the calculations for consumer product use, see Subchapter 4.5, Section 4.5.2.0

⁷ Available at: https://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_full_report.pdf

⁸ Available at: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm

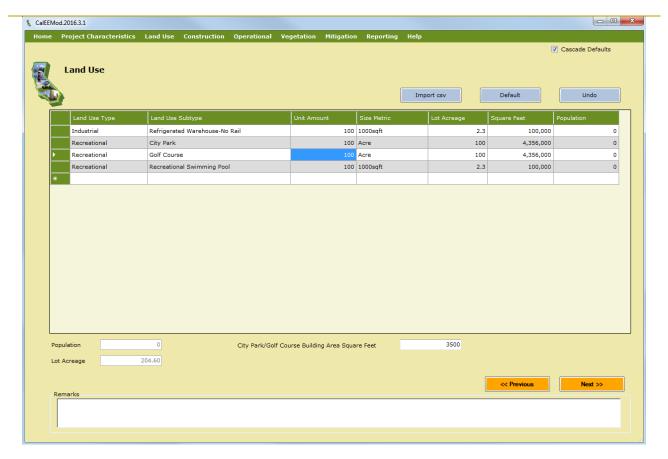












Land Use Type

The Land Use Type tab allows the user to select any of the following primary land use types from a drop down list: Commercial, Educational, Industrial, Parking, Recreational, Residential, and Retail. The 63 different land use types were chosen for inclusion in CalEEMod because each has an established trip rate critical for mobile source calculations.

CalEEMod specifically designates parking areas as a separate land use rather than as a part of an associated non-residential land use (e.g., commercial buildings, retail facilities, etc.). However, no separate parking land use for a driveway or garage needs to be identified for residential land uses because parking is already included in the calculation. For more information on how CalEEMod treats parking based on the footprint and lot acreage of residential and non-residential land uses, please refer to the following figure. As depicted, the lot acreage of a residential land use includes the parking and building footprint. For non-residential land uses, the lot acreage is the same as the building footprint, so parking needs to be entered as a separate land use.



CalEEMod Default Lot Acreage for Res and Non Res Land Uses



Lot acreage & building footprint are equal; add parking as separate land use and assign associated square footage and acreage.

For the parking land use subtype, two primary options are available: parking lot or parking structure (e.g., garage). There are four types of parking structures: 1) enclosed; 2) enclosed with an elevator; 3) unenclosed; and, 4) unenclosed with an elevator. The reason for these specific descriptions is so that the model properly accounts for energy impacts associated with ventilation and elevator operations.

For land use subtypes that are not listed (e.g., roads, underground parking, pipelines, etc.) or that do not accurately represent the project being analyzed, each land use subtype has a User Defined option that the user can select. If a User Defined land use subtype is selected, there is no default data (including size metric) that will automatically populate the data fields. Instead, the user will need to manually enter the unit amount, size metric, lot acreage, etc.. If these fields are left blank, no emissions will be calculated for the User Defined land use subtype. Also, whatever size metric (e.g., per acre, per 1000 square foot, etc.) the user chooses for the User Defined land use subtype needs to be consistently applied to all subsequent default values (e.g., gallons of water used *per acre* or *per 1000 square foot*). An alternative approach to entering a User Defined land use subtype would be to choose a land use subtype that most closely fits the project and allow the model to populate the data fields with the defaults. Then,



the user can go back through the model and modify the defaults with any known specific project information and enter the required Remarks to explain why the defaults are modified.

Land Use Subtype

63 land use subtypes have been included in CalEEMod and each has an established trip rate that is used for calculating mobile source emissions. By tabbing over to the next column in a row, the user can select a variety of land use subtypes. The user also has the option to select a User Defined land use subtype; however, as explained previously, there is no default data (including size metric) that will automatically populate the data fields. Instead, the user will need to manually enter the unit amount, size metric, lot acreage, etc. Land use subtypes are based primarily on the land use definitions used for (mobile source) trip generation rate information from the Institute of Transportation Engineers (ITE) 9th edition of the Trip Generation Manual. In some cases similar generalized land uses or surrogate data was mapped to some land use subtypes in order to generate the default data needed for various modules.

Table 1: Land Use Subtype Descriptions

Land Use Subtype	Description ¹	ITE Number		
	RESIDENTIAL			
Apartments High Rise	High-rise apartments are units located in rental buildings that have more than 10 levels and most likely have one or more elevators.	222		
Apartments Low Rise	Low-rise apartments are units located in rental buildings that have 1-2 levels.	221		
Apartments Mid Rise	Mid-rise apartments in rental buildings that have between 3 and 10 levels.	223		
Condo/Townhouse	These are ownership units that have at least one other owned unit within the same building structure.	230		
Condo/Townhouse High Rise	These are ownership units that have three or more levels.	232		
Congregate Care (Assisted Living)	These facilities are independent living developments that provide centralized amenities such as dining, housekeeping, transportation and organized social/recreational activities. Limited medical services may or may not be provided.	253		
Mobile Home Park	Mobile home parks consist of manufactured homes that are sited and installed on permanent foundations and typically have community facilities such as recreation rooms, swimming pools and laundry facilities.	240		
Retirement Community	These communities provide multiple elements of senior adult living. Housing options may include various combinations of senior adult housing, congregate care, assisted living, and skilled nursing care aimed at allowing the residents to live in one community as their medical needs change.	255		
Single Family Housing	All single-family detached homes on individual lots typical of a suburban subdivision	210		



Table 1: Land Use Subtype Descriptions

Land Use Subtype	Description ¹	ITE Number	
EDUCATIONAL			
Day-Care Center	A day care center is a facility where care for pre-school age children is provided, normally during the daytime hours. Day care facilities generally include classrooms, offices, eating areas and playgrounds.	565	
Elementary School	Elementary schools typically serve students attending kindergarten through the fifth or sixth grade. They are usually centrally located in residential communities in order to facilitate student access and have no student drivers.	520	
High School	High schools serve students who have completed middle or junior high school.	530	
Junior College (2Yr)	This land use includes two-year junior, community, or technical colleges.	540	
Junior High School	Junior High schools serve students who have completed elementary school and have not yet entered high school.	522	
Library	A library is a facility that consists of shelved books; reading rooms or areas; and sometimes meeting rooms.	590	
Place Of Worship	A church is a building in which public worship services are held. A church houses an assembly hall or sanctuary; it may also house meeting rooms, classrooms and occasionally dining catering or party facilities.	560	
University/College (4Yr)	This land use includes four-year universities or colleges that may or may not offer graduate programs.	550	
	RECREATIONAL		
Arena	Arenas are large indoor structures in which spectator events are held. These events vary from professional ice hockey and basketball to non-sporting events such as concerts, shows, or religious services. Arenas generally have large parking facilities, except when located in or around the downtown of a large city.	460	
City Park	City parks are owned and operated by a city.	411	
Fast Food Restaurant W/O Drive Thru	This land use includes fast-food restaurants without drive-through windows. Patrons generally order at a cash register and pay before they eat.	933	
Fast Food Restaurant With Drive Thru	This category includes fast-food restaurants with drive-through windows.	934	
Golf Course	Golf courses include 9, 18, 27 and 36 hole courses. Some sites may also have driving ranges and clubhouses with a pro shop, restaurant, lounge and banquet facilities.	430	
Health Club	These are privately-owned facilities that primarily focus on individual fitness or training. Typically they provide exercise classes; weightlifting, fitness and gymnastics equipment; spas; locker rooms; and small restaurants or snack bars.	492	



Table 1: Land Use Subtype Descriptions

Land Use Subtype	Description ¹	ITE Number
High Turnover (Sit Down Restaurant)	This land use consists of sit-down, full-service eating establishments with turnover rates of approximately one hour or less. This type of restaurant is usually moderately priced and frequently belongs to a restaurant chain.	932
Hotel	Hotels are places of lodging that provide sleeping accommodations and supporting facilities such as restaurants; cocktail lounges; meeting and banquet rooms or convention facilities; limited recreational facilities and other retail and service shops.	310
Motel	Motels are places of lodging that provide sleeping accommodations and often a restaurant. Motels generally offer free on-site parking and provide little or no meeting space and few supporting facilities.	320
Movie Theater (No Matinee)	Movie theaters consist of audience seating, single or multiple screens and auditoriums, a lobby and a refreshment stand. Movie theaters without matinees show movies on weekday evenings and weekends only; there are no weekday daytime showings.	443
Quality Restaurant	This land use consists of high quality, full-service eating establishments with typical turnover rates of at least one hour or longer. Quality restaurants generally do not serve breakfast, some do not serve lunch; all serve dinner. This type of restaurant usually requires reservations and is generally not part of a chain. Patrons commonly wait to be seated, are served by a waiter, order from menus and pay for meals after they eat.	931
Racquet Club	These are privately-owned facilities that primarily cater to racquet sports.	491
Recreational Swimming Pool	This is a typical recreational swimming pool that may be associated with community centers, parks, swim clubs, etc.	495
	PARKING	
Enclosed Parking Structure Enclosed Parking with	This is an enclosed parking structure that may be above or below ground. It is not covered in asphalt. This land use will require lighting and ventilation, and will be more than one floor with no elevator. This is an enclosed parking structure that may be above or below ground. It is not covered in asphalt. This land use will require lighting and ventilation,	
Elevator Other Asphalt Surfaces	and will be more than one floor with an elevator. This is an asphalt area not used as a parking lot (e.g., long driveway, basketball court, etc.)	
Other Non-Asphalt Surfaces	This is a non-asphalt area (e.g., equipment foundation, loading dock area, etc.).	
Parking Lot Unenclosed Parking Structure	This is a typical single surface parking lot typically covered with asphalt. This land use will require lighting. This is an unenclosed parking structure that may be above or below ground. It is not covered in asphalt. This land use will require lighting but not ventilation. It will be more than one floor with no elevator.	
Unenclosed Parking with Elevator	This is a unenclosed parking structure that may be above or below ground. It is not covered in asphalt. This land use will require lighting but not ventilation. It will be more than one floor with an elevator.	



Table 1: Land Use Subtype Descriptions

Land Use Subtype	Description ¹	ITE Number
RETAIL		
Automobile Care Center	An automobile care center houses numerous businesses that provide automobile-related services, such as repair and servicing; stereo installation; and seat cover upholstering.	942
Convenience Market (24 Hour)	These markets sell convenience foods, newspapers, magazines and often beer and wine. They do not sell or dispense motor vehicle fuels (e.g., gasoline and diesel).	851
Convenience Market With Gas Pumps	These markets sell or dispense motor vehicle fuels (e.g., gasoline and diesel), convenience foods, newspapers, magazines and often beer and wine. This includes convenience markets with motor vehicle fueling dispensers where the primary business is the selling of convenience items, not the fueling of motor vehicles.	853
Discount Club	A discount club is a discount store or warehouse where shoppers pay a membership fee in order to take advantage of discounted prices on a wide variety of items such as food, clothing, tires and appliances. Many items are sold in large quantities or in bulk.	857
Electronic Superstore	These are free-standing facilities that specialize in the sale of electronic merchandise.	863
Free-Standing Discount Store	Discount stores offer centralized cashiering and sell products that are advertised at discount prices. These stores offer a variety of customer services and maintain long store hours seven days a week.	815
Free-Standing Discount Superstore	The discount superstore is similar to the free-standing discount stores with the addition that they also contain a full-service grocery department under the same roof that shares entrances and exits with the discount store area.	813
Gasoline/Service Station	This land use includes service stations where the primary business is the fueling of motor vehicles. They may also have ancillary facilities for servicing and repairing motor vehicles.	944
Hardware/Paint Store	These stores sell hardware and paint supplies and are generally free-standing buildings.	816
Home Improvement Superstore	These are free-standing facilities that specialize in the sale of home improvement merchandise.	862
Regional Shopping Center	A shopping center is an integrated group of commercial establishments that is planned, developed, owned and managed as a unit. A shopping center's composition is related to its market area in terms of size, location and type of store.	820
Strip Mall	Small strip shopping centers contain a variety of retail shops and specialize in quality apparel, hard goods and services such as real estate offices, dance studios, florists and small restaurants.	826



Table 1: Land Use Subtype Descriptions

Land Use Subtype	Description ¹	ITE Number
Supermarket	Supermarkets are free-standing retail stores selling a complete assortment of food: food preparation and wrapping materials; and household, cleaning items. Supermarkets may also contain the following products and services: ATMs, automobile supplies, bakeries, books and magazines, dry cleaning, floral arrangements, greeting cards, limited-service banks, photo centers, pharmacies and video rental areas.	850
	COMMERCIAL	
Bank (With Drive- Through)	Drive-in banks provide banking facilities for motorists who conduct financial transactions from their vehicles; many also serve patrons who walk into the building.	912
General Office Building	A general office building houses multiple tenants where affairs of businesses commercial or industrial organizations or professional persons or firms are conducted. If information is known about individual buildings, it is suggested that this land use be used instead of the more generic office park.	710
Government (Civic Center)	A group of government buildings that are interconnected by pedestrian walkways.	733
Government Office Building	This is an individual building containing either the entire function or simply one agency of a city, county, state, federal, or other governmental unit.	730
Hospital	A hospital is any institution where medical or surgical care and overnight accommodations are provided to non-ambulatory and ambulatory patients. However, it does not refer to medical clinics or nursing homes.	610
Medical Office Building	This is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility.	720
Office Park	Office parks are usually suburban subdivisions or planned unit developments containing general office buildings and support services, such as banks, restaurants and service stations, arranged in a park-or campus-like atmosphere. This should be used if details on individual buildings are not available.	750
Pharmacy/Drugstore W/O Drive Thru	These are retail facilities that primarily sell prescription and non-prescription drugs. These facilities may also sell cosmetics, toiletries, medications, stationery, personal care products, limited food products and general merchandise. The drug stores in this category do not contain drive-through windows.	880



Table 1: Land Use Subtype Descriptions

Land Use Subtype	Description ¹	ITE Number
Pharmacy/Drugstore With Drive Thru	These are retail facilities that primarily sell prescription and non-prescription drugs. These facilities may also sell cosmetics, toiletries, medications, stationery, personal care products, limited food products and general merchandise. The drug stores in this category contain drive-through windows.	881
Research & Development	R&D centers are facilities devoted almost exclusively to R&D activities. The range of specific types of businesses contained in this land use category varies significantly. R&D centers may contain offices and light fabrication areas.	760
	INDUSTRIAL	
General Heavy Industry	Heavy industrial facilities usually have a high number of employees per industrial plant and are generally limited to the manufacturing of large items.	120
General Light Industry	Light industrial facilities are free-standing facilities devoted to a single use. The facilities have an emphasis on activities other than manufacturing and typically have minimal office space. Typical light industrial activities include printing, material testing and assembly of data processing equipment.	110
Industrial Park	Industrial parks contain a number of industrial or related facilities. They are characterized by a mix of manufacturing, service and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. Many industrial parks contain highly diversified facilities.	130
Manufacturing	Manufacturing facilities are areas where the primary activity is the conversion of raw materials or parts into finished products. It generally also has office, warehouse, and R&D functions at the site.	140
Refrigerated Warehouse- No Rail	This is a warehouse that has refrigeration but no rail spur.	152
Refrigerated Warehouse-Rail	This is a warehouse that has refrigeration and a rail spur.	152
Unrefrigerated Warehouse-No Rail	This is a warehouse that does not have refrigeration and no rail spur.	152
Unrefrigerated Warehouse-Rail	This is a warehouse that does not have refrigeration but has a rail spur.	152

^{1.} Based on land use descriptions in Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition.

Unit Amount and Size Metric

By tabbing over to the Unit Amount and Size Metric columns, respectively, the user can enter the number of units (e.g., houses, apartments, etc.) and the corresponding size metric (e.g., per



1000 sq ft, employees, students, etc.). This data combination will be used to populate the lot acreage, square feet and population columns on this screen. For example, a school land use allows the user to define its size by the number of students, building square footage, or number of employees. It is important to note that the square footage, which is used for calculating such impacts as architectural coatings and energy use, relates to the total building square footage and not the building footprint or lot acreage which is used for housing density as well as grading and site preparation calculations.

Lot Acreage

If actual lot acreage data is available, the user should override the default value. However, for a mixed use, multi-story building, the user should not override the square footage default value for each individual land use or the acreage default value assigned to the residential portion or the split between the non-residential land uses if there is no residential portion. The figure below provides an example of a mixed use project and instructions for applying the appropriate square footage and acreage.

Acreage is used to estimate housing density and assign construction default data (e.g., grading, site preparation, etc.). Table 2 contains housing density default data per land use in terms of dwelling units (DU) per acre. By using this data, CalEEMod can estimate the number of acres per dwelling unit (DU) for residential land use. For example, if the user enters 10 apartments in a low rise building, then the lot acreage will be 0.625 acre (10 DU divided by 16 acres/DU). According to the California Energy Commission's Residential Appliance Saturation Survey (RASS), the metric for low rise apartments is 1,000 square feet per DU (see Table 2.1). Similarly, using the same example, the building footprint will be 0.23 acre (10 DU x 1000 sq ft/DU x 1 acre/43,560 sq ft). Thus, the total lot acreage includes the residential footprint plus driveway and landscaping/open space.



Solar Panels on Roof Unit Amt/ Size Metric 5-Story Building Land Use Sub Type Footage Mid-Rise Apartments 200 DU 1.60 Residential 200,000 Retail Supermarket 45K SF 45,000 2nd-5th Floor: Mid-Rise Apartments Recreational Restaurant 5KSF 0 5,000 Parking 4 Parking Lot 50KSF 1.15 50,000 1st Floor: Supermarket & Restaurant TOTAL LOT ACREAGE = 3.25 ACRE Amount of ground graded, prepared, paved, etc.; open space (0.5 acre) not graded so subtracted from total default acreage. Transit-Oriented Development 5 ² Zero out non-residential so as to not over calculate construction emissions & to take advantage of mitigation measures (i.e. increased density)

Example of Mixed Use Project in CalEEMod

Table 2: Default Housing Density

³ Used to calculate architectural coating emissions and energy usage.

 5 Enter mitigation measures under the mitigation tab.

⁴ Add parking as a separate land use and enter its associated acreage and square footage,

Land Use Subtype	Density (Dwelling Units/Acre)
Single Family Housing	3
Apartments low rise	16
Apartments mid rise	38
Apartments high rise	62
Condo/townhouse	16
Condo/townhouse high rise	64
Mobile Home Park	8
Retirement Community	5
Congregate care (Assisted Living)	16

^{1.} Based on the density assumed in ITE Trip Generation 8th Edition

After the user has completed entering all of land uses for the project, CalEEMod will add the lot



acreage values for each land use and the total will be reflected in the lot acreage text box located at the bottom of the screen. The value in the total lot acreage box cannot be modified by the user.

Square Footage

If actual square footage of the total building or building footprint is known, the user should override the default value.

Population

After the completing the tabs for unit amount, size metric, lot acreage, and square footage, the population field will contain a default which represents an estimate of the population for each land use type and subtype selected by the user. If the actual population data is known, the user should override the default value.

After the user has completed entering all of land uses for the project, CalEEMod will add the population values for each land use and the total will be reflected in the population text box located at the bottom of the screen. The value in the total population box cannot be modified by the user.

City Park/Golf Course Building Area Square Feet (text box)

If the user selects a City Park and/or Golf Course land use, a text box will appear at the bottom of the screen that will prompt the user to enter the building square footage of all the buildings that will be located on the City Park and/or Golf Course property (e.g., restrooms/changing rooms, pro-shop, etc.). The user must input site-specific building square footage data because there are no default values for building footprints on these types of land uses. If the building square footage is left blank (e.g., zero square feet), a warning message will appear to remind the user to enter a value in this field.

Recreational Swimming Pool Building Area Square Feet (text box)

If the user selects a Recreational Swimming Pool land use, a text box will appear at the bottom of the screen that will prompt the user to enter the building square footage of all the buildings that will be located on the property (e.g., restrooms/changing rooms, pro-shop, etc.). The user must input site-specific building square footage data because there is no default value for the building footprint on this type of land use. If the building square footage is left blank (e.g., zero square feet), a warning message appear to remind the user to enter a value in this field.

4.3 Construction

After completing the Land Use screen and clicking on the Next button, the Construction screen will appear along with seven tabs/sub-screens that cover the following construction topic areas: Construction Phase; Off-Road Equipment; Dust from Material Movement; Demolition; Trips and VMT, On-Road Fugitive Dust, and Architectural Coatings. To move from one tab/subscreen to another, the user can use the Next and Previous buttons, or click on any of grey tabs. The



construction tabs/sub-screens contain default information that was obtained from a survey of construction sites conducted by South Coast Air Quality Management District (SCAQMD). The construction survey data is grouped by construction phase and lot acreage and can be found in Appendix E1. The default construction equipment list and phase length data were determined to be the most appropriate for the size and types surveyed. In addition, some data in the survey was extrapolated to create default values for project sizes that were not in the survey. However, if the user has more detailed site-specific equipment and phase information, the user should override the default values.

4.3.1 Construction Phase

The Construction Phase tab is where the user can enter the type of each construction phase and the date range for each phase. Default phases are based on the total lot acreage of the project. Depending on the project being modeled, not all phases may be necessary so the user may need to delete phases that are not applicable to the project. For example, not all projects require demolition. In addition, the user may need to add multiple phases of similar types for large projects with staged build out scenarios. It is important to note that if a project has demolition, grading, and site preparation phases, the user will need to provide additional project-specific data on the Demolition and Dust from Material Movement sub-screens.

Phase Name and Phase Type

The Phase Name and Phase Type fields will be automatically populated with the following default construction phases: Site Preparation; Demolition; Grading; Building Construction; Paving; and, Architectural Coating. The inclusion of any of these phases will define the types of calculations and default assumptions for on-road vehicle trips and fugitive emissions that occur in subsequent construction sub-screens. The definitions of the default phase types are as follows:

- Demolition involves removing buildings or structures.
- <u>Site Preparation</u> involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading.
- <u>Grading</u> involves the cut and fill of land to ensure that the proper base and slope is created for the foundation.
- Building Construction involves the construction of the foundation, structures and buildings.
- <u>Architectural Coating</u> involves the application of coatings to both the interior and exterior of buildings or structures, the painting of parking lot or parking garage striping, associated signage and curbs, and the painting of the walls or other components such as stair railings inside parking structures.
- <u>Paving</u> involves the laying of concrete or asphalt such as in parking lots, roads, driveways, or sidewalks.

Start Date and End Date



The user can enter with the aid of a calendar, the Start Date and End Dates for each construction phase. The default Start Date is the Start of Construction date defined on the Project Characteristics screen. The cells will be automatically populated with a default construction schedule starting with the Demolition phase, with subsequent phases starting the following day after the previous phase's end date. The user may change the defaults to alter the total days estimated for each phase. Because CARB's emission factors vary from year to year, when the user inserts the start and end dates for each construction phase, the model will select the correct emission factors for the year when each piece of off-road equipment will be utilized.

Days per Week

The user can select from a drop down box the number of days per week (either 5, 6, or 7 days) that construction will occur. Five days per week assumes that construction will occur from Monday through Friday, and six days per week assumes that construction will occur Monday through Saturday.

Total Days

The Total Days field is intended to indicate the number of days that it will take to complete a particular construction phase and this field is initially populated with default values. If the End Date or the Days per Week fields are changed, clicking the Total Days field will trigger a recalculation of the Total Days. If the Total Days field for any phase is changed, then once leaving this field, the program will automatically adjust the End Date based on the Start Date for that phase.

4.3.2 Off-Road Equipment

The Off-Road Equipment tab is for the user to select the type and quantity of off-road equipment needed for each construction phase and to define the daily usage schedule. Since equipment lists can be lengthy and vary widely for each construction phase, the user will need to first select the phase from Phase Name drop down list or by clicking on the Previous or Next buttons located next to the phase name, and then select the off-road equipment that will be used for each construction phase. The Off-Road Equipment screen calculates emissions based on the expected off-road equipment engine use for each piece of equipment listed over the duration of the phase length. It is important to note that fugitive emissions from off-road equipment are calculated elsewhere on other construction screens.

After the user enters the Equipment Type, Number of Units, and Hours per Day for each piece of equipment that will be used in any phase, The Horsepower and Load Factor fields will be automatically populated with the default average values from CARB's OFFROAD2011., If equipment-specific information is available, the user can override these default values. In some cases, CARB's OFFROAD2011 emission factors are not available for all years. Thus, if the user selects a construction year that does not have corresponding emission factors, CalEEMod has been programmed to substitute the emissions factors from nearest, lower end (e.g., oldest) year. For example, if construction will occur in year 2037 (a year which does not have emission factors), CalEEMod will substitute the emission factors from year 2035 instead. Since newer



equipment tends to have less emissions than older equipment, by selecting emission factors from year 2035 (an older year), the calculations may result in a conservative, slight overestimate of emissions.

If the project requires the use of off-road equipment that is not specifically listed in the drop down list, the user can select from three generalized equipment categories to add customized equipment to the analysis: 1) Other Construction Equipment; 2) Other General Industrial Equipment; and, 3) Other Material Handling Equipment. In addition, the user may choose to select a surrogate equipment type which has a similar horsepower rating and load factor. To include water trucks and cement trucks in the analysis, the user needs to first determine if these trucks are off-road or on-road vehicles. If they are only driven off-road, then the user can select the Off-Highway Trucks category in the Off-Road Equipment screen. If the trucks are driven on-road, the user can account for the on-road emissions by entering this information as Additional Vendor Trips on the Trips and VMT screen (see Subchapter 4.3.5).

4.3.3 Dust from Material Movement

The Dust from Material Movement sub-screen is intended for calculating fugitive dust emissions associated with the Site Preparation and Grading phases (defaults) during construction. This sub-screen calculates the following three types of fugitive dust: 1) fugitive dust from dozers moving dirt; 2) fugitive dust from graders or scrapers leveling the land; and; 3) fugitive dust from loading or unloading dirt into haul trucks. These methods have been adapted from USEPA's AP-42 method for Western Coal Mining. Once the enters the amount of material imported and exported to the site, CalEEMod will estimate the number of hauling trips associated with from material transport activities. The user may define the units in terms of Ton of Debris or Cubic Yards. The user may also select whether the import/export of material is phased (e.g., a the same truck that arrives with material departs with another load of material to export in one round trip or two-one way trips. The calculations for non-phased material import/export trips assume that one truck arrives empty and departs full and a different truck arrives full for a total of two round trips (or four one-way trips). Thus, phasing material import and export trips reduces the number of haul trips.

The Total Acres Graded field represents the cumulative distance traversed on the property by the grading equipment, assuming a blade width of 12 feet. In order to properly grade a piece of land, multiple passes with grading equipment may be required. So even though the lot size is a fixed number of acres, the Total Acres Graded could be an order of magnitude higher than the footprint of the lot and is calculated based on the equipment list (including number of equipment), the number of days need to complete the grading and/or site preparation phase, and the maximum number of acres a given piece of equipment can traverse in an 8-hour workday. For more information regarding how Dust from Material Movement is calculated, including grading rates, see Appendix A, Subchapter 4.3.

4.3.4 Demolition

The Demolition sub-screen is intended for the user to enter the amount of material that is demolished, if a demolition phase is selected by the user as part of the construction project.



The user can select the Size Metric to define the amount of demolished material that is expected to be generated during the demolition phase in terms of Ton of Debris or Building Square Footage. With this data, fugitive dust emissions generated during demolition are calculated. The calculation of fugitive dust emissions during demolition is derived from the methodology described in the report prepared for the USEPA by Midwest Research Institute, Gap Filling PM₁₀ Emission Factors for Selected Open Area Dust Sources.

4.3.5 Trip and VMT

The Trip and VMT sub-screen is used to provide the number and length (in terms of vehicle miles traveled or VMT) of on-road vehicle trips for workers, vendors, and hauling for each construction phase. Depending on the land use type and subtype combined with the various construction phases, CalEEMod will populate the fields for Number of Trips, Trip Length, and Vehicle Class for worker, vendor and haul trips, respectively, with default values. The vehicle class descriptor HHDT, MHDT means that there is a 50/50 percent mix of heavy-heavy duty trucks and medium-heavy duty trucks. Similarly, the vehicle class descriptor LDA, LDT1, LDT2 means that there is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively. The user may override the defaults and enter different weightings of vehicle fleet mixes. It is important to note that if the user selects a construction year that does not have corresponding EMFAC2014 emission factors for on-road vehicles, CalEEMod has been programmed to substitute the emissions factors from nearest, lower end (e.g., oldest) year. For example, if construction will occur in year 2037 (a year which does not have emission factors), CalEEMod will substitute the emission factors from year 2035 instead. Since newer equipment tends to have less emissions than older equipment, by selecting emission factors from year 2035 (an older year), the calculations may result in a conservative, slight overestimate of emissions.

CalEEMod quantifies the number of construction workers by multiplying 1.25 times the number of pieces of equipment for all phases (except Building Construction and Architectural Coating). For the Building Construction, the number of workers is derived from a study conducted by the Sacramento Metropolitan Air Quality Management District (SMAQMD) which determined the number of workers needed for various types of land uses and corresponding project size. This study and its analysis are included in Appendix E2. For the Architectural Coating phase, the number of workers is approximately 20% of the number of workers needed during the Building Construction phase.

The number of vendor trips during the Building Construction phase is also derived from a study conducted by the SMAQMD. The SMAQMD trip survey during construction counted cement and water trucks as vendor trips (instead of counting them as off-road vehicle trips) and these trip rates were incorporated into the calculations for the Building Construction phase. If the user deletes the Building Construction phase from the analysis, but the project will require water and/or cement trucks, then the user will need to account for these either as vendor trips under another construction phase or under the Off-Road equipment screen.



The default values for hauling trips are based on the assumption that a truck can haul 20 tons (or 16 cubic yards) of material per load. If one load of material is delivered, CalEEMod assumes that one haul truck importing material will also have a return trip with an empty truck (e.g., 2 one-way trips). Similarly, a haul truck needed to export material is assumed to have an arrival trip in an empty truck and a loaded departure truck (e.g., 2 one-way trips). Thus, each trip to import and export material is considered as two separate round trips (or 4 one-way trips). However, if the Phase box is checked, the same haul truck that imported the material will be assumed to be the same haul truck that export material resulting in one round trip (or 2 one-way trips).

4.3.6 On-Road Fugitive Dust

The On-Road Fugitive Dust sub-screen defines the variables that will be used to determine the fugitive dust emissions from on-road vehicles driving over paved and unpaved roads during construction. CalEEMod automatically populates the data fields based on the construction phase. The calculations use emission factors from USEPA's AP-42 for paved roads (January 2011 edition) and unpaved roads (November 2006 edition). Each data field is the same as those defined in the aforementioned AP-42 sections.

4.3.7 Architectural Coatings

The Architectural Coatings sub-screen is intended to calculate ROG emissions associated with painting the interior/exterior of residential and non-residential buildings as well as calculate emissions from parking lot painting or striping. The user may override any of the default interior and exterior surface areas estimated for residential and non-residential buildings. In addition, each of these surface types has a different emission factor indicating the ROG content of the paint in grams per liter (g/L). It is important to note that the parking area square footage is not included in the non-residential interior/exterior square footage when calculating emissions attributable to parking lot striping. See Appendix A, Subchapter 4.7 for the methodology of estimating surface areas to be coated from building square footage.

4.4 Operational Mobile

The operational mobile screen is made up of four sub-screens: Vehicle Trips, Vehicle Emissions, Fleet Mix and Road Dust. These screens are used in defining the information necessary to calculate the emissions associated with operational on-road vehicles.

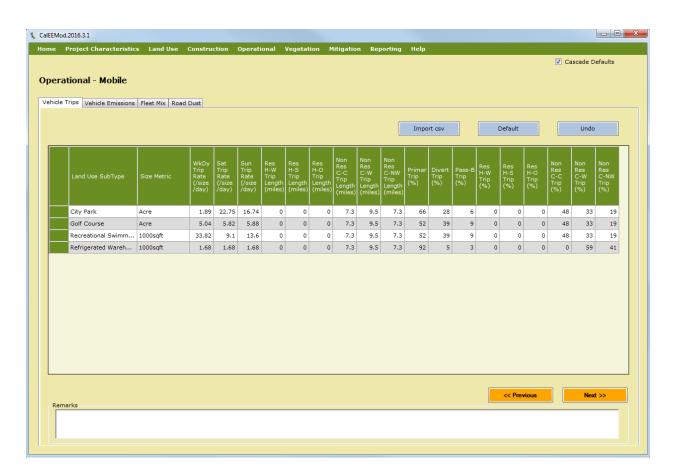
4.4.1 Vehicle Trips

This sub-screen includes the trip rates, trip lengths, trip purpose, and trip type percentages for each land use subtype in the project. The user can edit any of this information by entering a new value in the appropriate cell. Trip rates are in terms of the size metric (thousand square footage or dwelling unit) defined on the land use screen and are listed for weekday, Saturday and Sunday if available. Trip lengths are for primary trips. Trip purposes are primary, diverted, and pass-by trips. Diverted trips are assumed to take a slightly different path than a primary trip and are assumed to be 25% of the primary trip lengths. Pass-by trips are assumed to be 0.1 miles in length and are a result of no diversion from the primary route. Residential trip types are



defined as home-work (H-W), home-shop (H-S), and home-other (H-O). Non-residential trip types are defined as commercial –customer (C-C), commercial-work (C-W), and commercial-nonwork (C-NW) such as delivery trips. Appendix A includes the equations and methodology used to calculate motor vehicle emissions from the operation of a project.

The trip rates are based on ITE 9th edition average trip rates for the respective land use categories.

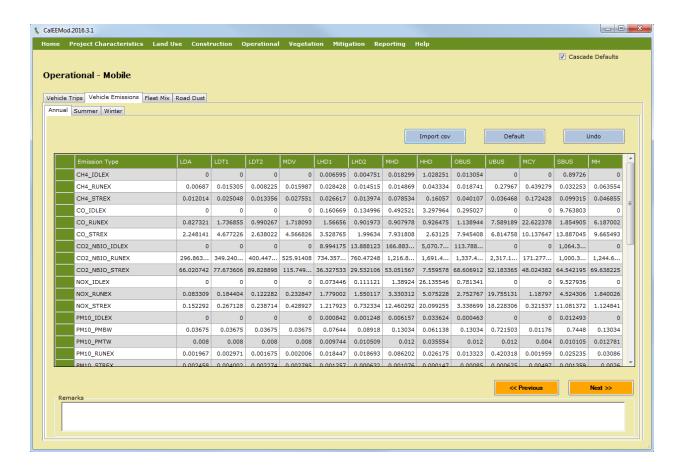


4.4.2 Vehicle Emissions

This sub-screen contains the detailed vehicle emission factors based on EMFAC2014. Appendix A includes the description of how these emission factors were derived from EMFAC2014. It is anticipated that most users will not edit data in this sub-screen. There are separate tabs for annual, summer, and winter emissions values. If the user wants to alter the breakdown of fuel types (catalytic, non-catalytic, and other) within a vehicle class, they will have to provide their own data. This will likely be an infrequent change due to CEQA enforceability requirements.



This screen along with the previous screen (Vehicle Trips) and next screen (Fleet Mix) will provide the data for the model to calculate the emissions associated with on-road motor vehicle use. The calculation does not include the fugitive dust emissions from travel over roads as these are associated with the next screen (Road Dust).

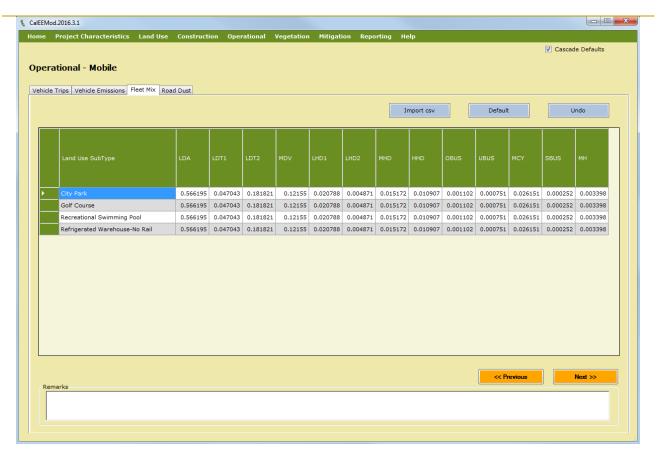


4.4.3 Fleet Mix

CalEEMod Version 2016.3.1 separates the fleet mix from the Vehicle Emissions screen and creates a Fleet Mix screen so that users are able to change default fleet mix associated with different land use subtypes.







4.4.4 Road Dust

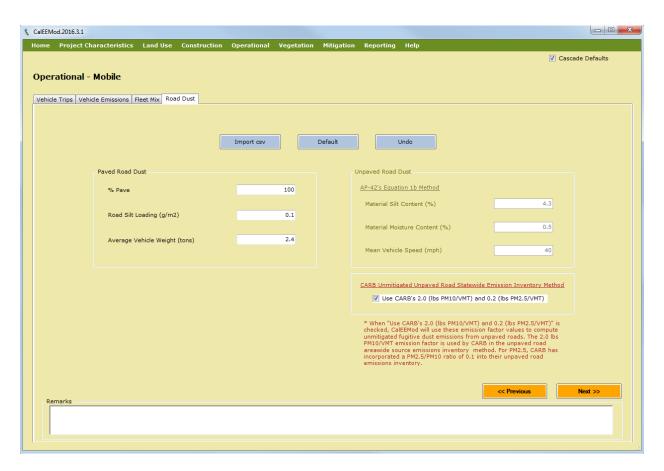
This sub-screen is used to change any of the default values that are used in the USEPA's AP-42 methods for calculating fugitive emissions from paved and unpaved roads. The defaults for the road dust (e.g., material silt content, material moisture content, and mean vehicle speed) are statewide averages, but the user has the ability to override the defaults if data specific to the project is known. Local jurisdictions can also provide guidance to users as to what default properly reflects known regional road dust parameters.

For the San Luis Obispo region, the user is recommended to provide the following unpaved road dust parameters overriding the statewide defaults if users choose to use USEPA's AP-42 methods:

- 9.3 for Material Silt Content (%) (instead of 4.3 statewide default)
- 0.1 for Material Moisture Content (%) (instead of 0.5 statewide default)
- 32.4 for Mean Vehicle Speed (mph) (instead of 40 statewide default)



For San Luis Obispo County APCD and Sacramento Metropolitan AQMD, the user has a new default option in CalEEMod Version 2016.3.1 to use CARB's 2.0 lbs PM₁₀/VMT⁹ as the unmitigated fugitive dust emission factor for unpaved roads during the operational phase. An emission factor of 0.2 lbs PM_{2.5}/VMT is applied based on a 10% PM_{2.5}/ PM₁₀ ratio^{10, 11}. By checking the box, the program will use CARB's emission factor to override the calculated emission factor based on USEPA AP-42. Note: For project locations other than San Luis Obispo County APCD and Sacramento Metropolitan AQMD, CARB's 2.0 lbs PM₁₀/VMT is not a selection option.



4.5 Area

The area source screen consists of four sub-screens: Hearths, Consumer Products, Area Architectural Coatings, and Landscaping Equipment. Natural gas emission variables from all uses except hearths are included in the energy use screen (described in Section 4.6).

⁹ Available at: http://www.arb.ca.gov/ei/areasrc/fullpdf/full7-10.pdf

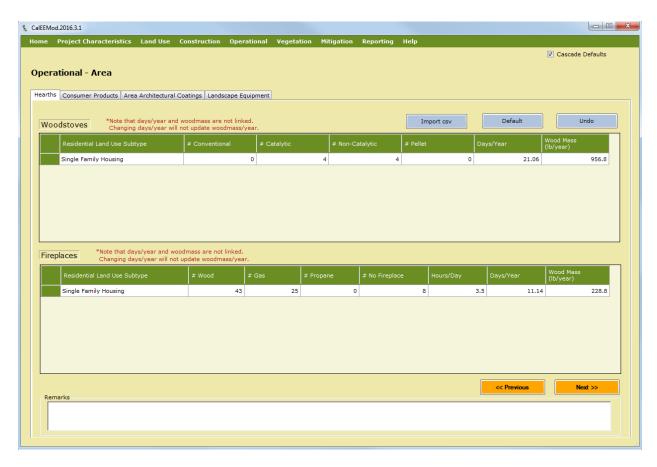
¹⁰ Available at: http://www3.epa.gov/ttnchie1/ap42/ch13/related/mri final fine fraction dust report.pdf

¹¹ Available at: http://www.arb.ca.gov/app/emsinv/emssumcat_query.php?F YR=2015&F DIV=-4&F SEASON=A&SP=2009&F AREA=CA#0



4.5.1 Hearths and Woodstoves

This sub-screen allows the user to enter the number of woodstoves and hearths of various types as well as the usage of these devices. Woodstoves are separate from fireplaces since a home may have both and these devices may have different use patterns. The number of devices that is entered for each device type represents the total number of devices installed in the dwelling units for a particular land use. Appendix A contains the emissions calculation methodology and details of variables that the user cannot override. Some of these emissions may be classified as biogenic and are therefore reported as CO₂-Biogenic. For most locations a default percent of hearths and stoves was provided by air districts and is multiplied through. The number of devices was chosen to include in CalEEMod instead of a percentage to allow for incorporation of various air district rules regarding hearths and woodstoves in new residences without having specialized data entry screens. Commercial land uses by default do not have hearths or woodstoves in CalEEMod. These are included for those cases where they may occur such as in restaurants or hotels.



The San Joaquin Valley jurisdiction has a regulatory limit on the number of hearths depending upon the type and number of residential development. The regulatory limit is generated by CalEEMod but all the input parameters (e.g., unit density, etc.) are necessary to determine the value. Thus, the regulatory limit is disclosed during the reporting stage under the Default Value



box in the report. The model, however, calculates emission impacts from the number of hearths inputted on the Area source screen (listed under the New Value column in the report). Therefore, if the user wants to calculate emissions from regulatory limit, the report needs to be run to determine the regulatory limit and the user needs to go back to the Area Source screen to input that value and re-run the report. If the user chooses to calculate emissions from a different number of hearths (e.g., a number of hearths less than the regulatory limit), then that number needs to be inputted on the Area Source screen to properly calculate emissions. Again, the report will provide the regulatory limit under the Default Value column and the user input value under New Value column.

4.5.2 Consumer Products

Consumer products are various solvents used in non-industrial applications which emit ROGs during their product use. These typically include cleaning supplies, kitchen aerosols, cosmetics and toiletries. SCAQMD has developed an emission factor based on the total of all building square footage for both residential and non-residential buildings. Details of how this emission factor was developed can be found in Appendix E. The user can change this emission factor if they have more relevant data. CalEEMod Version 2016.3.1 separates ROG emissions from pesticides/fertilizers for City Parks and Golf Courses and ROG emissions from parking surface degreasers from the general category consumer products. CalEEMod Version 2016.3.1 also assumes that there would be no ROG emissions from the actual pool surface area for Recreational Swimming Pools because the chemicals used for maintaining pools are not considered to be ROGs. Details of how the ROG emission factors for pesticides/fertilizers and parking surface degreasers were determined can be found in Appendix E.

4.5.3 Area Architectural Coatings

This sub-screen has text boxes for the reapplication rate and coating ROG content for each building surface type and parking surface. The reapplication rate is the percentage of the total surface area that is repainted each year. A default of 10% is used, meaning that 10% of the surface area is repainted each year (i.e., all surface areas are repainted once every 10 years). Daily emissions divide the annual rate by 365 days per year. This is based on assumptions used by SCAQMD in their district rules regarding architectural coatings. Some districts provided details on their coating regulations that phase-in over time, which have been incorporated to the extent feasible, given the general classifications of paint (interior or exterior for residential and non-residential). Coating ROG content from state regulations are used for air districts that did not provide specific architectural coating information. Consult your local air district for suggested values that may be lower than the state regulations.

The ROG contents under the Operational Area Architectural Coatings screen (either CalEEMod defaults or site-specific values defined by users) become the default ROG contents for the Area Mitigation screen. The user may check the box under the Area Mitigation screen and specify a lower ROG content limit.



4.5.4 Landscape Equipment

This sub-screen has two text boxes to show the number of snow days or summer days. In addition, the defaults consider a realistic number of days which the landscaping equipment would be operated. For example, landscaping at commercial facilities typically do not take place during a weekend or during the summer at educational facilities that are not open. The number of days are applied to the appropriate landscape equipment types available in OFFROAD2011 using the average horsepower and load factors of the population mode. The derivation of emission factors used for each equipment type from OFFROAD2011 is described in Appendix A.

4.6 Energy Use

The energy use screen is used to gather the information necessary to estimate the emissions associated with building electricity and natural gas usage (non-hearth). The electricity energy use is in units of kilowatt hours (kWh) per size metric for each land use subtype. Natural gas use is in units of a thousand British Thermal Units (kBTU) per size metric for each land use subtype.

Title 24 of the California Code of Regulations, known as the California Building Standards Code or Title 24, contains energy conservation standards applicable to all residential and non-residential buildings throughout California. With CalEEMod, building electricity and natural gas use is divided into two categories: 1) end uses subject to Title 24 standards; and, 2) end uses not subject to Title 24 standards. The distinction is used when the mitigation measure for exceeding Title 24 standards (BE-1) is applied. Lighting is also a separate category in CalEEMod for which a separate mitigation measures (LUT-1) may be applied for using energy efficient lighting.

For electricity, Title 24 uses include the major building envelope systems covered by Part 6 (California Energy Code) of Title 24 such as space heating, space cooling, water heating, and ventilation. Non-Title 24 uses include all other end uses, such as appliances, electronics, and other miscellaneous plug-in uses. Because some lighting is not considered as part of the building envelope energy budget, and since a separate mitigation measure is applicable to this end use, CalEEMod makes lighting a separate category.

For natural gas, uses are likewise categorized as Title 24 or Non-Title 24, with Title 24 uses including building heating and hot water end uses. Non-Title 24 natural gas uses include cooking and appliances (including pool/spa heaters).

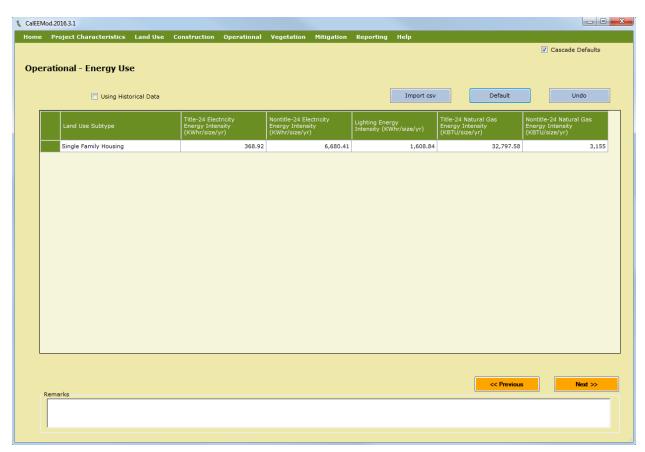
The baseline values are based on the CEC sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies¹². For climate zones not included in these surveys, data from the closest climate zone was used as a surrogate. Since these studies are based on older buildings, adjustments have been made to account for

¹² CEC. October 2010. Residential Appliance Saturation Survey. Available at: http://www.energy.ca.gov/appliances/rass

CEC. March 2006. Commercial End-Use Survey. Available at: http://www.energy.ca.gov/ceus/



changes due to Title 24 building codes as described in Appendix E. The user should select the use historical box if they only want an adjustment to the 2005 standards which were in effect when CARB developed its Scoping Plan 2020 No Action Taken predictions. After selecting the historical button, the user must also click the default button to load the historical default values.



4.7 Water and Wastewater Use

This screen estimates the land uses contribution of GHG emissions associated with supplying and treating water and wastewater. This screen is used to enter the amount of water in gallons used indoors and outdoors for each land use subtype¹³. The indoor water is also used to

¹³ Gleick, P.H.; Haasz, D.; Henges-Jeck, C.; Srinivasan, V.; Cushing, K.K.; Mann, A. 2003. Waste Not, Want Not: The Potential for Urban Water Conservation in California. Published by the Pacific Institute for Studies in Development, Environment, and Security. Full report available at: http://www.pacinst.org/reports/urban_usage/waste_not_want_not_full_report.pdf. Appendices available at: http://pacinst.org/publication/waste-not-want-not/

Dziegielewski; B.; Kiefer, J.C.; Optiz, E.M.; Porter, G.A.; Lantz, G.L.; DeOreo, W.B.; Mayer, P.W.; Nelson, J.O. 2000. Commercial and Institutional End Uses of Water. Published by the American Water Works Association Research Foundation.

Northern California Golf Association. Improving California Golf Course Water Efficiency. Available at: http://www.water.ca.gov/wateruseefficiency/docs/2004Apps/2004-079.pdf





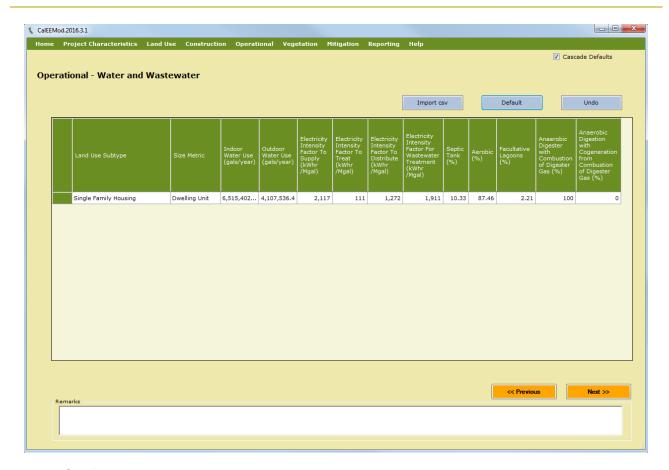
estimate the amount of wastewater. The electricity intensity factor for various phases of providing water is provided. Depending on the specific water supply used or treatment method used these numbers can vary over a wide range. Supplying water is bringing the water from its primary source such as the ground, river, or snowpack to the treatment plant. Distributing the water is bringing the water from the treatment plant to the end users. The electricity intensity factors are multiplied by the utility GHG emissions intensity factors for the GHGs and are classified as indirect emissions. The default electricity intensity is from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California^{14.} The location will automatically select the appropriate values if using these defaults. Since the electricity can vary greatly based on locations, the user should override these values if they have more specific information regarding their specific water supply and treatment.

Wastewater may also have direct emissions of GHGs. These depend on the type of wastewater treatment system (e.g., septic, aerobic or lagoons) used and therefore the wastewater treatment type percentages are variables. In addition, the model calculates impacts if the solids are digested either through an anaerobic digester or with co-generation from combustion of digester gas. Each type has associated GHG emission factors. Some of these may be classified as biogenic. Not all of the biogenic emissions are accounted for since there are not adequate emissions factors at this time. Refer to Appendix A on how to properly change the defaults, if necessary, and the methodology used to calculate impacts from wastewater treatment.

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¹⁴ CEC-500-2006-118. Available at http://www.energy.ca.gov/2006publications/CEC-500-2006-118/CEC-500-2006-118.PDF.



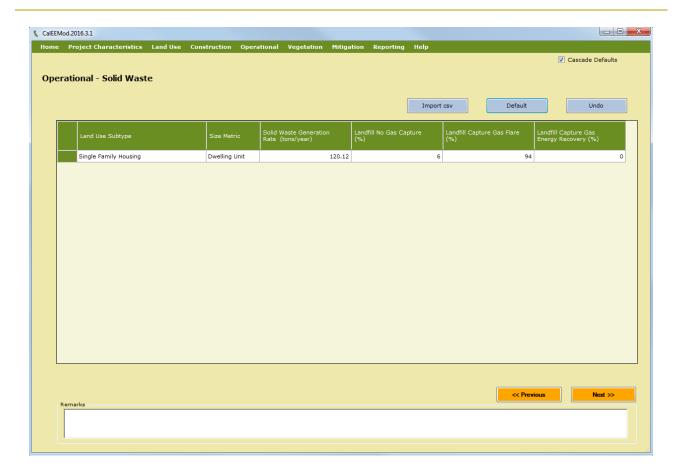


4.8 Solid Waste

The solid waste screen determines the GHG emissions associated with disposal of solid waste into landfills. In order to estimate the eventual contribution of GHG emissions from solid waste disposed by a land use annually, the total amount of carbon dioxide and methane that would be evolved over the span of many years is calculated. This is based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste ¹⁵. Waste disposal rates by land use and overall composition of municipal solid waste in California is primarily based on CalRecycle data. The amount of methane emitted depends on characteristics of the landfill, and therefore the default percentage is based on the types of landfills assumed by CARB in their GHG emissions inventories. Portions of these emissions are biogenic. The defaults for the gas capture (e.g., no capture, flaring, energy recovery) are statewide averages except for Santa Barbara APCD which has a 100% landfill capture gas flare. The user has the ability to override the defaults if the gas capture at the landfill to be used by the project is known. Local jurisdictions can also provide guidance to users as to what default properly reflects known regional solid waste gas capture.

¹⁵ IPCC. 2006. 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume 5 Waste. Available at http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html.



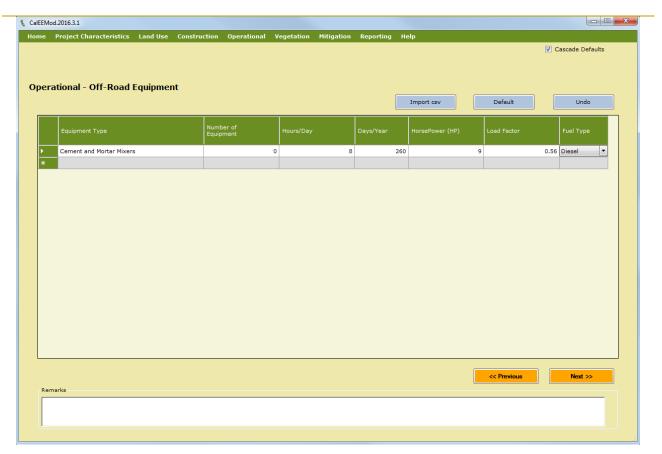


4.9 Off-Road Equipment

The Operational - Off-Road Equipment sub-screen allows the user to identify any off-road equipment used during operational activities (e.g., forklifts, cranes, loaders, generator sets, pumps, pressure washers, etc.) at the project site. Because such equipment cannot be assumed to be needed for a particular land use project, a user must provide the data in order for CalEEMod to calculate the resulting emissions from off-road equipment operation. A dropdown list of off-road equipment is provided for the user to identify each piece of equipment. The model requires the following specific information per equipment type. The user would need to provide the number of pieces for each equipment type. The model assumes an operation activity of 8 hours per day and 260 days per year, as well as the horsepower and load factor of the equipment type, but the user has the ability to override the default assumptions with project specific information. Finally, the model assumes diesel fuel, but a dropdown menu is provided to allow the user to choose bio-diesel, compressed natural gas (CNG) or electrical if known, to power the equipment.







4.10 Stationary Sources

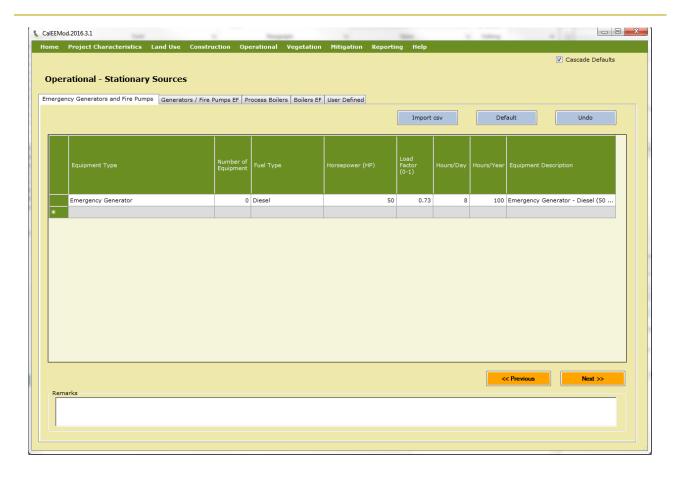
The Stationary Sources screen consists of five sub-screens: Emergency Generators and Fire Pumps and their default emission factors, Process Boilers and their default emission factors, and User Defined Sources. Consult with the local air district to determine if permitted stationary sources should be included in the project analysis using CalEEMod.

4.10.1 Emergency Generator and Fire Pumps and Default Emission Factors

Two sub-screens allow the user to enter emergency power generators and diesel fueled fire pumps and to estimate emissions. This type of equipment operates only for maintenance and testing, or during emergency situations, such as power failures. To calculate emissions, the user must enter the engine rating (in horsepower), the anticipated maximum daily usage, and the anticipated maximum annual usage into the Emergency Generators and Fire Pumps subscreen. The user may change the default load factor. The default emission factors for the equipment are shown on the separate Generators/Fire Pumps EF (emission factor) sub-screen. The user can replace the default emission factors, but needs to provide custom emission factors in the predefined units. See Appendix A for the sources of default emission factors and emission calculation methodology.

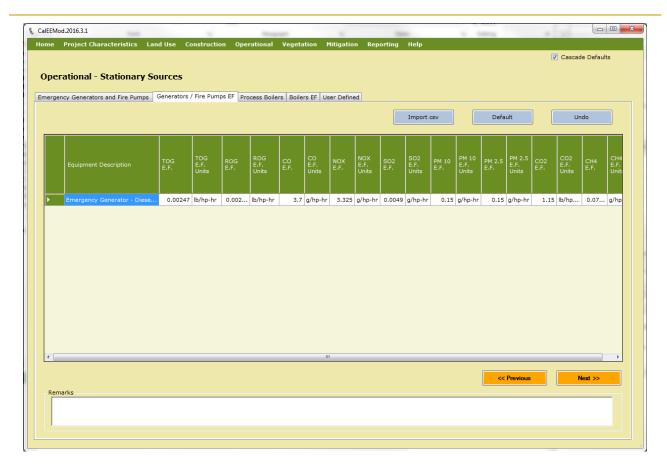








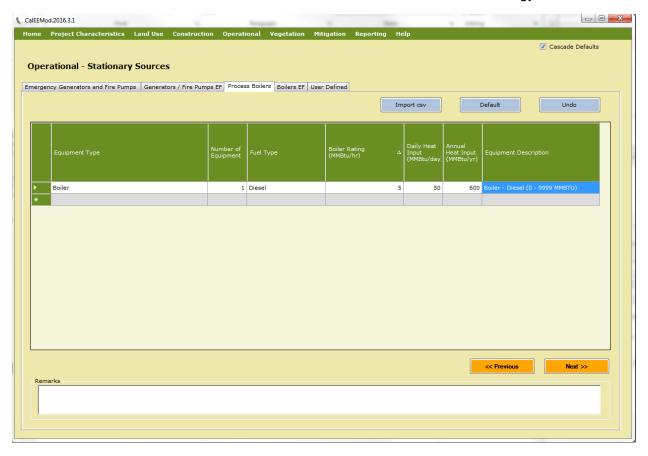






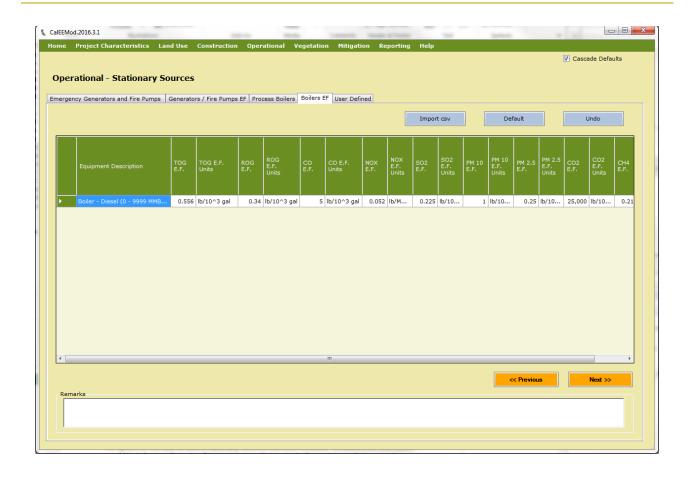
4.10.2 Process Boilers and Default Emission Factors

Two sub-screens allow the user to enter process boilers and to estimate emissions. Do not use this option for boilers providing space heating or building hot water, as these uses are included building energy use (See Subchapter 4.6). To calculate process boiler emissions, the user must enter the boiler rating (in million BTU/hr) and maximum anticipated daily and annual heat input in the Process Boilers sub-screen. The default emission factors for boilers are shown on the separate Boiler EF (emission factor) sub-screen. The user can replace the default emission factors, but needs to provide custom emission factors in the predefined units. See Appendix A for the sources of default emission factors and emission calculation methodology.





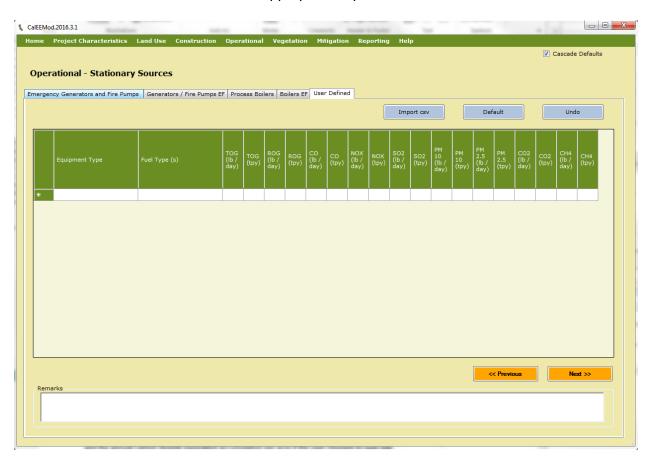






4.10.3 User Defined

An option for the user to define stationary sources other than emergency generators, fire pumps and process boiler has been included in the User Defined sub-screen. Emissions for this source would include any other miscellaneous sources that typically require permits to operate issued by an air district. Emissions may be manually entered here, either by transferring values from the permits to operate, or by calculating emissions outside of CalEEMod. Any emissions entered here will be transferred to the appropriate reports.



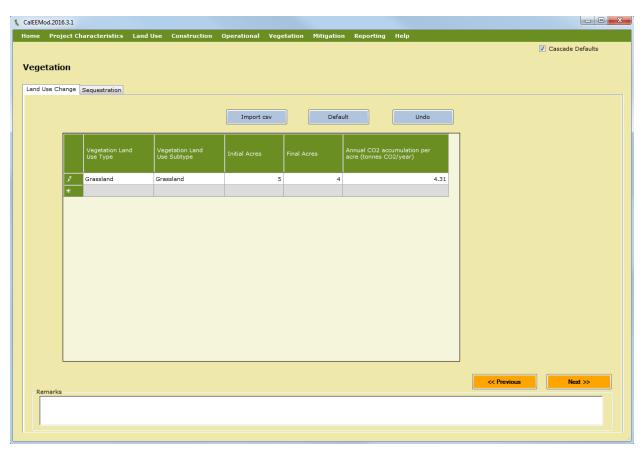


4.11 Vegetation

The vegetation screen is used to estimate the one-time change in carbon sequestration capacity due to a project. There are two sub-screens, Land Use Change and Sequestration. The methods used are based on IPCC¹⁶.

4.11.1 Land Use Change

The Land Use Change sub-screen estimates GHG emissions due to a change in vegetation resulting from a change in land use type. The user enters the vegetation land use type, the initial and final acreage of the vegetation land use type, and the annual carbon dioxide equivalent accumulation per acre if the user chooses to override the default value. Settlement land use acreage is not considered since it is a net zero at steady state unless trees are added.



4.11.2 Sequestration

This sub-screen of Vegetation is used to estimate the GHG emissions associated with the sequestration of net new trees added to the project site. Consistent with IPCC recommendations a 20 year active growth period is assumed. The user enters the tree type or

¹⁶ IPCC. 2006. 2006 IPCC Guidelines for National Greenhouse Gas Inventories Volume 4. Available at http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html



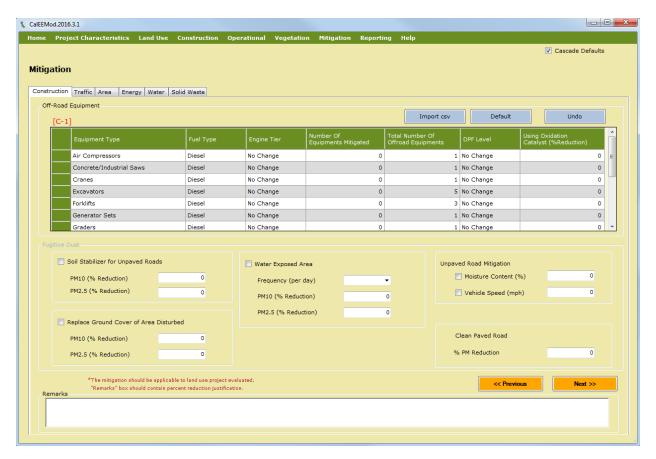
miscellaneous if it is not known, and the total number of trees. The user can override the default carbon sequestration rate.

4.12 Mitigation

The mitigation screen consists of six sub-screens that the user can indicate and supply the necessary information to estimate the emissions after mitigation measures have been implemented. The mitigation measures included in CalEEMod are largely based on the CAPCOA Quantifying Greenhouse Gas Mitigation Measures (http://www.capcoa.org/wp-content/uploads/downloads/2010/09/CAPCOA-Quantification-Report-9-14-Final.pdf) document. The CAPCOA measure numbers are provided next to the mitigation measures in CalEEMod to assist the user in understanding each measure by referencing back to the CAPCOA document. This User's Guide focuses on key aspects of the Mitigation sub-screens that users should pay particular attention.

4.12.1 Construction Mitigation

This sub-screen consists of a datagrid of off-road construction equipment to apply various mitigation measures and check boxes with supplemental information for fugitive dust emissions mitigation.





To apply mitigation to construction equipment, the user selects the equipment type, notes the number of equipment mitigated (of the total number of off-road equipment listed), and type of mitigation that applies. If substantial evidence supporting reductions was available at the time of development, options include fuel type (diesel, CNG, electric, hybrid, biodiesel), engine tier (typically select Tier 4), diesel particulate filter tiers (Tier 3 being the most effective), and use of oxidative catalysts. The program estimates how much if any increase or decrease in emissions to apply for each pollutant. Some mitigation measures have trade-offs in pollutant reductions and therefore may result in increases of some pollutants. The mitigation option to use alternative fuel for construction equipment is consistent with mitigation measure C-1 in the CAPCOA Quantifying GHG Mitigation document.

To apply mitigation to construction fugitive dust, the user selects the check box in front of the mitigation measure name, and enters in the appropriate information in the drop down or text boxes. Some fugitive dust mitigation required by some air districts do not appear here since the fugitive dust source they mitigate is not quantified by CalEEMod, in particular this includes fugitive dust generated by wind over land and storage piles. Since the fugitive dust source is not quantified it is not appropriate to apply the reduction.

For Unpaved Road Mitigation for construction fugitive dust, the maximum vehicle speed and the minimum moisture content for unpaved roads are entered. Defaults for these values are those entered on the On-Road Fugitive Dust screen. Mitigated emissions are calculated using the VMT from on-road vehicles traveling along unpaved roads, previously calculated from the percentages entered on the On-road Fugitive Dust Screen (e.g., % Pave Worker, % Pave Vendor or % Pave Hauling).

Users may check the boxes and provide a lower vehicle speed and a higher moisture content to conduct the mitigation calculation. If during a particular construction phase the user defined mitigated vehicle speed is higher than the unmitigated vehicle speed and/or the user defined mitigated moisture content is lower than the unmitigated moisture content, a warming message will be displayed. In this case, the unmitigated values will be used, resulting in no mitigation being calculated.

4.12.2 Traffic Mitigation

There are two traffic mitigation sub-screens that the user can select from, Land Use & Site Enhancement and Commute. First, the user must select the Project Setting as defined in the CAPCOA document (pp. 59-60).

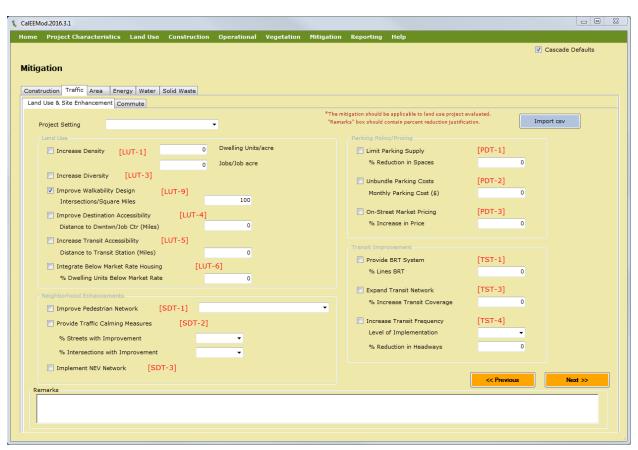
- Low Density Suburban: An area characterized by dispersed, low-density, single-use, automobile dependent land use patterns, usually outside of the central city (a suburb).
- Suburban Center: An area that serves the population of the suburb with office, retail and housing which is denser than the surrounding suburb.



- Urban: An area which is located within the central city with higher density of land uses than you would find in the suburbs. It may be characterized by multi-family housing and located near office and retail.
- Urban Center (referred to as Compact Infill in the CAPCOA document): An area which is located within or contiguous with the central city. Examples may include redevelopment areas, abandoned sites, or underutilized older buildings/sites.

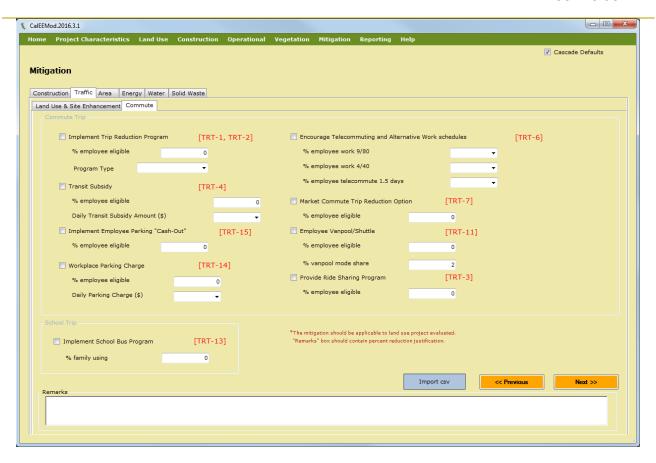
If the CAPCOA measure did not distinguish between Suburban Center and Low Density Suburban, values for Low Density Suburban were used. Similarly, if Urban Center and Urban values were not distinguished, Urban values were used.

The user checks the box next to each mitigation measure and fills in the appropriate information as required. The maximum reduction caps defined in the CAPCOA Quantifying GHG Mitigation document are integrated into these calculations. The CAPCOA traffic mitigation measure numbers included in CalEEMod are the following: LUT-1, LUT-3, LUT-9, LUT-4, LUT-5, LUT-6, SDT-1, SDT-2, SDT-3, PDT-1, PDT-2, PDT-3, TST-1, TST-3, TST-4, TRT-1, TRT-2, TRT-4, TRT-15, TRT-14, TRT-6, TRT-7, TRT-11, TRT-3, and TRT-13. The NEV network mitigation measure (SDT-3) assumes the low end of the CAPCOA recommendations.





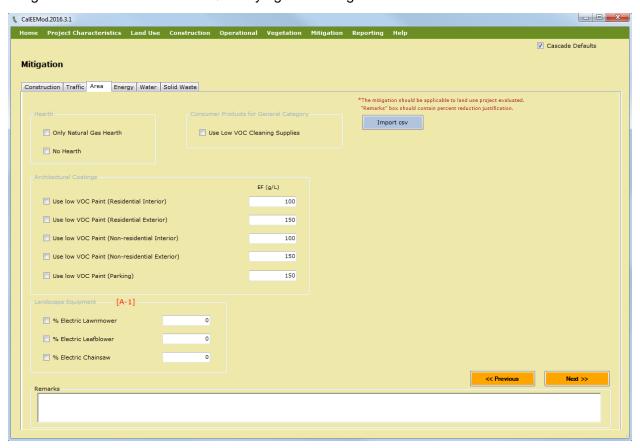






4.12.3 Area Mitigation

The user can select from a few area source mitigation measures on the Area sub-screen by checking the appropriate box and supplying any additional information in the text boxes. These measures include all natural gas hearths, no hearths, electric landscaping equipment use, reduced ROG coatings, and reduced general category consumer product ROG content. The area landscaping mitigation to prohibit gas powered landscape equipment is consistent with mitigation A-1 in the CAPCOA Quantifying GHG Mitigation document.



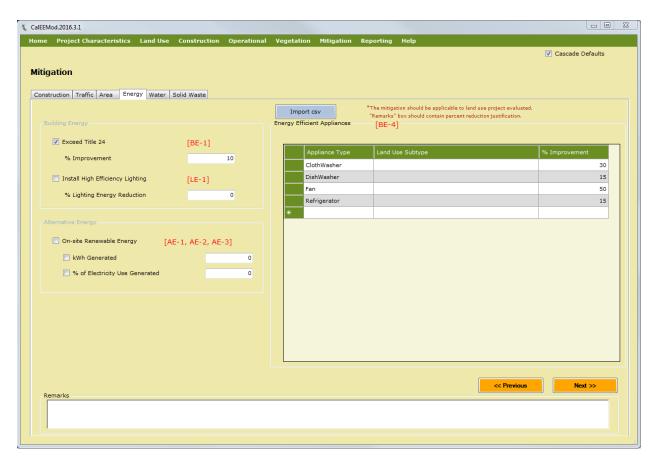
4.12.4 Energy Mitigation

The user selects energy mitigation measures on the Energy sub-screen by using the check boxes or the datagrid. These correspond to CAPCOA Mitigation Measures LE-1, BE-1, AE-1, AE-2, AE-3 and BE-4 as listed in the CAPCOA Quantifying GHG Mitigation document. The lighting is a percentage reduction in lighting as supplied by the user. The datagrid is used to enter the land use subtypes that will use energy efficient appliances. The percent improvement is the typical percent improvement above standard appliances according to the 2008 Energy Star Annual Report¹⁷. Alternative Energy has two methods to enter the amount of alternative energy. The first is the amount of kW-hr generated. The second is the percentage of the total

¹⁷ Available at: https://www.energystar.gov/ia/partners/annualreports/annual_report_2008.pdf



electricity use by buildings that is generated. At this time alternative energy methods that are not carbon neutral are not quantified. To apply the amount of alternative energy only one of the two methods (kW-hr or percentage) needs to be entered for CalEEMod to calculate emission reductions.

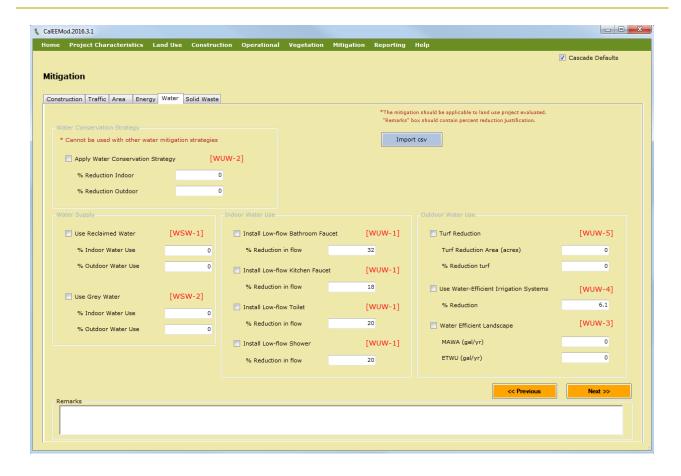


4.12.5 Water Mitigation

On the Water sub-screen, water mitigation can either be estimated as the percent reduction based on a water conservation strategy or the other individual mitigation measures. The CAPCOA Quantifying GHG Mitigation document includes water supply and use measures WSW-1 & 2, and WUW-1 through 5.

For CAPCOA Mitigation Measure WSW- 3 (Use Locally Sourced Water Supply), using locally-sourced water or water from less energy-intensive sources reduces the electricity and indirect CO₂ emissions associated with water supply and transport because water from local or nearby groundwater basins, nearby surface water and gravity-dominated systems have smaller energy-intensity factors. This mitigation measure is not included in the Water mitigation sub-screen, therefore, to implement WSW-3, the user should alter the energy intensity values in water and run a separate CalEEMod run to accommodate these values.

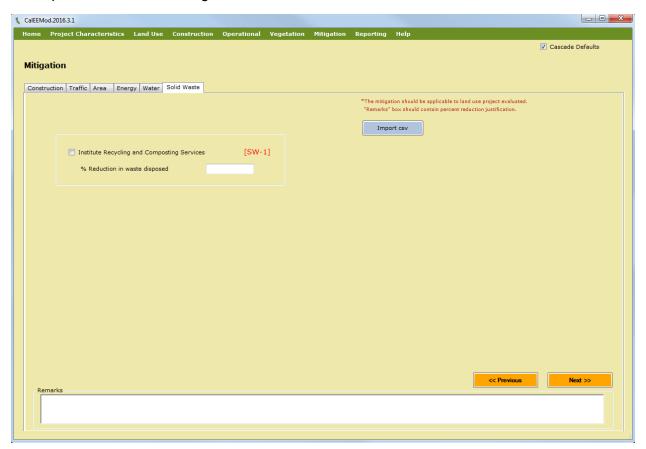






4.12.6 Solid Waste Mitigation

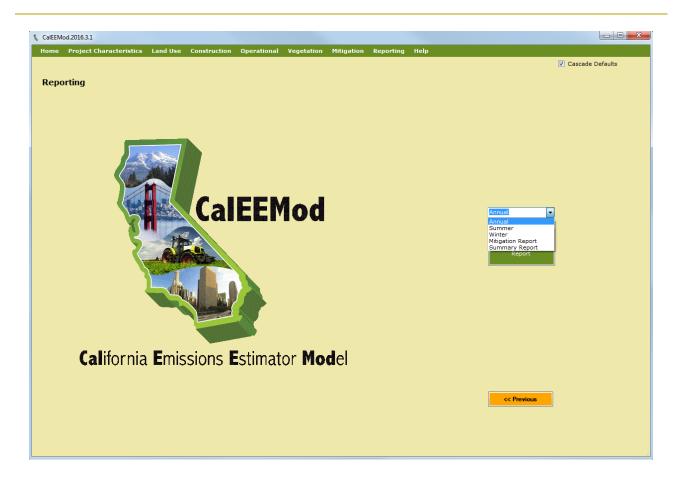
The user can get calculate an emissions reduction for recycling waste. This mitigation measure corresponds to CAPCOA Mitigation Measure: SW-1.

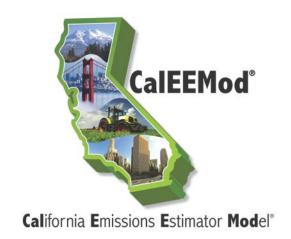


4.13 Reporting

The user initiates final emission calculations by selecting the report and clicking on the Recalculate All Emissions and Run Report button. The available reports include: Annual, Summer (peak) Daily, Winter (peak) Daily, Mitigation and Summary of peak daily emissions and annual GHG emissions. A separate report viewer will come up. From this report viewer, the user can view their report on-screen, print reports, save as Microsoft Excel xls file or save as an Adobe Acrobat pdf file, or in the case of the Mitigation report, a Microsoft Word doc file. The data in the Excel file has already been calculated and placed in the grids as text, thus, for example, the user cannot change an emission value and expect the report to change the summed total value. These values, however, can be copied to new Excel spreadsheet for any further desired calculation with the data.







Appendix A Calculation Details for CalEEMod

Prepared for:
California Air Pollution Control Officers Association
(CAPCOA)

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1 Overview of Program

California Emissions Estimator Model (CalEEMod) calculates both the criteria air pollutant emissions and greenhouse gas (GHG) emissions associated with construction and operational sources as part of development projects. In addition it calculates GHG emissions associated with one-time changes in vegetation land use. These emission estimates can be used for quantification and reporting as part of the California Environmental Quality Act (CEQA) environmental impact reports and other environmental documentation.

This Appendix A serves as the basis for all methods and assumptions and data source references that are used for calculating all emission categories. These category modules include construction, operational energy use, operational mobile sources, operational landscape maintenance, operational consumer product use, operational architectural coating use, operational hearth use, operational stationary sources, indirect emissions from water and wastewater use, vegetation carbon sequestration, and emissions associated with solid waste disposal.

1.1 Structure of this document

This Appendix will discuss each major module in detail with appropriate subdivisions. These major modules include the following:

- Project Characteristics
- Land Use
- Construction
- Operational Mobile
- Operational Area Sources
- Energy Use
- Water and Wastewater
- Solid Waste
- Stationary Sources
- Vegetation
- Mitigation
- Results

2 Project Characteristics

The Project Characteristics screen has no calculations associated with it. It is used to provide information on appropriate default values in subsequent screens. A detailed description of this screen and the areas requiring user input is given in the User's Guide main text. Some further information regarding some of the inputs are below.

- Mendocino County requested county subdivisions as follows:
 - Inland
 - Coastal
 - Rural Inland North
 - Rural Inland South
- Santa Barbara County requested county subdivisions as follows:
 - North Santa Barbara County: North of Santa Ynez range
 - South Santa Barbara County: South of Santa Ynez range
- Wind speeds are from District supplied information, nearby weather stations if easily identifiable¹, or a default of 2.2 m/s.
- Precipitation Frequency was based on data from the Western Regional Climate Center (WRCC)² which is an average of all of the stations found in that county, air basin, or district.

2.1 Utility Information

Several of the modules require an estimation of the indirect GHG emissions associated with supplying electricity to the Project site. The end user will need to specify the utility company that will be providing electricity to the Project. The default carbon intensities for the major utility companies as well as a state-wide default are based on Table G6 of the California Air Resources Board (CARB) Local Government Operation Protocol version 1.1 or the latest public utilities inventory reports. This is consistent with recommendations in the California Air Pollution Control Officer Association (CAPCOA) Quantifying Greenhouse Gas Mitigation Measures document. The complete list of the utilities powering California and the reporting year from which the CO₂ intensity factor currently used in CalEEMod can be found in Table 1.2 in Appendix D. The CH₄ and N₂O values are based on E-grid values for the region since more refined data is not readily available. The end user will also be able to provide an alternative value that is recommended by the local agency, if applicable.

2.2 Criteria Pollutants

The criteria pollutants are those pollutants or precursor pollutants to the chemicals that have National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS). These pollutants are listed below:

 Particulate Matter: The program will define both Particulate Matter with aerodynamic radius less than 10 microns (PM₁₀) and Particulate Matter with aerodynamic radius less than 2.5 microns (PM_{2.5}). Since emission factors for PM_{2.5} have not been fully defined, the conversion assumption for each generating source will be described in more detail with the

¹ http://www.wrcc.dri.edu/htmlfiles/westwind.final.html

² http://www.wrcc.dri.edu/htmlfiles/ca/ca.01.html

specific modules. Particulate matter will be tracked by subtype which will include fugitive dust and equipment exhaust.

- Carbon Monoxide: The emissions from carbon monoxide (CO) will be calculated for all direct combustion sources associated with the project.
- Lead: The emissions from lead (Pb) will be calculated for all direct combustion sources associated with the project.
- Sulfur Dioxide: The emissions associated with sulfur dioxide (SO₂) will be calculated for all direct combustion sources associated with the project.
- Nitrogen Oxides: The emissions associated with nitrogen oxides (NOx) will be calculated
 for all direct combustion sources associated with the project or direct emissions associated
 with area sources. Note that there may be some nitrous oxide (N₂O) emissions that are
 calculated under the GHG module indirect sources that will not be incorporated into the
 nitrogen oxide emission tally for criteria pollutants since these emissions may be out of
 basin.
- Ozone: The ozone (O₃) emissions are not calculated directly in this program. Instead the emissions associated with ozone precursors are calculated.
- Ozone Precursors: Ozone precursors will be quantified as reactive organic gases (ROG).
 ROGs when released will interact in the atmosphere and produce ozone.

By definition, a Volatile Organic Compound (VOC) is an organic compound that can evaporate into an organic gas. VOCs can be either reactive or non-reactive. Over the years, non-reactive VOCs have been exempt from regulation. CalEEMod calculates the VOC emissions from the application of architectural coatings based on the locally required VOC content limit of the coatings. ROG is an organic gas that undergoes a photochemical reaction, thus, is reactive. ROG emissions are generated from the exhaust of mobile sources and these combustion emissions are calculated in CalEEMod based on CARB's ROG emission factors. Both VOC and ROGs are precursors to ozone so they are summed in the CalEEMod report under the header ROG. For the purposes of comparing the ROG value to a VOC significance threshold, the terms can be used interchangeably.

2.3 Greenhouse Gas Pollutants

The greenhouse gas (GHG) pollutants are those recognized by the state of California under Assembly Bill 32 (AB32). The most common GHGs emitted in association with land use developments include carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). All GHGs will be reported on a common currency of carbon dioxide equivalent (CO₂e). In order to obtain the CO₂e, an individual GHG is multiplied by its global warming potential (GWP). The GWP designates on a pound for pound basis the potency of the GHG compared to CO₂. The program

will use GWP from the 2007 IPCC Fourth Assessment Report (SAR)³, and are consistent with 2014 CARB's Scoping Plan Update⁴.

3 Land Use

The primary project description data that needs to be entered by the user is a listing of all land use types and size of the land use types that make up the project. CalEEMod contains several land use categories that are mainly based on ITE land use classifications. Some further division of some land uses (mainly warehouses) has been added. The land use subtype is the basis to define several default values used by the modules. The user-defined land use does not have any default information and the end user is required to enter all of the necessary information. The program currently places a value of 0 for all areas where user defined values would be required for a blank land use.

The land use size has several different size metrics that the end user can choose from. In order for the information to be cross-compatible, the user can enter all of the metrics for a given land use or default conversions between the metrics will be used. The cross-comparison data generally came from the following sources:

- The value for average dwelling unit square footage is rounded based on the average square footage reported in the Residential Appliance Saturation Survey (RASS).
 Retirement communities and congregate care facilities are assumed to be similar in size to multifamily units.
- The conversion value is based on taking the ratios of different metrics reported in the Institute of Transportation Engineers (ITE) trip rate manual.
- Equivalent commercial building metrics as noted in Table B1 of the Energy Information Administration (EIA) Commercial Building Energy Consumption Survey (CBECS).
- South Coast Air Basin land use statistics (see Appendix E for this reference data).

Unlike other programs, CalEEMod does not account for additional acreage associated with commercial buildings. This was deemed unnecessary since parking lots have been separated out as a separate land use and multi-story buildings should have their lot acreage known.

3.1 Population

The population is used to estimate some metrics. The population per dwelling unit is based on the statewide default or information supplied by individual air districts. Population data can be found in Appendix D, Table 2.2.

³ Available at: https://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_full_report.pdf

⁴ Available at: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm

4 Construction

The construction module is used to calculate the emissions associated with the construction of the project. Construction has several different types of sources which contribute to emissions of pollutants. These source types include off-road equipment usage, on-road vehicle travel, fugitive dust, architectural coating, and paving off-gassing. Each of these source types is discussed in more detail in the subsequent sections. These emission sources are associated with various types of construction phases. Typical construction phases include demolition, site preparation, grading, trenching, building construction, paving, and architectural coating. The extent to which these phases occur depends on the specific project. For instance, a demolition phase would only occur if demolition of existing structures was required. Similarly, trenching only occurs if the project requires trenching generally associated with underground utilities. Unique aspects and default assumptions associated with these phases is discussed below in the context of the different emission source calculations.

4.1 Construction Phase

No emission calculations are associated with this sub-screen. The SCAQMD construction survey is used to estimate default phase lengths based on total project acreage as calculated from the acreage entered on the land use screen. If the acreage is in between the acreages in the survey, the next highest acreage tier is used. If the project size defined by the user is between the sizes of two surveyed projects, CalEEMod conservatively uses the phase duration for the larger project. For instance, if the given project is 7 acres, the program will use the phase duration for the 10-acre project rather than that for the 5-acre project. For large acreage sites, the survey was extrapolated by adding additional phase time equivalent to adding phase time from two acreage ranges in the survey. This occurs for sites with acreage larger than 34 acres. In these situations, the user should consider the accuracy of the equipment and phase duration estimations or using site-specific construction schedules and equipment lists.

The date range, work days per week and total days are dynamically linked to each other and will influence one another if the user changes these values.

4.2 Off-road Equipment

Construction consists of several types of off-road equipment. Since the majority of the off-road construction equipment used for construction projects are diesel fueled, CalEEMod assumes all of the equipment operates on diesel fuel. However, there are mitigation measures that can be implemented that will allow for use of alternative fueled equipment.

The SCAQMD construction survey is used to estimate default equipment lists based on total project acreage as calculated from the acreage entered on the land use screen. If the acreage is in between the acreages in the survey, the next highest acreage tier is used. For large acreage sites, the survey was extrapolated by adding additional phase time equivalent to adding phase time from two acreage ranges in the survey. This occurs for sites with acreage larger than 34 acres. In these situations, the user should consider the accuracy of the equipment and phase duration estimations or using site-specific construction schedules and equipment lists.

The calculations associated with this screen include the running exhaust emissions from off-road equipment. Since the equipment is assumed to be diesel, there are no starting or evaporative emissions associated with the equipment as these are *de minimis* for diesel-fueled equipment⁵. The software program calculates the exhaust emissions based on California Air Resources Board (CARB) OFFROAD2011 methodology using the equation presented below.⁵

$$Emission_{DieselEx} = \sum_{i} (EF_{i} \times Pop_{i} \times AvgHp_{i} \times Load_{i} \times Activity_{i})$$

Where:

EF = Emission factor in grams per horsepower-hour (g/bhp-hr) as processed from OFFROAD2011

Pop = Population, or the number of pieces of equipment

AvgHp = Maximum rated average horsepower

Load = Load factor

Activity = Hours of operation

i = equipment type

The program allows the end user to enter the number of pieces of equipment, horsepower, load factor, and daily hours of operation for each selected equipment type. CalEEMod assigns default parameters for the construction equipment as explained below:

Emission Factor

OFFROAD2011 was run for statewide with averaging days of MON-SUN for 22 scenario years each. All scenarios were run for three seasons – Annual, Summer, and Winter. The exhaust emission factors for each equipment at each horsepower range were back calculated from total daily emissions reported in the model output files using the following formula:

Emission Factor [g/hp-hr] =
$$\frac{Total\ Daily\ Exhaust\ x\ 907,184.74}{Activity\times AvgHP\times LF}$$

Where:

Total Daily Exhaust = Total pollutant emissions [tons/day]

Activity = Total daily statewide usage of equipment [hours/day]

AvgHP = Average HP of equipment within the horsepower range [HP]

LF = Load Factor of equipment [unitless]

907,185 = Conversion factor tons to grams (2000 lbs/ton x 453.6 g/lb)

Total Daily Exhaust and Activity were obtained from OFFROAD2011 model output, while AvgHP and LF were obtained from input files to the model.

⁵ CARB. 2006. Program Structure of the OFFROAD2007. Dec. Available at http://www.arb.ca.gov/msei/offroad/pubs/offroad_overview.pdf

AvgHP

The default average equipment horsepower is from OFFROAD2011. OFFROAD2011 has an average horsepower for each engine tier which was used in developing the emission factor (from equip.csv). This is different than the default horsepower used for default data which is based on the average horsepower of the mode of populations for the various engine horsepower tiers in OFFROAD.

Load

The load factor is the ratio of the actual output to the maximum output of a piece of equipment. The program uses the OFFROAD2011 load factor as default. Based on OFFROAD2011, the load factor is equipment type-specific and does not vary with horsepower (hp) (e.g., the load factors of a 125-hp dozer and a 500-hp dozer are the same).

Activity

The default hours of operation are 8 hours a day and 5 days a week over the construction phase duration unless specified otherwise in the equipment list. The construction phase length is used from the construction phase screen.

i (Equipment Type) and Pop

The default equipment list and number of pieces of equipment for each equipment type is determined based on the size (i.e., acreage) of the construction project based on the construction activity survey performed by the SCAQMD (Appendix E). If the project size defined by the user is between the sizes of two surveyed projects, the program will use the equipment list and number for the larger project. All equipment in the construction category of OFFROAD2011 is included in CalEEMod.

Trenching Emissions

There is no default equipment list associated with trenching emissions at this time. The user can enter site-specific equipment lists for these situations.

4.3 Dust From Material Movement

Fugitive dust is generated by the various source activities occurring at a construction site. This dust contributes PM₁₀ and PM_{2.5} emissions and for detailed emission breakdowns are distinguished from exhaust particulate matter emissions. The program calculates fugitive dust associated with the site preparation and grading phases from three major activities: haul road grading, earth bulldozing, and truck loading. As recommended by SCAQMD, the fugitive dust emissions from the grading phase are calculated using the methodology described in USEPA AP-42.

Grading Equipment Passes

Fugitive dust emissions from grading equipment passes are estimated using the methodology described in Section 11.9, Western Surface Coal Mining, of the USEPA AP-42.⁶ AP-42 estimates the emission factor of PM₁₀ applying a scaling factor to that of PM₁₅. Similarly, the

⁶ Available at: http://www.epa.gov/ttn/chief/ap42/ch11/final/c11s09.pdf

emission factor of $PM_{2.5}$ is scaled from that of total suspended particulates (TSP). The equations used to calculate the emission factors for PM_{15} and TSP and the scaling factor for those of PM_{10} and $PM_{2.5}$ are presented below:

$$\begin{split} EF_{{\it PM}\,15} &= 0.051 \times \left(S\right)^{2.0} \text{, and } EF_{{\it PM}\,10} = EF_{{\it PM}\,15} \times F_{{\it PM}\,10} \\ EF_{{\it TSP}} &= 0.04 \times \left(S\right)^{2.5} \text{, and } EF_{{\it PM}\,2.5} = EF_{{\it TSP}} \times F_{{\it PM}\,2.5} \end{split}$$

Where:

EF = emission factor (lb/VMT)

S = mean vehicle speed (mph). The AP-42 default value is 7.1 mph.

 $F_{PM2.5}$ = PM_{2.5} scaling factor. The AP-42 default value is 0.031.

 F_{PM10} = PM₁₀ scaling factor. The AP-42 default value is 0.6.

The grading dust emissions are calculated by multiplying the emission factors with the total vehicle miles traveled (VMT) for the grading equipment (i.e., grader). The VMT are estimated based on the dimensions of the grading area and the blade width of the grading equipment.

$$E = EF \times VMT$$
, and $VMT = As/Wb \times 43,560(sqft/acre)/5,280(ft/mile)$

Where:

E: emissions (lb)

EF: emission factor (lb/VMT)

VMT: vehicle miles traveled (mile)

As: the acreage of the grading site (acre)

W_b: Blade width of the grading equipment. The program uses a default blade width of 12 ft based on Caterpillar's 140 Motor Grader.⁷

Note that the dimensions (i.e., length and width) of the grading site have no impact on the calculation, only the total area to be graded. In order to properly grade a piece of land multiple passes with equipment may be required. The acres is based on the equipment list and days in grading or site preparation phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday. The equipment specific grading rates are given in the table below as determined by SCAQMD in consultation with building estimator references.

Equipment Type	Acres/8hr-day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

⁷ http://www.cat.com/cmms/16897760?x=7

Bulldozing

Similar to the grading equipment passes emission estimation, the bulldozing emission factors for PM₁₀ and PM_{2.5} are scaled from those of PM₁₅ and TSP. Based on Section 11.9 of AP-42, the dust emission factor for bulldozing is calculated using the following equations:

$$EF_{TSP} = \frac{C_{TSP} \times s^{1.2}}{M^{1.3}}$$
, and $EF_{PM \, 2.5} = EF_{TSP} \times F_{PM \, 2.5}$

$$\mathsf{EF_{PM15}} = \frac{\mathsf{C_{PM15}} \times \mathsf{s}^{1.5}}{\mathsf{M}^{1.4}} \, \text{, and } EF_{PM10} = EF_{PM15} \times F_{PM10}$$

Where:

EF = emission factor (lb/hr)

C = arbitrary coefficient used by AP-42

M = material moisture content (%)

S = material silt content (%)

F =scaling factor

C, M, s, and F vary depending on the bulldozed material. The table below summarizes the constants for overburden⁸ presented in AP-42⁹.

Bulldozing Fugitive Emission Factors

Constant	Overburden
C _{TSP}	5.7
СРМ15	1.0
М	7.9%
s	6.9%
F _{PM10}	0.75
F _{PM2.5}	0.105

The program uses the constants associated with overburden as default for calculation of bulldozing dust emissions since overburden more closely models the bulldozed materials during the development construction. The dust emissions are calculated by multiplying the emission factor with the hours of operation for the dozers listed in the equipment list using the formula below:

$$E = EF \times Hr$$

Where:

⁸ The earth that is between the topsoil and the coal seam (USEPA AP-42).

⁹ Tables 11.9-1 and 11.9-3 of USEPA AP-42.

E = emissions (lb) EF = emission factor (lb/hr) Hr = hours of operation

Truck Loading

Processes such as truck dumping on the pile or loading out from the pile to a truck with a frontend loader also cause fugitive dust emissions. The program calculates these emissions using the methodology described in Section 13.2, Introduction to Fugitive Dust Sources, of USEPA AP-42. The emission factor that is based on the material moisture content and mean wind speed is calculated using the following formula:

$$EF_D = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:

EF = emission factor (lb/ton)

K = particle size multiplier. The AP-42 default value for PM₁₀ is 0.35 and that for PM_{2.5} is 0.053

U = mean wind speed. The program selects wind speed based on the value listed on the Project Characteristics screen. It has been converted internally to miles per hour.

M = material moisture content (%). The moisture contents of different materials are listed in Table 13.2.4-1 of AP-42. The program uses the moisture content of cover (12%) as default.

The fugitive dust emissions are calculated by multiplying the emission factor with the throughput of loaded and unloaded material that is entered by the end user.

$$E = EF \times TP$$

Where:

E = emissions (lb)

EF = emission factor (lb/ton)

TP = throughput of loaded and unloaded materials (ton)

CalEEMod assumes that 1.2641662 tons per cubic yard based on a bulk density of 1.5 grams per cubic centimeter. Typical soil densities range from about 1.25 to about 1.6. 1.5 is the approximate density of a silty loam soil which is relatively common in most other parts of the

state. The density reported above does not account for watering to suppress dust, it only accounts for natural moisture.

4.4 Demolition

The program calculates the demolition dust emissions using the methodology described in the report prepared for the USEPA by Midwest Research Institute (MRI). ¹⁰ The three primary operations that generate dust emission during the demolition phase are mechanical or explosive dismemberment, site removal of debris, and on-site truck traffic on paved and unpaved road. The truck traffic on roads in described with the trips and VMT information.

Mechanical or Explosive Dismemberment

Based on the MRI report, there is no AP-42 emission factor data available for this mechanical or explosive dismemberment. Thus, the emission factor for dismemberment and collapse of a structure is calculated using the following AP-42 equation for batch drop operations:

$$EF_{D} = k \times (0.0032) \times \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

Where:

 EF_D = emission factor (lb PM/ton of debris)

 $EF_{D-PM10} = 0.0011$ lb PM₁₀/ton of debris $EF_{D-PM2.5} = 0.00017$ lb PM_{2.5}/ton of debris

k = particle size multiplier. The AP-42 default value for PM₁₀ is 0.35 and that for PM_{2.5} is 0.053.

U = mean wind speed. The program selects the default mean wind speed based on the wind speed (m/s) provided on the project characteristics screen.

M = material moisture content. The program uses 2% as the default based on the MRI report.

The dust emissions are calculated by multiplying the above emission factors with the total weight of building waste using the following equation:

$$E_D = EF_D \times W$$

Where:

 E_D = emissions (lb of PM)

¹⁰ Midwest Research Institute. 1988. Gap Filling PM10 Emission Factors for Selected Open Area Dust Sources.

 EF_D = emission factor (lb of PM/ton of debris) W = building waste (ton of debris)

If the total building waste weight is not known, the program will estimate the tonnage using the building waste tonnage – structural floor space relationship determined from a 1976 analysis by Murphy and Chatterjee of the demolition of 12 commercial brick, concrete, and steel buildings. The following data are cited directly from the MRI report:

1 ft² floor space = 10 ft³ original building volume, 1 ft³ building volume = 0.25 ft³ waste volume, 1 yd³ building waste = 0.5 ton weight, Mean truck capacity = 20 yd³ haulage volume, and therefore 1 ft² represents 0.046 ton of waste material.

The total building waste is then calculated using the following equation:

$$E_D = EF_D \times SF \times 0.046(ton / ft^2)$$

Where:

 E_D = emissions (lb of PM)

 EF_D = emission factor (lb of PM/ton of debris)

SF = building square footage (ft²)

Debris Loading

The dust emission factor of PM_{10} and $PM_{2.5}$ in pounds per ton building waste is estimated based on the measured total suspended particulates (TSP) emission factor using the following equation:

$$EF_L = k \times EF_{L-TSP}$$

Where:

 EF_L = emission factor (lb/ton)

k = particle size multiplier. The AP-42 default value for PM₁₀ is 0.35 and that for PM_{2.5} is 0.053.

The default value for EF_{L-TSP} is 0.058 lb/ton, the average of the two TSP factor (i.e. 0.053 and 0.063 lb/ton) measured from two tests of the filling of trucks with crushed limestone using a front-end loader.

The dust emissions from debris loading are then calculated following the same methodology used for mechanical and or explosive dismemberment:

$$E_L = EF_L \times SF \times 0.046(ton / ft^2)$$

Where:

 E_L = emissions (lb)

 EF_L = emission factor (lb/ton)

SF = building square footage (ft²)

4.5 Trips and VMT

The number of worker, vendor, and hauling trips and associated vehicle miles traveled (VMT) are used to determine both the exhaust emissions associated with on-road vehicle use and fugitive dust emissions.

Trips

Worker trips for all construction phases except building construction and architectural coating is based on 1.25 workers per equipment in that phase resulting in one roundtrip per worker. For building construction workers, the trip number is estimated using the trip generation rate from a survey conducted by SMAQMD. This has been reanalyzed and results in slightly different numbers than used by other programs and that was previously reported in some agency documents. The analysis and data supporting these values can be found in Appendix E. The land types selected for the project are grouped into four categories presented in the following table which also presents the associated SMAQMD trip generation rates.

Building Construction Worker and Vendor Trip Rates

Land Use SubType	Rate Metric	Worker Trip Rate	Vendor Trip Rate
Single Family	Daily Trips per DU	0.36	0.1069
Multi-Family	Daily Trips per DU	0.72	0.1069
Commercial/Retail	Daily Trips per 1000 sqft	0.32	0.1639
Office/Industrial	Daily Trips per 1000 sqft	0.42	0.1639
Source: SCAOMD's analysis of SMAOMD Building Construction Worker and Vendor trip			

Source: SCAQMD's analysis of SMAQMD Building Construction Worker and Vendor trip rates found in Appendix E.

Architectural coating worker trips are 20% of building construction phase trips. Vendor trips are only associated with building construction and is based on the land uses and trip rate indicated in the table above.

Haul trips are based on the amount of material that is demolished, imported or exported assuming a truck can handle 16 cubic yards of material. For phased trips, the truck is assumed to be full both ways. For non-phased trips, the truck is assumed to be empty one direction and thus results in more haul trips calculated.

VMT

The VMT is estimated from the trip lengths input in this screen. The default trip length for workers is based on the location H-W trip length. The default trip length for vendors is the C-NW trip length. The hauling trip length default is set at 20 miles.

On-Road Vehicle Emissions

Construction generates on-road vehicle exhaust, evaporative, and dust emissions from personal vehicles for worker and vendor commuting, and trucks for soil and material hauling. These

emissions are based on the number of trips and VMT along with emission factors from EMFAC2014.

Emission rates of all vehicle categories were obtained from EMFAC2014 Web Database based on aggregated model year and aggregated speed for all counties, air basins, air districts and statewide average for 31 scenario years that each includes three seasons – Annual, Summer, and Winter.¹¹ Emission rates of methane (CH4) were provide by CARB directly because they are not included in web database.

Running emissions for all pollutants, PM emissions from tire and brake wear, and running loss emissions of TOG and ROG were divided by the VMT of each respective vehicle class from each scenario year and adjusted for unit conversions to derive emission factors in units of grams per VMT. All other emissions (including evaporative) were divided by the number of trips to derive emission factors in units of grams per trip.

VMT fractions, calculated as the ratio of VMT for each vehicle class to total VMT for all vehicles were also derived for each scenario year. The emissions from mobile sources were calculated with the trip rates, trip lengths and emission factors for running from EMFAC2014 as follows:

Where:

Emissions_{pollutant} = emissions from vehicle running for each pollutant

VMT = vehicle miles traveled

EF_{running,pollutant} = emission factor for running emissions

Evaporative emissions, starting and idling emissions are multiplied by the number of trips times the respective emission factor for each pollutant.

Brake Wear and Tire Wear Emissions

As vehicles are driven, particulate matter is generated from degradation of brakes and tires. This is calculated based on the EMFAC emission factors for each vehicle class and the total VMT traveled by that vehicle class according to the following equation:

$$Emission_{brake we ar or tire we ar} = \sum_{class} (E.F._{brake we ar or tire we ar, class} \times VMT_{class})$$

Vehicle Mix

The user can select the type of vehicle mix. The EMFAC mix is the total mix of all vehicles provided by EMFAC. The program can also assume that the workers' personal vehicles consist of 50% light-duty auto (or passenger car), 25% light-duty truck type 1 (LDT1), and 25% light-

¹¹ 2000, 2005, 2010 to 2035 inclusive, 2040, 2045, and 2050

duty truck type 2 (LDT2). The equivalent test weight (ETW) from EMFAC2014 for each type of vehicle is presented below¹²:

Gross Vehicle Weights

Vehicle Type	ETW (lb)
LDA	All
LDT1	<= 3,750
LDT2	3,751 - 5,750

For vendor trips, CalEEMod has the option to choose the EMFAC mix or also choose all HHDT or all MHDT vehicles. The program default assumes that all vendors' vehicles are heavy heavyduty trucks (HHDT).

For hauling trips, CalEEMod has the option to choose the EMFAC mix, all MHDT, all HHDT or a 50% mix of MHDT and HHDT vehicles.

4.6 On-Road Fugitive Dust

CalEEMod calculates all on-road fugitive dust associated with paved and unpaved roads consistent with the method discussed in the traffic section. All vehicle miles traveled from worker commuting, vendor commutes, soil hauling, and demolition hauling are accounted for. The same equations described in section 5.3 are used here with the variables coming from this screen.

4.7 Architectural Coatings

Volatile organic compounds¹³ (VOC) off-gassing emissions result from evaporation of solvents contained in surface coatings. The program calculates the VOC evaporative emissions from application of residential and non-residential surface coatings using the following equation:

$$E_{AC} = EF_{AC} \times F \cdot A_{paint}$$

Where:

E = emissions (lb VOC)

EF = emission factor (lb/sqft)

A = building surface area (sqft).

Available at: http://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol1-users-guide-052015.pdf

¹² CARB. EMFAC2007 version 2.30 User's Guide.

¹³ This program will assume that all VOCs are represented by reactive organic gases (ROGs)

The program assumes the total surface for painting equals 2.7 times the floor square footage for residential and 2 times that for nonresidential square footage defined by the user. All of the land use information provided by a metric other than square footage will be converted to square footage using the default conversions or user defined equivalence. Green area square footage of City Parks and Golf Courses, pool surface area square footage of Recreational Swimming Pools, and parking surface area square footage are excluded from the floor square footage in calculating VOC emission due to architectural coatings.

F = fraction of surface area. The default values based on SCAQMD methods used in their coating rules are 75% for the interior surfaces and 25% for the exterior shell.

The emission factor (EF) is based on the VOC content of the surface coatings and is calculated estimated using the equation below:

$$EF_{AC} = C_{VOC} / 454(g/lb) \times 3.785(L/Gal) / 180(sqft)$$

Where:

EF = emission factor (lb/sqft)

C = VOC content (g/L). This varies by location and year.

The emission factors for coating categories are calculated using the equation above based on default VOC content provided by the air districts or ARB's statewide limits if an air district did not provide VOC content¹⁵.

CalEEMod also calculates the VOC emissions from the painting of stripes, handicap symbols, directional arrows and car space descriptions in parking lots. Please refer to Appendix E for the studies conducted to determine a default percent of parking lot square footage that is painted. The equation for striping emission is the same as that for E_{AC} above, but A_{paint} is:

$$\boldsymbol{A}_{\text{paint}} = \boldsymbol{A}_{\text{PL}} \times \boldsymbol{P}\%$$

Where:

 A_{PL} = Parking lot area (sqft)

P% = Default percent of parking lot area that is painted (6%)

The VOC content limit for parking lot area is either provided by local air districts or based on the exterior coating VOC limit of the region where the project is located. If the user has more specific VOC content limit on the coating being applied the default can be overridden but the user is expected to explain and justify the change in the "Remarks" box at the bottom of the screen.

¹⁴ The factors 2.7 and 2 are based on page A9-124 of SCAQMD's 1993 CEQA Guide.

¹⁵ Received via email from James Koizumi dated April 27, 2010.

4.8 Asphalt Paving Off-Gassing Emissions

While there is no specific screen associated with asphalt paving emissions, CalEEMod estimates VOC off-gassing emissions associated with asphalt paving of parking lots using the following equation:

$$E_{AP} = EF_{AP} \times A_{Parking}$$

Where:

E = emissions (lb)

EF = emission factor (lb/acre). The SMAQMD default emission factor is 2.62 lb/acre. 16

A =area of the parking lot (acre)

The size (acre) of the parking lot is calculated by multiplying the paved area associated with each parking stall with the capacity of the parking lot, or the number of parking stalls.

$$A_{Parking_lot} = A_{Parking_Stall} \times Capacity$$

Where the paved area associated with parking stall includes the area of the parking stall and that of the immediate access road, or aisle.

$$A_{Parking_Stall} = W_{Stall} \times D_{Stall} + W_{Stall} \times W_{Aisle}$$

Where:

A = area (sqft)

W =width (ft)

D = depth (ft)

The dimensions (i.e., width and depth) of a parking stall and the aisle width vary depending on the local government planning guidance. The program conservatively assumes 400 square feet (0.009 acre) of paved area per parking stall as default based on the city guidance or municipal code of the following cities in the State of California and a one-way aisle:

Table 4.4 Parking Stall Size Estimate

Landin	Dimer	nsions
Location	Compact	Full Size

¹⁶ Sacramento Metropolitan Air Quality Management District. 1994. Air quality thresholds of significance, first edition. Sacramento, CA.

	Width (ft)	Depth (ft)	Aisle Width (ft)	Area (two- way) (sqft)	Area (one- way) (sqft)	Width	Depth	Aisle	Area (two- way) (sqft)	Area (one- way) (sqft)
City of San Jose	8	16	20	208	288	9	18	26	279	396
Menlo Park	8	16.5	23	224	316	9	18	23	265.5	369
Escondido Municipal Code ¹⁷	8.5	16	24	238	340	8.5	18	24	255	357
Davis	8	16	20	208	288	9	18	20	252	342

The program allows the end user to override the total acres assumed in the land use screen.

4.9 Maximum Daily Construction Emissions

Since construction phases may or may not overlap in time, the maximum daily construction emissions will not necessarily be the sum of all possible daily emissions. CalEEMod therefore calculates the maximum daily emissions for each construction phase. The program will then add together the maximum daily emissions for each construction phase that overlaps in time. Finally the program will report the highest of these combined overlapping phases as a daily maximum. For fugitive dust calculations during grading, the maximum amount of acres graded in a day is determined by the number of grading equipment which is assumed to operate for 8 hours.

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¹⁷ Available at: http://www.qcode.us/codes/escondido/view.php?topic=33-39-33_768&frames=on

Operational Mobile

CalEEMod calculates the emissions associated with on-road mobile sources. These are associated with residents, workers, customers, and delivery vehicles visiting the land use types in the project. The emissions associated with on-road mobile sources includes running and starting exhaust emissions, evaporative emissions, brake and tire wear, and fugitive dust from paved and unpaved roads. Starting and evaporative emissions are associated with the number of starts or time between vehicle uses and the assumptions used in determining these values are described below. All of the other emissions are dependent on vehicle miles traveled (VMT). The methods and assumptions used by the program are described in the following sections.

5.1 Vehicle Trips

The first step in determining the number of starts and vehicle miles traveled is to determine the number of trips associated with the various project land uses. These trips are calculated based on either an average daily or a peak daily. The average daily is used when calculating annual emissions from a project, and peak daily is used when calculating peak daily summer or winter emissions. Since CalEEMod has different trip rates for different days of the week, the daily maximum will be determined based on the highest total of either weekday, Saturday, or Sunday trip emissions. To calculate average daily trips, the weekday trips are multiplied by five and added to the Saturday and Sunday trips, then divided by 7. The average daily trip rates for the individual land uses being modeled are used by CalEEMod in the calculation of a project's annual vehicle miles traveled and as just described are determined from the following equation:

$$(Triprate_{Weekday} \times 5 + Triprate_{Sat} + Triprate_{Sun})_i / 7 \times LandUse_i$$

Where

i

For peak daily trips, CalEEMod chooses the highest trip rate amongst weekday, Saturday and Sunday data, and multiplies by the size metric to get total peak daily trips.

Trip rate describes the amount of trips generated by each land use. Multiplying trip rate per unit size of land use (e.g., per dwelling unit, per 1,000 sqft, etc.) by land use size yields total daily trips generated by each land use. The Institute of Transportation Engineers (ITE) trip generation rate¹⁸ are used as default in the program. Like all standard references, it should be noted that ITE has guidance about how their trip rates should be used. For example, some land

¹⁸ ITE. 2012, ITE Trip Generation 9th edition.

uses (e.g., electronic superstore, fast food without drive-thru, general heavy industrial, government (civic center), hardware/paint store, movie theater without a matinee) are based on a limited number of survey samples so the user might consider gaining more refined trip rate information for their project. If the user needs more specific information than the default trip rates provided by CalEEMod, they are encouraged to consult with licensed traffic engineers. If more accurate trip rate information is available, the user has the ability to override the default Trip Rate. The end user will be required to provide justification from alternative sources of data (e.g., project-specific traffic study) that demonstrate that a different trip rate is appropriate for their project. Metropolitan Planning Organizations (MPOs) may be another source of trip generation rates specific for the given region.

Trip Type

Once the total number of trips for a land use type is determined, the next step is to determine the trip type. The trip type breakdown describes the purpose of the trip generated at each land use. For example, the trip type breakdown indicates the percentage of trips generated at single family home for work, for shopping, and for other purposes. Multiplying the total trips for a land use by trip type breakdown percentage yields trips of a given trip type. Two sets of trip type breakdown are used in CalEEMod—residential breakdown and commercial breakdown.

Residential trip type: These include home-work (H-W), home-shop (H-S), or home-other (H-O). A home-work trip represents the trip from the home to the workplace. A home-shop trip represents the trip from the home to a land use where shopping takes place (generally retail). A home-other represents all other types of trips generated from the resident such as school, entertainment, etc. The default trip type breakdown is either from air district supplied information or the 1999 Caltrans Statewide Travel Survey. It is recommended that the District or Project Applicant go to accredited sources such as the regional Metropolitan Planning Organization (MPO) to obtain trip type breakdown specific for the given region. The trip type breakdown can be overwritten if users can provide sufficient justification for alternative sources of data (e.g., project-specific traffic study) that demonstrate a different breakdown.

Commercial trip type: These include commercial-customer (C-C), commercial-work (C-W) and commercial-nonwork (C-NW). A commercial-customer trip represents a trip made by someone who is visiting the commercial land use to partake in the services offered by the site. The commercial-work trip represents a trip made by someone who is employed by the commercial land use sector. The commercial-nonwork trip represents a trip associated with the commercial land use other than by customers or workers. An example of C-NW trips includes trips made by delivery vehicles of goods associated with the land use. The trip type breakdown from the number or workers and or truck trips from ITE and an analysis of information provided for the SCAB was used as default to assign the trip type breakdowns for all land uses. If an exact match to a land use was not available, data from a similar land use was used as a surrogate. Trip type breakdown can be overwritten if users can provide justification for alternative sources of data (e.g., project-specific traffic study) that demonstrates different breakdown.

Primary Trip Lengths

Each trip type has a primary trip length associated with it. These trip lengths are based on the location and urbanization selected on the project characteristic screen. These values were supplied by the air districts or use a default average for the state. Each district (or county) also assigns trip lengths for urban and rural settings. For residential projects, average primary trip lengths of all trip types are determined with the below equation. Commercial and industrial land use types use a similar equation based on their trip types.

Average Primary Trip Length i =

$$H - W_{miles} \times H - W_{trip\%} + H - S_{miles} \times H - S_{trip\%} + H - O_{miles} \times H - O_{trip\%}$$

Where

 $H-W_{miles}$ = Home to Work trip length

 $H-W_{trip\%}$ = % of the total primary trips that are Home to Work trips

H-S_{miles} = Home to Shopping trip length

H-S_{trip%} = % of the total primary trips that are Home to Shopping trips

 $H-O_{miles}$ = Home to Other trip length

H-O_{trip} = % of the total primary trips that are Home to Other trips

i = land use type.

Primary, Pass-by and Diverted Trip Links

Trip link types further describe the characteristics of the trip attracted to each land use, whether it's a primary trip, a diverted link trip, or a pass-by trip. For example, a commercial customer pass-by trip could be a person going from home to shop on his/her way to work. In addition, a commercial customer diverted-link trip could be a person going from home to work, and on its way making a diversion to shop. Pass-by trips generate virtually no additional running emissions but could generate additional resting and startup emissions. Diverted trips generate less running emissions compared to primary trips, and can also generate additional resting and startup emissions. The average VMT associated with a trip is adjusted by modifying the primary trip length to account for reductions from pass-by and diverted trips. The trip lengths mentioned above are for primary trip links. For pass-by trip links the trip length will be 0.1 miles and diverted trip links the trip length will be 25% of the primary trip length.

An average overall trip length can be calculated as follows:

$$Link\%_{primary} \times TripLength_{Avg\ Pr\ imary} + Link\%_{diverted} \times 0.25 \times TripLength_{Avg\ Pr\ imary} + Link\%_{passby} \times 0.1 mile$$

Where

Link % = percentage of link types

Trip Length AvgPrimary = Average primary trip length for each trip type

i = land use type

The trip link percentages from the ITE Generation book and SANDAG are used as defaults. The trip link percentages can be overwritten if users can provide justification for alternative sources of data (e.g., project-specific traffic study) that demonstrate different breakdowns. If diverted or pass-by trips are not desired, the end user can change the default percentages to zero for these and have primary equal 100%.

Vehicle Miles Traveled

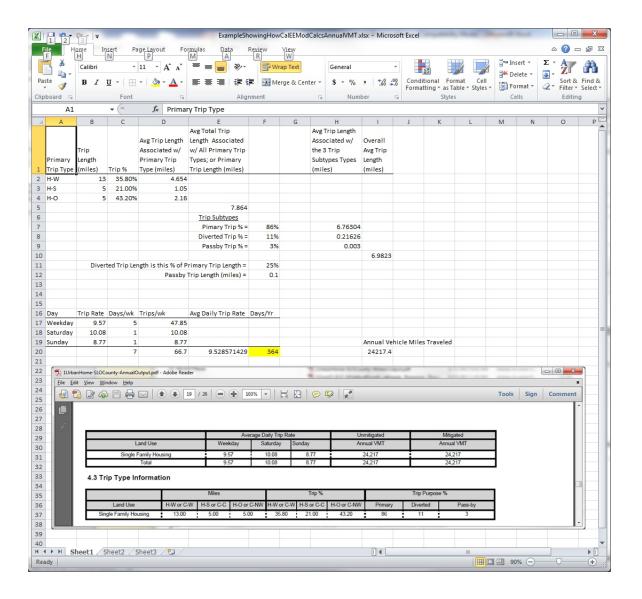
The daily vehicle miles traveled (VMT_d) for a modeled project is calculated with the below equation using average daily trip rates and lengths calculated from equations above. CalEEMod calculates Annual VMT by multiplying VMT_d by 365 days/year.

$$VMT_d = \Sigma(Average Daily Trip Rate_i * Average Overall Trip Length_i)_n$$

Where:

n = Number of land uses being modeled.

The following screen shot shows an example of how CalEEMod calculated the Annual VMT for a single residential dwelling in an urban setting.



5.2 Vehicle Emissions

The emissions from mobile sources were calculated with the trip rates, trip lengths and emission factors for running from EMFAC2014 as follows:

Emissionspollutant = VMT * EFrunning, pollutant

Where:

Emissions_{pollutant} = emissions from vehicle running for each pollutant

VMT = vehicle miles traveled

EF_{running,pollutant} = emission factor for running emissions

In order to obtain the emission factor for running emissions, emission rates were obtained from EMFAC2014 for all counties, air basins, air districts and statewide average with default settings

for 31 scenario years each.¹⁹ All years have emission rates for three seasons – Annual, Summer, and Winter. Running emissions for all pollutants and PM emissions from tire and brake wear were divided by the VMT of each respective vehicle class from each scenario year and adjusted for unit conversion to derive emission factors in units of grams per VMT. VMT fractions, calculated as the ratio of VMT for each vehicle class to total VMT for all vehicles were also derived for each scenario year.

Similarly, evaporative, starting, and idling emissions were divided by the number of trips to derive emission factors in units of grams per trip. Evaporative emissions, starting and idling emissions are multiplied by the number of trips times the respective emission factor for each pollutant.

Brake Wear and Tire Wear Emissions

As vehicles are driven, particulate matter is generated from degradation of brakes and tires. This is calculated based on the EMFAC emission factors for each vehicle class and the total VMT traveled by that vehicle class according to the following equation:

$$Emission_{brake we ar or tire we ar} = \sum_{class} (E.F._{brake we ar or tire we ar, class} \times VMT_{class})$$

5.3 Road Dust

Vehicles that drive on both paved and unpaved roads generate fugitive dust by dispersing the silt from the roads. The following equation is used to calculate the fugitive dust emissions associated with <u>paved roads</u>:

$$E_{ext} = [k (sL)^{0.91} \times (W)^{1.02}] (1 - P/4N)$$

Where:

Eext = annual or other long-term average emission factor in the same units as k,

k = particle size multiplier for particle size range and units of interest (see below),

 $sL = \text{road surface silt loading (grams per square meter) (g/m}^2),$

W = average weight (tons) of all the vehicles traveling the road (2.4 tons)

P = number of "wet" days with at least 0.254 mm (0.01 in) of precipitation during the averaging period, and

N = number of days in the averaging period (e.g., 365 for annual, 91 for seasonal, 30 for monthly).

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¹⁹ 2000, 2005, 2010 to 2035 inclusive, 2040, 2045, and 2050

The above is the average emission factor by land use for paved roads. The default values for the required parameters are based on recommendations in AP-42. For daily emissions it is assumed to have no precipitation.

The following equation is used to calculate the fugitive dust emissions associated with <u>unpaved</u> <u>roads</u> (if the user does not check the box to select CARB's 2.0 lbs PM₁₀/VMT option, which is only for San Luis Obispo County APCD and Sacramento Metropolitan AQMD):

E.F._{dust,i} =
$$\left(\frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C\right)(1 - \frac{P}{365})$$

Where:

k = particle size multiplier for particle size range and units of interest (see below)

s = surface material silt content (%)

M = surface material moisture content (%)

S = mean vehicle speed (mph)

C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear, and

P = number of days in a year with at least 0.254 mm (0.01 in) of precipitation

The above is the average emission factor by land use for unpaved roads. For daily emissions it is assumed to have no precipitation.

By default, CalEEMod assumes the percentage of paved and unpaved roads for each district as provided by the district. The end user is allowed to modify the percentage of unpaved roads if specific information is available.

Once emission factors are determined, dust emissions can be calculated by

$$Emissions_{dust} = \sum_{i} (E.F._{dust,i} \times VMT)$$

The VMT is the same used in vehicle trips.

5.4 Operational Off-Road Equipment

CalEEMod also calculates emissions from off-road equipment (e.g., forklifts, cranes, loaders, generator sets, etc.) used during the operation of the land use being analyzed. This is an optional calculation so the user would need to provide the type and number of off-road equipment being used during operation. From that information, CalEEMod provides horsepower, load factor, hours of operation and fuel type. The user has the ability to override the defaults.

The emission factors are from OFFROAD2011. Please refer to section 4.2 for the equations in calculating emissions from off-road equipment.

6 Area Sources

The area source module is used to calculate direct sources of air emissions located at the project site. This includes hearths, consumer product use, architectural coatings, and landscape maintenance equipment. This does not include the emissions associated with natural gas usage in space heating, water heating, and stoves as these are calculated in the building energy use module.

6.1 Hearths

GHG emissions from the combustion of wood or biomass are calculated and are considered biogenic emissions of CO₂. Some protocols do not consider these emissions to be a part of the emission inventory. Therefore, these CO₂ emissions will be kept distinct from the anthropogenic GHG emissions. The method to calculate the criteria and biogenic GHG emissions associated with wood stoves is shown. Emissions from wood stoves are calculated using the formula below for each wood stove type:

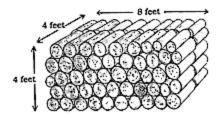
Emission Rate = Based on AP- 42^{20} .

Wood Burned = Weight of wood burned per year per residential unit.

Number of stoves = Number of this type of stove in the project.

Using the formula above and the number of residential units with wood stoves, it is possible to estimate the GHG emissions from wood stoves. Default values for the emission factors and the amount of wood burned by different hearth types and the percentage of different hearths in various areas of California are based on CARB, USEPA, and air district supplied emission factor values for hearths and woodstoves. The number of wood stoves or hearths is based on percentages supplied by districts or state defaults. If applicable, CalEEMod incorporates the restrictions on the number of wood burning fireplaces and stoves from SJVUAPCD Rule 4901 Amended 10/16/2008. For projects in the San Luis Obispo region, the wood burned per year is 2,016.5 lbs/year (3,081 lbs/cord X 0.6545 cords/year). For visual clarification, a standard cord of wood is defined as a stack of wood with a volume of 128 cubic feet (4 ft. x 4 ft. x 8 ft.)

²⁰ US EPA AP-42, Chapter 1.9 (http://www.epa.gov/ttnchie1/ap42/ch01/bgdocs/b01s09.pdf) and Chapter 1.10 (http://www.epa.gov/ttnchie1/ap42/ch01/bgdocs/b01s09.pdf)



Criteria pollutant emissions from wood stoves or hearths are computed by CalEEMod in a similar manner with emission factors also coming from AP-42²¹.

6.1.1.1 Natural Gas Fireplaces/Stoves

GHG emissions associated with natural gas fired fireplaces are calculated using emission factors from the California Climate Action Registry (CCAR). The criteria pollutant emission factors are based on AP-42. The average heating rate in British Thermal Units (BTU) per hour for fireplaces in homes is 60,000 BTU/hr²². Default values for annual fireplace usage needs to be determined for each county. Natural gas is assumed to have 1,020 BTU per standard cubic foot²³. Criteria pollutant emissions from natural gas fireplaces/stoves are computed by CalEEMod in a similar manner with emission factors also coming from AP-42²⁷.

6.2 Consumer Products

Consumer products are chemically formulated products used by household and institutional consumers, including, but not limited to, degreasers, fertilizers/pesticides, detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products; but does not include other paint products, furniture coatings, or architectural coatings. SCAQMD did an evaluation of consumer product use compared to the total square footage of buildings using data from CARB consumer product Emission Inventory. Trinity and SCAQMD performed an evaluation of degreaser use for parking lots and pesticide/fertilizer use for City Parks/Golf Courses. These analyses can be found in Appendix E. To calculate the ROG emissions from consumer product use, the following equation is used:

Emissions = EF · BuildingArea

Where:

EF = pounds of VOC per building square foot per day

The factor is 2.14 x 10⁻⁵ lbs/sqft/day for everyplace except SCAQMD

The factor is 2.04 x 10⁻⁵ lbs/sqft/day for SCAQMD areas.

Building Area = The total square footage of all buildings including residential square footage.

²¹ US EPA AP-42, Chapter 1.9. Page 3, Table 1.9-1 (http://www.epa.gov/ttnchie1/ap42/ch01/bgdocs/b01s09.pdf) and Chapter 1.10 (http://www.epa.gov/ttnchie1/ap42/ch01/bgdocs/b01s09.pdf)

²² SCAQMD Rule 445 Staff Report and SCAQMD Final EA.

²³ USEPA. 1998. AP-42 Emission Factors. Chapter 1.4 Natural Gas Combustion, Pages 5-6, Tables 1.4-1 and 1.4-2, http://www.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf.

6.3 Architectural Coatings

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings such as in paints and primers. The program calculates the VOC evaporative emissions from application of residential and non-residential surface coatings using the following equation:

$$E_{AC} = EF_{AC} \times F \cdot A_{paint} \times Reapplication$$

Where:

E = emissions (lb)

EF = emission factor (lb/sqft)

F = fraction of surface area. The default values based on SCAQMD are 25% for the exterior surface and 75% for the interior.

A = building surface area (sqft). The program assumes the total surface area for painting equals 2.7 times the floor square footage for residential land use and 2 times the floor square footage for nonresidential land use.²⁴ All land use information provided by a metric other than square footage will be converted to square footage using the default conversions or user-defined equivalence. Green area of City Parks/Golf Courses, pool surface area of Recreational Swimming Pools, and Parking surface area square footage are excluded from building floor square footage.

Reapplication = Rate at which surfaces are repainted.

The emission factor is based on the VOC content of the surface coatings and is calculated estimated using the equation below:

$$EF_{AC} = C_{VOC} / 454(g/lb) \times 3.785(L/Gal) / 180(sqft)$$

Where:

EF = emission factor (lb/sqft)

C = VOC content (g/L). This is anticipated to vary by air district and year.

CalEEMod also calculates the VOC emissions from the painting of stripes, handicap symbols, directional arrows, and car space descriptions in parking lots. Please refer to Appendix E for the studies conducted to determine a default percent of parking lot square footage that is painted. The equation for striping emission is the same as that for E_{AC} above, but A_{paint} is:

$$\boldsymbol{A}_{\text{paint}} = \boldsymbol{A}_{\text{PL}} \times \boldsymbol{P}\%$$

Where:

 A_{PL} = Parking lot area (sqft)

P% = Default percent of parking lot area that is painted (6%)

²⁴ The factors 2.7 and 2 are based on page A9-124 of SCAQMD's 1993 CEQA Guide.

The VOC content limit for parking area coatings is either provided by local air districts or based on the exterior coating VOC limit of the area where the project is located. If the user has more specific VOC content limit on the coating being applied, the default can be overridden but the user is expected to explain and justify the change in the "Remarks" box at the bottom of the screen.

Reapplication rate

All land use buildings are assumed to be repainted at a rate of 10% of area per year. This is based on the assumptions used by SCAQMD.

6.4 Landscape Equipment

Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, roto tillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. The emissions associated from landscape equipment use were processed using OFFROAD 2011 and CARB's Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment (6/13/2003²⁵). The information was used along with the total building square footage and dwelling units in California to determine two emission factors. The first is for the commercial landscape equipment which is in terms of grams per square foot of non-residential building space per day. The second is the for the residential landscape equipment which is in terms of grams per dwelling unit per day. These emission factors are multiplied by the number of summer days or winter days that represent the number of operational days. For example, pieces of equipment that would typically be used in snow conditions were used with winter days this includes equipment such as snow blowers while all others were used with summer days. For those regions with 365 or 330 summer days (South Coast, Sacramento, San Joaquin Valley), it is assumed nonresidential (e.g., commercial land uses) landscaping equipment would likely only operate during the week (not weekends) so operational days are 250 days per year.

²⁵ http://www.arb.ca.gov/msei/offroad/techmemo/Lawn and Garden Activity.doc

7 Energy Use

Criteria pollutants and GHGs are emitted as a result of activities in buildings that consume energy in the form of natural gas and electricity.

Combustion of any type of fuel, including natural gas, emits criteria pollutants and GHGs directly into the atmosphere. When this occurs within buildings, it is considered a direct emission source 26 associated with that building, and the program will calculate emissions of all of criteria pollutants and GHGs accordingly. Fuel oil, kerosene, and liquefied petroleum gas can also be used as fuels in buildings, but are not widely used in California compared to natural gas. As such, CalEEMod does not calculate emissions from combustion of these fuels within buildings. Emissions from wood combustion in wood burning stoves and fireplaces is calculated under the Area Source category of Hearths (See Section 6.1).

Criteria pollutants and GHGs are also emitted during the generation of electricity at fossil fuel power plants. When electricity is used in buildings, the electricity generation typically takes place offsite power plants, the majority of which burn fossil fuels. Because power plants are existing stationary sources permitted by air districts and/or the USEPA, criteria pollutant emissions are generally associated with the power plants themselves, and not individual buildings or electricity users. Additionally, criteria pollutant emissions from power plants are subject to local, state, and federal control measures, which can be considered to be the maximum feasible level of mitigation for stack emissions.

In contrast, GHG emissions from power plants are not subject to stationary source permitting requirements to the same degree as criteria pollutants. Likewise, it is difficult to mitigate GHG emissions emitted at power plants using exhaust after treatment control technologies. The most effective way to control GHGs from power plants is to reduce electricity demand. As such, GHGs emitted by power plants may be indirectly attributed to individual buildings and electricity users, who have the greatest ability to decrease usage by applying mitigation measures to individual electricity "end uses." The program therefore calculates GHG emissions (but not criteria pollutant emissions) from regional power plants associated with building electricity use.

Since 1978, the CEC has established building energy efficiency standards with the aim of conserving the state's electricity and natural gas resources. The standards are contained Title 24 of the California Code of Regulations (The Building Standards Code), which are updated periodically. The 2005 standards were relied upon during the formation of CARB's initial AB 32 Scoping Plan and were subsequently revised in 2008,²⁷ 2013²⁸, and 2016.²⁹ The effective date of the 2016 standards is January 1, 2017. Because the 2016 standards were not finalized at the time of the most recent program update, they are not included. It is anticipated that the 2016 standards will be included in future versions of the program.

²⁶ California Climate Action Registry (CCAR) General Reporting Protocol (GRP), Version 3.1 (January). Available at: http://sfenvironment.org/sites/default/files/fliers/files/ccar grp 3-1 january2009 sfe-web.pdf Chapter 8

²⁷ http://www.energy.ca.gov/title24/2008standards/

²⁸ http://www.energy.ca.gov/title24/2013standards/

²⁹ http://www.energy.ca.gov/title24/2016standards/

The program has the capability of calculating building energy use incorporating only the 2005 Title 24 standards. This option would be used in some air districts that have adopted CEQA thresholds and/or guidance linked to values from CARB's initial AB 32 Scoping Plan. To use this option, users must check the "using historical data" box. Once the box is clicked, the user then must click the "Default" button to download the historical (2005) data.

Energy use in buildings (both natural gas and electricity) is divided by the program into end use categories subject to Title 24 requirements (end uses associated with the building envelope, such as the HVAC system, water heating system, and integrated lighting) and those not subject to Title 24 requirements (such as appliances, electronics, and miscellaneous "plug-in" uses).

The program will calculate the emissions associated with buildings by multiplying by the natural gas use by appropriate emission factors and by multiplying electricity use by the GHG intensity factors of the utility selected on the Project Characteristics screen. The following sections describe the methodologies used to estimate building energy use and emissions.

7.1 Estimating Non-residential Building Energy Use

The program uses the California Commercial End Use Survey (CEUS)³⁰ database to develop energy intensity values (electricity and natural gas usage per square foot per year) for non-residential buildings.

The CEUS data³¹ lists energy use intensity by building type, "end-use," and CEC forecasting climate zone³². Each nonresidential land use in CalEEMod is matched to the appropriate CEUS building type. The CEUS end uses are grouped according to whether the end use is subject to Title 24 building requirements or not.

Appendix E describes in detail the method used to analyze the CEUS data.

7.2 Estimating Residential Building Energy Use

The program uses data collected during the Residential Appliance Saturation Survey (RASS) to develop energy intensity values (electricity and natural gas usage per square foot per year) for residential buildings.

Similar to CEUS, the RASS data³³ lists energy use intensity by building type, "end-use," and CEC forecasting climate zone³⁴. Each residential land use in CalEEMod is matched to the appropriate RASS residence type. The RASS end uses are grouped according to whether the end use is subject to Title 24 building requirements or not.

Appendix E describes in detail the method used to analyze the RASS data.

³⁰ California Energy Commission (CEC). California Commercial End-Use Survey Results. Data available from Itron Inc. at http://capabilities.itron.com/CeusWeb/Chart.aspx

³¹ Workbooks downloaded from http://capabilities.itron.com/CeusWeb/Chart.aspx for all building categories

³² A few climate zones were not included in the CEUS data. These climate zones will be mapped to another related climate zone that was included in the data.

³³ Workbooks downloaded from https://webtools.dnvgl.com/rass2009/ for all building categories

³⁴ A few climate zones were not included in the RASS data. These climate zones will be mapped to another related climate zone that was included in the data.

7.3 Estimating Energy Use from Other Land Uses

There are a few remaining land use categories that are not included in the CEUS or RASS data. These include golf courses, parks, and recreational pools. These currently do not have associated default energy use values within the program; however, users may enter non-default values estimated apart from the program.

For parking lots, several studies have been published regarding the energy use from lighting, ventilation and elevators in parking lots and structures. This data has been incorporated into the program to calculate electricity use, based on the type of parking lot selected by the user: Open Parking Lot, Unenclosed Parking Structure, Unenclosed Parking Structure with Elevators, Enclosed Parking Structure, or Enclosed Parking Structure with Elevators.

Appendix E contains further information regarding the assessment of the electricity usage by parking lots and structures, as well as guidance for overriding the default values (e.g., if the number of elevators is known).

The following table provides a summary of the energy use factors included in CalEEMod for parking lots and structures, depending on the type selected by the user.

Type of Parking Lot	Electricity Use	Annual Energy Use (kWh/sq ft)
Open parking lot	Lighting	0.876
Unenclosed parking structure	Lighting	2.63
Enclosed parking structure	Lighting, ventilation	6.55
Parking structure with elevators	Elevators	0.19

7.4 Calculating Emissions from Energy Use

As previously discussed, natural gas use will contribute to both criteria and GHG emissions. The emission factors for natural gas combustion are from AP-42 and the CCAR. Electricity use will contribute to GHG emissions only.

Emissions from natural gas and electricity use are calculated by the program for each land use using the equations below. (See section 8.2 for further information about electricity carbon intensity).

Natural Gas Emissions_i = Σ_i (EF_i x Energy Intensity x Size)

Where:

EF = emission factor based on AP-42 or CCAR (lbs/kBtu)

Energy Intensity = natural gas energy intensity for a land use (kBTU/sq.ft. or

kBTU/DU)

Size = size metric (square feet or dwelling units)

i = each criteria and GHG pollutant

j = land use type

Electricity Emissions = Σ_i (Utility x Energy Intensity x Size)

Where:

Utility = Carbon intensity of Local Utility (CO₂e/kWh)

Energy Intensity = electricity energy intensity for a land use (kWh/sq.ft. or kWh/DU)

Size = size metric Dwelling units (square feet or dwelling units)

i = land use type

8 Water and Wastewater

The amount of water used and wastewater generated by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. It will often be the case that the water treatment and wastewater treatment occur outside of the project area. In this case, it is still important to quantify the energy and associated GHG emissions attributable to the water use. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both methane and nitrous oxide.

8.1 Annual Indoor and Outdoor Water Use by Land Use Category

Total residential indoor and outdoor water use for all of California for the year 2000 is reported in Table ES-1 of the Pacific Institute "Waste Not Want Not" report.³⁵ These values were divided by the total number of occupied households in California in the year 2000³⁶ to give water

³⁵ Gleick, P.H.; Haasz, D.; Henges-Jeck, C.; Srinivasan, V.; Cushing, K.K.; Mann, A. 2003. Waste Not, Want Not: The Potential for Urban Water Conservation in California. Published by the Pacific Institute for Studies in Development, Environment, and Security. Full report available online at:

http://www.pacinst.org/reports/urban_usage/waste_not_want_not_full_report.pdf. Appendices available online at: http://pacinst.org/publication/waste-not-want-not/

³⁶ US Census Bureau. 2000 Census. Table QT-H1: General Housing Characteristics 2000.

demand per dwelling unit. It is assumed that these water use values are representative of all residential dwelling unit types (single-family, apartment, condo, etc.) and will be used unless alternate values are supplied by the air districts or the end user.

Data for most commercial and industrial land uses was obtained from Appendices E and F of the Pacific Institute's "Waste Not Want Not" report.³⁷ Total gallons of water used per day per metric were reported, where the metric is employee, student, room, acre, or square foot, depending on the land use. For example, water use at office and retail land uses was reported in a metric of gallons per employee per day, while water use at hotels and motels was reported in a metric of gallons per room per day. The total daily water use was converted to annual water use based on the number of days of operation for that land use. For example, it was assumed that schools operate for 180 days per year while offices operate for 225 days per year (excluding weekends and holidays). Figures in Appendices E and F of the Pacific Institute report shows the percent of water use dedicated to landscape irrigation; this percent was multiplied by the total water use to obtain the outdoor water use. The remainder was assigned to indoor water use.

For a few land uses (library, place of worship, movie theater, arena, and civic center), The Pacific Institute report did not provide sufficient data and so the American Water Works Association Research Foundation's Commercial and Institutional End Uses of Water report³⁸ was used. This data is specific to Southern California and was obtained from sample sizes ranging from 1 to 26. In all cases, the total gallons of water used per employee per day was reported.

Specifically for industrial land use categories, the default indoor water use rate is 231,250 gallons/work-year/ thousand square feet. This value was computed by dividing the annual water use in California industry (Table ES-6 in Gleick et al. 2002; 963,071,916 gallons/industrial work day) by the industrial work area in California (Dun & Bradstreet, Business Population Report aggregated by Standard Industrial Classification (SIC) and Census Block, May 2002; 1,041,386 thousand square feet). This yields 925 gallons/work-day/thousand square feet and the annual value is derived using 250 workdays in a year. For those industrial projects where the anticipated water use rate is known or can be estimated from similar projects, the project specific indoor water use rate should overwrite the default value and specific rationale needs to be entered in the Remarks section of the Water and Wastewater CalEEMod input page.

Indoor water end-use intensities were also obtained from the Pacific Institute report.³⁹ End-use categories include toilets, showerheads, bathroom faucets, kitchen faucets, dishwashers, clothes washers, and leaks. End-use intensity is given in terms of percent of total indoor water use. For example, The Pacific Institute estimates that toilets contribute to 33% of indoor

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³⁷ Gleick et al. 2003. Appendices E and F.

³⁸ Dziegielewski; B.; Kiefer, J.C.; Optiz, E.M.; Porter, G.A.; Lantz, G.L.; DeOreo, W.B.; Mayer, P.W.; Nelson, J.O. 2000. Commercial and Institutional End Uses of Water. Published by the American Water Works Association Research Foundation.

³⁹ Gleick et al. 2003. Residential end-use intensities found in Figure 2-4c of main report. Commercial end-use intensities found in Appendix E.

residential water use. Water end-use intensity must be known in order to calculate the expected water and GHG savings from installing low-flow or high-efficiency water fixtures.

8.2 Electricity Intensity Factors

Electricity intensity factors were obtained from the 2006 CEC report, "Refining Estimates of Water-Related Energy Use in California." The electricity intensity factors are reported in units of kWh per million gallons (MG) of water used, and represent the amount of electricity needed to (1) supply and convey the water from the source, (2) treat the water to usable standards, and (3) distribute the water to individual users. The sum of these factors gives the total electricity required to supply, treat, and distribute water for outdoor uses. For indoor uses, the electricity needed to process the resulting wastewater is also included. The program will allow the end user to specify project specific electricity intensity factors if they are available for the project.

CO₂e emissions associated with *indoor water use* are calculated according to the following equation:

GHG emissions = Waterindoor x Electricityindoor x Utility

Where:

GHG emissions = Tonnes CO₂e

Water_{indoor} = Total volume of water used indoors (million gallons)

Electricity_{indoor} = Electricity required to supply, treat, and distribute water and the resulting

wastewater (kWh/million gallons)

This is assigned for each location.

Utility = Carbon intensity of Local Utility (CO2e/kWh)

CO₂e emissions associated with *outdoor water use* are calculated according to the following equation:

GHG emissions = Water_{outdoor} x Electricity_{outdoor} x Utility

Where:

GHG emissions = Tonnes CO₂e

Water_{outdoor} = Total volume of water used outdoors (million gallons)

Electricity_{outdoor} = Electricity required to supply, treat, and distribute water (kWh/million gallons)

This is assigned for each location.

Utility = Carbon intensity of Local Utility (CO2e/kWh)

The sum of emissions from indoor and outdoor water use for each land use category gives the total CO₂e emissions associated with water use at the Project.

8.3 Wastewater Treatment Methods by County and Air District

Depending on the method, the treatment of wastewater can produce methane (CH₄), nitrous oxide (N₂O), and carbon dioxide (CO₂) emissions, which are all greenhouse gases. Methane and nitrous oxide emissions are converted to carbon dioxide equivalent (CO₂e) emissions based on their GWP. When a development generates waste and wastewater, the waste is typically

either treated on-site in septic tanks or sent to a centralized wastewater treatment plant to be treated by one of several possible methods. The various wastewater treatment methods employed by each county or air district and the percent of total wastewater treated by each method was used if provided, otherwise the default percentage used in ARB's GHG emission inventories was used. Wastewater treatment methods include on-site septic tanks and centralized wastewater treatment plants which may be composed of aerobic processes, or facultative lagoons. The solids from the latter two treatments could be digested anaerobically to produce digester gas. In some cases, the combusted digester gas may be part of a cogeneration system which recovers the heat generated from combustion and generates electricity which is used for on-site processes. Thus, for aerobic and facultative lagoons wastewater treatment, digestion (*listed in the last two column on the wastewater screen*) should equal 100% percent. For septic systems, the digestion could be zero percent or 100 percent.

The majority of nitrous oxide emissions are generated when treated wastewater is discharged to water bodies as effluent. The default assumption is for non-recycled water. The program calculates total GHG emissions from wastewater treatment based on the region-specific distribution of wastewater treatment methods which the end user can modify with project specific data.

8.4 Wastewater Treatment Methods – Calculation of Greenhouse Gas Emissions

The GHGs emitted from each type of wastewater treatment are based on the CARB's Local Government Operations Protocol (LGOP)⁴⁰, which are in turn based on USEPA methodologies.⁴¹ The methodologies are summarized below.

Wastewater (or sewage) treatment can occur one of three ways - aerobically, in septic tanks or in facultative lagoons, specifically described below. In CalEEMod, the following defaults for sewage treatment options were used unless an air district provided an alternative percentage of treatment appropriate to the particular project region. The user has the ability to override the defaults but the total percentage must equal 100% and must justify the reason for the change in the "Remarks" box at the bottom of the screen.

Statewide Default Treatment Distribution			
Septic Tank (%) Aerobic (%) Facultative Lagoons (%)			
10.33	87.46	2.21	

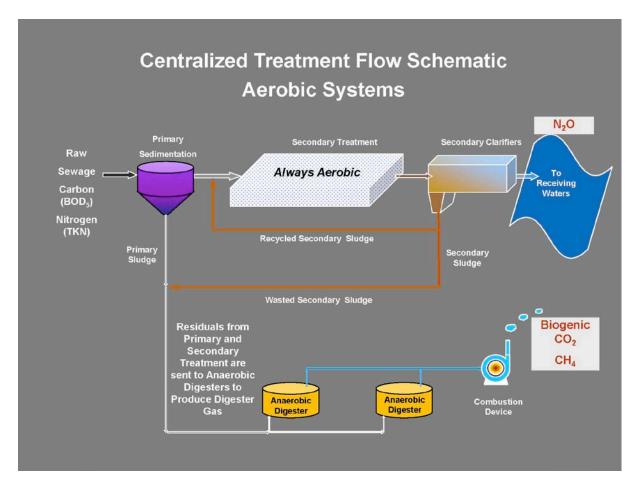
Solids produced from primary treatment, aerobic processes, or facultative lagoons are typically digested in anaerobic digesters. The gas produced by these digesters may be flared or burned in some other simple device, or sent to a cogeneration process for heat recovery and/or electrical generation. The default condition is to assume no cogeneration; however, the user has the ability to input an estimate of the percentage of the digester gas combusted in such systems ranging from 0% to 100%.

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⁴⁰ https://www.arb.ca.gov/cc/protocols/localgov/localgov.htm

⁴¹ https://www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-archive

Anaerobic decomposition in septic tanks and facultative lagoons can produce fugitive emissions of methane. The following figure provides an example of the process flow for a centralized wastewater treatment facility that treats the sewage aerobically, produces digester gas in anaerobic digesters and combusts the gas. The figure also shows where the GHG emissions are occurring in the process.



As depicted in the figure above, nitrous oxide is produced when treated wastewater is released as effluent into aquatic environments such as rivers and estuaries. Although nitrification/denitrification processes within the wastewater treatment plant may also produce nitrous oxide, the USEPA estimated that this contributed to less than 3% of national N_2O emissions associated with wastewater in 2005.⁴² Therefore, the program assumes that all N_2O emissions are generated from effluent discharged into aquatic environments.

CO₂ emissions are generated from both aerobic and anaerobic processes, as well as from the combustion of digester gas, but CalEEMod only calculates combustion emissions because there are currently no authoritative emission factors for process CO₂ emissions. When digester gas is combusted to generate electricity, fossil fuel emissions are offset by this renewable power generation. CalEEMod allows the user to provide an estimate of how much renewable power is

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⁴² USEPA. 2008. Page 8-7.

expected from the project and will debit the biogenic combustion CO ₂ with the CO ₂ that would otherwise have been sourced from fossil fuel combustion.

Septic Systems

Developments may use *septic systems* to treat wastewater on-site. These systems utilize microbes to decompose wastewater anaerobically. A by-product of this anaerobic decomposition is methane, which is quantified using **Equation 10.5** from LGOP:

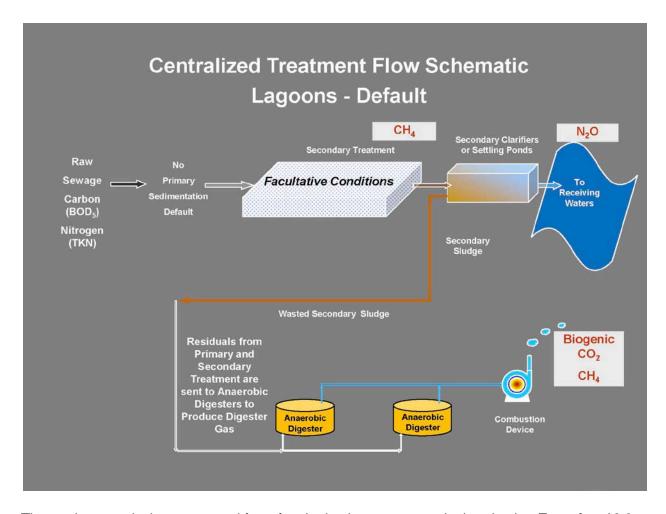
CH₄ emissions (MT) = Wastewater x BOD₅ load x 10⁻⁶ x Bo x MCF_{septic} x10⁻³

Term		Description	Value	Unit	Reference
Wastewater	=	volume of wastewater	INPUT	liters	User
BOD₅ load	=	concentration of BOD₅ in wastewater	200	mg / liter wastewater	
10 ⁻⁶	=	conversion factor		kg / mg	
Во	=	maximum CH4-producing capacity for domestic wastewater	0.6	kg CH ₄ / kg BOD ₅ removed	LGOP default
MCF _{septic}	=	CH ₄ correction factor for septic systems	0.5		LGOP default
10 ⁻³	=	conversion factor		MT / kg	

The LGOP provides default values for all terms in the equation except BOD_5 load, which is the amount of BOD_5 sent to these decentralized systems per day. BOD, or Biochemical Oxygen Demand, measures the degradable organic component of the wastewater that could deplete dissolved oxygen in receiving waters if left untreated (BOD_5 is the measurement of dissolved oxygen depletion from a liquid sample held for a 5-day test). The program assumes a default BOD_5 load value of 200 mg per liter of wastewater. This value is typical for residential and commercial wastewater. A higher value is typically associated with certain types of industrial wastewater.

Facultative Lagoons

Centralized wastewater treatment facilities may use *facultative lagoons* to treat wastewater. The following figure is an example of the treatment process if facultative lagoons provide the secondary treatment assuming process solids are sent to anaerobic digesters and the digester gas is combusted. In addition, the figure shows where the GHG emissions are occurring in the process.



The methane emissions expected from facultative lagoons are calculated using **Equation 10.3** from LGOP:

CH₄ emissions (MT) = Wastewater x BOD₅ load x 10⁻⁶ x (1-F_P) x Bo x MCF_{anaerobic} x F_{removed} x 10⁻³

Term		Description	Value	Unit	Reference
Wastewater	=	volume of wastewater	INPUT	liters	User
BOD₅ load	=	concentration of BOD₅ in wastewater	200	mg / liter wastewater	
10-6	=	conversion factor		kg / mg	
F _P	=	fraction of BOD₅ removed in primary treatment	0		no primary treatment
Во	=	maximum CH ₄ -producing capacity for domestic wastewater	0.6	kg CH ₄ / kg BOD₅ removed	LGOP default
MCF _{anaerobic}	=	CH ₄ correction factor for anaerobic systems	8.0		LGOP default

F	removed	=	fraction of overall lagoon BOD ₅ removal performance	1		LGOP default (see Eq. 10.4)
1	0-3	=	conversion factor		MT / ka	

The LGOP provides default values for all terms in the equation except BOD_5 load and F_P , the fraction of BOD_5 removed in primary treatment, if present. As before, the program assumes a default BOD_5 load value of 200 mg per liter of wastewater. The program assumes $F_P = 0$, indicating no primary treatment.

Anaerobic Digestion

Anaerobic digesters produce methane-rich biogas which is typically combusted on-site. In some cases the biogas is combusted simply for the purpose of converting methane to CO₂, which has a lower global warming potential than methane. In many cases, a cogeneration system is used to harvest the heat from combustion and use it to generate electricity for on-site energy needs. In both cases, inherent inefficiencies in the system result in incomplete combustion of the biogas, which results in remaining methane emissions. The methane emissions from incomplete combustion of digester gas are quantified using **Equation 10.1** from LGOP:

CH₄ emissions (MT) = Wastewater x Digester Gas x F_{CH4} x p_{CH4} x (1-DE) x 0.0283 x 10⁻³ x 10⁻³

Term		Description	Value	Unit	Reference
Wastewater	=	volume of wastewater	INPUT	gallons	User
Digester Gas	=	volume of biogas generated per volume of wastewater treated	0.01	ft ³ biogas / gallon wastewater	USEPA 2008
F _{CH4}	=	fraction of CH ₄ in biogas	0.65		USEPA 2008
РСН4	=	density of CH ₄ at standard conditions	662.00	g / m^3	LGOP default
DE	=	CH ₄ destruction efficiency	0.99		LGOP default
0.0283	=	conversion factor		m^3 / ft^3	LGOP default
10 ⁻³	=	conversion factor		MT / kg	
10 ⁻³	=	conversion factor		kg/g	

The LGOP provides default values for all terms in the equation except the volume of digester gas produced per day (Digester Gas), and the fraction of methane in the biogas (F_{CH4}). The program assumes a digester gas production of 0.01 cubic feet of biogas per gallon of

wastewater treated based on USEPA methodology.^{43,44} The program assumes F_{CH4}= 0.65 based on the USEPA methodology.⁴⁵

The amount of biogenic CO₂ produced from the combustion of biogas is calculated using the following equation based on flow sent to centralized systems (i.e., not sent to septic tanks):

Biogenic CO_2 emissions (MT CO_2) = Wastewater x Digester Gas x F_{CH4} x EF / 2204.623

Where:

Wastewater = Volume of Wastewater sent to centralized systems (gallons)

Digester Gas = Volume of biogas produced from wastewater treatment

0.01 ft³ biogas / gallon wastewater treated

 F_{CH4} = Fraction of CH_4 in biogas

0.65

EF = Emission factor for methane combustion⁴⁶

0.120 lb CO₂ / ft³ CH₄

2204.623 = Conversion factor from lb CO_2 to MT CO_2

If a *cogeneration system* is used to generate electricity from the combusted biogas, the following equation derived from USEPA's Solid Waste Management and Greenhouse Gases report⁴⁷ is used to calculate the amount of electricity generated based on flow sent to centralized systems.

Electricity Generated (kWh) = Wastewater x Digester Gas x F_{CH4} x HHV_{CH4} x ECF x EFF

Where:

Wastewater = Volume of Wastewater sent to centralized systems (gallons)

Digester Gas = Volume of biogas produced from wastewater treatment

0.01 ft³ biogas / gallon wastewater treated

⁴³ USEPA 2008. Page 8-9. USEPA estimates 1.0 cubic feet of digester gas per person per day and 100 gallons of wastewater per person per day.

⁴⁴ USEPA reports 1.0 cubic feet of digester gas per person per day based on Metcalf & Eddy, Inc., 1991, "Wastewater Engineering: Treatment, Disposal, and Reuse," 3rd Ed. McGraw Hill Publishing. USEPA reports 100 gallons of wastewater per person per day based on Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers, 2004, "Recommended Standards for Wastewater Facilities (Ten-State Standards)." USEPA also reports 100 gallons of wastewater per person per day on the USEPA Water & Wastewater Pricing website, based on the U.S. Geological Survey Circular 1200, 1995, "Estimated Use of Water in the United States in 1995."

⁴⁵ USEPA. 2008. Page 8-9. USEPA cites Metcalf & Eddy, Inc., 1991, "Wastewater Engineering: Treatment, Disposal, and Reuse," 3rd Ed. McGraw Hill Publishing.

⁴⁶ USDOE. 2005. Form EIA-1605: Long Form for Voluntary Reporting of Greenhouse Gases. Available online at: ftp://ftp.eia.doe.gov/pub/oiaf/1605/cdrom/pdf/FormEIA-1605_2004_Instructions.pdf

⁴⁷ USEPA. 2006. Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks, 3rd Ed. Sections 6.2-6.5. Available online at: http://www.epa.gov/climatechange/wycd/waste/downloads/fullreport.pdf

F_{CH4}	=	Fraction of CH₄ in biogas
		0.65
HHV	=	Heating value of methane
		1,012 BTU / ft ³ CH ₄
ECF	=	Energy conversion factor
		0.00009 kWh/BTU
EFF	=	Efficiency Factor ⁴⁸
		0.85

Since this amount of electricity is generated on-site and no longer needs to be supplied by the local electricity utility, the indirect CO₂e emissions associated with that utility electricity generation are also avoided. The avoided CO₂e emissions are calculated by multiplying the amount of electricity generated (in kWh) by the local utility carbon-intensity factor from Table 2.8.

Net CO₂ emissions are then the difference between the CO₂ produced from the combustion of digester gas and the CO₂ avoided by generating renewable energy, thus:

Nitrous oxide is produced when treated wastewater is discharged to aquatic environments such as rivers or estuaries. The nitrogen which remains in treated wastewater effluent is converted to nitrous oxide in a multi-step process accomplished by bacteria which is present in soil and aquatic environments. The nitrous oxide emissions are quantified using **Equation 10.9** from the LGOP:

 N_2O emissions (MT) = Wastewater x 10^{-6} x N Load x 44/28 x EF effluent x 10^{-3}

Term		Description	Value	Unit	Reference
Wastewater	=	volume of wastewater	INPUT	liters	User
10 ⁻⁶	=	conversion factor		kg / mg	
N Load	=	mass of nitrogen discharged per volume of wastewater	26	mg / liter of wastewater	USEPA 2013 (CA Statewide Average)
44/28	=	Ratio of molecular weights for N_2O and N_2			USEPA 2008
EF effluent	=	N ₂ O effluent emission factor	0.005	kg N₂O / kg N	LGOP default

⁴⁸ Ibid. USEPA assumes a 15% system efficiency loss, to account for system down-time. USEPA assumes that methane is flared during down-time.

 10^{-3} = conversion factor -- MT / kg --

The LGOP provides default values for all terms in the equation except N Load, the total mass of nitrogen discharged in the wastewater effluent per day. CalEEMod assumes N Load = 26 mg N per liter of wastewater effluent based on the USEPA methodology. ⁴⁹ This value is appropriate for residential and commercial wastewater. A higher value may be more appropriate for certain types of industrial wastewater.

Methane and nitrous oxide emissions are converted to carbon dioxide equivalent emissions by multiplying by their GWPs. The GWPs for methane and nitrous oxide are 25 and 298, respectively.⁵⁰

9 Solid Waste

Municipal solid waste (MSW) is the amount of material that is disposed of by land filling, recycling, or composting. CalEEMod calculates the indirect GHG emissions associated with waste that is disposed of at a landfill. The program uses annual waste disposal rates from the California Department of Resources Recycling and Recovery (CalRecycle) data for individual land uses. If waste disposal information was not available, waste generation data was used. CalEEMod uses the overall California Waste Stream composition to generate the necessary types of different waste disposed into landfills. The program quantifies the GHG emissions associated with the decomposition of the waste which generates methane based on the total amount of degradable organic carbon.⁵¹ The program will also quantify the CO₂ emissions associated with the combustion of methane, if applicable. Default landfill gas concentrations were used as reported in Section 2.4 of AP-42. The IPCC has a similar method to calculate GHG emissions from MSW in its 2006 Guidelines for National Greenhouse Gas Inventories.

The amount of methane and CO₂ generated is calculated as:

 $Gen = DOC \cdot DANF \cdot 0.5$

Where:

Gen = Amount of CO₂ or methane generated

⁴⁹ USEPA. 2013. California Statewide average. USEPA Database at http://cfpub.epa.gov/dmr/ez_search.cfm

⁵⁰ Provided in Appendix E, Table E.1 of CARB's LGOP. As specified in Appendix E, Second Assessment Report (SAR) GWPs are still used by international convention and the United States.

⁵¹ Landfill gas generation is dependent upon the amount, type, age and moisture content of the disposed waste. The United States Environmental Protection Agency (USEPA) has developed emission factors for landfill gas as specified in Section 2.4 of AP-42 which are incorporated in the LANDGEM model. This model uses a first order decay equation that will vary with time. However, there is no need to use a time-varying emissions model, as we are interested in total emissions of gases that could be emitted from a ton of waste. Therefore, instead of using the LANDGEM model, the volume of landfill gas from solid waste will be based on the total amount of degradable organic carbon.

DOC = Degradable organic carbon

DANF = Degradable anaerobic fraction (0.5)

0.5 = Assumes half anaerobic carbon is methane and other half is CO₂.

IPCC lists default values for the DOC in its 2006 Guidelines in Table 2.4.

The amount of methane and CO_2 emitted is calculated by assuming collection and destruction efficiencies. The end user will be able to select if the landfill the waste is sent to has a landfill gas collection system. The collection efficiency will be assumed to be 75% if this is selected otherwise it will be 0%. The destruction efficiency is assumed to be 98%. The calculations take into account the oxidation of methane to CO_2 as it rises through the landfill. The methane and CO_2 emitted are described as:

$$\begin{split} Emit_{methane} &= Gen \cdot [Collect \cdot (1 - destruct) + (1 - Collect) \cdot (1 - ox)] \\ Emit_{CO2} &= Gen \cdot [Collect \cdot destruct + (1 - Collect) \cdot (ox) + 1] \end{split}$$

Where

Emit_{methane} = Methane emitted per ton of green waste

 $Emit_{CO2}$ = Carbon dioxide emitted per ton of green waste

Gen = Amount of CO_2 or methane generated

Collect = Collection efficiency of landfill gas (75%)

Destruct = Destruction efficiency of landfill gas (98%)

Ox = Oxidation efficiency of methane (10%)

The CO₂ emissions will be classified as biogenic emissions. The amount of methane emitted will be multiplied by its GWP to convert to CO₂e.

10 Stationary Sources

Starting with CalEEMod version 2016.3.1, criteria pollutant emissions and GHG emissions from stationary sources can be integrated into the project emission totals. The user can either enter stationary sources and their operation conditions, then let the program calculate the emissions, or the user can enter stationary source emissions to the program directly. The second option is provided for stationary equipment that is not included in the program.

10.1 Emergency Generators and Fire Pumps

Emissions for emergency generators and fire pumps are calculated as:

Emission = EF * HP * LF * Operation Hours

Where:

EF = Emission factor

HP = Horsepower

LF = Load factor

In emission calculations, a default emission factor may be adjusted for unit conversion to grams/horsepower-hour.

The table below summarizes source references and assumptions to obtain default emission factors of diesel emergency generators.

Pollutant	Emission Factor Source and Assumptions for Diesel Emergency Generators		
TOG	AP42 Table 3.3-1		
ROG	AP42 Table 3.3-1 and assumes ROG accounts for 91% of TOG		
СО	CCR 2423 for engines < 50 hp, CARB ATCM Final Regulation for engines >= 50 hp		
NOx	CCR 2423 for engines < 50 hp, CARB ATCM Final Regulation for engines >= 50 hp assumes NOx accounts for 95% of (NMHC+NOx)		
SO2	Based on diesel fuel sulfur content 15 ppmw, diesel heat value 19300 Btu/lb, Brake specific fuel consumption (BSFC) of 7000 Btu/hp-hr		
PM10	CCR 2423 for engines < 50 hp, CARB ATCM Final Regulation for engines >= 50 hp		
PM2.5	CCR 2423 for engines < 50 hp, CARB ATCM Final Regulation for engines >= 50 hp, assumes all PM10 is PM2.5		
CO2	AP42 Table 3.3-1		
CH4	Based on 0.0014 kg/gallon diesel (California Climate Action Registry General Reporting Protocol), diesel density 6.943 lb/gallon, diesel heat value 19300 Btu/lb, BSFC of 7000 Btu/hp-hr		

The table below summarizes sources references and assumptions to obtain default emission factors of diesel fire pumps.

Pollutant	Emission Factor Source and Assumptions for Diesel Fire Pumps
TOG	AP42 Table 3.3-1
ROG	AP42 Table 3.3-1 and assumes ROG accounts for 91% of TOG
СО	40 CFR 60.4202 for engines < 50 hp, CARB ATCM Final Regulation for engines >= 50 hp
NOx	40 CFR 60.4202 for engines < 50 hp, CARB ATCM Final Regulation for engines >= 50 hp, assumes NOx accounts for 95% of (NMHC+NOx)
SO2	Based on diesel fuel sulfer content 15 ppmw, diesel heat value 19300 Btu/lb, Brake specific fuel consumption (BSFC) of 7000 Btu/hp-hr
PM10	40 CFR 60.4202 for engines < 50 hp, CARB ATCM Final Regulation for engines >= 50 hp
PM2.5	40 CFR 60.4202 for engines < 50 hp, CARB ATCM Final Regulation for engines >= 50 hp, assumes all PM10 is PM2.5
CO2	AP42 Table 3.3-1
CH4	Based on 0.0014 kg/gallon diesel (California Climate Action Registry General Reporting Protocol), diesel density 6.943 lb/gallon, diesel heat value 19300 Btu/lb, BSFC of 7000 Btu/hp-hr

The table below summarizes source references and assumptions to obtain default emission factors of natural gas emergency generators.

Pollutant	Emission Factor Source and Assumptions for Natural Gas Emergency Generators
TOG	AP42 Table 3.2-3
ROG	SCAQMD Rule 1110.2
СО	SCAQMD Rule 1110.2
NOx	SCAQMD Rule 1110.2
SO2	AP42 Table 3.2-3, assumes 100% conversion of fuel sulfur to SO2 and sulfur content of 2,000 gr/10 ⁶ scf
PM10	AP42 Table 3.2-3
PM2.5	AP42 Table 3.2-3
CO2	AP42 Table 3.3-1
CH4	AP42 Table 3.3-1

For natural gas emergency generators, conversion from emission factor in pound per MMBtu of fuel input (lb/MMBtu) to emission factor in grams per brake horsepower hour is derived as:

$$\frac{1 \; lb}{MMBtu} * \frac{1 \; MMBtu}{1000,000 \; Btu} * \frac{7000 \; Btu}{1 \; hp-hr} * \frac{453.6 \; grams}{1 \; lb} = 3.1752 \; gram/hp-hr$$

Where BSFC of 7000 Btu/hp-hr is used.

For natural gas emergency generators, conversion from emission limit of parts per million by volume (ppmv) to emission factor in pound per MMBtu of fuel input (lb/MMBtu) is performed as:

$$\frac{Pollutant\ lb}{MMBtu} = ppmv * \frac{1}{molar\ volum} * MW * Fd * 20.9/(20.9 - \%02)$$

Where:

Molar Volume = 379.5 dscf/lbmol @ 14.696 psia, 60 deg. F

Fd = 8579 dscf/MMBtu for 1020 Btu/scf Natural Gas @60 deg F

%O2 = Oxygen percentage in emission (Rule 1110.2 limits are based on 15% oxygen)

MW = molecular weight, lb/lb-mol.

Molecular weight for ROG is set at 86 lb/lb-mol based on Hexane.

10.2 Process Boilers

Emissions for process boilers are calculated as:

Emission = Emission Factor * Total Fuel MMBtu input

In emission calculations, a default emission factor may be adjusted for unit conversion to lb/MMBtu.

The table below summarizes source references and assumptions to obtain default emission factors of diesel boilers.

Pollutant	Emission Factor Source and Assumptions for Diesel Boilers
TOG	AP42 Table 1.3-3, Commercial/institutional/residential combustors, Distillate oil
ROG	AP42 Table 1.3-3, assumes ROG = TOG – CH4
СО	AP42 Table 1.3-3, No. 4 oil
NOx	SJVAPCD Rule 4306
SO2	AP42 Table 1.3-3, No. 4 oil, diesel fuel sulfur content 15 ppmw
PM10	AP42 Table 1.3-6
PM2.5	AP42 Table 1.3-6
CO2	AP42 Table 1.3-12
CH4	AP42 Table 1.3-3, Commercial/institutional/residential combustors, Distillate oil

Diesel heat value of 140 MMBtu/10³ gallon is used to convert emission factor in lb/10³ gal to emission factor in lb/MMBtu.

The table below summarizes source references and assumptions to obtain default emission factors of natural gas boilers.

Pollutant	Emission Factor Source and Assumptions for Natural Gas Boilers
TOG	AP42 Table 1.4-2
ROG	AP42 Table 1.4-2
СО	AP42 Table 1.4-1
NOx	SCAQMD Rule 1146, 1146.1, 1146.2,
SO2	AP42 Table 1.4-2, assumes 100% conversion of fuel sulfur and sulfur content of 2,000 gr/10 ⁶ scf
PM10	AP42 Table 1.4-2
PM2.5	AP42 Table 1.4-2
CO2	AP42 Table 1.4-2
CH4	AP42 Table 1.4-2

Natural gas heat value of 1020 Btu/scf is used to convert emission factor in lb/10⁶ scf to emission factor in lb/MMBtu.

11 Vegetation

The program calculates GHG emissions associated with the vegetation activities of land use change and the planting of new trees.

The program calculates GHG emissions from vegetation activities according to the IPCC protocol for vegetation since it has default values that work well with the information typically available for development projects. This method is similar to the CAR Forest Protocol⁵² and the Center for Urban Forest Research Tree Carbon Calculator⁵³, but it has more general default values available that will generally apply to all areas of California without requiring detailed site-specific information⁵⁴.

11.1 Land Use Change

A development which changes land use type results in changes in CO₂ sequestration from the atmosphere which would not have been captured had there been no land-type change.

Overall Change in Sequestered CO₂ [MT CO₂]

$$= \sum_{i} (SeqCO_{2})_{i} \times (area)_{i} - \sum_{j} (SeqCO_{2})_{j} \times (area)_{j}$$

Where:

SeqCO₂ = mass of sequestered CO₂ per unit area [MT CO₂/acre]

area = area of land for specific land use type [acre]

i = index for final land use type

j = index for initial land use type

Overall change in sequestered CO_2 is the summation of sequestered CO_2 from initial land use type multiplied by area of land for initial land use type subtracted by the summation of sequestered CO_2 from final land use type multiplied by area of land for final land use type. There is no reduction in GHG emissions associated with preservation of a land.

SegCO₂

The mass of sequestered CO_2 per unit area [MT CO_2 /acre] is dependent on the specific land use type. The program uses default CO_2 sequestration values from CCAR for each land use that will be preserved or created:

⁵² CCAR. 2007. Forest Sector Protocol Version 2.1. September. Available at: https://www.arb.ca.gov/cc/ccei/forestry/forestry_protocols/ccar_forest_protocols.pdf

⁵³ Available at: http://cares.ucdavis.edu/resource/center-urban-forest-research-tree-carbon-calculator-ctcc

⁵⁴ The CAR Forest Protocol and Urban Forest Research Tree Carbon Calculator are not used since their main focus is annual emissions for carbon offset considerations. As such they are designed to work with very specific details of the vegetation that is not available at a CEQA level of analysis.

Land Use	Sub-Category	Default CO ₂ accumulation per acre (MT CO ₂ / acre)
Forest Land	Scrub	14.3
	Trees	111
Cropland		6.20
Grassland		4.31
Wetlands		0

The default annual CO_2 is calculated by multiplying total biomass (MT dry matter/acre) from IPCC data by the carbon fraction in plant material (0.47), then using the ratio of molecular weights (44/12) to convert from MT of carbon (C) to MT of carbon dioxide (CO_2).

Vegetation Type

Vegetation types are defined by IPCC as follows:

(i) Forest Land

This category includes all land with woody vegetation consistent with thresholds used to define Forest Land in the national greenhouse gas inventory. It also includes systems with a vegetation structure that currently fall below, but *in situ* could potentially reach the threshold values used by a country to define the Forest Land category.

(ii) Cropland

This category includes cropped land, including rice fields, and agro-forestry systems where the vegetation structure falls below the thresholds used for the Forest Land category.

(iii) Grassland

This category includes rangelands and pasture land that are not considered Cropland. It also includes systems with woody vegetation and other non-grass vegetation such as herbs and brushes that fall below the threshold values used in the Forest Land category. The category also includes all grassland from wild lands to recreational areas as well as agricultural and silvi-pastural systems, consistent with national definitions.

(iv) Wetlands

This category includes areas of peat extraction and land that is covered or saturated by water for all or part of the year (e.g., peatlands) and that does not fall into the Forest Land, Cropland, Grassland or Settlements categories. It includes reservoirs as a managed sub-division and natural rivers and lakes as unmanaged sub-divisions.

<u>Area</u>

The user must specify area of land in acres for specific final and initial land use types. These area changes include not only the area of land that will be converted to buildings, but also areas disrupted by the construction of utility corridors, water tank sites, and associated borrow and

grading areas. Areas temporarily disturbed that will eventually recover to become vegetated will not be counted as vegetation removed as there is no net change in vegetation or land use. 55

11.2 Sequestration

Planting trees will sequester CO₂ and is considered to result in a one-time carbon-stock change. Trees sequester CO₂ while they are actively growing. The amount of CO₂ sequestered depends on the type of tree.

Total Sequestered
$$CO_2 = (Growing Period x \sum_{i=1}^{n} [Sequestration i x Trees i])$$

Where:

Growing Period = Growing period for all trees, expressed in years (20).

n = Number of broad species classes.

Sequestration i = Default annual CO₂ accumulation per tree for broad speciesclass i.

Trees i = Number of net new trees of broad species class i.

Total Sequestered CO₂ is the growing period for all trees multiplied by the summation of annual CO₂ accumulation multiplied by the number of new trees per broad species class.

Growing Period

The program assumes the IPCC active growing period of 20 years. Thereafter, the accumulation of carbon in biomass slows with age, and will be completely offset by losses from clipping, pruning, and occasional death. Actual active growing periods are subject to, among other things, species, climate regime, and planting density. Note that trees may also be replaced at the end of the 20-year cycle, which would result in additional years of carbon sequestration. However, this would be offset by the potential net release of carbon from the removal of the replaced tree.

⁵⁵ This assumption facilitates the calculation as a yearly growth rate and CO₂ removal rate does not have to be calculated. As long as the disturbed land will indeed return to its original state, this assumption is valid for time periods over 20 years.

Sequestration

The program uses default annual CO₂ accumulation per tree for broad species class as follows:

Broad species class	Default annual CO ₂ accumulation per tree ¹ (MT CO ₂ / year)
Aspen	0.0352
Soft maple	0.0433
Mixed hardwood	0.0367
Hardwood maple	0.0521
Juniper	0.0121
Cedar/larch	0.0264
Douglas fir	0.0447
True fir/Hemlock	0.0381
Pine	0.0319
Spruce	0.0337
Miscellaneous ²	0.0354

^{1.} IPCC's carbon (C) values converted to carbon dioxide (CO₂) using ratio of molecular weights (44/12).

^{2.} Average of all other broad species classes. To be assumed if tree type is not known.

12 Mitigation

12.1 Construction Mitigation Measures and Regulatory Adjustments

The section below describes the types of reduction in emissions that CalEEMod incorporates. All end user information required in this section will require the end user to supply a source to support the parameter they select. This source will be displayed in the result output to enhance the communication of the assumptions used in determining the final mitigated emissions reported.

Mitigation Measures for Onsite Off-Road Construction Diesel Equipment

The emissions mitigation measures for onsite off-road construction diesel equipment include use of alternative fuel, electric equipment, diesel particulate filters (DPF), oxidation catalysts, newer tier engines, and dust suppression. The program has options allowing the user to apply mitigation measures to single pieces of equipment or the entire fleet.

Exhaust Emissions Reduction

Alternative Fuel: The use of alternative fuels (i.e., biodiesel, compressed natural gas, propane, etc.) can change both criteria and GHG emissions. Alternative fuels can change emissions (increase or decrease) for each pollutant. These values are based on values for alternative fuels in OFFROAD2011. Therefore they may not be available for all pieces of equipment. The biodiesel emissions are based on a report from NREL⁵⁶. Biodiesel emissions are separated into both biogenic and non-biogenic CO₂ emissions. These values may be a slight under estimation since no starting or evaporative emissions are calculated in the program.

Electric Equipment: The use of electric equipment reduces emissions by 100% for all criteria pollutants. However, there are indirect GHG emissions associated with the electricity use. This is calculated by converting the horsepower to kilowatts and multiplying by the electricity carbon intensity factor. This is only available for those pieces of equipment where values have been identified as listed in the CAPCOA's Quantification of Greenhouse Gas Mitigation Measures.

DPF: The use of DPFs reduces the emissions of PM₁₀ and PM_{2.5}. The program allows the end user to choose filters that meet different CARB standardized abatement and certification levels as needed⁵⁷. The program also allows the end user to enter filter specification in case a filter with higher abatement level becomes available.

Diesel Oxidation Catalyst: The use of an oxidation catalyst assumes the combination operation of a selective catalytic reduction (SCR) that reduces NOx emissions by 0 to 40% percent. Minor PM emissions reductions are also achieved.

Newer Tier Engines: The program allows the end user to choose newer engines that meet more stringent USEPA tier emissions standards than is anticipated from the statewide fleet mix.

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⁵⁶ http://www.nrel.gov/docs/fy06osti/37508.pdf (see Table 2)

⁵⁷ http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

If this option is checked, user will be required to enter the expected tier level, and CalEEMod will use the emission standard of the selected tier for the emissions calculation⁵⁸.

The mitigation measure-pollutant applicability matrix presented in the table below:

	Applicability													
Mitigation Measure	voc	SOx	NOx	PM ₁₀	PM _{2.5}	GHG Anthropogenic	GHG Biogenic							
Alternative Fuel		Х	Х	Х	Х	Х	Х							
Electric Equipment	Х	Х	Х	Х	Х	Х	х							
DPF				Х	Х									
Diesel Oxidation Catalyst/SCR			х	х	х									
Newer Tier Engines	Х	Х	Х	Х	Х									
User Input	Х	Х	Х	Х	Х	Х	х							

Fugitive Dust Emissions Reduction

The mitigation measures in this section apply the specified percent reduction in PM_{10} or $PM_{2.5}$ to the applicable fugitive dust calculations. Watering of unpaved roads recalculates the unpaved road equations using the updated values supplied by the user in this section. These are based on mitigation measures described by SCAQMD.

12.2 Mobile Mitigation

All mitigation associated with mobile sources is consistent with the methods described in CAPCOA's Quantification of GHG Mitigation Measures.

12.3 Hearths Mitigation Measures

The end user will be able to change the default percentage of hearths including no hearths or all natural gas hearths. This will recalculate the number of hearths and the corresponding emissions.

12.4 Architectural Coating Mitigation

The end user can select lower VOC content in paints than required by regulation. This value will be used instead of the usual emission factor.

12.5 Landscape Equipment Mitigation

The end user will be able to specify the percentage of landscape equipment that will be electric. This will be incorporated consistent with CAPCOA Mitigation Measures methodology.

⁵⁸ CARB and USEPA Off-Road Compression-Ignition (Diesel) Engine Standard available here: http://www.arb.ca.gov/msprog/ordiesel/documents/Off-Road Diesel Stds.xls

12.6 Improve Building Envelope Beyond Title 24 part 6

The end user will enter their commitment to improve building envelope related systems (space heating, space cooling, water heating, and ventilation) beyond current (2013) Title 24 regulations. The end user will enter the percentage improvement.

12.7 Install Energy Efficient Appliances

The end user can designate the appliances that they will install that meet USEPAs Energy Star criteria. In order to meet CEQA enforceability criteria, these appliances need to be supplied by the builder. The program will use the average savings for an Energy Star appliance as reported in the Energy Star's most recent annual report. The following appliances will be available: refrigerators, dish washers, fans, and clothes washers. The reduction will only apply to these end uses.

12.8 Install Renewable or Alternative Energy systems

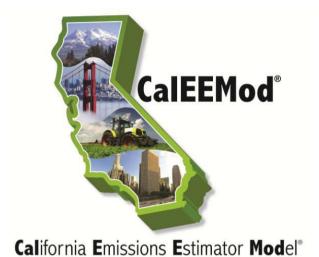
The end user will be able to specify the percentage of the electricity use that will be supplied from renewable or alternative energy systems. This includes energy from sources such as photovoltaic cells, wind turbines, geothermal sources, and fuel cells. The end user will enter the total annual kilowatt-hours anticipated to be generated or the percentage of the annual building energy that will be supplied by the alternative energy systems. Information on how to calculate these can be found in CAPCOA's Quantification of Greenhouse Gas Mitigation Measures.

12.9 Water Mitigation

All water mitigation methods are consistent with those described in the CAPCOA Quantifying GHG Mitigation Measures document.

12.10 Waste Mitigation

The amount of waste disposed will be reduced by the percentage entered by the user. There is no reallocation of the type of material disposed.



Appendix D

Default Data Tables

Prepared for:

California Air Pollution Control Officers Association
(CAPCOA)

Prepared by:

BREEZE Software, A Division of Trinity Consultants
Dallas, Texas
in collaboration with
South Coast Air Quality Management District and the
California Air Districts

Date: September 2016

Table 1.1: Weather Data

		Number Precipitat	ion Days >0.1 inches	W	indSpeed	Evapotrans	piration
LocationType	DisplayName	Days	Source	meter/second	Source	inches/year	Source
	Alameda	63	1	2.2	4	44.33	5
	Alpine	74	1	2.2	4	40.60	5
	Amador	63	1	2.2	4	48.85	5
	Butte	71	1	2.2	4	51.55	5
	Calaveras	61	1	2.2	4	48.80	5
	Colusa	56	1	2.2	4	51.80	5
	Contra Costa	58	1	2.2	4	44.79	5
	Del Norte	113	1	2.2	4	27.70	5
	El Dorado-Lake Tahoe	70	1	2.7	3. South Lake Tahoe	47.30	5
	El Dorado-Mountain County	70	1	2.7	3. South Lake Tahoe	47.30	5
	Fresno	45	1	2.2	3. South Lake Tailoe 4	54.31	5
	Glenn	61	1	2.2	4	51.70	5
	Humboldt	103	1	2.2	4	31.38	5
			· ·				
	Imperial	12	1	3.4 2.2	2	75.50 72.66	5
	Inyo	34	1		•		5
	Kern-Mojave Desert	32	1	2.7	3. Bakersfield	55.91	5
	Kern-San Joaquin	32	1	2.7	3. Bakersfield	55.91	5
	Kings	37	1	2.2	4	56.98	5
	Lake	67	1	2.2	4	44.10	5
	Lassen	56	1	2.2	4	46.90	5
	Los Angeles-Mojave Desert	33	1	2.2	4	52.03	5
	Los Angeles-South Coast	33	1	2.2	4	52.03	5
	Madera	51	1	2.9	3. Madera	51.13	5
	Marin	69	1	2.2	4	40.40	5
	Mariposa	58	1	2.2	4	46.40	5
	Mendocino-Coastal	86	1	2.7	2	37.90	5
	Mendocino-Inland	86	1	2.2	2	37.90	5
	Mendocino-Rural Inland North	86	1	2.2	2	37.90	5
	Mendocino-Rural Inland South	86	1	2.2	2	37.90	5
	Merced	49	1	2.2	4	52.20	5
	Modoc	78	1	2.5	3. Alturas	43.20	5
	Mono	54	1	2.2	4	43.00	5
	Monterey	55	2	3.6	3. Monterey	45.31	5
	Napa	64	1	3.6	3. Napa	47.36	5
			1	2.2	_	47.70	
	Nevada	80 30	1	2.2	4	47.70	5 5
Counties	Orange		·				
Jounties	Placer-Lake Tahoe	74	1	2.2	4	42.61	5
	Placer-Mountain Counties	74	1	2.2	4	42.61	5
	Placer-Sacramento	74	1	2.2	4	42.61	5
	Plumas	73	1	2.2	4	39.80	5
	Riverside-Mojave Desert MDAQMD	28	1	2.6	3. Riverside	68.49	5
	Riverside-Mojave Desert SCAQMD	28	1	2.6	3. Riverside	68.49	5
	Riverside-Salton Sea	28	1	2.4	Riverside	68.49	5
	Riverside-South Coast	28	1	2.4	Riverside	68.49	5
	Sacramento	58	1	3.5	2	53.43	5
	San Benito	50	2	2.5	4	47.13	5
	San Bernardino-Mojave Desert	32	1	2.6	2	69.27	5
	San Bernardino-South Coast	32	1	2.2	4	69.27	5
	San Diego	40	1	2.6	3. San Diego	48.96	5
	San Francisco	64	1	4.6	3. San Francisco	35.10	5
	San Joaquin	51	1	2.7	3. Fresno	49.44	5
	San Luis Obispo	44	1	3.2	3. San Luis Obispo	44.45	5
	San Mateo	70	1	2.2	4	42.00	5
	Santa Barbara-North of Santa Ynez	37	1	3.13	2	46.90	5
	Santa Barbara-North of Santa Ynez Range	37	1	2.73	2	46.90	5
	Santa Clara	58	1	2.73	4	44.86	5
	Santa Ciara Santa Cruz	61	1	1.8	4	40.38	5 5
	Shasta	82	1	2.7		44.08	5
			1		3. Redding		
	Sierra	64 85		2.2 2.2	4	40.45	5
	Siskiyou	85 56	1	6.8	4	39.52	5 5
	Solano-Sacramento		· ·		4	50.24	
	Solano-San Francisco	56	1	2.2	2	50.24	5
	Sonoma-North Coast	75	1	2.2	4	42.40	5
	Sonoma-San Francisco	75	1	2.2	4	42.40	5
	Stanislaus	46	1	2.2	4	51.34	5
	Sutter	61	1	2.2	4	48.45	5
	Tehama	68	1	3.13	2	53.00	5
	Trinity	88	1	2.2	4	40.05	5
	Tulare	51	1	2.2	4	50.99	5
	Tuolumne	66	1	2.2	4	47.55	5
	Ventura	31	1	2.6	2	47.98	5
	Yolo	54	1	6.8	2	52.18	5
	Yuba	72	1	3.4	3. Marysville-Yuba City	50.15	5
	ι ανα	12	<u>'</u>	J.4	o. marysville- i uba City	30.13	J

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Table 1.1: Weather Data

		Number Precipita	tion Days >0.1 inches	W	indSpeed	Evapotrans	piration
LocationType	DisplayName	Days	Source	meter/second	Source	inches/year	Source
	Great Basin Valleys	54	1	2.2	4	52.09	5
	Lake County	67	1	2.2	4	44.10	5
	Lake Tahoe	72	1	2.7	3. South Lake Tahoe	44.96	5
	Mojave Desert	31	1	2.6	2	61.42	5
	Mountain Counties	8	1	2.2	4	45.50	5
	North Central Coast	53	1	2.8	3 average	44.28	5
	North Coast	93	1	2.2	4	35.89	5
Air Basins	Northeast Plateau	73	1	2.5	3 average	43.21	5
	Sacramento Valley	65	1	3.5	2	49.93	5
	Salton Sea	20	1	3.4	3 average	71.99	5
	San Diego	40	1	2.6	3. San Diego	48.96	5
	San Francisco Bay Area	64	1	2.2	4	43.64	5
	San Joaquin Valley	45	1	2.7	3 average	53.05	5
	South Central Coast South Coast	37	1	2.9	3 average	46.44	5
		31	1	2.2	4	59.20	5
	Amador County APCD	63	1	2.2	4	48.85	5
	Antelope Valley APCD	33	1	2.2	4	52.03	5
	Bay Area AQMD	64	1	2.2	4	43.64	5
	Butte County AQMD	71	1	2.2	4	51.55	5
	Calaveras County AQMD	61	1	2.2	4	48.80	5
	Colusa County APCD	56	1	2.2	4	51.80	5
	El Dorado County AQMD	70	1	2.7	3 average	47.30	5
	Feather River AQMD	67	1	3.4	3 average	49.30	5
	Glenn County APCD	61	1	2.2	4	51.70	5
	Great Basin UAPCD	54	1	2.2	4	52.09	5
	Imperial County APCD	12	1	3.4	2	75.50	5
	Kern County APCD	32	1	2.7	3. Bakersfield	55.91	5
	Lake County AQMD	67	1	2.2	4	44.10	5
	Lassen County APCD	56	1	2.2	4	46.90	5
	Mariposa County APCD	58	1	2.2	4	46.40	5
	Mendocino County AQMD	86	1	2.2	4	37.90	5
	Modoc County APCD	78	1	2.5	3 average	43.20	5
Air Districts	Mojave Desert AQMD	30	1	2.6	2	68.88	5
ui Diotrioto	Monterey Bay Unified APCD	53	1	2.8	3 average	44.28	5
	North Coast Unified APCD	101	1	2.2	4	33.04	5
	Northern Sierra AQMD	72	1	2.2	4	42.65	5
	Northern Sonoma County APCD	75	1	2.2	4	42.40	5
	Placer County APCD	74	1	2.2	4	42.61	5
	Sacramento Metropolitan AQMD	58	1	3.5	2	53.43	5
	San Diego County APCD	40	1	2.6	3. San Diego	48.96	5
	San Joaquin Valley Unified APCD	45	1	2.7	3. San Diego	53.05	5
	San Luis Obispo County APCD	44	1	3.2	3. San Luis Obispo	44.45	5
	Santa Barbara County APCD	37	1	2.9	3 average	46.90	5
	Shasta County AQMD	82	1	2.7	3 average	44.08	5
	Siskiyou County APCD	85	1	2.2	3 average	39.52	5
	South Coast AQMD	31	1	2.2	4	59.20	5
	Tehama County APCD	68	1	3.13	2	53.00	5
	Tuolumne County APCD	66	1	2.2	4	47.55	5
	Ventura County APCD	31	1	2.6	2	47.98	5
	Yolo/Solano AQMD	55	1	6.8	2	51.21	5
State	Statewide	54	1	2.2	4	47.93	5
State	Glatewide	04	1 1	۷.۷	4	41.93	<u>. </u>

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^{1.} Precipitation Data based on the average of locations in this area according to data from the Western Regional Climate Center available at http://www.wrcc.dri.edu/htmlfiles/ca/ca.01.html

^{2.} Data based on District provided information.

^{3.} Wind speed data based on information from the Western Regional Climate Center available at: http://www.wrcc.dri.edu/htmlfiles/westwind.final.html

^{4.} The statewide default windspeed is 2.2 meters per second.

^{5.} Evapotranspiration rates from Appendix A of Model Water Efficient Landscape Ordinance from the California Department of Water Resources Available online at: http://www.water.ca.gov/wateruseefficiency/docs/MWEL009-10-09.pdf

Table 1.2: Electrical Utility Emission Factors of Greenhouse Gases

	CO ₂ Intensity Factor	CH₄ Intensity Factor ^a	N₂O Intensity Factor ^a	Reporting
Utility Company		lb/MWhr		Year for CO2 ^b EF
Statewide Average	1,002	0.029	0.00617	2009
Anaheim Public Utilities	1,543	0.029	0.00617	2007
Austin Energy	1,083	0.029	0.00617	2008
Burbank Water & Power	1,096	0.029	0.00617	2007
City and County of San Francisco	76	0.029	0.00617	2005
City of Palo Alto Public Utilities	354	0.029	0.00617	2009
City of Vernon	761	0.029	0.00617	2013 ^c
Glendale Water & Power	1,115	0.029	0.00617	2009
Imperial Irrigation District	1,271	0.029	0.00617	2008
Los Angeles Department of Water & Power	1,228	0.029	0.00617	2007
Martines Cogen Ltd. Partnership	945	0.029	0.00617	2008
Modesto Irrigation District	833	0.029	0.00617	2007
Pacific Gas & Electric Company	641	0.029	0.00617	2008
PacifiCorp	1,656	0.029	0.00617	2009
Pasadena Water & Power	1,664	0.029	0.00617	2006
Platte River Power Authority	1,848	0.029	0.00617	2007
Riverside Public Utilities	1,326	0.029	0.00617	2007
Roseville Electric	794	0.029	0.00617	2007
Sacramento Municipal Utility District	590	0.029	0.00617	2009
Salt River Project	1,470	0.029	0.00617	2007
San Diego Gas & Electric	720	0.029	0.00617	2009
Seattle City Light	31	0.029	0.00617	2009
Sierra Pacific Resources	1,328	0.029	0.00617	2008
Southern California Edison	702	0.029	0.00617	2012 ^d
Turlock Irrigation District	790	0.029	0.00617	2008

- a. Methane and Nitrous Oxide Intensity Factors based on 2012 E-Grid for California (2009 inventory)
- b. Emission Factors from May 2010 Local Government Operations Protocol
- c. http://www.theclimateregistry.org/tools-resources/reporting-protocols/general-reporting-protocol/

d. Click Here

The report provides intensity factor of CO_2e

The CO₂ intensity factor is calculated as 705-25*0.029-298*0.00617=702.44 to avoid double counting.

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The 25 and 298 are GWPs used in CalEEMod2016.3.1

Table 2.1 Land Use Size Comparisons

		Acres Per Dwelling	Square Feet Per
LandUseType	LandUseSubType	Unit ¹	Dwelling Unit ²
	Single Family Housing	0.32	1800
	Apartments low rise	0.063	1000
	Apartments mid rise	0.026	1000
	Apartments high rise	0.016	1000
Residential	Condo/townhouse	0.063	1000
	Condo/townhouse high rise	0.016	1000
	Mobile Home Park	0.13	1200
	Retirement Community	0.20	1000
	Congregate care (Assisted Living)	0.063	1000

LandUseType	LandUseSubType	LandUseSizeMetric	Acres Per Size Metric	SquareFeet	Other Ber 1000 SC	\ET
					Other Per 1000 SC Value	Metric
						Student
Educational	Day-Care Center	1000sqft	0.023	1000		
	·					Employee ³
Educational	Elementary School	1000sqft	0.023	1000	12	
			0.020		1.0	Employee ³
Educational	Junior High School	1000sqft	0.023	1000		Student
Educational	Julioi High School	10005411	0.023	1000	0.8	Employee ³
					7.5	Student
Educational	High School	1000sqft	0.023	1000		Employee ³
						Student
Educational	Junior College (2yr)	1000sqft	0.023	1000		
					0.8	Employee ³
Educational	University/College (4yr)	Student	0.0042	184	1.4	Employee ³
Educational	Library	1000sqft	0.023	1000	1.1	Employee ³
Educational	Place of Worship	1000sqft	0.023	1000	20	Seat
Recreational	City Park	Acre	1	43560		
Recreational	Golf Course	Acre	1	43560		
Recreational	Recreational Swimming Pool	1000sqft	0.023	1000	143	Hole
Recreational	Racquet Club	1000sqft	0.023	1000		
Recreational	Health Club	1000sqft		1000		
					0.36	Screen
Recreational	Movie Theater (No Matinee)	1000sqft	0.023	1000	44	Seat
Recreational	Arena	1000sqft	0.32	1000		Acre
Recreational	Quality Restaurant	1000sqft		1000	5.520	
Recreational	High Turnover (Sit Down Restaurant)	1000sqft		1000		
Recreational	Fast Food Restaurant with Drive Thru	1000sqft	0.023	1000		
Recreational	Fast Food Restaurant w/o Drive Thru	1000sqft		1000		
Recreational	Hotel	Room		1452		
Recreational	Motel	Room		1960		
		Koom	0.043	1900	0.023	Acre
Parking	Parking Lot	1000sqft	0.023	1000		Space
						Acre
Parking	Unenclosed Parking Structure	1000sqft	0.023	1000		Space
Parking	Enclosed Parking Structure	1000sqft	0.023	1000		Acre
-	-	•				Space
Parking	Unenclosed Parking with Elevator	1000sqft	0.023	1000		Acre
		•				Space
Parking	Enclosed Parking with Elevator	1000sqft	0.023	1000		Acre
ŭ		1000 (0.000	1000	2.5	
Parking	Other Non-Asphalt Surfaces	1000sqft	0.023	1000		Acre
Parking	Other Asphalt Surfaces	1000sqft				Acre
Retail	Free-Standing Discount store	1000sqft		1000		
Retail	Free-Standing Discount Superstore	1000sqft		1000		
Retail	Discount Club	1000sqft		1000		
Retail	Regional Shopping Center	1000sqft		1000		
Retail	Electronic Superstore	1000sqft		1000		
Retail	Home Improvement Superstore	1000sqft		1000		
Retail	Strip Mall	1000sqft		1000		
Retail	Hardware/Paint Store	1000sqft	0.023	1000		
Retail	Supermarket	1000sqft		1000		
Retail	Convenience Market (24 hour)	1000sqft		1000		
Retail	Convenience Market with Gas Pumps	1000sqft		1000	7.1	Pump
Retail	Automobile Care Center	1000sqft		1000		
Retail	Gasoline/Service Station	Pump	0.003	141		
Commercial	Bank (with Drive-Through)	1000sqft		1000		
Commercial	General Office Building	1000sqft		1000		
Commercial	Office Park	1000sqft		1000		
Commercial	Research & Development	1000sqft		1000		
Commercial	Government Office Building	1000sqft		1000		
Commercial	Government (Civic Center)	1000sqft		1000		
Commercial	Pharmacy/Drugstore with Drive Thru	1000sqft		1000		
Commercial	Pharmacy/Drugstore w/o Drive Thru	1000sqft		1000		
Commercial	Medical Office Building	1000sqft		1000		
Commercial	Hospital	1000sqft		1000		Red
Industrial	Unrefrigerated Warehouse-No Rail	1000sqft		1000		Dea
	<u> </u>	1000sqft		1000		
Industrial	Unrefrigerated Warehouse-Rail					
Industrial	Refrigerated Warehouse-No Rail	1000sqft		1000		
Industrial	Refrigerated Warehouse-Rail	1000sqft		1000		
Industrial	General Light Industry	1000sqft		1000		
Industrial	General Heavy Industry	1000sqft		1000		
Industrial	Industrial Park	1000sqft		1000 1000		
Industrial	Manufacturing	1000sqft				

- 1. Based on ratio of trip rates for the same land uses in the ITE Trip Generation Manual.
- 2. The value for average dwelling unit square footage is rounded based on the average square footage reported in the RASS.3. Values based on SCAB survey information of employees per square foot of buildings.

Table 2.2 Population per Dwelling Unit

cationType	DisplayName	Single Family Homes	Multi-Family Homes	Sour
71.	Alameda	2.86	2.86	1
	Alpine	2.86	2.86	1
	Amador	2.86	2.86	1
	Butte	2.86	2.86	1
	Calaveras	2.86	2.86	1
	Colusa	2.86	2.86	1
	Contra Costa	2.86	2.86	1
	Del Norte	2.86	2.86	1
	El Dorado-Lake Tahoe	2.86	2.86	1
	El Dorado-Mountain County	2.86	2.86	1
	Fresno	2.86	2.86	1
	Glenn	2.86	2.86	1
	Humboldt	2.86	2.86	1
	Imperial	3.23	3.23	2
	Inyo	2.86	2.86	1
	Kern-Mojave Desert	2.86	2.86	1 1
	Kern-San Joaquin	2.86	2.86	1 1
	Kings	2.86	2.86	
	Lake	2.86	2.86	
	Lassen	2.86	2.86	1
	Los Angeles-Mojave Desert	2.86	2.86	1
	Los Angeles-South Coast	2.86	2.86	1 1
	Madera	2.86	2.86	1 1
	Marin	2.86	2.86	1
	Mariposa	2.86	2.86	1
	Mendocino-Coastal	2.86	2.86	1
	Mendocino-Inland	2.86	2.86	1
	Mendocino-Rural Inland North	2.86	2.86	1
	Mendocino-Rural Inland South	2.86	2.86	1
	Merced	2.86	2.86	1
	Modoc	2.86	2.86	1
	Mono	2.86	2.86	1
	Monterey	2.86	2.86	1
	Napa	2.86	2.86	1
	Nevada	2.86	2.86	1
	Orange	2.86	2.86	1 1
Counties	Placer-Lake Tahoe	2.86	2.86	1
Counties	Placer-Mountain Counties	2.86	2.86	1 1
	Placer-Sacramento	2.86	2.86	
	Plumas	2.86	2.86	1 1
		2.86		1 1
	Riverside-Mojave Desert MDAQMD		2.86	
	Riverside-Mojave Desert SCAQMD	2.86	2.86	1 1
	Riverside-Salton Sea	2.86	2.86	1
	Riverside-South Coast	2.86	2.86	1
	Sacramento	2.67	2.67	2
	San Benito	2.86	2.86	1
	San Bernardino-Mojave Desert	2.86	2.86	1
	San Bernardino-South Coast	2.86	2.86	1
	San Diego	2.86	2.86	1
	San Francisco	2.86	2.86	1
	San Joaquin	3.172	3.172	2
	San Luis Obispo	2.86	2.86	1
	San Mateo	2.86	2.86	1
	Santa Barbara-North of Santa Ynez	2.72	2.72	2
	Santa Barbara-South of Santa Ynez Range	2.72	2.72	2
	Santa Clara	2.86	2.86	1
	Santa Cruz	2.86	2.86	1 1
	Shasta	2.86	2.86	1 1
	Sierra	2.86	2.86	1
		2.86	2.86	1 1
	Siskiyou Solano-San Francisco	2.86	2.86	1 1
				1 1
	Solano-San Joaquin	2.86	2.86	
	Sonoma-North Coast	2.86	2.86	1
	Sonoma-San Francisco	2.86	2.86	1
	Stanislaus	2.86	2.86	1
		2.86	2.86	1
	Sutter			2
	Sutter Tehama	2.6	2.6	
			2.6 2.86	1
	Tehama Trinity	2.6 2.86	2.86	_
	Tehama Trinity Tulare	2.6 2.86 2.86	2.86 2.86	1
	Tehama Trinity Tulare Tuolumne	2.6 2.86 2.86 2.86	2.86 2.86 2.86	1 1
	Tehama Trinity Tulare	2.6 2.86 2.86	2.86 2.86	1

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Table 2.2 Population per Dwelling Unit

LocationType	DisplayName	Single Family Homes	Multi-Family Homes	Source
	Great Basin Valleys	2.86	2.86	1
	Lake County	2.86	2.86	1
	Lake Tahoe	2.86	2.86	1
	Mojave Desert	2.86	2.86	1
	Mountain Counties	2.86	2.86	1
	North Central Coast	2.86	2.86	1
	North Coast	2.86	2.86	1
Air Basin	Northeast Plateau	2.86	2.86	1
	Sacramento Valley	2.86	2.86	1
	Salton Sea	3.23	3.23	2
	San Diego	2.86	2.86	1
	San Francisco Bay Area	2.86	2.86	1
	San Joaquin Valley	2.86	2.86	1
	South Central Coast	2.86	2.86	1
	South Coast	2.86	2.86	1
	Amador County APCD	2.86	2.86	1
	Antelope Valley APCD	2.86	2.86	1
	Bay Area AQMD	2.86	2.86	1
	Butte County AQMD	2.86	2.86	1
	Calaveras County AQMD	2.86	2.86	1
	Colusa County APCD	2.86	2.86	1
	El Dorado County APCD	2.86	2.86	1
	Feather River AQMD	2.86	2.86	1 1
	Glenn County APCD	2.86	2.86	1 1
	Great Basin UAPCD	2.86	2.86	1
	Imperial County APCD	3.23	3.23	2
	Kern County APCD	2.86	2.86	1
	Lake County AQMD	2.86	2.86	1
	Lassen County APCD	2.86	2.86	1 1
	Mariposa County APCD	2.86	2.86	1 1
	Mendocino County AQMD	2.86	2.86	1
	Modoc County APCD	2.86	2.86	1 1
Air District	Mojave Desert AQMD	2.86	2.86	1
All District	Monterey Bay Unified APCD	2.86	2.86	1
	North Coast Unified APCD	2.86	2.86	1
	Northern Sierra AQMD	2.86	2.86	1 1
	Northern Sonoma County APCD	2.86	2.86	1
	Placer County APCD	2.86	2.86	1 1
	Sacramento Metropolitan AQMD	2.67	2.67	2
	San Diego County APCD	2.86	2.86	1
	San Joaquin Valley Unified APCD	3.172	3.172	2
	San Luis Obispo County APCD	2.86	2.86	1
	Santa Barbara County APCD	2.00	2.72	2
	Shasta County AQMD	2.72	2.72	1
	•	2.86	2.86	1
	Siskiyou County APCD			
	South Coast AQMD	2.86	2.86	1
	Tehama County APCD	2.6	2.6	2
	Tuolumne County APCD	2.86	2.86	1
	Ventura County APCD	3.06	3.06	2
	Yolo/Solano AQMD	2.86	2.86	1
Statewide	Statewide	2.86	2.86	1

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Notes:

- Based on statewide default of 2.86 people per dwelling unit.
 Based on district supplied information.

September 2016

Table 3.1 Phase Length

					Site	
Project	Demolition	Grading	Building	Architectural	Preparation	Paving
Acres	Days	Days	Construction Days	Coating Days	Days	Days
≥ 0	10	2	100	5	1	5
≥ 1	20	4	200	10	2	10
≥ 2	20	6	220	10	3	10
≥ 3	20	8	230	18	5	18
≥ 5	20	20	230	20	10	20
≥ 10	20	30	300	20	10	20
≥ 15	20	30	300	20	10	20
≥ 20	20	35	370	20	10	20
≥ 25	30	45	440	35	20	35
≥ 30	30	45	500	35	20	35
≥ 34	50	75	740	55	30	55
≥ 50	70	110	1110	75	40	75
≥ 75	100	155	1550	110	60	110
≥ 100	200	310	3100	220	120	220
≥ 200	300	465	4650	330	180	330
≥ 300	400	620	6200	440	240	440
≥ 400	500	775	7750	550	300	550
≥ 500	600	930	9300	660	360	660
≥ 600	700	1085	10850	770	420	770
≥ 700	800	1240	12400	880	480	880
≥ 800	900	1395	13950	990	540	990
≥ 900	1000	1550	15500	1100	600	1100
≥ 1000	10000	15500	155000	11000	6000	11000

1. Based on construction survey performed by SCAQMD and included in Appendix E. For larger sites beyond the survey size, the number of days from several sites were added together.

Table 3.2 Equipment Lists Based on Project Acreage

													Nı	umber	of Equ	iipmen	t							
PhaseType	EquipmentType	≥1	≥2	≥3	≥5	≥10	≥15	≥20	≥25	≥30	≥34	≥50	≥75	≥100	≥200	≥300	≥400	≥500	≥600	≥700	≥800	≥900	≥1000	≥10000
	Excavators				3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Demolition	Rubber Tired Dozers	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Demonition	Concrete/Industrial Saws	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Tractors/Loaders/Backhoes	2	3	3																				
	Graders	1	1	1																				
	Tractors/Loaders/Backhoes	1	1	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Rubber Tired Dozers		1		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Site Preparation	Scrapers			1																				
	Rubber Tired Dozers	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Concrete/Industrial Saws	1																						
Grading	Tractors/Loaders/Backhoes	2	1	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Grading	Graders		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Excavators				1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Scrapers						2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Cranes	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Forklifts	2	1	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	_	_	3	3	3	3
Building Construction	Tractors/Loaders/Backhoes	2	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Welders		3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Generator Sets		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Architectural Coating	Air Compressors	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Pavers	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Cement and Mortar Mixers	4	1	1	2																			
	Rollers	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	Tractors/Loaders/Backhoes	1	1	1	1																			
Paving	Paving Equipment		1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

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Table 3.2 Equipment Lists Based on Project Acreage

												ŀ	lours	per Da	ay per	Equip	nent							
PhaseType	EquipmentType	≥1	≥2	≥3	≥5	≥10	≥15	≥20	≥25	≥30	≥34	≥50	≥75	≥100	≥200	≥300	≥400	≥500	≥600	≥700	≥800	≥900	≥1000	≥10000
	Excavators				8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Demolition	Rubber Tired Dozers	1	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Demonitor	Concrete/Industrial Saws	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	Tractors/Loaders/Backhoes	6	8	8																				
	Graders	8	8	8																				
	Tractors/Loaders/Backhoes	8	8	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	Rubber Tired Dozers		7		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Site Preparation	Scrapers			8																				
	Rubber Tired Dozers	1	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	Concrete/Industrial Saws	8																						
Grading	Tractors/Loaders/Backhoes	6	7	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Grading	Graders		6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	Excavators				8	8	8	8	8	8	8	8	8	8	8	8		8	8	8	8	8	8	8
	Scrapers						8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	Cranes	4	6	8	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	Forklifts	6	6	7	8	8	8	8	8	8	8	8	8	8	8	8	8	8	_	8	8	8	8	8
Building Construction	Tractors/Loaders/Backhoes	8	6	6	7	7	7	7	- 1	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
	Welders		8	7	8	8	_	_	_	_	8	8	8	8		•		8	_		8	8	·	8
	Generator Sets		8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Architectural Coating	Air Compressors	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	Pavers	7	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	Cement and Mortar Mixers	6	6	8	6																			
	Rollers	7	7	8	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	Tractors/Loaders/Backhoes	7	8	7	•																			
Paving	Paving Equipment		8	8	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

- 1. Based on construction survey performed by SCAQMD and included in Appendix E. For acreage beyond the survey size, equipment lists were kept the same.
- 2. An air compressor for architectural coating phases has been added to reflect the use of such equipment in many architectural coating operations.

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Table 3.3 OFFROAD Default Horsepower and Load Factors

OFFROAD Equipment Type	Horsepower	Load Factor
Aerial Lifts	63	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	221	0.50
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	231	0.29
Crawler Tractors	212	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	158	0.38
Forklifts	89	0.20
Generator Sets	84	0.74
Graders	187	0.41
Off-Highway Tractors	124	0.44
Off-Highway Trucks	402	0.38
Other Construction Equipment	172	0.42
Other General Industrial Equipment	88	0.34
Other Material Handling Equipment	168	0.40
Pavers	130	0.42
Paving Equipment	132	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.30
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.40
Rubber Tired Dozers	247	0.40
Rubber Tired Loaders	203	0.36
Scrapers	367	0.48
Signal Boards	6	0.82
Skid Steer Loaders	65	0.37
Surfacing Equipment	263	0.30
Sweepers/Scrubbers	64	0.46
Tractors/Loaders/Backhoes	97	0.37
Trenchers	78	0.50
Welders	46	0.45

1. Based on the weighted average horsepower (by equipment population) and load factors for the mode of the engine groupings in 2011 OFFROAD

Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Aerial Lifts	1990	6	15	5.436	1.804	4.999	9.999	0.833	0.968	0.968	568.299	0.162
Aerial Lifts	1990	16	25	8.446	2.213	5	6.92	0.679	0.735	0.735	568.299	0.199
Aerial Lifts	1990	26	50	22.237	3.256	6.91	7.372	0.692	0.948	0.948	568.299	0.293
Aerial Lifts	1990	51	120	25.547	1.927	5.026	13.323	0.628	1.005	1.005	568.299	0.173
Aerial Lifts	1990	251	500	90.051	1.214	6.888	11.7	0.525	0.605	0.605	568.299	0.109
Aerial Lifts	1990	501	750	162.768	1.214	6.887	11.7	0.538	0.605	0.605	568.299	0.109
Aerial Lifts	2000	6 16	15 25	4.911 7.927	1.629	4.729 4.749	8.804 6.401	0.079	0.737	0.737	568.299 568.299	0.147
Aerial Lifts	2000 2000	26	50 50	21.066	2.077 3.084	6.643	6.401	0.064	0.569	0.569	568.299	0.187
Aerial Lifts Aerial Lifts	2000	51	120	20.809	1.569	4.216	9.602	0.059	0.711	0.711	568.299	0.278
Aerial Lifts	2000	251	500	60.706	0.819	3.931	8.191	0.039	0.703	0.703	568.3	0.141
Aerial Lifts	2000	501	750	109.732	0.819	3.931	8.191	0.051	0.31	0.31	568.299	0.073
Aerial Lifts	2005	6	15	2.733	0.907	3.649	5.927	0.079	0.424	0.424	568.3	0.081
Aerial Lifts	2005	16	25	5.948	1.558	3.804	5.978	0.064	0.474	0.474	568.299	0.14
Aerial Lifts	2005	26	50	18.56	2.717	6.122	6.139	0.065	0.657	0.657	568.299	0.245
Aerial Lifts	2005	51	120	17.765	1.34	3.898	8.079	0.059	0.651	0.651	568.299	0.12
Aerial Lifts	2005	251	500	41.275	0.556	2.307	6.521	0.049	0.217	0.217	568.299	0.05
Aerial Lifts	2005	501	750	76.693	0.572	2.307	6.666	0.051	0.219	0.219	568.299	0.051
Aerial Lifts	2010	6	15	0.646663	0.543	3.62771	4.927	0.005	0.322	0.296	583.4159	
Aerial Lifts	2010	16	25	0.646663	0.543	3.62771	4.927	0.005	0.322	0.296	583.4159	
Aerial Lifts	2010	26	50	0.646663	0.543	3.62771	4.927	0.005	0.322	0.296	583.4159	0.17
Aerial Lifts	2010	51	120	0.478206	0.402	3.35167		0.005	0.329	0.303	524.5713	
Aerial Lifts	2010	251	500	0.542967	0.456	1.70527	7.02372	0.005	0.22	0.202	524.505	0.153
Aerial Lifts	2010	501	750	54.853	0.409	1.535	5.216	0.005	0.16	0.16	568.299	0.036
Aerial Lifts Aerial Lifts	2011 2011	6 16	15 25	0.492997 0.492997	0.414	3.43961 3.43961	4.84101 4.84101	0.005	0.274	0.253	581.9574 581.9574	0.17
Aerial Lifts Aerial Lifts	2011	26	50	0.492997	0.414	3.43961		0.005	0.274	0.253	581.9574	0.17
Aerial Lifts	2011	51	120	0.406188	0.341	3.31532		0.005	0.287	0.264	523.2599	
Aerial Lifts	2011	251	500	0.547278	0.46	1.71344		0.005	0.222	0.204	523.1938	0.153
Aerial Lifts	2011	501	750	50.06	0.373	1.402	4.839	0.005	0.144	0.144	568.299	0.033
Aerial Lifts	2012	6	15	0.448839	0.377	3.41137		0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	16	25	0.448839	0.377			0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	26	50	0.448839	0.377	3.41137		0.005	0.247	0.227	580.4989	0.17
Aerial Lifts	2012	51	120	0.348327	0.293	3.28979	4.38748	0.005	0.251	0.231	521.9485	0.153
Aerial Lifts	2012	251	500	0.551589	0.463	1.72161		0.005	0.225	0.207	521.8825	0.153
Aerial Lifts	2012	501	750	46.364	0.346	1.307	4.488	0.005	0.131	0.131	568.299	0.031
Aerial Lifts	2013	6	15	0.365114	0.307	3.29997	4.33199	0.005	0.196	0.18	577.5818	
Aerial Lifts	2013	16	25	0.365114	0.307	3.29997	4.33199	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	26	50	0.365114	0.307	3.29997	4.33199	0.005	0.196	0.18	577.5818	0.17
Aerial Lifts	2013	51	120	0.288639	0.243	3.25075		0.005	0.202	0.186	519.3256	
Aerial Lifts	2013	251	500	0.277309	0.233	0.97787	4.58384	0.005	0.1	0.092	519.26	0.153
Aerial Lifts Aerial Lifts	2013 2014	501 6	750 15	43.268 0.309966	0.322	1.237	4.155 4.09559	0.005	0.119 0.158	0.119	568.299 574.6647	0.029
Aerial Lifts Aerial Lifts	2014	16	25	0.309966	0.26		4.09559				574.6647	
Aerial Lifts	2014	26	50	0.309966	0.26	3.23337		0.005	0.158	0.145	574.6647	0.17
Aerial Lifts	2014	51	120	0.240786	0.202	3.2195		0.005	0.161			
Aerial Lifts	2014	251	500	0.281092	0.236	0.98271		0.005	0.101	0.093		
Aerial Lifts	2014	501	750	40.165	0.299	1.178	3.761	0.005	0.109	0.109	568.299	0.027
Aerial Lifts	2015	6	15	0.295589	0.248	3.23342		0.005	0.136	0.125		
Aerial Lifts	2015	16	25	0.295589	0.248	3.23342		0.005	0.136	0.125		
Aerial Lifts	2015	26	50	0.295589	0.248	3.23342		0.005	0.136	0.125	568.8305	0.17
Aerial Lifts	2015	51	120	0.226785	0.191	3.21782		0.005	0.143	0.132	511.457	0.153
Aerial Lifts	2015	251	500	0.284874	0.239	0.98755		0.005	0.102	0.094	511.3924	
Aerial Lifts	2015	501	750	37.246	0.278	1.13	3.38	0.005	0.098	0.098	568.299	0.025
Aerial Lifts	2016	6	15	0.271111				0.005	0.105	0.096	562.9964	
Aerial Lifts	2016	16	25	0.271111	0.228	3.19737		0.005	0.105	0.096		0.17
Aerial Lifts	2016	26 51	50 120	0.271111		3.19737		0.005	0.105	0.096	562.9964 506.2113	0.17
Aerial Lifts Aerial Lifts	2016 2016	51 251	500	0.196986 0.288656		3.20103 0.99238		0.005	0.112	0.103	506.2113 506.1474	
Aerial Lifts Aerial Lifts	2016	501	750	34.529	0.243	1.089	3.015	0.005	0.103	0.095	568.299	0.153
Aerial Lifts	2017	6	15	0.248829		3.16913		0.005	0.000	0.000	554.2451	0.023
Aerial Lifts	2017	16	25	0.248829			3.46956	0.005	0.079	0.073		0.17
Aerial Lifts	2017	26	50	0.248829			3.46956	0.005	0.079	0.073		0.17
Aerial Lifts	2017	51	120	0.169799		3.18429		0.005	0.083	0.077	498.3428	
Aerial Lifts	2017	251	500	0.292438	0.246	0.99722		0.005	0.105	0.096	498.2798	
Aerial Lifts	2017	501	750	32.148	0.239	1.059	2.68	0.005	0.079	0.079	568.299	0.021
Aerial Lifts	2018	6	15	0.216292		3.11639		0.005	0.054	0.05	545.4939	
		16	25	0.216292				0.005	0.054	0.05	545.4939	
Aerial Lifts	2018	10	23	0.210292	0.102	3.11033	0.2101	0.000	0.00	0.0		
Aerial Lifts Aerial Lifts	2018	26	50	0.216292		3.11639		0.005	0.054	0.05	545.4939	

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

F				T00	B00		NOV	000	D1440	D140.5	000	0114
Equipment Type	Year		High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Aerial Lifts	2018	251	500	0.074117	0.062	0.93655		0.005	0.009	0.008	490.4122	0.153
Aerial Lifts	2018	501	750	30.169	0.225	1.037	2.385	0.005	0.071	0.071	568.299	0.02
Aerial Lifts Aerial Lifts	2019 2019	6 16	15 25	0.204518 0.204518	0.172 0.172	3.11451	3.07945	0.005	0.042	0.038	536.7427 536.7427	0.17 0.17
Aerial Lifts Aerial Lifts	2019	26	50	0.204518			3.07945	0.005	0.042	0.038	536.7427	0.17
Aerial Lifts	2019	51	120	0.204316		3.17254		0.005	0.042	0.036	482.6056	0.17
			500								482.5446	
Aerial Lifts	2019 2019	251	750	0.077988 28.429	0.066		0.63586 2.117	0.005	0.009	0.008		0.153
Aerial Lifts		501			0.212	1.023	2.117	0.005	0.064	0.064	568.299 525.0743	0.019
Aerial Lifts	2020	6	15	0.199447	0.168				0.031			
Aerial Lifts Aerial Lifts	2020 2020	16 26	25 50	0.199447 0.199447	0.168 0.168		2.95486 2.95486	0.005	0.031	0.028	525.0743 525.0743	0.17
Aerial Lifts	2020	51	120	0.136778	0.100	3.1768	1.86859	0.005	0.031	0.028	472.1142	0.17
Aerial Lifts	2020	251	500	0.130778		0.94623		0.005	0.042	0.038	472.1142	0.153
		501	750		0.069	1.013		0.005		0.008		
Aerial Lifts Aerial Lifts	2020 2021		15	26.846 0.196174	0.2		1.868 2.92238	0.005	0.057	0.057	568.299 525.0743	0.018
	2021	6 16	25	0.196174	0.165		2.92238	0.005	0.027	0.024	525.0743	
Aerial Lifts Aerial Lifts	2021	26	50	0.196174			2.92238	0.005	0.027	0.024	525.0743	
Aerial Lifts Aerial Lifts	2021	51	120	0.196174			1.74368	0.005	0.027	0.024	472.1142	0.17
Aerial Lifts	2021	251	500	0.129509		0.95107		0.005	0.003	0.031	472.1142	0.153
			750	25.065	0.072			0.005				
Aerial Lifts	2021 2022	501 6			0.187	1.004	1.61 2.90676	0.005	0.05 0.024	0.05	568.299 525.0743	0.016
Aerial Lifts	2022	16	15	0.192664 0.192664				0.005			525.0743	0.17
Aerial Lifts Aerial Lifts	2022	26	25 50	0.192664			2.90676 2.90676	0.005	0.024	0.022	525.0743	
Aerial Lifts Aerial Lifts	2022	51	120	0.192664		3.17602		0.005	0.024	0.022	472.1142	0.17
		251	500							0.028		0.153
Aerial Lifts Aerial Lifts	2022 2022	501	750	0.089601 23.788	0.075	0.95591 0.998	0.64238 1.424	0.005	0.009	0.008	472.0545 568.299	0.153
Aerial Lifts	2022	6	15	0.19346		3.12196		0.005	0.044	0.044	525.0743	0.016
Aerial Lifts	2023	16	25	0.19346	0.163	3.12196		0.005	0.023	0.021	525.0743	0.17
	2023	26	50	0.19346		3.12196		0.005	0.023	0.021	525.0743	0.17
Aerial Lifts Aerial Lifts	2023	51	120	0.19546	0.163	3.17029		0.005	0.023	0.021	472.1142	0.17
Aerial Lifts	2023	251	500	0.093472	0.079	0.96074		0.005	0.027	0.023	472.1142	0.153
Aerial Lifts	2023	501	750	22.675	0.169	0.995	1.265	0.005	0.003	0.038	568.299	0.133
Aerial Lifts	2023	6	15	0.188737	0.159	3.11285		0.005	0.030	0.030	525.0743	0.013
Aerial Lifts	2024	16	25	0.188737	0.159	3.11285		0.005	0.022	0.02	525.0743	0.17
Aerial Lifts	2024	26	50	0.188737	0.159	3.11285		0.005	0.022	0.02	525.0743	0.17
Aerial Lifts Aerial Lifts	2024	51	120	0.100737	0.139		1.52789	0.005	0.022	0.024	472.1142	0.17
Aerial Lifts	2024	251	500	0.097343	0.082		0.64674	0.005	0.009	0.009	472.1142	0.153
Aerial Lifts	2024	501	750	21.618	0.161	0.991	1.115	0.005	0.033	0.033	568.299	0.014
Aerial Lifts	2025	6	15	0.182854	0.154	3.08837	2.87882	0.005	0.021	0.019	525.0743	0.17
Aerial Lifts	2025	16	25	0.182854	0.154	3.08837	2.87882	0.005	0.021	0.019	525.0743	0.17
Aerial Lifts	2025	26	50	0.182854	0.154	3.08837	2.87882	0.005	0.021	0.019	525.0743	0.17
Aerial Lifts	2025	51	120	0.117586		3.16742		0.005	0.026	0.024	472.1142	
Aerial Lifts	2025	251	500	0.101214							472.0545	
Aerial Lifts	2025	501	750	20.597	0.153	0.989	0.974	0.005	0.028	0.028	568.299	0.013
Aerial Lifts	2030	6	15	1.993	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Aerial Lifts	2030	16	25	2.616	0.685	2.339	4.332	0.007	0.162	0.162	568.299	0.061
Aerial Lifts	2030	26	50	2.317	0.339	3.764	3.135	0.007	0.04	0.04	568.3	0.03
Aerial Lifts	2030	51	120	2.504	0.188	3.352	1.657	0.006	0.036	0.036	568.299	0.017
Aerial Lifts	2030	251	500	9.37	0.126	0.986	0.479	0.005	0.016	0.016	568.299	0.011
Aerial Lifts	2030	501	750	16.962	0.126	0.986	0.485	0.005	0.016	0.016	568.299	0.011
Aerial Lifts	2035	6	15	1.993	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Aerial Lifts	2035	16	25	2.616	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Aerial Lifts	2035	26	50	2.033	0.297	3.726	3.017	0.007	0.019	0.019	568.299	0.026
Aerial Lifts	2035	51	120	2.202	0.166	3.345	1.466	0.006	0.017	0.017	568.299	0.014
Aerial Lifts	2035	251	500	8.659	0.116	0.986	0.33	0.005	0.011	0.011	568.299	0.01
Aerial Lifts	2035	501	750	15.653	0.116	0.986	0.33	0.005	0.011	0.011	568.299	0.01
Aerial Lifts	2040	6	15	1.993	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Aerial Lifts	2040	16	25	2.616	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Aerial Lifts	2040	26	50	2.015	0.295	3.723	2.966	0.007	0.013	0.013	568.299	0.026
Aerial Lifts	2040	51	120	2.141	0.161	3.344	1.407	0.006	0.012	0.012	568.299	0.014
Aerial Lifts	2040	251	500	8.324	0.112	0.986	0.279	0.005	0.009	0.009	568.299	0.01
Aerial Lifts	2040	501	750	15.046	0.112	0.986	0.279	0.005	0.009	0.009	568.299	0.01
Air Compressors	1990	6	15	4.702	1.804	4.999	9.999	1.018	0.974	0.974	568.299	0.162
Air Compressors	1990	16	25	11.537	2.213	4.999	6.919	0.83	0.74	0.74	568.299	0.199
Air Compressors	1990	26	50	34.016	4.232	8.684	7.735	0.846	1.152	1.152	568.3	0.381
Air Compressors	1990	51	120	37.275	2.2	5.46	14.348	0.768	1.216	1.216	568.299	0.198
Air Compressors	1990	121	175	48.032	1.504	4.835	12.906	0.736	0.806	0.806	568.299	0.135
Air Compressors	1990	176	250	71.231	1.504	4.835	12.906	0.736	0.806	0.806	568.299	0.135
Air Compressors	1990	251	500	112.803	1.348	9.633	12.363	0.642	0.704	0.704	568.299	0.121
Air Compressors	1990	501	750	174.334	1.348	9.633	12.363	0.658	0.704	0.704	568.299	0.121
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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Air Compressors 1990 751 1900 255 853 13-44 9.033 12.935 0.858 0.895 0.896 5.863 0.125	Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Air Compressors 2000 16 25 10.924 2.085 4.783 6.405 0.085 0.589 0.589 58.8299 0.184 Compressors 2000 51 1 20 30.02 1.771 4.544 10.276 0.06 0.851 0.852 58.8299 0.355 Air Compressors 2000 51 1.20 30.02 1.771 4.544 10.276 0.06 0.851 0.853 58.83 0.835 58.83 0.835 58.83 0.835 58.83 0.835 58.83 0.835 0.835 58.83 0.835 0.835 58.83 0.835 0.835 58.83 0.835 0.835 58.83 0.835 0.835 0.835 58.83 0.835													0.121
Air Compressors 2000 26 50 31.886 36.81 8.912 10.966 18.81 0.851 58.62.89 0.351 1.412 0.3012 0.3012 1.771 4.541 10.276 0.66 0.835 0.851 58.63 0.851 0.85	Air Compressors	2000	6	15	4.493	1.723	4.875	9.08	0.079	0.747	0.747		0.155
Aix Compressors 2000 61 120 30.02 1.771 4.544 10.276 0.06 0.885 0.885 6.883 0.186 Compressors 2000 176 2.950 4.7101 0.984 2.949 8.985 0.057 0.446 0.446 5.882.289 0.106 0.447 0.	Air Compressors								0.065				0.189
Air Compressors 2000 121 175 37.88 1.85 37.9 332 0.077 0.484 0.494 5868.299 1.018 0.048 0.													0.357
AR Compressors 2000 176 250 47.101 0.99H 2.949 8.985 0.057 0.406 0.406 685299 0.084 Compressors 2000 251 590 75.009 0.098 6.008 8.811 0.051 0.36 0.36 685299 0.084 AR Compressors 2000 501 750 117.469 0.908 6.008 8.811 0.051 0.36 0.36 685299 0.084 AR Compressors 2000 751 1000 175.50 117.469 0.908 6.008 8.811 0.051 0.36 0.35 685299 0.084 AR Compressors 2000 751 1000 175.50 117.649 0.908 6.008 8.811 0.051 0.36 0.35 685299 0.084 AR Compressors 2005 6 1 13 3.634 1.394 4.38 7.817 0.079 0.021 0.621 0.621 0.622 0.020 0.124 0.000 0.													
Air Compressors 2000 251 500 76.009 0.908 0.008 6.611 0.015 0.36 0.38 686.299 0.084 Air Compressors 2000 751 1000 176.359 1.004 5.6 0.212 0.051 0.379 0.379 0.379 0.829 0.094 Air Compressors 2000 751 1000 176.359 1.004 5.6 0.212 0.051 0.379 0.379 0.379 0.829 0.094 Air Compressors 2005 6 15 3.034 1.394 3.98 7.817 0.079 0.221 0.379 0.379 0.022 0.022 0.022 Air Compressors 2005 6 15 3.034 1.394 1.394 3.98 7.817 0.079 0.221 0.438	·												0.106
Air Compressors 2000 501 750 117.469 0.908 5.008 8.611 0.931 0.36 0.38 586.299 0.08 Air Compressors 2000 6 15 3.634 1.394 4.38 7.817 0.079 0.621 0.621 0.623 686.299 0.12 Air Compressors 2005 6 5 5 8.618 1.622 3.622 0.614 0.065 0.485 0.629 0.624 0.624 0.626 0.625 0.624 0.626													
Air Compressors 2000 751 10000 176.359 0.004 5.6 2.12 0.051 0.379 0.379 686.289 0.004 Compressors 2005 6 15 3.034 1.384 1.387 1.079 0.621 0.085 1.085 2.085 2.091 0.046 Compressors 2005 16 25 8.461 1.652 3.522 8.014 0.065 0.483 0.483 68.289 0.144 Air Compressors 2005 26 60 24.493 3.545 7.671 6.464 0.065 0.075 0.485 0.483 68.289 0.144 Air Compressors 2005 51 1.20 25.731 1.518 4.196 8.646 0.06 0.775 0.775 68.289 0.144 Air Compressors 2005 51 1.20 25.731 1.518 4.196 8.646 0.06 0.775 0.775 68.289 0.134 Air Compressors 2005 176 220 33.701 0.711 1.989 7.495 0.057 0.028 1.0281 500.281 0.734 0.058 0.05													
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Air Compressors 2005 251 500 52.734 0.63 2.602 6.868 0.05 0.252 0.252 568.299 0.054 Compressors 2005 751 1000 135.834 0.773 3.154 8.036 0.051 0.271 271 568.299 0.054 Air Compressors 2010 6 15 2.931 1.124 4.027 6.554 0.008 0.473 0.473 568.299 0.054 Air Compressors 2010 16 15 2.931 1.124 4.027 6.054 0.007 0.344 0.344 568.299 0.105 Air Compressors 2010 16 25 6.607 1.267 3.309 5.477 0.007 0.344 0.345 568.299 0.105 Air Compressors 2010 170 26 50 23.546 2.929 7.124 0.007 0.007 0.344 0.345 568.299 0.105 Air Compressors 2010 121 175 2.85.27 0.008 3.277 6.422 0.006 0.653 1.063 1.063 568.299 0.105 6.007 0.007	·												0.064
Air Compressors 2005 501 750 88.3625 0.644 2.692 7.019 0.051 0.255 0.255 568.299 0.084 AIR Compressors 2010 6 15 2.931 1.124 4.027 6.554 0.008 0.473 0.473 568.299 0.084 AIR Compressors 2010 16 25 6.607 1.267 3.309 6.5477 0.007 0.669 1.669 1.669 568.299 0.074		2005		500	52.734	0.63			0.05				0.056
Air Compressors 2010 16 15 2.991 1.124 4.027 6.554 0.006 0.051 0.271 0.271 668.299 0.107 Air Compressors 2010 16 25 6.607 1.267 0.309 5.477 0.007 0.344 0.473 168.299 0.107 Air Compressors 2010 16 25 6.607 1.267 0.309 5.477 0.007 0.344 0.473 168.299 0.107 Air Compressors 2010 12 26 50 23.546 2.292 7.121 6.067 0.007 0.344 0.349 568.299 0.107 Air Compressors 2010 12 12 175 25.827 0.008 3.277 6.422 0.006 0.653 168.299 0.026 Air Compressors 2010 120 175 25.827 0.008 3.277 6.422 0.006 0.008 0.188 10.361 568.299 0.026 Air Compressors 2010 176 250 24.871 0.525 1.468 6.008 0.006 0.188 10.361 568.299 0.026 Air Compressors 2010 251 500 39.447 0.471 1.548 5.033 0.005 0.182 0.182 5699 0.044 Air Compressors 2010 501 750 62.011 0.479 1.648 5.507 0.005 0.185 168.299 0.044 Air Compressors 2010 501 750 62.011 0.479 1.648 5.507 0.005 0.185 1685 568.299 0.044 Air Compressors 2010 501 750 62.011 0.479 1.648 5.507 0.005 0.185 1685 568.299 0.044 Air Compressors 2011 6 15 2.782 1.067 3.952 6.283 0.008 0.441 0.441 568.299 0.044 Air Compressors 2011 6 15 2.782 1.067 3.952 6.283 0.008 0.441 0.441 568.299 0.044 Air Compressors 2011 1 26 50 22.03 2.741 6.919 5.972 0.007 0.636 0.636 568.299 0.044 Air Compressors 2011 751 100 19.321 1.144 0.005 6.055 0.006 0.324 0.361 568.299 0.044 Air Compressors 2011 1 121 175 24.432 0.765 3.284 6.065 0.006 0.377 0.375 568.299 0.044 Air Compressors 2011 1 176 250 22.999 0.455 1.372 5.503 0.006 0.077 0.775 568.299 0.044 Air Compressors 2011 1 76 250 22.999 0.455 1.372 5.503 0.006 0.077 0.775 568.299 0.044 Air Compressors 2011 1 76 250 22.999 0.455 1.372 5.503 0.006 0.077 0.775 568.299 0.044 Air Compressors 2011 501 700 36.661 0.438 1.137 3.643 5.639 0.006 0.167 0.167 568 509 0.006		2005	501	750	83.252	0.644	2.602	7.019	0.051	0.255	0.255		0.058
Air Compressors 2010 16 25 6.607 1.267 3.309 5.477 0.007 0.384 0.384 568.299 0.114 Ar Compressors 2010 26 6.50 235.46 2.329 7.112 6.607 0.069 0.669 0.669 568.299 0.264 Air Compressors 2010 51 120 20.566 1.213 4.044 7.183 0.006 0.653 0.653 568.299 0.706 Air Compressors 2010 121 175 25.627 0.008 3.277 6.422 0.006 0.341 0.361 6.662.99 0.070 Air Compressors 2010 176 250 24.871 0.525 1.468 6.006 0.006 0.198 0.198 568.299 0.043 Air Compressors 2010 251 500 39.447 0.072 1.468 5.563 0.006 0.182 0.182 568.299 0.044 Air Compressors 2010 5.51 750 0.394.47 0.071 1.468 5.563 0.006 0.182 0.182 568.299 0.044 Air Compressors 2010 7.51 1.000 1.105.63 0.001 1.007 1.000 0.105.63 0.001 1.000 0.105.63 0.001 1.000 0.000 0.182 0.000 0.000 0.182 0.000 0.000 Air Compressors 2010 7.51 1.000 1.105.63 0.001 1.000 0.000 0.000 0.000 0.000 0.182 0.182 568.299 0.044 Air Compressors 2011 6 15 2.762 1.007 1.0479 1.648 5.507 0.005 0.185 0.185 568.299 0.044 Air Compressors 2011 6 15 2.762 1.007 1.0479 1.648 5.507 0.005 0.185 0.185 568.299 0.044 Air Compressors 2011 1 6 25 6.215 1.192 3.179 5.36 0.000 0.00	Air Compressors	2005	751	1000	135.834	0.773	3.154	8.036	0.051	0.271	0.271		0.069
Air Compressors 2010 26 50 23.546 2.920 7.121 6.067 0.007 0.669 0.669 568.299 0.26 Air Compressors 2010 51 120 20.566 1.213 4.04 7.183 0.065 0.553 0.553 568.299 0.076 Air Compressors 2010 121 175 25.827 0.208 3.277 6.422 0.006 0.361 0.361 568.299 0.072 Air Compressors 2010 176 250 24.847 0.025 1.468 6.008 0.006 0.198 0.198 568.299 0.072 Air Compressors 2010 251 500 39.447 0.471 1.648 5.532 0.005 0.182 0.185 568.299 0.042 Air Compressors 2010 501 770 6.201 1.0470 1.648 5.502 0.005 0.182 0.185 568.299 0.044 Air Compressors 2010 751 1000 105.623 0.601 2.147 6.948 5.502 0.005 0.185 0.185 568.299 0.044 Air Compressors 2011 6 15 2.786 1.067 3.952 6.283 0.005 0.180 0.005 0.209 568.299 0.054 Air Compressors 2011 16 25 6.215 1.192 3.179 5.600 0.007 0.361 0.361 568.299 0.054 Air Compressors 2011 16 25 6.215 1.192 3.179 5.600 0.007 0.361 0.361 568.299 0.054 Air Compressors 2011 176 26 500 2.203 0.058 0.057 0.361 0.361 568.299 0.054 Air Compressors 2011 171 175 24.432 0.765 3.264 6.005 0.007 0.361 0.361 568.299 0.054 Air Compressors 2011 176 250 22.999 0.485 1.372 5.600 0.007 0.361 0.361 568.299 0.054 Air Compressors 2011 176 250 22.999 0.485 1.372 5.600 0.007 0.361 0.361 568.299 0.054 Air Compressors 2011 176 250 22.999 0.485 1.372 5.600 0.007 0.361 0.361 568.299 0.054 Air Compressors 2011 176 250 22.999 0.485 1.372 5.600 0.007 0.007 0.361 0.361 568.299 0.054 Air Compressors 2011 251 500 3.661 0.438 1.497 4.981 0.005 0.165 0.165 568.299 0.054 Air Compressors 2011 501 751 0.000 98.738 0.485 1.372 6.833 0.000 0.167 0.167 0.167 568.299 0.054 Air Compressors 2011 751 0.000 98.738 0.485 1.372 6.833 0.000 0.167 0.167 0.167 568.299 0.054 Air Compressors 2011 751 0.000 98.738 0.485 1.374 6.863 0.000 0.167 0.167 568.299 0.054 Air Compressors 2012 6 15 2.626 1.007 3.874 6.989 0.000 0.	Air Compressors												0.101
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Air Compressors 2015 121 175 18.243 0.571 3.218 4.504 0.006 0.245 0.245 568.299 0.051													0.074
	Air Compressors												0.051
ביוט	Air Compressors	2015	176	250	18.067	0.381	1.207	3.967	0.006	0.121	0.121	568.299	0.034

D-13 September 2016

Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Air Compressors	2015	251	500	29.662	0.354	1.198	3.455	0.005	0.113	0.113	568.3	0.032
Air Compressors	2015	501	750	46.316	0.358	1.198	3.586	0.005	0.116	0.116	568.299	0.032
Air Compressors	2015	751	1000	71.885	0.409	1.37	5.157	0.005	0.142	0.142	568.299	0.036
Air Compressors	2016	6	15	2.109	0.809	3.622	5.023	0.008	0.289	0.289	568.299	0.073
Air Compressors	2016	16	25	4.462	0.855	2.604	4.803	0.007	0.255	0.255	568.299	0.077
Air Compressors	2016	26	50	13.429	1.67	5.779	5.042	0.007	0.415	0.415	568.299	0.15
Air Compressors	2016 2016	51 121	120 175	12.618 16.69	0.744 0.522	3.804 3.211	4.79 4.052	0.006	0.397	0.397	568.299 568.299	0.067
Air Compressors	2016	176	250	17.023	0.522	1.182	3.553	0.006	0.219	0.219	568.299	0.047
Air Compressors Air Compressors	2016	251	500	28.188	0.337	1.155	3.08	0.005	0.109	0.109	568.299	0.032
Air Compressors	2016	501	750	43.972	0.337	1.155	3.201	0.005	0.102	0.102	568.299	0.03
Air Compressors	2016	751	1000	67.278	0.383	1.295	4.854	0.005	0.131	0.131	568.299	0.034
Air Compressors	2017	6	15	2.05	0.786	3.599	4.887	0.008	0.272	0.272	568.299	0.07
Air Compressors	2017	16	25	4.327	0.83	2.564	4.729	0.007	0.243	0.243	568.299	0.074
Air Compressors	2017	26	50	11.908	1.481	5.604	4.871	0.007	0.371	0.371	568.299	0.133
Air Compressors	2017	51	120	11.385	0.671	3.772	4.412	0.006	0.35	0.35	568.299	0.06
Air Compressors	2017	121	175	15.244	0.477	3.207	3.627	0.006	0.194	0.194	568.299	0.043
Air Compressors	2017	176	250	16.09	0.339	1.162	3.163	0.006	0.098	0.098	568.299	0.03
Air Compressors	2017	251	500	26.901	0.321	1.123	2.755	0.005	0.092	0.092	568.299	0.029
Air Compressors	2017	501	750	41.87	0.323	1.123	2.845	0.005	0.094	0.094	568.299	0.029
Air Compressors	2017	751	1000	63.572	0.362	1.246	4.583	0.005	0.121	0.121	568.299	0.032
Air Compressors	2018	6	15	1.998	0.766	3.58	4.762	0.008	0.256	0.256	568.299	0.069
Air Compressors	2018	16	25 50	4.211	0.807	2.531	4.661	0.007	0.232	0.232	568.3	0.072
Air Compressors	2018	26		10.449	1.3	5.439	4.707	0.007	0.329	0.329	568.299	0.117
Air Compressors Air Compressors	2018 2018	51 121	120 175	10.218 13.906	0.603	3.744 3.205	4.05 3.228	0.006	0.304	0.304	568.3 568.299	0.054
Air Compressors Air Compressors	2018	176	250	15.223	0.435	1.146	2.797	0.006	0.17	0.17	568.299	0.039
Air Compressors	2018	251	500	25.723	0.321	1.101	2.465	0.005	0.083	0.083	568.299	0.023
Air Compressors	2018	501	750	39.953	0.309	1.101	2.533	0.005	0.084	0.084	568.299	0.027
Air Compressors	2018	751	1000	60.205	0.343	1.21	4.325	0.005	0.111	0.111	568.299	0.03
Air Compressors	2019	6	15	1.951	0.748	3.562	4.647	0.008	0.241	0.241	568.299	0.067
Air Compressors	2019	16	25	4.106	0.787	2.501	4.596	0.007	0.222	0.222	568.299	0.071
Air Compressors	2019	26	50	9.076	1.129	5.283	4.546	0.007	0.287	0.287	568.299	0.101
Air Compressors	2019	51	120	9.123	0.538	3.718	3.706	0.006	0.26	0.26	568.299	0.048
Air Compressors	2019	121	175	12.833	0.401	3.204	2.874	0.006	0.15	0.15	568.299	0.036
Air Compressors	2019	176	250	14.416	0.304	1.132	2.469	0.006	0.078	0.078	568.299	0.027
Air Compressors	2019	251	500	24.559	0.293	1.086	2.193	0.005	0.075	0.075	568.299	0.026
Air Compressors	2019	501	750	38.104	0.294	1.086	2.247	0.005	0.076	0.076	568.299	0.026
Air Compressors	2019	751	1000	56.984	0.324	1.182	4.073	0.005	0.102	0.102	568.299	0.029
Air Compressors	2020 2020	6 16	15 25	1.907 4.009	0.731 0.769	3.546 2.473	4.542 4.538	0.008	0.227	0.227	568.299 568.3	0.066
Air Compressors Air Compressors	2020	26	50	8.048	1.001	5.164	4.336	0.007	0.212	0.212	568.299	0.069
Air Compressors	2020	51	120	8.287	0.489	3.698	3.4	0.007	0.23	0.224	568.299	0.09
Air Compressors	2020	121	175	11.957	0.469	3.203	2.558	0.006	0.133	0.133	568.299	0.033
Air Compressors	2020	176	250	13.668	0.288	1.121	2.172	0.006	0.069	0.069	568.299	0.026
Air Compressors	2020	251	500	23.406	0.279	1.076	1.935	0.005	0.067	0.067	568.299	0.025
Air Compressors	2020	501	750	36.303	0.28	1.076	1.982	0.005	0.067	0.067	568.299	0.025
Air Compressors	2020	751	1000	53.87	0.306	1.158	3.828	0.005	0.093	0.093	568.3	0.027
Air Compressors	2021	6	15	1.87	0.717	3.531	4.462	0.008	0.214	0.214	568.299	0.064
Air Compressors	2021	16	25	3.923	0.752	2.446	4.497	0.007	0.201	0.201	568.299	0.067
Air Compressors	2021	26	50	7.136	0.887	5.021	4.221	0.007	0.212	0.212	568.299	0.08
Air Compressors	2021	51	120	7.502	0.442	3.67	3.083	0.006	0.19	0.19	568.299	0.039
Air Compressors	2021	121	175	10.967	0.343	3.192	2.218	0.006	0.115	0.115	568.299	0.03
Air Compressors	2021	176	250	12.728	0.268	1.108	1.859	0.006	0.06	0.06	568.299	0.024
Air Compressors	2021	251	500 750	21.887	0.261	1.064	1.663	0.005	0.058	0.058	568.299	0.023
Air Compressors	2021 2021	501 751	750 1000	33.933 49.951	0.262 0.284	1.064 1.134	1.699 3.565	0.005	0.058	0.058	568.299 568.3	0.023
Air Compressors Air Compressors	2021	6	15	1.844	0.284	3.519	4.408	0.005	0.082	0.082	568.299	0.025
Air Compressors Air Compressors	2022	16	25	3.857	0.707	2.426	4.406	0.008	0.203	0.203	568.299	0.063
Air Compressors	2022	26	50	6.549	0.739	4.959	4.093	0.007	0.193	0.193	568.299	0.000
Air Compressors	2022	51	120	7.001	0.413	3.662	2.844	0.006	0.165	0.165	568.299	0.037
Air Compressors	2022	121	175	10.29	0.322	3.194	1.959	0.006	0.101	0.101	568.299	0.029
Air Compressors	2022	176	250	12.099	0.255	1.102	1.617	0.006	0.052	0.052	568.3	0.023
Air Compressors	2022	251	500	20.881	0.249	1.059	1.472	0.005	0.051	0.051	568.299	0.022
Air Compressors	2022	501	750	32.363	0.25	1.059	1.502	0.005	0.051	0.051	568.299	0.022
Air Compressors	2022	751	1000	47.338	0.269	1.117	3.378	0.005	0.075	0.075	568.3	0.024
Air Compressors	2023	6	15	1.82	0.698	3.508	4.359	0.008	0.194	0.194	568.299	0.063
Air Compressors	2023	16	25	3.798	0.728	2.407	4.447	0.007	0.186	0.186	568.299	0.065
Air Compressors	2023	26	50	6.056	0.753	4.913	3.975	0.007	0.156	0.156	568.299	0.067
Air Compressors	2023	51	120	6.568	0.387	3.657	2.631	0.006	0.143	0.143	568.299	0.034

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

		T			200		Lugy	000	L 51.116	5146 =	000	1 000
Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Air Compressors	2023 2023	121 176	175 250	9.693 11.532	0.303	3.197 1.099	1.748 1.42	0.006	0.089	0.089	568.299 568.299	0.027
Air Compressors Air Compressors	2023	251	500	19.964	0.243	1.055	1.42	0.006	0.045	0.045	568.299	0.021
Air Compressors Air Compressors	2023	501	750	30.933	0.239	1.055	1.331	0.005	0.044	0.044	568.299	0.021
Air Compressors	2023	751	1000	44.985	0.256	1.102	3.221	0.005	0.044	0.068	568.299	0.023
Air Compressors	2024	6	15	1.799	0.69	3.499	4.316	0.008	0.188	0.188	568.3	0.062
Air Compressors	2024	16	25	3.746	0.718	2.39	4.426	0.007	0.181	0.181	568.3	0.064
Air Compressors	2024	26	50	5.647	0.702	4.88	3.864	0.007	0.135	0.135	568.299	0.063
Air Compressors	2024	51	120	6.194	0.365	3.655	2.461	0.006	0.123	0.123	568.299	0.032
Air Compressors	2024	121	175	9.143	0.286	3.202	1.561	0.006	0.077	0.077	568.299	0.025
Air Compressors	2024	176	250	10.986	0.232	1.096	1.247	0.006	0.039	0.039	568.299	0.02
Air Compressors	2024	251	500	19.07	0.228	1.053	1.148	0.005	0.038	0.038	568.299	0.02
Air Compressors	2024	501	750	29.542	0.228	1.053	1.171	0.005	0.038	0.038	568.299	0.02
Air Compressors	2024	751	1000	42.762	0.243	1.09	3.082	0.005	0.061	0.061	568.299	0.021
Air Compressors	2025	6	15	1.781	0.683	3.491	4.278	0.008	0.183	0.183	568.3	0.061
Air Compressors	2025	16	25	3.701	0.709	2.376	4.407	0.007	0.177	0.177	568.299	0.064
Air Compressors	2025	26	50	5.297	0.659	4.851	3.755	0.007	0.116	0.116	568.299	0.059
Air Compressors	2025 2025	51	120	5.855	0.345	3.653	2.313	0.006	0.104	0.104	568.299	0.031
Air Compressors	2025	121 176	175 250	8.602 10.451	0.269	3.205 1.094	1.383	0.006	0.065	0.065	568.299 568.299	0.024
Air Compressors Air Compressors	2025	251	500	18.188	0.22	1.094	1.086 1.001	0.006	0.033	0.033	568.299	0.019
Air Compressors Air Compressors	2025	501	750	28.169	0.217	1.051	1.001	0.005	0.032	0.032	568.299	0.019
Air Compressors Air Compressors	2025	751	1000	40.592	0.217	1.031	2.954	0.005	0.055	0.055	568.299	0.019
Air Compressors	2030	6	15	1.73	0.663	3.47	4.164	0.003	0.166	0.166	568.299	0.059
Air Compressors	2030	16	25	3.582	0.687	2.34	4.347	0.007	0.165	0.165	568.299	0.061
Air Compressors	2030	26	50	4.073	0.506	4.712	3.34	0.007	0.046	0.046	568.299	0.045
Air Compressors	2030	51	120	4.485	0.264	3.63	1.729	0.006	0.041	0.041	568.299	0.023
Air Compressors	2030	121	175	6.186	0.193	3.205	0.633	0.006	0.027	0.027	568.299	0.017
Air Compressors	2030	176	250	8.495	0.179	1.092	0.529	0.006	0.018	0.018	568.299	0.016
Air Compressors	2030	251	500	14.937	0.178	1.048	0.499	0.005	0.017	0.017	568.299	0.016
Air Compressors	2030	501	750	23.104	0.178	1.048	0.505	0.005	0.017	0.017	568.3	0.016
Air Compressors	2030	751	1000	32.103	0.182	1.049	2.6	0.005	0.033	0.033	568.299	0.016
Air Compressors	2035	6	15	1.724	0.661	3.469	4.143	0.008	0.162	0.162	568.3	0.059
Air Compressors	2035	16	25	3.574	0.685	2.339	4.332	0.007	0.162	0.162	568.299	0.061
Air Compressors	2035	26	50	3.722	0.463	4.674	3.215	0.007	0.023	0.023	568.299	0.041
Air Compressors	2035 2035	51 121	120 175	4.047 5.429	0.238	3.623 3.205	1.53 0.391	0.006	0.02	0.02	568.299 568.3	0.021
Air Compressors Air Compressors	2035	176	250	7.862	0.17	1.091	0.347	0.006	0.013	0.013	568.299	0.013
Air Compressors	2035	251	500	13.882	0.166	1.048	0.343	0.005	0.012	0.012	568.299	0.014
Air Compressors	2035	501	750	21.455	0.166	1.048	0.344	0.005	0.012	0.012	568.299	0.014
Air Compressors	2035	751	1000	29.363	0.167	1.048	2.473	0.005	0.026	0.026	568.299	0.015
Air Compressors	2040	6	15	1.724	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Air Compressors	2040	16	25	3.574	0.685	2.339	4.332	0.007	0.161	0.161	568.3	0.061
Air Compressors	2040	26	50	3.683	0.458	4.659	3.159	0.007	0.016	0.016	568.3	0.041
Air Compressors	2040	51	120	3.94	0.232	3.619	1.468	0.006	0.015	0.015	568.299	0.02
Air Compressors	2040	121	175	5.155	0.161	3.201	0.307	0.006	0.012	0.012	568.299	0.014
Air Compressors	2040	176	250	7.58	0.16	1.09	0.291	0.006	0.01	0.01	568.299	0.014
Air Compressors	2040	251	500	13.386	0.16	1.047	0.291	0.005	0.01	0.01	568.3	0.014
Air Compressors	2040	501	750	20.688	0.16	1.047	0.291	0.005	0.01	0.01	568.299	0.014
Air Compressors	2040	751	1000	28.179	0.16	1.047	2.439	0.005	0.023	0.023	568.299	0.014
Bore/Drill Rigs	1990	6	15	4.968	1.804	4.999	9.999	1.049	0.975	0.975	568.299	0.162
Bore/Drill Rigs	1990	16	25 50	9.418	2.213	4.999	6.919	0.855	0.741	0.741	568.299	0.199
Bore/Drill Rigs Bore/Drill Rigs	1990 1990	26 51	120	34.076 42.911	4.124 2.09	8.505 5.23	7.685 13.647	0.871	1.134 1.172	1.134 1.172	568.299 568.299	0.372
Bore/Drill Rigs	1990	121	175	53.24	1.417	4.578	12.365	0.758	0.749	0.749	568.299	0.100
Bore/Drill Rigs Bore/Drill Rigs	1990	176	250	70.987	1.417	4.578	12.365	0.758	0.749	0.749	568.299	0.127
Bore/Drill Rigs	1990	251	500	105.966	1.278	8.788	11.861	0.738	0.658	0.658	568.299	0.127
Bore/Drill Rigs	1990	501	750	209.372	1.278	8.788	11.861	1.018	0.67	0.67	568.3	0.115
Bore/Drill Rigs	1990	751	1000	313.129	1.267	8.788	11.861	1.018	0.656	0.656	568.3	0.114
Bore/Drill Rigs	2000	6	15	4.063	1.475	4.49	8.242	0.079	0.676	0.676	568.299	0.133
Bore/Drill Rigs	2000	16	25	8.334	1.958	4.53	6.358	0.065	0.563	0.563	568.299	0.176
Bore/Drill Rigs	2000	26	50	27.226	3.295	7.058	6.48	0.066	0.748	0.748	568.299	0.297
Bore/Drill Rigs	2000	51	120	30.002	1.461	3.947	8.27	0.06	0.726	0.726	568.299	0.131
Bore/Drill Rigs	2000	121	175	37.634	1.002	3.062	7.789	0.057	0.405	0.405	568.3	0.09
Bore/Drill Rigs	2000	176	250	32.523	0.649	1.698	7.203	0.057	0.238	0.238	568.3	0.058
Bore/Drill Rigs	2000	251	500	51.06	0.616	1.728	6.993	0.05	0.224	0.224	568.299	0.055
Bore/Drill Rigs	2000	501	750	100.887	0.616	1.728	6.993	0.052	0.224	0.224	568.299	0.055
Bore/Drill Rigs	2000	751	1000	199.748	0.808	2.73	8.005	0.052	0.282	0.282	568.299	0.072
Bore/Drill Rigs	2005	6	15	2.109	0.766	3.469	5.228	0.079	0.361	0.361	568.299	0.069
Bore/Drill Rigs	2005	16	25	3.913	0.919	2.642	5.412	0.065	0.347	0.347	568.299	0.082

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Time	Vaar	LawillD	I II: erb. I I ID	TOO	DOC		NOV	000	DM40	DMO 5	000	I CI14
Equipment Type Bore/Drill Rigs	Year 2005	Low HP 26	High HP 50	TOG 20.086	ROG 2.431	CO 5.897	NOX 5.697	SO2 0.066	PM10 0.625	PM2.5 0.625	CO2 568.299	CH4 0.219
Bore/Drill Rigs	2005	51	120	24.211	1.179	3.812	6.895	0.06	0.623	0.64	568.3	0.219
Bore/Drill Rigs	2005	121	175	27.251	0.725	3.035	6.246	0.057	0.328	0.328	568.299	0.065
Bore/Drill Rigs	2005	176	250	19.806	0.395	1.094	5.8	0.057	0.145	0.145	568.299	0.035
Bore/Drill Rigs	2005	251	500	27.527	0.332	1.068	5.051	0.05	0.133	0.133	568.299	0.029
Bore/Drill Rigs	2005	501	750	58.103	0.354	1.068	5.347	0.052	0.138	0.138	568.299	0.032
Bore/Drill Rigs	2005	751	1000	132.307	0.535	1.427	6.8	0.052	0.183	0.183	568.299	0.048
Bore/Drill Rigs	2010	6	15	1.052412	0.884		5.42137	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	16	25	1.052412	0.884		5.42137	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	26	50	1.052412	0.884		5.42137	0.006	0.406	0.374	604.3903	0.176
Bore/Drill Rigs	2010	51	120	0.45108	0.379		4.84273	0.005	0.313	0.288	505.1218	0.147
Bore/Drill Rigs	2010	121	175	0.420915	0.354	-	4.77962	0.005	0.231	0.213	533.3654	0.155
Bore/Drill Rigs	2010	176	250	0.301395	0.253	1.2308	4.60173	0.005	0.139	0.128	525.165	0.153
Bore/Drill Rigs Bore/Drill Rigs	2010 2010	251 501	500 750	0.270831 0.19905	0.228		3.90774 3.03556	0.005	0.131 0.108	0.12	517.3193 533.5969	0.151 0.155
Bore/Drill Rigs	2010	751	1000	0.189693	0.157		4.32965	0.005	0.099	0.099	524.3394	0.153
Bore/Drill Rigs	2011	6	15	1.019273	0.856		5.41672	0.006	0.033	0.368	602.9382	0.176
Bore/Drill Rigs	2011	16	25	1.019273	0.856		5.41672	0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	26	50	1.019273	0.856	4.60411		0.006	0.4	0.368	602.9382	0.176
Bore/Drill Rigs	2011	51	120	0.435142	0.366	3.32121		0.005	0.303	0.279	504.2171	0.147
Bore/Drill Rigs	2011	121	175	0.404145	0.34		4.59259	0.005	0.219	0.202	531.8097	0.155
Bore/Drill Rigs	2011	176	250	0.289986	0.244	1.21102	4.34748	0.005	0.132	0.122	522.3643	0.152
Bore/Drill Rigs	2011	251	500	0.264468	0.222		3.72448	0.005	0.125	0.115	512.0559	
Bore/Drill Rigs	2011	501	750	0.195451	0.164		2.89424	0.005	0.098	0.09	532.4717	0.155
Bore/Drill Rigs	2011	751	1000	0.200744	0.169		4.35634	0.005	0.101	0.093	523.0129	0.153
Bore/Drill Rigs	2012	6	15	1.043679	0.877		5.45218	0.006	0.406	0.374	601.7336	
Bore/Drill Rigs	2012	16	25	1.043679	0.877		5.45218	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012	26	50	1.043679	0.877		5.45218	0.006	0.406	0.374	601.7336	0.176
Bore/Drill Rigs	2012 2012	51 121	120 175	0.439737 0.401496	0.37	3.34211	4.70854	0.005	0.302 0.215	0.278 0.198	503.4212 531.6414	0.147 0.156
Bore/Drill Rigs Bore/Drill Rigs	2012	176	250	0.401496	0.337		4.32601	0.005	0.213	0.198	520.9621	0.150
Bore/Drill Rigs	2012	251	500	0.271498	0.228	1.3973	3.71268	0.005	0.124	0.115	511.0099	0.132
Bore/Drill Rigs	2012	501	750	0.195855	0.165	1.06675		0.005	0.094	0.086	530.0759	0.155
Bore/Drill Rigs	2012	751	1000	0.210392	0.177	0.976	4.3794	0.005	0.103	0.094	521.6821	0.153
Bore/Drill Rigs	2013	6	15	1.019153	0.856	4.71588	5.44353	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	16	25	1.019153	0.856	4.71588	5.44353	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	26	50	1.019153	0.856	4.71588	5.44353	0.006	0.398	0.366	598.6307	0.176
Bore/Drill Rigs	2013	51	120	0.417421	0.351	3.33685		0.005	0.279	0.257	501.3795	0.147
Bore/Drill Rigs	2013	121	175	0.380511	0.32	3.04123	4.3027	0.005	0.199	0.183	527.5089	0.155
Bore/Drill Rigs	2013	176	250	0.286183	0.24	1.21872	4.0183	0.005	0.124	0.114	517.8225	0.152
Bore/Drill Rigs	2013	251	500	0.260559	0.219	1.35236		0.005	0.115	0.106	507.7707	0.149
Bore/Drill Rigs Bore/Drill Rigs	2013 2013	501 751	750 1000	0.192576 0.160352		1.07935		0.005	0.088	0.081	527.7286 519.8525	
Bore/Drill Rigs Bore/Drill Rigs	2013	6	15	0.160352	0.135		5.33236	0.005	0.082	0.075	591.4418	
Bore/Drill Rigs	2014	16	25	0.992547	0.834		5.33236	0.006	0.382	0.351	591.4418	
Bore/Drill Rigs	2014	26	50	0.992547	0.834		5.33236	0.006	0.382	0.351	591.4418	
Bore/Drill Rigs	2014	51	120	0.379477		3.32686		0.005	0.249	0.229	501.365	0.148
Bore/Drill Rigs	2014	121	175	0.366384		3.04026		0.005	0.186	0.171	524.0522	0.155
Bore/Drill Rigs	2014	176	250	0.258607	0.217		3.52453	0.005	0.105	0.097	512.3362	0.151
Bore/Drill Rigs	2014	251	500	0.240166	0.202	1.239	3.18617	0.005	0.101	0.093	506.1536	0.15
Bore/Drill Rigs	2014	501	750	0.186731	0.157		2.37324	0.005	0.08	0.074	525.2397	0.155
Bore/Drill Rigs	2014	751	1000	0.12496	0.105		2.98435	0.005	0.058	0.054	516.5998	0.153
Bore/Drill Rigs	2015	6	15	1.007942	0.847		5.30345	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	16	25	1.007942	0.847		5.30345	0.006	0.379	0.349	585.1707	0.175
Bore/Drill Rigs	2015	26 51	50	1.007942	0.847		5.30345	0.006	0.379	0.349	585.1707 496.9494	0.175
Bore/Drill Rigs Bore/Drill Rigs	2015 2015	51 121	120 175	0.378573 0.359562	0.318	3.3349	4.02775	0.005	0.239	0.22 0.162	517.2068	0.148
Bore/Drill Rigs Bore/Drill Rigs	2015	176	250	0.359562	0.302			0.005	0.176	0.162	506.5047	0.154
Bore/Drill Rigs	2015	251	500	0.237097		1.25564		0.005	0.096	0.092	499.9023	0.131
Bore/Drill Rigs	2015	501	750	0.19253		1.10541		0.005	0.081	0.074	520.4733	
Bore/Drill Rigs	2015	751	1000	0.130029	0.109		2.99386	0.005	0.059	0.054	511.2533	
Bore/Drill Rigs	2016	6	15	1.034535	0.869			0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	16	25	1.034535	0.869	4.79659		0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	26	50	1.034535	0.869	4.79659		0.006	0.383	0.352	579.3262	0.175
Bore/Drill Rigs	2016	51	120	0.365397		3.32648	3.82088	0.005	0.221	0.204	491.6548	
Bore/Drill Rigs	2016	121	175	0.33987		3.02337		0.005	0.162	0.149	511.4327	0.154
Bore/Drill Rigs	2016	176	250	0.229144		1.13299		0.005	0.085	0.078	502.128	0.151
Bore/Drill Rigs	2016	251	500	0.203588	0.171		2.50955	0.005	0.077	0.071	494.7606	0.149
Bore/Drill Rigs	2016	501	750	0.182018		1.11952		0.005	0.072	0.066	514.8829	0.155
Bore/Drill Rigs	2016	751	1000	0.137307	0.115	0.96409	3.00833	0.005	0.059	0.055	505.9997	0.153

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Bore/Drill Rigs	2017	6	15	0.957137	0.804	4.65158		0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	16	25	0.957137	0.804	4.65158	5.06335	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	26	50	0.957137	0.804		5.06335	0.006	0.351	0.323	563.9173	0.173
Bore/Drill Rigs	2017	51	120	0.354597	0.298		3.68536	0.005	0.211	0.194	485.322	0.149
Bore/Drill Rigs	2017	121	175	0.290928	0.244	3.0013	2.98245	0.005	0.131	0.121	503.7704	0.154
Bore/Drill Rigs	2017	176	250	0.20647	0.173	1.1021	2.5215	0.005	0.072	0.067	494.1381	0.151
Bore/Drill Rigs	2017 2017	251 501	500 750	0.197407	0.166	1.11891	2.36747 2.15656	0.005	0.072	0.067	489.4612 505.1248	0.15 0.155
Bore/Drill Rigs Bore/Drill Rigs	2017	751	1000	0.184153 0.143503	0.155	1.13653 0.97127	3.02051	0.005	0.071	0.066 0.055	498.1225	0.153
Bore/Drill Rigs	2017	6	15	0.143303	0.767	4.56857	4.86917	0.005	0.329	0.303	554.2038	0.133
Bore/Drill Rigs	2018	16	25	0.9127	0.767	4.56857	4.86917	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	26	50	0.9127	0.767	4.56857	4.86917	0.005	0.329	0.303	554.2038	0.173
Bore/Drill Rigs	2018	51	120	0.320098	0.269	3.32325		0.005	0.184	0.17	479.6719	0.149
Bore/Drill Rigs	2018	121	175	0.241793	0.203	2.96107	2.35662	0.005	0.103	0.095	495.0734	0.154
Bore/Drill Rigs	2018	176	250	0.183927	0.155	1.07328		0.005	0.061	0.056	484.5605	0.151
Bore/Drill Rigs	2018	251	500	0.160513	0.135	1.03203		0.005	0.052	0.048	485.6893	0.151
Bore/Drill Rigs	2018	501	750	0.14994	0.126	1.00559		0.005	0.054	0.05	489.7301	0.152
Bore/Drill Rigs	2018	751	1000	0.149052	0.125			0.005	0.06	0.056	490.2427	0.153
Bore/Drill Rigs	2019	6	15	0.858717	0.722		4.71795	0.005	0.303	0.278	545.293	0.173
Bore/Drill Rigs Bore/Drill Rigs	2019 2019	16 26	25 50	0.858717 0.858717	0.722	4.49723 4.49723		0.005	0.303	0.278 0.278	545.293 545.293	0.173 0.173
Bore/Drill Rigs Bore/Drill Rigs	2019	<u>∠</u> 6	120	0.858717	0.722			0.005	0.303	0.278	472.4527	0.173
Bore/Drill Rigs	2019	121	175	0.215784	0.267	2.95563		0.005	0.18	0.186	487.3552	0.149
Bore/Drill Rigs	2019	176	250	0.170614	0.143	1.06058	1.8943	0.005	0.054	0.049	475.7896	0.151
Bore/Drill Rigs	2019	251	500	0.153732	0.129	1.03449		0.005	0.048	0.044	477.0462	0.151
Bore/Drill Rigs	2019	501	750	0.138617	0.116	0.97074		0.005	0.048	0.044	481.8363	0.152
Bore/Drill Rigs	2019	751	1000	0.153944	0.129	0.98342	3.04139	0.005	0.061	0.056	482.3593	0.153
Bore/Drill Rigs	2020	6	15	0.851825	0.716	4.51013		0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	16	25	0.851825	0.716	4.51013	4.6451	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	26	50	0.851825	0.716	4.51013	4.6451	0.006	0.294	0.271	535.2948	0.173
Bore/Drill Rigs	2020	51	120	0.292949	0.246	3.32347	3.06601	0.005	0.159	0.146	463.5827	0.15
Bore/Drill Rigs	2020	121	175	0.207426	0.174	2.96948		0.005	0.082	0.076	477.722	0.155
Bore/Drill Rigs Bore/Drill Rigs	2020 2020	176 251	250 500	0.169462 0.148188	0.142 0.125	1.06766 1.01263		0.005	0.052 0.045	0.048	466.8342 466.8219	0.151 0.151
Bore/Drill Rigs	2020	501	750	0.129293	0.109	0.97413		0.005	0.043	0.038	473.6679	0.153
Bore/Drill Rigs	2020	751	1000	0.158163	0.133	0.98839		0.005	0.061	0.056	471.8492	0.153
Bore/Drill Rigs	2021	6	15	0.845639	0.711		4.63432	0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	16	25	0.845639	0.711	4.54836		0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	26	50	0.845639	0.711	4.54836		0.006	0.291	0.268	535.3782	0.173
Bore/Drill Rigs	2021	51	120	0.258162	0.217	3.30573		0.005	0.131	0.12	464.9725	0.15
Bore/Drill Rigs	2021	121	175	0.183454	0.154	2.9614	1.5983	0.005	0.07	0.064	477.0482	0.154
Bore/Drill Rigs	2021	176	250	0.157647	0.132	1.06418		0.005	0.047	0.043	467.9916	0.151
Bore/Drill Rigs	2021	251	500	0.139268					0.041	0.038	469.8158	
Bore/Drill Rigs Bore/Drill Rigs	2021 2021	501 751	750 1000	0.116134 0.161679	0.098	0.97176 0.99261		0.005	0.033	0.031	474.079 471.8158	0.153 0.153
Bore/Drill Rigs	2022	6	15	0.751445	0.631		4.28474	0.005	0.241	0.221	529.8703	
Bore/Drill Rigs	2022	16	25	0.751445	0.631	4.33356		0.005	0.241	0.221	529.8703	
Bore/Drill Rigs	2022	26	50	0.751445	0.631	4.33356		0.005	0.241	0.221	529.8703	0.171
Bore/Drill Rigs	2022	51	120	0.227425	0.191	3.25974		0.005	0.107	0.099	462.2674	0.15
Bore/Drill Rigs	2022	121	175	0.162807	0.137	2.95431	1.28831	0.005	0.057	0.052	477.3719	0.154
Bore/Drill Rigs	2022	176	250	0.136848	0.115	1.04734		0.005	0.037	0.034	468.7604	0.152
Bore/Drill Rigs	2022	251	500	0.12801	0.108	1.00212		0.005	0.035	0.032	467.1923	0.151
Bore/Drill Rigs	2022	501	750	0.10809	0.091	0.97519		0.005	0.028	0.026	477.141	0.154
Bore/Drill Rigs	2022	751	1000	0.067607	0.057		2.27813	0.005	0.018	0.017	472.9214	0.153
Bore/Drill Rigs Bore/Drill Rigs	2023 2023	6 16	15 25	0.721105 0.721105	0.606	4.31077 4.31077		0.005	0.226	0.208	531.9856 531.9856	0.172 0.172
Bore/Drill Rigs	2023	26	50	0.721105	0.606	4.31077		0.005	0.226	0.208	531.9856	0.172
Bore/Drill Rigs	2023	51	120	0.222828	0.187	3.25754		0.005	0.102	0.093	461.214	0.172
Bore/Drill Rigs	2023	121	175	0.149078	0.125	2.9693		0.005	0.048	0.044	479.6465	0.155
Bore/Drill Rigs	2023	176	250	0.131367	0.11		1.04653	0.005	0.034	0.031	469.7058	0.152
Bore/Drill Rigs	2023	251	500	0.120261	0.101	0.98883	0.89764	0.005	0.03	0.028	464.0407	0.15
Bore/Drill Rigs	2023	501	750	0.108039	0.091	0.98235		0.005	0.026	0.024	479.2199	0.155
Bore/Drill Rigs	2023	751	1000	0.062646	0.053	0.93615		0.005	0.018	0.016	472.0201	0.153
Bore/Drill Rigs	2024	6	15	0.724524	0.609	4.33098		0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	16	25	0.724524	0.609	4.33098		0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs	2024	26	50	0.724524	0.609	4.33098		0.005	0.219	0.202	529.8661	0.171
Bore/Drill Rigs Bore/Drill Rigs	2024 2024	51 121	120 175	0.211018 0.148172	0.177 0.125	3.25123 2.97803		0.005	0.09 0.046	0.083	461.2076 478.9441	0.149
Bore/Drill Rigs Bore/Drill Rigs	2024	176	250	0.148172		1.04591		0.005	0.046	0.043	478.9441	
Bore/Drill Rigs	2024	251	500	0.120331		0.99426		0.005	0.032	0.03	464.4796	
DOTO/DITE NIGO	2024	201	500	0.122100	0.103	0.33420	0.00000	0.000	0.028	0.021	707.7130	0.10

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Bore/Drill Rigs	2024	501	750	0.10623	0.089	0.98491	0.67139	0.005	0.026	0.024	480.2246	-
Bore/Drill Rigs	2024	751	1000	0.067347	0.057		2.27306	0.005	0.018	0.017	471.9261	
Bore/Drill Rigs	2025	6	15	0.703036	0.591		3.97786	0.005	0.193	0.178	532.8212	
Bore/Drill Rigs	2025	16	25	0.703036	0.591		3.97786	0.005	0.193	0.178	532.8212	
Bore/Drill Rigs	2025	26	50	0.703036	0.591	4.2728	3.97786	0.005	0.193	0.178	532.8212	
Bore/Drill Rigs	2025	51	120	0.183914	0.155		1.96363	0.005	0.067	0.062	459.8291	0.149
Bore/Drill Rigs	2025	121	175	0.135422	0.114	2.9736	0.88787	0.005	0.039	0.036	478.2657	0.155
Bore/Drill Rigs	2025	176	250	0.127813	0.107	1.04484		0.005	0.031	0.029	470.6535	
Bore/Drill Rigs	2025	251	500	0.120956	0.102	0.99738		0.005	0.028	0.026	467.2892	0.151
Bore/Drill Rigs	2025	501	750	0.100521	0.084	0.98349		0.005	0.023	0.021	481.2495	
Bore/Drill Rigs	2025	751	1000	0.07426	0.062	0.95339		0.005	0.019	0.017	471.9168	
Bore/Drill Rigs	2030	6	15	1.821	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2030	16	25	2.917	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2030	26	50	2.88	0.348	4.029	3.02	0.007	0.013	0.013	568.299	0.031
Bore/Drill Rigs	2030	51	120	3.773	0.183	3.434	1.415	0.006	0.012	0.012	568.299	0.016
Bore/Drill Rigs	2030	121	175	4.786	0.127	3.038	0.279	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	176	250	6.363	0.127	1.035	0.274	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	251	500	10.531	0.127	1.006	0.274	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	501	750	20.808	0.127	1.006	0.274	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2030	751	1000	31.441	0.127	1.006	2.372	0.005	0.021	0.021	568.299	0.011
Bore/Drill Rigs	2035	6	15	1.821	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2035	16	25	2.917	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2035	26	50	2.881	0.348	4.03	3.019	0.007	0.013	0.013	568.299	0.031
Bore/Drill Rigs	2035	51	120	3.768	0.183	3.434	1.411	0.006	0.012	0.012	568.3	0.016
Bore/Drill Rigs	2035	121	175	4.767	0.126	3.039	0.272	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	176	250	6.357	0.126	1.035	0.272	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	251	500	10.52	0.126	1.006	0.272	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	501	750	20.787	0.126	1.006	0.272	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2035	751	1000	31.372	0.126	1.006	2.372	0.005	0.021	0.021	568.299	0.011
Bore/Drill Rigs	2040	6	15	1.821	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Bore/Drill Rigs	2040	16	25	2.917	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Bore/Drill Rigs	2040	26	50	2.883	0.348	4.032	3.019	0.007	0.013	0.013	568.3	0.031
Bore/Drill Rigs	2040	51	120	3.77	0.183	3.435	1.411	0.006	0.012	0.012	568.299	0.016
Bore/Drill Rigs	2040	121	175	4.77	0.127	3.039	0.272	0.006	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	176	250	6.36	0.127	1.035	0.272	0.006	0.01	0.01	568.3	0.011
Bore/Drill Rigs	2040	251	500	10.526	0.127	1.006	0.272	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	501	750	20.799	0.127	1.006	0.272	0.005	0.01	0.01	568.299	0.011
Bore/Drill Rigs	2040	751	1000	31.389	0.127	1.006	2.372	0.005	0.021	0.021	568.299	0.011
Cement and Mortar Mixers	1990	6	15	2.932	1.804	4.999	9.999	1.049	0.975	0.975	568.299	0.162
Cement and Mortar Mixers	1990	16	25	9.992	2.213	4.999	6.919	0.855	0.741	0.741	568.299	0.199
Cement and Mortar Mixers	2000	6	15	2.702	1.662	4.78	8.911	0.079	0.745	0.745	568.299	0.15
Cement and Mortar Mixers	2000	16	25	9.397	2.081	4.757	6.401	0.065	0.569	0.569	568.299	0.187
Cement and Mortar Mixers	2005	6	15	1.628	1.001	3.791	6.3	0.079		0.465	568.299	0.09
Cement and Mortar Mixers	2005	16	25	6.992	1.548	3.786	5.963	0.065	0.471	0.471	568.299	0.139
Cement and Mortar Mixers	2010	6	15	1.153	0.709	3.492	4.545	0.008	0.26	0.26	568.299	0.064
Cement and Mortar Mixers	2010	16	25	5.056	1.119	3.049	5.286	0.007	0.346	0.346	568.299	0.101
Cement and Mortar Mixers	2011	6	15	1.114	0.685	3.479	4.351	0.008	0.231	0.231	568.299	0.061
Cement and Mortar Mixers	2011	16	25	4.656	1.031	2.897	5.144	0.007	0.319	0.319	568.299	0.093
Cement and Mortar Mixers	2012	6	15	1.096	0.674	3.472	4.272	0.008	0.209	0.209	568.299	0.06
Cement and Mortar Mixers	2012	16	25	4.288	0.949	2.757	5.012	0.007	0.293	0.293	568.299	0.085
Cement and Mortar Mixers	2013	6	15	1.087	0.669	3.469	4.223	0.008	0.191	0.191	568.299	0.06
Cement and Mortar Mixers	2013	16	25	3.952	0.875	2.63	4.887	0.007	0.269	0.269	568.299	0.078
Cement and Mortar Mixers	2014	6	15	1.082	0.666	3.469	4.191	0.008	0.177	0.177	568.299	0.06
Cement and Mortar Mixers	2014	16	25	3.783	0.837	2.57	4.793	0.007	0.253	0.253	568.299	0.075
Cement and Mortar Mixers	2015	6	15	1.079	0.663	3.469	4.168	0.008	0.171	0.171	568.3	0.059
Cement and Mortar Mixers	2015	16	25	3.664	0.811	2.531	4.712	0.007	0.24	0.24	568.299	0.073
Cement and Mortar Mixers	2016	6	15	1.076	0.662	3.469	4.153	0.008	0.167	0.167	568.3	0.059
Cement and Mortar Mixers	2016	16	25	3.558	0.788	2.496	4.636	0.007	0.227	0.227	568.299	0.071
Cement and Mortar Mixers	2017	6	15	1.075	0.661	3.469	4.145	0.008	0.165	0.165	568.299	0.059
Cement and Mortar Mixers	2017	16	25	3.466	0.767	2.466	4.567	0.007	0.216	0.216	568.299	0.069
Cement and Mortar Mixers	2018	6	15	1.075	0.661	3.469	4.142	0.008	0.163	0.163	568.299	0.059
Cement and Mortar Mixers	2018	16	25	3.384	0.749	2.44	4.504	0.007	0.205	0.205	568.299	0.067
Cement and Mortar Mixers	2019	6	15	1.075	0.661	3.469	4.142	0.008	0.162	0.162	568.299	0.059
Cement and Mortar Mixers	2019	16	25	3.321	0.735	2.417	4.469	0.007	0.196	0.196	568.299	0.066
Cement and Mortar Mixers	2020	6	15	1.075	0.661	3.47	4.142	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2020	16	25	3.265	0.723	2.397	4.442	0.007	0.187	0.187	568.299	0.065
Cement and Mortar Mixers	2021	6	15	1.075	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2021	16	25	3.219	0.712	2.381	4.419	0.007	0.18	0.18	568.299	0.064
Cement and Mortar Mixers	2022 2022	6	15	1.075	0.661	3.47	4.142	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixers		16	25	3.182	0.704	2.367	4.399	0.007	0.175	0.175	568.299	0.063

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

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Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Cement and Mortar Mixers Cement and Mortar Mixers	2023 2023	6	15 25	1.075	0.661	3.469	4.142 4.382	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixers Cement and Mortar Mixers	2023	16 6	25 15	3.151 1.075	0.697 0.661	2.356 3.469	4.362	0.007	0.172	0.172	568.299 568.299	0.062
Cement and Mortar Mixers	2024	16	25	3.129	0.693	2.349	4.369	0.003	0.101	0.101	568.299	0.062
Cement and Mortar Mixers	2025	6	15	1.075	0.661	3.469	4.142	0.007	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2025	16	25	3.113	0.689	2.344	4.357	0.007	0.168	0.168	568.299	0.062
Cement and Mortar Mixers	2030	6	15	1.075	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2030	16	25	3.095	0.685	2.339	4.333	0.007	0.162	0.162	568.299	0.061
Cement and Mortar Mixers	2035	6	15	1.075	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2035	16	25	3.095	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Cement and Mortar Mixers	2040	6	15	1.075	0.661	3.47	4.142	0.008	0.161	0.161	568.299	0.059
Cement and Mortar Mixers	2040	16	25	3.095	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	1990	16	25	4.947	2.213	4.999	6.919	0.855	0.741	0.741	568.299	0.199
Concrete/Industrial Saws	1990	26	50	20.26	4.943	9.962	8.008	0.871	1.297	1.297	568.299	0.446
Concrete/Industrial Saws	1990	51	120	24.821	2.467	5.934	15.608	0.791	1.385	1.385	568.299	0.222
Concrete/Industrial Saws	1990	121	175	45.581	2.097	5.376	15.952	0.758	1.172	1.172	568.3	0.189
Concrete/Industrial Saws	2000	16	25	4.266	1.908	4.438	6.326	0.065	0.555	0.555	568.299	0.172
Concrete/Industrial Saws	2000	26 51	50 120	14.64	3.572	7.547	6.784	0.066	0.789	0.789	568.299 568.299	0.322
Concrete/Industrial Saws	2000 2000	121	175	16.713 24.252	1.661	4.354 3.531	9.903	0.06 0.057	0.77 0.452	0.77 0.452	568.3	0.149
Concrete/Industrial Saws Concrete/Industrial Saws	2000	16	25	1.899	1.115 0.849	2.519	9.017 5.321	0.057	0.452	0.452	568.299	0.1
Concrete/Industrial Saws	2005	26	50	13.023	3.177	6.994	6.32	0.065	0.333	0.333	568.299	0.076
Concrete/Industrial Saws	2005	51	120	14.366	1.428	4.05	8.401	0.06	0.732	0.732	568.299	0.28
Concrete/Industrial Saws	2005	121	175	20.277	0.932	3.223	7.685	0.057	0.393	0.393	568.299	0.084
Concrete/Industrial Saws	2010	16	25	1.545	0.691	2.339	4.411	0.007	0.216	0.216	568.299	0.062
Concrete/Industrial Saws	2010	26	50	9.492	2.316	6.039	5.774	0.007	0.565	0.565	568.299	0.208
Concrete/Industrial Saws	2010	51	120	10.348	1.028	3.813	6.592	0.006	0.551	0.551	568.299	0.092
Concrete/Industrial Saws	2010	121	175	14.859	0.683	3.116	5.838	0.006	0.306	0.306	568.299	0.061
Concrete/Industrial Saws	2011	16	25	1.539	0.688	2.339	4.372	0.007	0.193	0.193	568.299	0.062
Concrete/Industrial Saws	2011	26	50	8.781	2.142	5.854	5.68	0.007	0.534	0.534	568.299	0.193
Concrete/Industrial Saws	2011	51	120	9.617	0.955	3.775	6.222	0.006	0.524	0.524	568.299	0.086
Concrete/Industrial Saws	2011	121	175	13.917	0.64	3.104	5.491	0.006	0.293	0.293	568.299	0.057
Concrete/Industrial Saws	2012	16	25	1.535	0.686	2.339	4.348	0.007	0.173	0.173	568.299	0.061
Concrete/Industrial Saws	2012	26	50	8.071	1.969	5.671	5.59	0.007	0.503	0.503	568.299	0.177
Concrete/Industrial Saws	2012	51	120	8.902	0.884	3.74	5.844	0.006	0.489	0.489	568.299	0.079
Concrete/Industrial Saws Concrete/Industrial Saws	2012 2013	121 16	175 25	12.992 1.533	0.597 0.685	3.094 2.339	5.146 4.335	0.006	0.272 0.168	0.272	568.299 568.299	0.053
Concrete/Industrial Saws	2013	26	50	7.362	1.796	5.489	5.377	0.007	0.463	0.463	568.299	0.061
Concrete/Industrial Saws	2013	51	120	8.209	0.816	3.706	5.483	0.007	0.451	0.451	568.299	0.102
Concrete/Industrial Saws	2013	121	175	12.096	0.556	3.086	4.829	0.006	0.25	0.25	568.299	0.05
Concrete/Industrial Saws	2014	16	25	1.532	0.685	2.339	4.332	0.007	0.164	0.164	568.299	0.061
Concrete/Industrial Saws	2014	26	50	6.665	1.626	5.313	5.172	0.007	0.424	0.424	568.299	0.146
Concrete/Industrial Saws	2014	51	120	7.539	0.749	3.675	5.16	0.006	0.412	0.412	568.299	0.067
Concrete/Industrial Saws	2014	121	175	11.238	0.517	3.08	4.531	0.006	0.228	0.228	568.299	0.046
Concrete/Industrial Saws	2015	16	25	1.532	0.685	2.339	4.332	0.007	0.162	0.162	568.299	0.061
Concrete/Industrial Saws	2015	26	50	6.027	1.47	5.165	4.989	0.007	0.386	0.386	568.299	0.132
Concrete/Industrial Saws	2015	51	120	6.878	0.683	3.647	4.789	0.006	0.372	0.372	568.3	0.061
Concrete/Industrial Saws	2015	121	175	10.333	0.475	3.077	4.112	0.006	0.207	0.207	568.299	0.042
Concrete/Industrial Saws	2016	16	25	1.532	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2016	26	50	5.419	1.322	5.029	4.818	0.007	0.35	0.35	568.3	0.119
Concrete/Industrial Saws	2016	51	120	6.237	0.62	3.62	4.432	0.006	0.333	0.333	568.3	0.055
Concrete/Industrial Saws	2016	121	175 25	9.455	0.435	3.074	3.708	0.006	0.186	0.186	568.299	0.039
Concrete/Industrial Saws Concrete/Industrial Saws	2017 2017	16 26	50	1.532 4.816	0.685 1.175	2.34 4.894	4.332 4.652	0.007	0.161	0.161	568.299 568.299	0.061
Concrete/Industrial Saws	2017	51	120	5.61	0.557	3.595	4.032	0.007	0.313	0.313	568.299	0.106
Concrete/Industrial Saws	2017	121	175	8.602	0.395	3.073	3.316	0.006	0.294	0.294	568.299	0.035
Concrete/Industrial Saws	2017	16	25	1.532	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.033
Concrete/Industrial Saws	2018	26	50	4.233	1.032	4.766	4.492	0.007	0.277	0.277	568.299	0.093
Concrete/Industrial Saws	2018	51	120	5.014	0.498	3.571	3.754	0.006	0.256	0.256	568.299	0.044
Concrete/Industrial Saws	2018	121	175	7.805	0.359	3.072	2.945	0.006	0.145	0.145	568.299	0.032
Concrete/Industrial Saws	2019	16	25	1.532	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2019	26	50	3.686	0.899	4.645	4.338	0.007	0.242	0.242	568.299	0.081
Concrete/Industrial Saws	2019	51	120	4.463	0.443	3.55	3.441	0.006	0.22	0.22	568.3	0.04
Concrete/Industrial Saws	2019	121	175	7.177	0.33	3.072	2.618	0.006	0.128	0.128	568.299	0.029
Concrete/Industrial Saws	2020	16	25	1.532	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2020	26	50	3.271	0.798	4.552	4.196	0.007	0.212	0.212	568.299	0.072
Concrete/Industrial Saws	2020	51	120	4.042	0.401	3.535	3.163	0.006	0.19	0.19	568.299	0.036
Concrete/Industrial Saws	2020	121	175	6.669	0.306	3.072	2.324	0.006	0.114	0.114	568.299	0.027
Concrete/Industrial Saws	2021	16	25	1.532	0.685	2.34	4.332	0.007	0.161	0.161	568.299	0.061
Concrete/Industrial Saws	2021	26	50	2.959	0.722	4.481	4.063	0.007	0.184	0.184	568.3	0.065

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Controllerindustrial Saws	Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
ConcreteIndustrial Saws				_									0.033
Concrete/Industrial Saws 2022 28 50 2.705 0.66 4.422 3398 0.007 0.198 0.158 568.39 0.007 0.007 0.008 0	Concrete/Industrial Saws	2021	121	175	6.227	0.286	3.072	2.055	0.006	0.101	0.101	568.299	0.025
ConcreteInfluctarial Saws	Concrete/Industrial Saws			25	1.532	0.685	2.339		0.007	0.161	0.161	568.299	0.061
ConcreteIndustrial Saws 2022 121 175 5.819 0.267 3.072 1.806 0.006 0.089 0.089 5.683 0.													0.059
ConcreteIndustrial Saws				_						_			0.031
ConcreteIndustrial Saws 2023 26 50 2.484 0.606 4.372 3.815 0.007 0.134 0.134 0.882.99 0.													0.024
ConcreteIndustrial Saws 2023 51 120 3.223 0.32 3.597 2.478 0.006 0.123 0.123 5.683 0.0 ConcreteIndustrial Saws 2024 16 25 1.582 0.865 2.393 4.332 0.007 0.161 0.161 5.683 0.008 0.077 5.682.299 0.008 0.077 5.682.299 0.008 0.077 5.682.299 0.008 0.077 5.682.299 0.008 0.077 5.682.299 0.008 0.077 5.682.299 0.008 0.077 5.682.299 0.008 0.078 0.077 5.682.299 0.008 0.078 0.079 0.077 5.682.299 0.008 0.07													0.061
Concrete/Industrial Saws 2023 121 175 5.463 0.25 3.072 1.999 0.006 0.077					_								0.054
ConcreteIndustrial Saws 2024 16 25 1.532 0.685 2.333 4.332 0.007 0.161 0.161 688.299 0.													0.028
ConcreteIndustrial Saws 2024 26 50 2.303 0.581 4.33 3.701 0.007 0.115 0.115 5683.29 0.													0.022
ConcreteIndustrial Saws 2024 51 120 3,023 0.3 3.5 2,315 0,006 0,106 0,106 688,299 0													0.05
Concrete/Industrial Saws 2024 121 175 5.117 0.235 3.072 1.418 0.006 0.067 0.067 568.299 0.007 0.007 0.067 568.299 0.007 0.009 0.													0.027
Concrete/Industrial Saws 2025													0.021
Concrete Industrial Saws 2025 26 50 2.153 0.525 4.297 3.592 0.007 0.099 0.099 688.299 0.000 0.009 0.09													0.061
ConcreteIndustrial Saws 2030 16 25 1521 175 4.8 0.022 3.073 1.240 0.006 0.056 0.056 588.3 0. ConcreteIndustrial Saws 2030 16 25 1.532 0.685 2.339 4.332 0.007 0.610 1.016 1588.299 0. ConcreteIndustrial Saws 2030 51 120 2.226 0.221 3.48 1.667 0.006 0.036 0.036 586.299 0. ConcreteIndustrial Saws 2030 51 120 2.226 0.221 3.48 1.667 0.006 0.036 0.036 586.299 0. ConcreteIndustrial Saws 2030 121 175 3.551 0.163 3.074 0.93 0.006 0.025 0.025 586.299 0. ConcreteIndustrial Saws 2035 16 25 1.520 6.885 2.339 4.332 0.007 0.161 0.161 586.299 0. ConcreteIndustrial Saws 2035 16 25 1.520 6.885 2.339 4.332 0.007 0.161 0.161 586.299 0. ConcreteIndustrial Saws 2035 16 25 1.520 6.885 2.339 4.332 0.007 0.161 0.161 586.299 0. ConcreteIndustrial Saws 2035 121 175 3.121 0.143 3.075 0.376 4.174 3.107 0.007 0.161 0.161 586.299 0. ConcreteIndustrial Saws 2035 121 175 3.121 0.143 3.075 0.376 4.006 0.018 0.018 586.299 0. ConcreteIndustrial Saws 2035 121 175 3.121 0.143 3.075 0.374 0.006 0.014 0.014 586.299 0. ConcreteIndustrial Saws 2040 16 25 1.532 0.685 2.339 4.332 0.007 0.07 0.161 0.161 586.299 0. ConcreteIndustrial Saws 2040 16 25 1.532 0.685 2.339 4.332 0.006 0.013 0.013 588.299 0. ConcreteIndustrial Saws 2040 16 25 1.532 0.685 2.339 4.332 0.006 0.013 0.013 588.299 0. ConcreteIndustrial Saws 2040 16 25 1.532 0.685 2.339 4.332 0.006 0.013 0.013 588.299 0. ConcreteIndustrial Saws 2040 51 1.20 1.986 0.198 0.198 0.198 0.007 0.014 0.014 586.299 0. ConcreteIndustrial Saws 2040 51 1.20 1.986 0.198 0.198 0.007 0.014 0.014 586.299 0. ConcreteIndustrial Saws 2040 51 1.120 1.986 0.198 0.198 0.007 0.014 0.014 586.299 0. ConcreteIndustrial Saws 2040 51 1.120 1.986 0.198 0.1													0.047
ConcreteIndustrial Saws	Concrete/Industrial Saws	2025	51	120	2.849	0.283	3.495	2.176	0.006	0.089	0.089	568.3	0.025
ConcreteIndustrial Saws	Concrete/Industrial Saws	2025	121	175	4.8	0.22	3.073	1.249	0.006	0.056	0.056	568.3	0.019
ConcreteIndustrial Saws	Concrete/Industrial Saws	2030	16		1.532	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
ConcreteIndustrial Saws													0.036
Concrete/Industrial Saws				_									0.019
Concrete/Industrial Saws 2035 26 50 1.54 0.376 4.174 3.107 0.007 0.021 0.021 568.3 0.007 Concrete/Industrial Saws 2035 51 120 2.015 0.2 3.476 1.480 0.006 0.018 0.018 568.299 0.007 Concrete/Industrial Saws 2035 121 175 3.121 0.143 3.075 0.374 0.006 0.014 0.014 568.299 0.007 Concrete/Industrial Saws 2040 16 25 1.532 0.685 2.339 4.332 0.007 0.014 0.014 568.299 0.007 Concrete/Industrial Saws 2040 26 50 1.532 0.373 4.175 3.084 0.007 0.014 0.014 568.299 0.007 Concrete/Industrial Saws 2040 26 50 1.532 0.373 4.175 3.084 0.007 0.014 0.014 568.299 0.007 Concrete/Industrial Saws 2040 21 175 2.955 0.136 3.477 1.434 0.006 0.013 0.013 568.299 0.007 0.007 0.014 0.014 568.299 0.007 0													0.014
Concrete/Industrial Saws													0.061
Concrete/Industrial Saws					_								0.033
ConcreteIn/Industrial Saws 2040 16 25 1.532 0.885 2.339 4.332 0.007 0.161 0.161 568.299 0.				-									0.018
Concretel/Industrial Saws 2040 26 50 1.532 0.373 4.175 3.058 0.007 0.014 0.014 568.299 0.													0.012
Concrete/Industrial Saws 2040													0.033
Concrete/Industrial Saws 2040 121 175 2,965 0.136 3,076 0.297 0.006 0.011 0.011 568.3 0. Cranes 1990 26 50 13,537 5,179 10,396 8,093 0.871 1,345 568.299 0. Cranes 1990 51 120 14,178 2,508 5,963 15,674 0.791 1,427 1,427 568.299 0. Cranes 1990 121 175 18,412 2,033 5,387 15,601 0,758 1,142 1,142 568.299 0. Cranes 1990 176 250 25,703 2,033 5,387 15,601 0,758 1,142 1,142 568.299 0. Cranes 1990 251 500 36,191 1,782 12,529 14,718 0,662 0,968 0,968 668.299 0. Cranes 1990 501 750 60,897 1,782 12,529 14,718 0,662 0,968 0,968 668.299 0. Cranes 1990 1001 9999 194,538 1,778 12,529 14,718 1,018 0,986 0,98 568.299 0. Cranes 2000 26 50 12,119 4,636 9,507 7,163 0,066 0,958 0,98 568.299 0. Cranes 2000 26 50 12,119 4,636 9,507 7,163 0,066 0,958 0,98 568.299 0. Cranes 2000 121 175 11,77 1,299 3,932 9,229 0,057 0,552 0,552 0,552 6,68.299 0. Cranes 2000 121 175 11,77 1,299 3,932 9,292 0,057 0,552													0.033
Cranes 1990 26 50 13.537 5.179 10.396 8.093 0.871 1.345 1.345 1.682.99 0.													0.012
Cranes													0.467
Cranes				120									0.226
Cranes 1990 251 500 36.191 1.782 12.529 14.718 0.662 0.968 0.986 568.299 0 Cranes 1990 1001 9999 194.538 1.778 12.529 14.718 1.018 0.986 0.986 568.299 0 Cranes 2000 26 50 12.119 4.636 9.507 7.163 0.066 0.958 568.299 0 Cranes 2000 51 120 10.887 19.26 4.81 10.906 0.96 0.958 568.299 0 Cranes 2000 121 175 11.77 1.299 3.932 9.929 0.057 0.552 0.552 568.299 0 Cranes 2000 176 250 14.291 1.13 3.285 9.635 0.057 0.47 0.47 0.47 568.299 0 Cranes 2000 501 750 34.838 1.019 5.545 9.139	Cranes	1990		175	18.412	2.033	5.387	15.601	0.758	1.142	1.142	568.299	0.183
Cranes 1990 501 750 60.897 1,782 12,529 14,718 1.018 0,986 588,299 0 Cranes 1990 1001 9999 194,538 1,778 12,529 14,718 1,018 0,986 588,299 0 Cranes 2000 26 50 12,119 46.81 1,018 0,98 0,98 568,3 0 Cranes 2000 51 120 10,887 1,926 4.81 1,095 0,06 0,93 0,93 568,299 0 Cranes 2000 176 250 14,291 1,13 3,285 9,635 0,057 0,552 1,562 <	Cranes	1990	176	250	25.703	2.033	5.387	15.601	0.758	1.142	1.142	568.299	0.183
Cranes 1990 1001 9999 194.538 1.778 12.529 14.718 1.018 0.98 0.98 568.299 0 Cranes 2000 26 50 12.119 4.636 9.507 7.163 0.066 0.958 0.958 568.3 0 Cranes 2000 121 175 11.77 1.299 3.932 9.929 0.057 0.552 0.552 568.299 0 Cranes 2000 176 250 14.291 1.13 3.285 9.635 0.057 0.47 0.47 60.08 Cranes 2000 501 750 34.838 1.019 5.545 9.139 0.05 0.411 0.411 568.299 0 Cranes 2000 501 750 34.838 1.019 5.545 9.139 0.052 0.411 0.411 568.299 0 Cranes 2005 26 50 10.96 4.193 8.893 6.735	Cranes	1990	251	500	36.191	1.782	12.529	14.718	0.662	0.968	0.968	568.299	0.16
Cranes 2000 26 50 12.119 4.636 9.507 7.163 0.066 0.958 0.958 568.3 0. Cranes 2000 51 120 10.887 1.926 4.81 10.905 0.06 0.93 0.93 568.299 0. Cranes 2000 121 175 11.77 1.299 3.932 9.929 0.057 0.552 568.299 0. Cranes 2000 176 250 14.291 1.13 3.285 9.635 0.057 0.47 0.47 568.299 0. Cranes 2000 501 750 34.838 1.019 5.545 9.139 0.052 0.411 0.411 568.299 0. Cranes 2000 1001 9999 116.509 1.064 6.045 9.63 1.080 0.066 0.898 0.898 568.39 0. Cranes 2005 51 120 9.53 1.686 4.493	Cranes												0.16
Cranes 2000 51 120 10.887 1.926 4.81 10.905 0.06 0.93 0.93 568.299 0. Cranes 2000 121 175 11.77 1.299 3.932 9.29 0.057 0.47 0.47 568.299 0. Cranes 2000 176 250 14.291 1.13 3.285 9.635 0.057 0.47 0.47 568.299 0. Cranes 2000 501 750 34.838 1.019 5.545 9.139 0.05 0.411 0.411 568.299 0. Cranes 2000 501 750 34.838 1.019 5.545 9.139 0.05 0.411 0.411 568.299 0. Cranes 2000 501 1999 116.509 1.096 6.493 9.635 0.066 0.898 0.898 568.3 0. Cranes 2005 51 120 9.53 1.686 4.493 <	Cranes												0.16
Cranes 2000 121 175 11.77 1.299 3.932 9.929 0.057 0.552 0.552 568.299 0. Cranes 2000 251 500 14.291 1.13 3.285 9.635 0.057 0.47 0.47 568.299 0. Cranes 2000 251 500 20.704 1.019 5.545 9.139 0.05 0.411 0.411 568.299 0. Cranes 2000 501 750 34.838 1.019 5.545 9.139 0.052 0.411 0.411 568.299 0. Cranes 2005 26 50 10.96 4.193 8.893 6.736 0.066 0.898 568.299 0. Cranes 2005 51 120 9.53 1.686 4.493 9.357 0.06 0.875 0.875 568.299 0. Cranes 2005 121 175 10.036 1.108 3.6 8.542													0.418
Cranes 2000 176 250 14.291 1.13 3.285 9.635 0.057 0.47 0.47 568.299 0. Cranes 2000 251 500 20.704 1.019 5.545 9.139 0.05 0.411 0.411 568.299 0. Cranes 2000 1001 9999 116.509 1.064 6.045 9.643 0.052 0.394 0.394 568.299 0. Cranes 2005 26 50 10.96 4.193 8.893 6.736 0.066 0.889 568.299 0. Cranes 2005 51 120 9.53 1.686 4.493 9.357 0.066 0.889 568.299 0. Cranes 2005 51 120 9.53 1.686 4.493 9.357 0.066 0.889 568.299 0. Cranes 2005 517 175 10.036 1.108 3.6 8.542 0.057 0.487													0.173
Cranes 2000 251 500 20.704 1.019 5.545 9.139 0.05 0.411 0.411 568.299 0. Cranes 2000 501 750 34.838 1.019 5.545 9.139 0.052 0.411 0.411 568.299 0. Cranes 2000 1001 9999 116.509 1.064 6.045 9.643 0.052 0.394 0.394 568.299 0. Cranes 2005 26 50 1.096 4.193 8.893 6.736 0.066 0.889 0.889 568.3 0. Cranes 2005 51 120 9.53 1.686 4.493 9.357 0.06 0.875 0.875 568.299 0. Cranes 2005 176 250 10.118 0.847 2.367 0.66 0.875 0.882.299 0. Cranes 2005 251 500 15.234 0.75 3.287 7.448 0.05													0.117
Cranes 2000 501 750 34.838 1.019 5.545 9.139 0.052 0.411 0.411 568.299 0. Cranes 2000 1001 9999 116.509 1.064 6.045 9.643 0.052 0.394 0.394 568.299 0. Cranes 2005 26 50 10.96 4.193 8.893 6.736 0.066 0.898 0.898 568.3 0. Cranes 2005 51 120 9.53 1.686 4.493 9.357 0.06 0.875 0.875 568.299 0. Cranes 2005 121 175 10.036 1.108 3.6 8.542 0.057 0.487 0.487 568.299 0. Cranes 2005 251 500 15.234 0.75 3.287 7.448 0.05 0.303 0.303 568.299 0. Cranes 2005 501 750 25.911 0.76 3.283													0.101
Cranes 2000 1001 9999 116.509 1.064 6.045 9.643 0.052 0.394 0.394 568.299 0. Cranes 2005 26 50 10.96 4.193 8.893 6.736 0.066 0.898 0.898 568.3 0. Cranes 2005 51 120 9.53 1.686 4.493 9.357 0.06 0.875 568.299 0. Cranes 2005 121 175 10.036 1.108 3.6 8.542 0.057 0.487 0.487 568.299 0. Cranes 2005 176 250 10.718 0.847 2.367 8.163 0.057 0.487 0.487 568.299 0. Cranes 2005 501 750 25.917 0.76 3.283 7.598 0.052 0.305 0.305 568.299 0. Cranes 2010 26 50 2.786882 2.342 7.37084 6.30432 <td></td> <td>0.092</td>													0.092
Cranes 2005 26 50 10.96 4.193 8.893 6.736 0.066 0.898 0.898 568.3 0. Cranes 2005 51 120 9.53 1.686 4.493 9.357 0.06 0.875 568.299 0. Cranes 2005 121 175 10.036 3.6 8.542 0.057 0.487 0.487 568.299 0. Cranes 2005 176 250 10.718 0.847 2.367 8.163 0.057 0.487 0.487 568.299 0. Cranes 2005 251 500 15.234 0.75 3.287 7.448 0.05 0.303 0.303 568.299 0. Cranes 2005 501 750 25.971 0.76 3.283 7.598 0.052 0.305 568.299 0. Cranes 2010 26 50 2.786882 2.342 7.37084 6.30432 0.05 0.665										_			0.092
Cranes 2005 51 120 9.53 1.686 4.493 9.357 0.06 0.875 0.875 568.299 0. Cranes 2005 121 175 10.036 1.108 3.6 8.542 0.057 0.487 0.487 568.299 0. Cranes 2005 176 250 10.718 0.847 2.367 8.163 0.057 0.343 0.343 568.299 0. Cranes 2005 251 500 15.234 0.75 3.287 7.448 0.052 0.305 0.305 568.299 0. Cranes 2005 501 750 25.971 0.76 3.283 7.598 0.052 0.305 0.305 568.299 0. Cranes 2005 1001 9999 91.74 0.838 3.718 8.503 0.052 0.293 0.293 568.299 0. Cranes 2010 51 120 1.626435 1.367 5.06328 <td></td> <td>0.030</td>													0.030
Cranes 2005 121 175 10.036 1.108 3.6 8.542 0.057 0.487 0.487 568.299 0. Cranes 2005 176 250 10.718 0.847 2.367 8.163 0.057 0.343 0.343 568.299 0. Cranes 2005 251 500 15.234 0.75 3.287 7.448 0.05 0.303 0.303 568.299 0. Cranes 2005 501 750 25.971 0.76 3.283 7.598 0.052 0.305 0.305 568.299 0. Cranes 2010 26 50 2.786882 2.342 7.37084 6.30432 0.005 0.665 0.612 575.653 0. Cranes 2010 51 120 1.626435 1.367 5.06328 11.2099 0.005 0.685 0.612 575.653 0. Cranes 2010 121 175 0.999812 0.84 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.152</td></th<>													0.152
Cranes 2005 176 250 10.718 0.847 2.367 8.163 0.057 0.343 0.343 568.299 0. Cranes 2005 251 500 15.234 0.75 3.287 7.448 0.05 0.303 0.303 568.299 0. Cranes 2005 501 750 25.971 0.76 3.283 7.598 0.052 0.305 0.305 568.299 0. Cranes 2005 1001 9999 91.74 0.838 3.718 8.503 0.052 0.293 568.299 0. Cranes 2010 26 50 2.786882 2.342 7.37084 6.30432 0.005 0.665 0.612 575.653 0. Cranes 2010 51 120 1.626435 1.367 5.06328 11.2099 0.005 0.834 0.767 752.2692 0. Cranes 2010 176 250 0.826087 0.694 2.85637													0.099
Cranes 2005 251 500 15.234 0.75 3.287 7.448 0.05 0.303 0.303 568.299 0. Cranes 2005 501 750 25.971 0.76 3.283 7.598 0.052 0.305 0.305 568.299 0. Cranes 2005 1001 9999 91.74 0.838 3.718 8.503 0.052 0.293 0.293 568.299 0. Cranes 2010 26 50 2.786882 2.342 7.37084 6.30432 0.005 0.665 0.612 575.653 0. Cranes 2010 51 120 1.626435 1.367 5.06328 11.2099 0.005 0.834 0.767 522.292 0. Cranes 2010 121 175 0.999512 0.84 3.96843 9.06236 0.005 0.483 0.445 527.7153 0. Cranes 2010 176 250 0.826087 0.694													0.076
Cranes 2005 501 750 25.971 0.76 3.283 7.598 0.052 0.305 0.305 568.299 0. Cranes 2005 1001 9999 91.74 0.838 3.718 8.503 0.052 0.293 0.293 568.299 0. Cranes 2010 26 50 2.786882 2.342 7.37084 6.30432 0.005 0.665 0.612 575.653 0. Cranes 2010 51 120 1.626435 1.367 5.06328 11.2099 0.005 0.834 0.767 522.2692 0. Cranes 2010 121 175 0.999512 0.84 3.96843 9.06236 0.005 0.834 0.765 522.2692 0. Cranes 2010 176 250 0.826087 0.694 2.85637 8.39974 0.005 0.483 0.445 527.7153 0. Cranes 2010 251 500 0.629842 0.													0.067
Cranes 2010 26 50 2.786882 2.342 7.37084 6.30432 0.005 0.665 0.612 575.653 0. Cranes 2010 51 120 1.626435 1.367 5.06328 11.2099 0.005 0.834 0.767 522.2692 0. Cranes 2010 121 175 0.999512 0.84 3.96843 9.06236 0.005 0.483 0.445 527.7153 0. Cranes 2010 176 250 0.826087 0.694 2.85637 8.39974 0.005 0.383 0.353 525.6477 0. Cranes 2010 251 500 0.629842 0.529 4.77692 7.05496 0.005 0.383 0.353 525.6477 0. Cranes 2010 501 750 0.3105 0.261 1.59747 4.49648 0.005 0.149 0.137 523.8164 0. Cranes 2011 26 50 2.66715			501	750	25.971				0.052				0.068
Cranes 2010 51 120 1.626435 1.367 5.06328 11.2099 0.005 0.834 0.767 522.2692 0. Cranes 2010 121 175 0.999512 0.84 3.96843 9.06236 0.005 0.483 0.445 527.7153 0. Cranes 2010 176 250 0.826087 0.694 2.85637 8.39974 0.005 0.383 0.353 525.6477 0. Cranes 2010 251 500 0.629842 0.529 4.77692 7.05496 0.005 0.292 0.268 524.2494 0. Cranes 2010 501 750 0.3105 0.261 1.59747 4.49648 0.005 0.149 0.137 523.8164 0. Cranes 2010 1001 9999 0.387608 0.326 1.00751 6.39903 0.005 0.141 0.139 524.505 0. Cranes 2011 51 120 1.579127	Cranes			9999	91.74								0.075
Cranes 2010 121 175 0.999512 0.84 3.96843 9.06236 0.005 0.483 0.445 527.7153 0. Cranes 2010 176 250 0.826087 0.694 2.85637 8.39974 0.005 0.383 0.353 525.6477 0. Cranes 2010 251 500 0.629842 0.529 4.77692 7.05496 0.005 0.292 0.268 524.2494 0. Cranes 2010 501 750 0.3105 0.261 1.59747 4.49648 0.005 0.149 0.137 523.8164 0. Cranes 2010 1001 9999 0.387608 0.326 1.00751 6.39903 0.005 0.149 0.137 523.8164 0. Cranes 2011 26 50 2.66715 2.241 7.21121 6.2271 0.005 0.641 0.59 574.2181 0. Cranes 2011 121 175 0.990868	Cranes	2010				2.342							0.168
Cranes 2010 176 250 0.826087 0.694 2.85637 8.39974 0.005 0.383 0.353 525.6477 0. Cranes 2010 251 500 0.629842 0.529 4.77692 7.05496 0.005 0.292 0.268 524.2494 0. Cranes 2010 501 750 0.3105 0.261 1.59747 4.49648 0.005 0.149 0.137 523.8164 0. Cranes 2010 1001 9999 0.387608 0.326 1.00751 6.39903 0.005 0.149 0.139 524.505 0. Cranes 2011 26 50 2.66715 2.241 7.21121 6.2271 0.005 0.641 0.59 574.2181 0. Cranes 2011 51 120 1.579127 1.327 5.02442 10.9169 0.005 0.81 0.745 521.0055 0. Cranes 2011 176 250 0.818849													0.152
Cranes 2010 251 500 0.629842 0.529 4.77692 7.05496 0.005 0.292 0.268 524.2494 0. Cranes 2010 501 750 0.3105 0.261 1.59747 4.49648 0.005 0.149 0.137 523.8164 0. Cranes 2010 1001 9999 0.387608 0.326 1.00751 6.39903 0.005 0.149 0.139 524.505 0. Cranes 2011 26 50 2.66715 2.241 7.21121 6.2271 0.005 0.641 0.59 574.2181 0. Cranes 2011 51 120 1.579127 1.327 5.02442 10.9169 0.005 0.81 0.745 521.0055 0. Cranes 2011 175 0.990868 0.833 3.9727 8.96629 0.005 0.48 0.441 526.3466 0. Cranes 2011 176 250 0.818849 0.688													0.154
Cranes 2010 501 750 0.3105 0.261 1.59747 4.49648 0.005 0.149 0.137 523.8164 0. Cranes 2010 1001 9999 0.387608 0.326 1.00751 6.39903 0.005 0.151 0.139 524.505 0. Cranes 2011 26 50 2.66715 2.241 7.21121 6.2271 0.005 0.641 0.59 574.2181 0. Cranes 2011 51 120 1.579127 1.327 5.02442 10.9169 0.005 0.81 0.745 521.0055 0. Cranes 2011 121 175 0.990868 0.833 3.9727 8.96629 0.005 0.48 0.441 526.3466 0. Cranes 2011 176 250 0.818849 0.688 2.82731 8.29972 0.005 0.379 0.349 524.3412 0. Cranes 2011 501 750 0.317708													0.153
Cranes 2010 1001 9999 0.387608 0.326 1.00751 6.39903 0.005 0.151 0.139 524.505 0. Cranes 2011 26 50 2.66715 2.241 7.21121 6.2271 0.005 0.641 0.59 574.2181 0. Cranes 2011 51 120 1.579127 1.327 5.02442 10.9169 0.005 0.81 0.745 521.0055 0. Cranes 2011 121 175 0.990868 0.833 3.9727 8.96629 0.005 0.48 0.441 526.3466 0. Cranes 2011 176 250 0.818849 0.688 2.82731 8.29972 0.005 0.379 0.349 524.3412 0. Cranes 2011 251 500 0.613791 0.516 4.61471 6.85019 0.005 0.283 0.26 523.002 0. Cranes 2011 501 750 0.317708													0.153
Cranes 2011 26 50 2.66715 2.241 7.21121 6.2271 0.005 0.641 0.59 574.2181 0. Cranes 2011 51 120 1.579127 1.327 5.02442 10.9169 0.005 0.81 0.745 521.0055 0. Cranes 2011 121 175 0.990868 0.833 3.9727 8.96629 0.005 0.48 0.441 526.3466 0. Cranes 2011 176 250 0.818849 0.688 2.82731 8.29972 0.005 0.379 0.349 524.3412 0. Cranes 2011 251 500 0.613791 0.516 4.61471 6.85019 0.005 0.283 0.26 523.002 0. Cranes 2011 501 750 0.317708 0.267 1.60931 4.47987 0.005 0.151 0.139 522.4977 0. Cranes 2011 1001 9999 0.392668													0.152
Cranes 2011 51 120 1.579127 1.327 5.02442 10.9169 0.005 0.81 0.745 521.0055 0. Cranes 2011 121 175 0.990868 0.833 3.9727 8.96629 0.005 0.48 0.441 526.3466 0. Cranes 2011 176 250 0.818849 0.688 2.82731 8.29972 0.005 0.379 0.349 524.3412 0. Cranes 2011 251 500 0.613791 0.516 4.61471 6.85019 0.005 0.283 0.26 523.002 0. Cranes 2011 501 750 0.317708 0.267 1.60931 4.47987 0.005 0.151 0.139 522.4977 0. Cranes 2011 1001 9999 0.392668 0.33 1.01544 6.442 0.005 0.153 0.141 523.1938 0. Cranes 2012 26 50 2.575229													0.153
Cranes 2011 121 175 0.990868 0.833 3.9727 8.96629 0.005 0.48 0.441 526.3466 0. Cranes 2011 176 250 0.818849 0.688 2.82731 8.29972 0.005 0.379 0.349 524.3412 0. Cranes 2011 251 500 0.613791 0.516 4.61471 6.85019 0.005 0.283 0.26 523.002 0. Cranes 2011 501 750 0.317708 0.267 1.60931 4.47987 0.005 0.151 0.139 522.4977 0. Cranes 2011 1001 9999 0.392668 0.33 1.01544 6.442 0.005 0.153 0.141 523.1938 0. Cranes 2012 26 50 2.575229 2.164 7.10245 6.16881 0.005 0.622 0.573 572.7834 0.	_												0.168 0.152
Cranes 2011 176 250 0.818849 0.688 2.82731 8.29972 0.005 0.379 0.349 524.3412 0. Cranes 2011 251 500 0.613791 0.516 4.61471 6.85019 0.005 0.283 0.26 523.002 0. Cranes 2011 501 750 0.317708 0.267 1.60931 4.47987 0.005 0.151 0.139 522.4977 0. Cranes 2011 1001 9999 0.392668 0.33 1.01544 6.442 0.005 0.153 0.141 523.1938 0. Cranes 2012 26 50 2.575229 2.164 7.10245 6.16881 0.005 0.622 0.573 572.7834 0.													0.152
Cranes 2011 251 500 0.613791 0.516 4.61471 6.85019 0.005 0.283 0.26 523.002 0. Cranes 2011 501 750 0.317708 0.267 1.60931 4.47987 0.005 0.151 0.139 522.4977 0. Cranes 2011 1001 9999 0.392668 0.33 1.01544 6.442 0.005 0.153 0.141 523.1938 0. Cranes 2012 26 50 2.575229 2.164 7.10245 6.16881 0.005 0.622 0.573 572.7834 0.													0.154
Cranes 2011 501 750 0.317708 0.267 1.60931 4.47987 0.005 0.151 0.139 522.4977 0. Cranes 2011 1001 9999 0.392668 0.33 1.01544 6.442 0.005 0.153 0.141 523.1938 0. Cranes 2012 26 50 2.575229 2.164 7.10245 6.16881 0.005 0.622 0.573 572.7834 0.	_												0.153
Cranes 2011 1001 9999 0.392668 0.33 1.01544 6.442 0.005 0.153 0.141 523.1938 0. Cranes 2012 26 50 2.575229 2.164 7.10245 6.16881 0.005 0.622 0.573 572.7834 0.													0.152
Cranes 2012 26 50 2.575229 2.164 7.10245 6.16881 0.005 0.622 0.573 572.7834 0.													0.153
													0.168
Granos	Cranes	2012	51	120	1.549708	1.302			0.005	0.795	0.732	519.357	0.152
													0.154
	Cranes	2012	176	250	0.82388	0.692			0.005	0.381	0.35	522.9802	0.153
	Cranes	2012	251	500	0.612564	0.515	4.5553		0.005	0.281	0.259		0.153

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type Cranes Cranes Cranes Cranes	Year 2012 2012	501	High HP 750	TOG 0.324471	ROG 0.273	CO 1.62066	NOX 4.45619	SO2 0.005	PM10 0.152	PM2.5 0.14	CO2 521.1061	CH4
Cranes	2012	4004									JZ 1.1001	0.152
Cranes		1001	9999	0.397633	0.334	1.02322	6.48415	0.005	0.156	0.144	521.8825	0.153
	2013	26	50	2.54578	2.139	7.11869	6.10837	0.005	0.61	0.561	569.9097	0.168
Cranes	2013	51	120	1.506211	1.266	4.95084	10.4655	0.005	0.775	0.713	516.6909	0.152
Cranes	2013	121	175	0.982629	0.826	3.98019	8.83222	0.005	0.476	0.438	522.3332	0.154
Cranes	2013	176	250	0.813083	0.683			0.005	0.375	0.345	520.3446	0.153
Cranes	2013	251	500	0.59291	0.498	4.36265	6.51563	0.005	0.27	0.248	519.0961	0.153
Cranes	2013	501	750	0.327629	0.275	1.62896	4.36739	0.005	0.15	0.138	518.355	0.152
Cranes	2013	1001	9999	0.402502	0.338	1.03085	6.5255	0.005	0.159	0.146	519.26	0.153
Cranes	2014 2014	26 51	50 120	2.516704	2.115 1.245	7.12566 4.92305		0.005	0.607 0.765	0.559	567.0058	0.168
Cranes	2014		175	1.481452	0.793	3.93186	10.3017	0.005		0.704	514.0286	0.152
Cranes	2014	121 176	250	0.944168 0.786323	0.793	2.72625		0.005	0.457	0.42	519.5114 517.6833	0.154
Cranes Cranes	2014	251	500	0.786323	0.483	4.17708	6.26415	0.005	0.36	0.239	516.5784	0.153
Cranes	2014	501	750	0.333096	0.28	1.63547	4.32737	0.005	0.151	0.139	515.6071	0.152
Cranes	2014	1001	9999	0.143297	0.12		2.28075	0.005	0.054	0.05	516.6375	0.153
Cranes	2015	26	50	2.483294	2.087	7.12517	6.07491	0.005	0.601	0.552	561.2236	0.168
Cranes	2015	51	120	1.444394	1.214	4.88366	10.0604	0.005	0.747	0.687	508.8366	0.152
Cranes	2015	121	175	0.930749	0.782	3.91821	8.3254	0.005	0.45	0.414	514.2598	0.154
Cranes	2015	176	250	0.764242	0.642	2.65334	7.62156	0.005	0.348	0.32	512.4484	0.153
Cranes	2015	251	500	0.565318	0.475	4.10962	6.12404	0.005	0.253	0.233	511.1972	0.153
Cranes	2015	501	750	0.340293	0.286	1.64279		0.005	0.152	0.14	510.3342	0.152
Cranes	2015	1001	9999	0.156078	0.131			0.005	0.055	0.051	511.3924	0.153
Cranes	2016	26	50	2.535089	2.13	7.2684	6.11027	0.005	0.61	0.561	555.4414	0.168
Cranes	2016	51	120	1.373103	1.154	4.79702	9.60772	0.005	0.709	0.653	503.5992	0.152
Cranes	2016	121	175	0.884915	0.744	3.86156	7.88718	0.005	0.427	0.393	508.9515	0.154
Cranes	2016	176	250 500	0.741297	0.623	2.5822	7.38068	0.005	0.335	0.308	507.1552	0.153
Cranes	2016 2016	251 501	750	0.527153 0.347738	0.443	3.83445 1.65024		0.005	0.233	0.215	506.0882 505.0695	0.153
Cranes Cranes	2016	1001	9999	0.347736	0.292	0.96562	2.30856	0.005	0.153	0.141	506.1474	0.152
Cranes	2017	26	50	2.585562	2.173	7.40804	6.14479	0.005	0.62	0.032	546.7815	
Cranes	2017	51	120	1.304913	1.096	4.71022	9.15389	0.005	0.678	0.624	495.7534	0.152
Cranes	2017	121	175	0.828528	0.696	3.78744	7.36009	0.005	0.397	0.366	501.093	0.154
Cranes	2017	176	250	0.667136	0.561	2.38452	6.65526	0.005	0.297	0.273	499.3721	0.153
Cranes	2017	251	500	0.488095	0.41	3.54746		0.005	0.212	0.195	498.439	0.153
Cranes	2017	501	750	0.34114	0.287	1.63305	4.1579	0.005	0.147	0.135	497.1865	0.152
Cranes	2017	1001	9999	0.181003	0.152	0.97429	2.32212	0.005	0.057	0.053	498.2798	0.153
Cranes	2018	26	50	2.466121	2.072	7.24744	6.00385	0.005	0.624	0.574	538.1219	0.168
Cranes	2018	51	120	1.108698	0.932	4.45237	7.93075	0.005	0.583	0.536	488.1172	0.152
Cranes	2018	121	175	0.739223	0.621	3.66571	6.5572	0.005	0.351	0.323	493.0451	0.153
Cranes	2018	176	250	0.574877	0.483	2.13445		0.005	0.25	0.23	491.4069	0.153
Cranes	2018	251	500	0.440014	0.37	3.1871	4.63433	0.005	0.187	0.172	490.8912	0.153
Cranes	2018	501	750	0.322048	0.271	1.61304		0.005	0.137	0.126	489.0536	-
Cranes	2018 2019	1001 26	9999 50	0.193147 2.434147	2.045	7.24465		0.005	0.058	0.054	490.4122 529.4626	0.153
Cranes Cranes	2019	51	120	0.955908	0.803	4.26491	6.95786	0.005	0.613	0.46	480.3251	0.166
Cranes	2019	121	175	0.675554	0.568	3.5982	5.94857	0.005	0.318	0.40	485.1817	0.152
Cranes	2019	176	250	0.50769	0.427	1.94079		0.005	0.216	0.198	483.4616	0.153
Cranes	2019	251	500	0.415431	0.349	2.96893		0.005	0.173	0.159	483.1422	0.153
Cranes	2019	501	750	0.299943	0.252	1.44568		0.005	0.124	0.114	481.1192	
Cranes	2019	1001	9999	0.205078	0.172	0.9912	2.34854	0.005	0.059	0.055	482.5446	0.153
Cranes	2020	26	50	2.47956	2.084			0.005	0.624	0.574	517.9263	0.168
Cranes	2020	51	120	0.871016	0.732	4.17141		0.005	0.453	0.417	469.8821	0.152
Cranes	2020	121	175	0.638941	0.537	3.56232	5.5697	0.005	0.298	0.274	474.5939	0.153
Cranes	2020	176	250	0.45669	0.384	1.7904	4.56329	0.005	0.188	0.173	472.9488	
Cranes	2020	251	500	0.381547	0.321	2.66037		0.005	0.155	0.142	472.5579	
Cranes	2020	501	750	0.287724	0.242	1.44353		0.005	0.116	0.107	470.4254	0.152
Cranes	2020	1001	9999	0.216797	0.182	0.99943		0.005	0.06	0.056	472.0545	
Cranes	2021	26	50	2.516467	2.115	7.48883		0.005	0.631	0.581	517.8995	
Cranes Cranes	2021 2021	51 121	120 175	0.77522 0.593174	0.651 0.498	4.06507 3.51648		0.005	0.398	0.366	469.8867 474.5458	0.152
Cranes Cranes	2021	176	250	0.593174	0.496	1.67824		0.005	0.273	0.251	474.5456	0.153
Cranes	2021	251	500	0.413903	0.349	2.44833		0.005	0.139	0.133	472.4553	
Cranes	2021	501	750	0.331498	0.233	1.43956		0.005	0.139	0.127	470.5495	
Cranes	2021	1001	9999	0.228304	0.192	1.00751		0.005	0.061	0.056	472.0545	
Cranes	2022	26	50	2.41359	2.028	7.36828		0.005	0.603	0.555	517.8722	0.167
Cranes	2022	51	120	0.687651	0.578	3.97198		0.005	0.346	0.318	469.9929	
_	2022	121	175	0.543527	0.457	3.4753	4.6169	0.005	0.246	0.227	474.5887	0.153
Cranes									-			-
Cranes Cranes	2022	176	250	0.375691	0.316	1.60164	3.54149	0.005	0.147	0.135	472.9832	0.153

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type Cranes Cranes	Year 2022 2023 2023 2023 2023 2023 2023 202	Low HP 501 1001 26 51 121 176 251 501 1001 26 51 11001 26 51 121 176 251 501 1001	750 9999 50 120 175 250 500 750 9999 50 120 175 250 500	TOG 0.238348 0.239599 2.435567 0.656595 0.503663 0.353966 0.281202 0.23207 0.250681 2.304795 0.623876 0.453764 0.334159	ROG 0.2 0.201 2.047 0.552 0.423 0.297 0.236 0.195 0.211 1.937 0.524	CO 1.28309 1.01544 7.45254 3.9444 3.44284 1.55262 2.01 1.28213 1.02322 7.26852 3.90649	NOX 2.25087 2.38641 5.9225 4.87461 4.22184 3.22938 2.5105 2.07257 2.39857 5.78796	SO2 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005	0.089 0.062 0.608 0.323 0.224 0.135 0.102 0.084 0.063	0.082 0.057 0.559 0.297 0.206 0.124 0.093 0.077 0.058	CO2 470.4755 472.0545 517.8722 469.8891 474.595 472.9738 472.294 470.2508 472.0545	CH4 0.152 0.153 0.167 0.152 0.153 0.153 0.153
Cranes	2023 2023 2023 2023 2023 2023 2023 2024 2024	26 51 121 176 251 501 1001 26 51 121 176 251 501	50 120 175 250 500 750 9999 50 120 175 250	0.239599 2.435567 0.656595 0.503663 0.353966 0.281202 0.23207 0.250681 2.304795 0.623876 0.453764	2.047 0.552 0.423 0.297 0.236 0.195 0.211 1.937 0.524	7.45254 3.9444 3.44284 1.55262 2.01 1.28213 1.02322 7.26852	2.38641 5.9225 4.87461 4.22184 3.22938 2.5105 2.07257 2.39857	0.005 0.005 0.005 0.005 0.005 0.005	0.608 0.323 0.224 0.135 0.102 0.084 0.063	0.559 0.297 0.206 0.124 0.093 0.077 0.058	472.0545 517.8722 469.8891 474.595 472.9738 472.294 470.2508	0.167 0.152 0.153 0.153 0.153
Cranes	2023 2023 2023 2023 2023 2023 2024 2024	51 121 176 251 501 1001 26 51 121 176 251 501	120 175 250 500 750 9999 50 120 175 250	2.435567 0.656595 0.503663 0.353966 0.281202 0.23207 0.250681 2.304795 0.623876 0.453764	0.552 0.423 0.297 0.236 0.195 0.211 1.937 0.524	3.9444 3.44284 1.55262 2.01 1.28213 1.02322 7.26852	4.87461 4.22184 3.22938 2.5105 2.07257 2.39857	0.005 0.005 0.005 0.005 0.005 0.005	0.323 0.224 0.135 0.102 0.084 0.063	0.297 0.206 0.124 0.093 0.077 0.058	469.8891 474.595 472.9738 472.294 470.2508	0.152 0.153 0.153 0.153
Cranes	2023 2023 2023 2023 2023 2024 2024 2024	121 176 251 501 1001 26 51 121 176 251 501	175 250 500 750 9999 50 120 175 250	0.503663 0.353966 0.281202 0.23207 0.250681 2.304795 0.623876 0.453764	0.423 0.297 0.236 0.195 0.211 1.937 0.524	3.44284 1.55262 2.01 1.28213 1.02322 7.26852	4.22184 3.22938 2.5105 2.07257 2.39857	0.005 0.005 0.005 0.005 0.005	0.224 0.135 0.102 0.084 0.063	0.206 0.124 0.093 0.077 0.058	474.595 472.9738 472.294 470.2508	0.153 0.153 0.153
Cranes	2023 2023 2023 2023 2024 2024 2024 2024	176 251 501 1001 26 51 121 176 251 501	250 500 750 9999 50 120 175 250	0.353966 0.281202 0.23207 0.250681 2.304795 0.623876 0.453764	0.297 0.236 0.195 0.211 1.937 0.524	1.55262 2.01 1.28213 1.02322 7.26852	3.22938 2.5105 2.07257 2.39857	0.005 0.005 0.005 0.005	0.135 0.102 0.084 0.063	0.124 0.093 0.077 0.058	472.9738 472.294 470.2508	0.153 0.153
Cranes	2023 2023 2023 2024 2024 2024 2024 2024	251 501 1001 26 51 121 176 251 501	500 750 9999 50 120 175 250	0.281202 0.23207 0.250681 2.304795 0.623876 0.453764	0.236 0.195 0.211 1.937 0.524	2.01 1.28213 1.02322 7.26852	2.5105 2.07257 2.39857	0.005 0.005 0.005	0.102 0.084 0.063	0.093 0.077 0.058	472.294 470.2508	0.153
Cranes	2023 2023 2024 2024 2024 2024 2024 2024	501 1001 26 51 121 176 251 501	750 9999 50 120 175 250	0.23207 0.250681 2.304795 0.623876 0.453764	0.195 0.211 1.937 0.524	1.28213 1.02322 7.26852	2.07257 2.39857	0.005	0.084 0.063	0.077 0.058	470.2508	
Cranes	2023 2024 2024 2024 2024 2024 2024 2024	1001 26 51 121 176 251 501	9999 50 120 175 250	0.250681 2.304795 0.623876 0.453764	0.211 1.937 0.524	1.02322 7.26852	2.39857	0.005	0.063	0.058		0 152
Cranes	2024 2024 2024 2024 2024 2024 2024 2024	26 51 121 176 251 501	50 120 175 250	2.304795 0.623876 0.453764	1.937 0.524	7.26852					472.0545	
Cranes Cranes Cranes Cranes Cranes Cranes Cranes Cranes Cranes	2024 2024 2024 2024 2024 2024 2025 2025	51 121 176 251 501	120 175 250	0.623876 0.453764	0.524		5.78796	() ()()		0 =04		0.153
Cranes Cranes Cranes Cranes Cranes Cranes Cranes Cranes	2024 2024 2024 2024 2024 2025 2025	121 176 251 501	175 250	0.453764		3 GIIDZU	4.04000		0.577	0.531	517.8722	0.167
Cranes Cranes Cranes Cranes Cranes Cranes	2024 2024 2024 2024 2025 2025	176 251 501	250				4.61888 3.7029	0.005	0.301 0.196	0.277	469.9032	0.152
Cranes Cranes Cranes Cranes	2024 2024 2024 2025 2025	251 501			0.381	3.3893 1.50208	2.96596	0.005	0.196	0.16	474.6358 472.9638	0.154 0.153
Cranes Cranes Cranes	2024 2024 2025 2025	501	300	0.274315	0.231	1.93263	2.38291	0.005	0.123	0.089	472.9636	0.153
Cranes Cranes	2024 2025 2025		750	0.227031	0.231	1.28334	1.89979	0.005	0.030	0.003	470.3306	0.152
Cranes	2025 2025		9999	0.261551	0.22	1.03085	2.4105	0.005	0.064	0.059	472.0545	0.153
	2025	26	50	2.155227	1.811		5.63562	0.005	0.543	0.499	517.8722	0.167
		51	120	0.551396	0.463	3.83081	4.13532	0.005	0.26	0.24	469.5332	0.152
Cranes	2023	121	175	0.397698	0.334	3.33544	3.16038	0.005	0.166	0.153	474.7477	0.154
Cranes	2025	176	250	0.31508	0.265	1.4697	2.68128	0.005	0.114	0.105	472.9798	0.153
Cranes	2025	251	500	0.259914	0.218	1.83363	2.15424	0.005	0.088	0.081	471.9671	0.153
Cranes	2025	501	750	0.204336	0.172	1.27366	1.63763	0.005	0.068	0.062	470.2756	0.152
Cranes	2025	1001	9999	0.272209	0.229	1.03833	2.42219	0.005	0.065	0.06	472.0545	0.153
Cranes	2030	26	50	1.788	0.684	5.366	3.598	0.007	0.075	0.075	568.299	0.061
Cranes	2030	51	120	1.941	0.343	3.812	1.987	0.006	0.067	0.067	568.299	0.03
Cranes	2030	121	175	2.293	0.253	3.356	0.916	0.006	0.042	0.042	568.299	0.022
Cranes	2030	176	250	2.835	0.224	1.147	0.748	0.006	0.024	0.024	568.299	0.02
Cranes	2030 2030	251 501	500 750	4.512 7.602	0.222	1.09 1.09	0.697 0.709	0.005	0.023	0.023	568.299 568.3	0.02
Cranes Cranes	2030	1001	9999	26.83	0.222	1.108	2.8	0.005	0.024	0.024	568.299	0.02
Cranes	2035	26	50	1.568	0.243	5.292	3.401	0.003	0.043	0.043	568.299	0.054
Cranes	2035	51	120	1.696	0.3	3.801	1.676	0.007	0.036	0.036	568.3	0.027
Cranes	2035	121	175	1.923	0.212	3.357	0.519	0.006	0.024	0.024	568.299	0.019
Cranes	2035	176	250	2.568	0.203	1.143	0.463	0.006	0.016	0.016	568.299	0.018
Cranes	2035	251	500	4.111	0.202	1.087	0.441	0.005	0.016	0.016	568.299	0.018
Cranes	2035	501	750	6.923	0.202	1.087	0.446	0.005	0.016	0.016	568.299	0.018
Cranes	2035	1001	9999	22.949	0.209	1.089	2.618	0.005	0.031	0.031	568.299	0.018
Cranes	2040	26	50	1.483	0.567	5.268	3.324	0.007	0.024	0.024	568.299	0.051
Cranes	2040	51	120	1.598	0.282	3.797	1.552	0.006	0.021	0.021	568.299	0.025
Cranes	2040	121	175	1.79	0.197	3.358	0.371	0.006	0.016	0.016	568.299	0.017
Cranes	2040	176	250	2.465	0.195	1.144	0.344	0.006	0.013	0.013	568.299	0.017
Cranes	2040	251	500	3.958	0.195	1.087	0.34	0.005	0.013	0.013	568.299	0.017
Cranes	2040	501	750	6.661	0.195	1.087	0.341	0.005	0.013	0.013	568.299	0.017
Cranes Crawler Tractors	2040 1990	1001 26	9999 50	21.703 11.254	0.198 4.903	1.087 9.907	2.534 7.983	0.005 0.871	0.027 1.291	0.027 1.291	568.299 568.299	0.017
Crawler Tractors	1990	51	120	14.413	2.374	5.73	14.967	0.791	1.353	1.353	568.299	0.214
Crawler Tractors	1990	121	175	19.335	1.729	5.079	13.979	0.758	0.962	0.962	568.299	0.214
Crawler Tractors	1990	176	250	26.505	1.729	5.079	13.979	0.758	0.962	0.962	568.299	0.156
Crawler Tractors	1990	251	500	36.545	1.528	11.319	13.238	0.662	0.822	0.822	568.3	0.137
Crawler Tractors	1990	501	750	65.509	1.528	11.319	13.238	1.018	0.837	0.837	568.299	0.137
Crawler Tractors	1990	751	1000	92.189	1.518	11.319	13.238	1.018	0.826	0.826	568.299	0.137
Crawler Tractors	2000	26	50	10.858	4.73	9.675	7.197	0.066	0.973	0.973	568.299	0.426
Crawler Tractors	2000	51	120	11.94	1.966	4.886	11.097	0.06	0.949	0.949	568.299	0.177
Crawler Tractors	2000	121	175	14.976	1.339	4.018	10.157	0.057	0.57	0.57	568.3	0.12
Crawler Tractors	2000	176	250	17.901	1.168	3.367	9.863	0.057	0.486	0.486	568.299	0.105
Crawler Tractors	2000	251	500	25.11	1.049	5.849	9.341	0.05	0.424	0.424	568.299	0.094
Crawler Tractors	2000	501	750	45.011	1.049	5.849	9.341	0.052	0.424	0.424	568.299	0.094
Crawler Tractors	2000	751	1000	66.528	1.095	6.349	9.844	0.052	0.407	0.407	568.299	0.098
Crawler Tractors	2005	26 51	50 120	9.923	4.323	9.124 4.63	6.809 9.75	0.066	0.919	0.919	568.299	0.39
Crawler Tractors Crawler Tractors	2005 2005	121	175	10.68 13.006	1.759 1.163	3.749	9.75 8.886	0.06 0.057	0.903 0.513	0.903	568.299 568.299	0.158
Crawler Tractors Crawler Tractors	2005	176	250	13.006	0.91	2.557	8.523	0.057	0.371	0.371	568.299	0.104
Crawler Tractors Crawler Tractors	2005	251	500	19.249	0.804	3.945	7.791	0.057	0.371	0.371	568.299	0.062
Crawler Tractors	2005	501	750	34.852	0.813	3.938	7.791	0.052	0.328	0.328	568.299	0.072
Crawler Tractors	2005	751	1000	54.011	0.889	4.359	8.804	0.052	0.319	0.319	568.3	0.073
Crawler Tractors	2010	26	50	3.193884	2.684		6.54779	0.005	0.785	0.722	572.972	0.167
Crawler Tractors	2010	51	120	1.069208	0.898	4.10668		0.005	0.628	0.578	530.0152	0.154
Crawler Tractors	2010	121	175	0.755513	0.635	3.40812		0.005	0.378	0.348	524.4997	0.153
Crawler Tractors	2010	176	250	0.540569	0.454	1.89919		0.005	0.249	0.229	526.1431	0.153
Crawler Tractors	2010	251	500	0.491926	0.413		5.96739	0.005	0.227	0.209	528.681	0.154

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Crawler Tractors	2010	501	750	0.418044	0.351	1.75694	5.31967	0.005	0.189	0.174	525.9395	0.153
Crawler Tractors	2010	751	1000	0.545095	0.458	2.04187	7.25547	0.005	0.21	0.193	527.6019	0.154
Crawler Tractors	2011	26	50	3.090465	2.597	8.06059	6.48764	0.005	0.762	0.701	571.2544	0.167
Crawler Tractors	2011	51	120	1.055307	0.887	4.11149	7.65924	0.005	0.624	0.574	528.5468	0.154
Crawler Tractors	2011	121	175	0.753531	0.633	3.422	7.0937	0.005	0.378	0.347	523.1105	0.153
Crawler Tractors	2011	176	250	0.541549	0.455	1.8844	6.42306	0.005	0.248	0.228	524.8932	0.153
Crawler Tractors	2011	251	500	0.494702	0.416	3.04503	5.91443	0.005	0.226	0.208	527.4003	0.154
Crawler Tractors Crawler Tractors	2011 2011	501 751	750 1000	0.416615	0.35 0.463	1.70832	5.23606 7.30105	0.005	0.186	0.171 0.195	524.9577 526.3508	0.153
Crawler Tractors	2011	26	50	0.550612 3.127964	2.628	2.05264 8.16399	6.51312	0.005	0.212	0.708	569.8895	0.154
Crawler Tractors	2012	51	120	1.066067	0.896	4.14375	7.67928	0.005	0.633	0.708	527.2248	0.154
Crawler Tractors	2012	121	175	0.762695	0.641	3.4484	7.11308	0.005	0.382	0.351	521.7707	0.153
Crawler Tractors	2012	176	250	0.549863	0.462	1.8924	6.43904	0.005	0.25	0.23	523.5287	0.153
Crawler Tractors	2012	251	500	0.502104	0.422	3.05662	5.9107	0.005	0.227	0.209	526.0223	0.154
Crawler Tractors	2012	501	750	0.425611	0.358	1.71661	5.25574	0.005	0.189	0.173	523.7088	0.153
Crawler Tractors	2012	751	1000	0.555874	0.467	2.06265		0.005	0.214	0.197	525.1067	0.154
Crawler Tractors	2013	26	50	3.060938	2.572	8.10275	6.42928	0.005	0.753	0.692	567.3537	0.167
Crawler Tractors	2013	51	120	1.067402	0.897	4.16448	7.64718	0.005	0.636	0.585	524.5941	0.154
Crawler Tractors	2013	121	175	0.758762	0.638	3.4566	7.02367	0.005	0.38	0.349	519.0712	0.153
Crawler Tractors	2013	176	250	0.548046	0.461	1.8715	6.36771	0.005	0.247	0.227	520.7236	0.153
Crawler Tractors	2013	251	500	0.501212	0.421	2.99715	5.82738	0.005	0.225	0.207	523.5592	0.154
Crawler Tractors	2013	501	750	0.418079	0.351	1.67885	5.09878	0.005	0.183	0.168	520.5693	0.153
Crawler Tractors	2013	751	1000	0.560878	0.471	2.07187	7.3862	0.005	0.216	0.199	522.5513	0.154
Crawler Tractors	2014	26	50	3.000333	2.521	8.04733	6.39578	0.005	0.743	0.684	564.5641	0.167
Crawler Tractors Crawler Tractors	2014 2014	51 121	120 175	1.051605 0.748303	0.884	4.16815 3.45911	7.52434 6.87548	0.005	0.628	0.578	522.1187 516.4039	0.154
Crawler Tractors Crawler Tractors	2014	176	250	0.748303	0.629	1.83765	6.87548	0.005	0.374	0.344	516.4039	0.153
Crawler Tractors	2014	251	500	0.490461	0.412	2.91108		0.005	0.241	0.222	520.5153	0.154
Crawler Tractors	2014	501	750	0.412689	0.347	1.67523		0.005	0.179	0.164	517.8612	0.153
Crawler Tractors	2014	751	1000	0.565619	0.475	2.08028	7.42576	0.005	0.218	0.201	520.0052	0.154
Crawler Tractors	2015	26	50	2.990271	2.513	8.07628	6.37736	0.005	0.741	0.682	558.8878	0.167
Crawler Tractors	2015	51	120	1.05262	0.884	4.18907	7.4938	0.005	0.63	0.58	516.8433	0.154
Crawler Tractors	2015	121	175	0.751623	0.632	3.47922	6.84937	0.005	0.376	0.346	511.3059	0.153
Crawler Tractors	2015	176	250	0.536796	0.451	1.81586	6.14312	0.005	0.237	0.218	512.8973	0.153
Crawler Tractors	2015	251	500	0.485596	0.408	2.84505	5.48324	0.005	0.212	0.195	515.3725	0.154
Crawler Tractors	2015	501	750	0.41802	0.351	1.66415	4.88301	0.005	0.179	0.165	512.5402	0.153
Crawler Tractors	2015	751	1000	0.570092	0.479	2.08783	7.46329	0.005	0.22	0.202	514.83	0.154
Crawler Tractors	2016	26	50	2.99791	2.519	8.10441	6.31718	0.005	0.733	0.674	553.214	0.167
Crawler Tractors	2016	51	120	1.034441	0.869	4.18548	7.34589	0.005	0.619	0.57	511.268	0.154
Crawler Tractors	2016 2016	121 176	175 250	0.743125 0.534039	0.624	3.48211 1.80295	6.7205 6.04745	0.005	0.371	0.341	506.0335 507.355	0.153
Crawler Tractors Crawler Tractors	2016	251	500	0.334039	0.449	2.74397	5.27907	0.005	0.205	0.213	510.3385	0.153
Crawler Tractors	2016	501	750	0.41158	0.346	1.6206	4.7238	0.005	0.203	0.16	507.2527	0.153
Crawler Tractors	2016	751	1000	0.41130		2.09448		0.005	0.174		509.6671	_
Crawler Tractors	2017	26	50	2.926516		8.00596		0.005	0.712	0.655	544.6762	0.167
Crawler Tractors	2017	51	120	1.010844	0.849	4.17611	7.141	0.005	0.604	0.555	503.2791	0.154
Crawler Tractors	2017	121	175	0.731209	0.614		6.55188	0.005	0.364	0.335	498.1245	
Crawler Tractors	2017	176	250	0.511144	0.43	1.7418	5.75969	0.005	0.22	0.202	499.832	0.153
Crawler Tractors	2017	251	500	0.458057	0.385	2.6349	5.02932	0.005	0.195	0.179	502.422	0.154
Crawler Tractors	2017	501	750	0.386074	0.324	1.5221	4.36108	0.005	0.16	0.147	499.1046	0.153
Crawler Tractors	2017	751	1000	0.578206	0.486		7.53226	0.005	0.223	0.205	501.8777	0.154
Crawler Tractors	2018	26	50	2.910335	2.445	8.0094	6.16323	0.005	0.704	0.647	536.1409	_
Crawler Tractors	2018	51	120	0.949614	0.798	4.1231	6.72257	0.005	0.566	0.52	494.9217	0.154
Crawler Tractors	2018	121	175	0.660412	0.555	3.42131	5.8588	0.005	0.325	0.299	490.0002	0.153
Crawler Tractors	2018	176	250	0.473989	0.398	1.65354		0.005	0.2	0.184	491.606	0.153
Crawler Tractors	2018 2018	251 501	500 750	0.409351 0.351876	0.344	2.38218	3.8336	0.005	0.169	0.156	493.5104 491.2659	
Crawler Tractors Crawler Tractors	2018	751	1000	0.581827	0.296	1.4447 2.10483		0.005	0.141	0.13	491.2659	
Crawler Tractors	2019	26	50	2.648469	2.225	7.58896		0.005	0.225	0.207	525.9767	0.154
Crawler Tractors	2019	51	120	0.901167	0.757	4.08842		0.005	0.535	0.492	486.9909	0.154
Crawler Tractors	2019	121	175	0.615173	0.517	3.37886		0.005	0.3	0.276	481.6222	0.152
Crawler Tractors	2019	176	250	0.45175	0.38	1.60445		0.005	0.187	0.172	483.4489	0.153
Crawler Tractors	2019	251	500	0.37933	0.319	2.21938		0.005	0.153	0.141	485.8645	0.154
Crawler Tractors	2019	501	750	0.316919	0.266		3.34253	0.005	0.123	0.113	483.3879	
Crawler Tractors	2019	751	1000	0.547243	0.46		7.21215	0.005	0.211	0.194	486.2545	0.154
Crawler Tractors	2020	26	50	2.443056	2.053	7.3	5.64276	0.005	0.591	0.544	515.679	0.167
Crawler Tractors	2020	51	120	0.850709		4.04412		0.005	0.5	0.46	476.3284	
Crawler Tractors	2020	121	175	0.566576	0.476	3.33989		0.005	0.272	0.25	471.015	0.152
Crawler Tractors	2020	176	250	0.428471	0.36		4.63225	0.005	0.175	0.161	472.941	0.153
Crawler Tractors	2020	251	500	0.358593	0.301	2.0875	3.62175	0.005	0.141	0.13	475.2338	0.154

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Voor	Low LID	High HD	TOC	DOC		NOV	CO2	DM40	DMO E	CO2	CHA
Equipment Type Crawler Tractors	Year 2020	Low HP 501	High HP 750	TOG 0.304872	ROG 0.256	CO	NOX 3.13716	SO2 0.005	PM10 0.115	PM2.5 0.106	CO2 473.3119	0.153
Crawler Tractors	2020	751	1000	0.551035	0.463	2.02764		0.005	0.113	0.100	475.6525	0.154
Crawler Tractors	2021	26	50	2.456387	2.064	7.34869		0.005	0.591	0.543	516.1077	0.167
Crawler Tractors	2021	51	120	0.800723	0.673		5.65746	0.005	0.466	0.428	476.437	0.154
Crawler Tractors	2021	121	175	0.518367	0.436	3.30982	4.3947	0.005	0.245	0.225	471.421	0.152
Crawler Tractors	2021	176	250	0.407794	0.343	1.51456		0.005	0.163	0.15	472.9246	0.153
Crawler Tractors	2021	251	500	0.337066	0.283	2.02434	3.27633	0.005	0.129	0.119	474.4843	0.153
Crawler Tractors	2021	501	750	0.284829	0.239	1.26985	2.82478	0.005	0.104	0.095	473.0941	0.153
Crawler Tractors	2021	751	1000	0.475256	0.399	1.89563	6.3992	0.005	0.182	0.167	471.8224	0.153
Crawler Tractors	2022	26	50	2.25944	1.899	7.04118		0.005	0.539	0.496	516.1476	0.167
Crawler Tractors	2022	51	120	0.714244	0.6		5.10103	0.005	0.408	0.375	476.0219	
Crawler Tractors	2022	121	175	0.463094	0.389		3.82659	0.005	0.214	0.197	471.5674	0.153
Crawler Tractors	2022	176	250	0.364117	0.306		3.73672	0.005	0.141	0.13	472.0975	0.153
Crawler Tractors	2022	251	500	0.30258	0.254		2.74435	0.005	0.111	0.102	474.4115	0.153
Crawler Tractors	2022	501	750	0.235465	0.198	1.18638		0.005	0.079	0.073	472.876	0.153
Crawler Tractors	2022 2023	751	1000 50	0.424397 2.228685	0.357	1.73227 7.02687	5.92299	0.005	0.162	0.149	470.7007 516.1587	0.152
Crawler Tractors Crawler Tractors	2023	26 51	120	0.663952	1.873 0.558		5.32514 4.76208	0.005	0.526	0.484	476.1575	0.167
Crawler Tractors Crawler Tractors	2023	121	175	0.663932	0.337		3.33004	0.005	0.373	0.343	471.7805	0.154
Crawler Tractors	2023	176	250	0.41309	0.276		3.18735	0.005	0.103	0.17	471.6244	0.153
Crawler Tractors	2023	251	500	0.286276	0.241		2.47635	0.005	0.124	0.094	474.6128	0.153
Crawler Tractors	2023	501	750	0.218505	0.184	1.15892	1.86667	0.005	0.069	0.064	472.5297	0.153
Crawler Tractors	2023	751	1000	0.319268	0.268	1.6104	4.76968	0.005	0.118	0.109	473.6655	0.153
Crawler Tractors	2024	26	50	2.089827	1.756	6.68497	4.97522	0.005	0.466	0.429	515.4658	0.167
Crawler Tractors	2024	51	120	0.610839	0.513	3.85173		0.005	0.335	0.309	476.2342	0.154
Crawler Tractors	2024	121	175	0.387606	0.326	3.22706	3.04107	0.005	0.17	0.157	471.8291	0.153
Crawler Tractors	2024	176	250	0.313897	0.264	1.36992	2.95319	0.005	0.115	0.105	471.8603	0.153
Crawler Tractors	2024	251	500	0.271114	0.228	1.77984	2.2441	0.005	0.093	0.085	474.025	0.153
Crawler Tractors	2024	501	750	0.215283	0.181	1.15921	1.76658	0.005	0.066	0.061	472.2827	0.153
Crawler Tractors	2024	751	1000	0.313081	0.263	1.58774		0.005	0.115	0.106	474.6448	0.154
Crawler Tractors	2025	26	50	2.075042	1.744	6.68642	4.93567	0.005	0.456	0.42	516.1279	0.167
Crawler Tractors	2025	51	120	0.540303	0.454	3.78839	3.96126	0.005	0.285	0.262	476.1336	0.154
Crawler Tractors	2025	121	175	0.354345	0.298		2.68768	0.005	0.15	0.138	471.5923	0.153
Crawler Tractors Crawler Tractors	2025 2025	176 251	250 500	0.276616 0.247477	0.232	1.30849 1.71697	2.46158 1.92007	0.005	0.096	0.088	471.6224 474.0072	0.153
Crawler Tractors Crawler Tractors	2025	501	750	0.247477	0.208	1.12199		0.005	0.057	0.074	474.0072	0.153
Crawler Tractors	2025	751	1000	0.198724	0.107	1.59298	4.59799	0.005	0.037	0.032	475.4901	0.154
Crawler Tractors	2030	26	50	1.912	0.833	5.605	3.808	0.003	0.116	0.116	568.299	0.075
Crawler Tractors	2030	51	120	2.461	0.405	3.871	2.341	0.006	0.105	0.105	568.299	0.036
Crawler Tractors	2030	121	175	3.315	0.296	3.397	1.266	0.006	0.065	0.065	568.299	0.026
Crawler Tractors	2030	176	250	4.019	0.262	1.207	1.104	0.006	0.04	0.04	568.299	0.023
Crawler Tractors	2030	251	500	6.146	0.257	1.2	1.016	0.005	0.038	0.038	568.299	0.023
Crawler Tractors	2030	501	750	11.033	0.257	1.2	1.033	0.005	0.038	0.038	568.299	0.023
Crawler Tractors	2030	751	1000	16.147	0.265	1.225	3.094	0.005	0.056	0.056	568.3	0.023
Crawler Tractors	2035	26	50	1.626	0.708	5.493	3.558	0.007	0.066	0.066	568.299	0.063
Crawler Tractors	2035	51	120	2.099	0.345	3.85	1.922	0.006	0.06	0.06	568.299	0.031
Crawler Tractors	2035	121	175	2.772	0.247	3.391	0.794	0.006	0.038	0.038	568.299	0.022
Crawler Tractors	2035	176	250	3.521	0.229	1.182	0.695	0.006	0.026	0.026	568.299	0.02
Crawler Tractors	2035	251	500	5.432	0.227	1.145	0.657	0.005	0.025	0.025	568.299	0.02
Crawler Tractors	2035	501	750 1000	9.744 14.073	0.227	1.145	0.664	0.005	0.025	0.025	568.299 568.299	0.02
Crawler Tractors Crawler Tractors	2035 2040	751 26	50	14.073	0.231	1.159 5.443	2.792 3.42	0.005	0.041	0.041	568.299	0.02
Crawler Tractors Crawler Tractors	2040	51	120	1.499	0.033	3.839	1.709	0.007	0.042	0.042	568.299	0.038
Crawler Tractors	2040	121	175	2.48	0.221	3.388	0.539	0.006	0.039	0.039	568.299	0.028
Crawler Tractors	2040	176	250	3.247	0.211	1.167	0.491	0.006	0.023	0.023	568.299	0.02
Crawler Tractors	2040	251	500	5.035	0.21	1.113	0.47	0.005	0.018	0.018	568.299	0.018
Crawler Tractors	2040	501	750	9.03	0.21	1.113	0.475	0.005	0.018	0.018	568.299	0.019
Crawler Tractors	2040	751	1000	12.945	0.213	1.122	2.652	0.005	0.032	0.032	568.299	0.019
Crushing/Proc. Equipment	1990	26	50	11.643	4.43	9.044	7.809	0.871	1.194	1.194	568.299	0.399
Crushing/Proc. Equipment	1990	51	120	11.193	2.255	5.547	14.555	0.791	1.258	1.258	568.299	0.203
Crushing/Proc. Equipment	1990	121	175	15.383	1.54	4.913	13.086	0.758	0.834	0.834	568.299	0.138
Crushing/Proc. Equipment	1990	176	250	22.49	1.54	4.913	13.086	0.758	0.834	0.834	568.299	0.138
Crushing/Proc. Equipment	1990	251	500	30.672	1.374	10.176	12.492	0.662	0.724	0.724	568.299	0.124
Crushing/Proc. Equipment	1990	501	750	48.337	1.374	10.175	12.492	1.018	0.737	0.737	568.299	0.124
Crushing/Proc. Equipment	1990	1001	9999	106.942	1.369	10.175	12.492	1.018	0.731	0.731	568.299	0.123
Crushing/Proc. Equipment	2000	26	50	10.827	4.12	8.551	6.954	0.066	0.876	0.876	568.299	0.371
Crushing/Proc. Equipment	2000	51	120	8.945	1.802	4.594	10.363	0.06	0.857	0.857	568.299	0.162
Crushing/Proc. Equipment	2000	121	175	12.05	1.206	3.737	9.416	0.057	0.506	0.506	568.299	0.108
Crushing/Proc. Equipment	2000	176	250	14.723	1.008	2.963	9.058	0.057	0.414	0.414	568.299	0.09
Crushing/Proc. Equipment	2000	251	500	20.487	0.918	5.011	8.658	0.05	0.366	0.366	568.299	0.082

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Fauricus and Times	Year	I am IID	I II:a-b I I ID	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Equipment Type Crushing/Proc. Equipment	2000	Low HP 501	High HP 750	30.946	0.88	4.658	8.459	0.052	0.348	0.348	568.299	0.079
Crushing/Proc. Equipment	2000	1001	9999	77.281	0.989	5.329	9.138	0.052	0.37	0.37	568.299	0.089
Crushing/Proc. Equipment	2005	26	50	9.624	3.662	7.904	6.477	0.066	0.812	0.812	568.3	0.33
Crushing/Proc. Equipment	2005	51	120	7.644	1.54	4.24	8.68	0.06	0.794	0.794	568.299	0.138
Crushing/Proc. Equipment	2005	121	175	10.064	1.007	3.372	7.941	0.057	0.438	0.438	568.299	0.09
Crushing/Proc. Equipment	2005	176	250	10.399	0.712	1.97	7.484	0.057	0.282	0.282	568.299	0.064
Crushing/Proc. Equipment	2005	251	500	14.029	0.628	2.549	6.846	0.05	0.252	0.252	568.299	0.056
Crushing/Proc. Equipment	2005	501	750	22.225	0.632	2.431	6.974	0.052	0.249	0.249	568.299	0.057
Crushing/Proc. Equipment	2005	1001	9999	60.257	0.771	3.042	8.054	0.052	0.268	0.268	568.299	0.069
Crushing/Proc. Equipment	2010	26	50	7.704	2.931	7.22	6.068	0.007	0.671	0.671	568.299	0.264
Crushing/Proc. Equipment Crushing/Proc. Equipment	2010 2010	51 121	120 175	5.971 8.033	1.203 0.804	4.071 3.307	7.096 6.322	0.006	0.656 0.362	0.656	568.299 568.299	0.108
Crushing/Proc. Equipment	2010	176	250	7.61	0.521	1.446	5.918	0.006	0.362	0.302	568.299	0.072
Crushing/Proc. Equipment	2010	251	500	10.487	0.321	1.603	5.248	0.005	0.193	0.18	568.299	0.047
Crushing/Proc. Equipment	2010	501	750	16.814	0.478	1.568	5.449	0.005	0.183	0.183	568.299	0.043
Crushing/Proc. Equipment	2010	1001	9999	46.933	0.601	2.091	6.987	0.005	0.209	0.209	568.299	0.054
Crushing/Proc. Equipment	2011	26	50	7.155	2.722	6.995	5.972	0.007	0.636	0.636	568.299	0.245
Crushing/Proc. Equipment	2011	51	120	5.588	1.125	4.03	6.704	0.006	0.625	0.625	568.3	0.101
Crushing/Proc. Equipment	2011	121	175	7.581	0.759	3.294	5.953	0.006	0.347	0.347	568.299	0.068
Crushing/Proc. Equipment	2011	176	250	7.059	0.483	1.356	5.498	0.006	0.175	0.175	568.299	0.043
Crushing/Proc. Equipment	2011	251	500	9.796	0.439	1.462	4.858	0.005	0.162	0.162	568.299	0.039
Crushing/Proc. Equipment Crushing/Proc. Equipment	2011 2011	501 1001	750 9999	15.681 44.108	0.446	1.435 1.923	5.054 6.609	0.005	0.165 0.196	0.165 0.196	568.299 568.299	0.04
Crushing/Proc. Equipment	2011	26	50	6.538	2.488	6.733	5.867	0.003	0.196	0.196	568.299	0.03
Crushing/Proc. Equipment	2012	51	120	5.173	1.042	3.984	6.269	0.007	0.582	0.582	568.299	0.094
Crushing/Proc. Equipment	2012	121	175	7.084	0.709	3.28	5.553	0.006	0.321	0.321	568.299	0.064
Crushing/Proc. Equipment	2012	176	250	6.627	0.453	1.299	5.088	0.006	0.158	0.158	568.299	0.04
Crushing/Proc. Equipment	2012	251	500	9.273	0.415	1.362	4.48	0.005	0.147	0.147	568.3	0.037
Crushing/Proc. Equipment	2012	501	750	14.786	0.42	1.341	4.662	0.005	0.15	0.15	568.299	0.037
Crushing/Proc. Equipment	2012	1001	9999	41.105	0.526	1.755	6.197	0.005	0.182	0.182	568.299	0.047
Crushing/Proc. Equipment	2013	26	50	5.908	2.248	6.467	5.628	0.007	0.545	0.545	568.299	0.202
Crushing/Proc. Equipment	2013 2013	51 121	120 175	4.758 6.588	0.958	3.94 3.267	5.845 5.177	0.006	0.532	0.532	568.299 568.299	0.086
Crushing/Proc. Equipment Crushing/Proc. Equipment	2013	176	250	6.27	0.659	1.26	4.695	0.006	0.293	0.293	568.299	0.038
Crushing/Proc. Equipment	2013	251	500	8.85	0.396	1.289	4.121	0.005	0.134	0.134	568.299	0.035
Crushing/Proc. Equipment	2013	501	750	14.055	0.399	1.273	4.285	0.005	0.136	0.136	568.299	0.036
Crushing/Proc. Equipment	2013	1001	9999	38.235	0.489	1.599	5.785	0.005	0.168	0.168	568.299	0.044
Crushing/Proc. Equipment	2014	26	50	5.288	2.012	6.212	5.399	0.007	0.494	0.494	568.299	0.181
Crushing/Proc. Equipment	2014	51	120	4.356	0.877	3.898	5.468	0.006	0.481	0.481	568.299	0.079
Crushing/Proc. Equipment	2014	121	175	6.112	0.612	3.256	4.823	0.006	0.265	0.265	568.299	0.055
Crushing/Proc. Equipment	2014	176	250	5.916	0.405	1.228	4.239	0.006	0.13	0.13	568.299	0.036
Crushing/Proc. Equipment	2014	251	500	8.415	0.377	1.23	3.702	0.005	0.121	0.121	568.299	0.034
Crushing/Proc. Equipment Crushing/Proc. Equipment	2014 2014	501 1001	750 9999	13.314 35.652	0.378 0.456	1.218 1.46	3.844 5.391	0.005	0.123 0.155	0.123 0.155	568.299 568.299	0.034
Crushing/Proc. Equipment	2014	26	50	4.722	1.796	5.996	5.195	0.003	0.133	0.133	568.299	0.041
Crushing/Proc. Equipment	2015	51	120	3.959	0.797	3.859	5.04	0.006	0.43	0.43	568.299	0.071
Crushing/Proc. Equipment	2015	121	175	5.614	0.562	3.247	4.343	0.006	0.237	0.237	568.299	0.05
Crushing/Proc. Equipment	2015	176	250	5.585	0.382	1.201	3.801	0.006	0.117	0.117	568.299	0.034
Crushing/Proc. Equipment	2015	251	500	8	0.358	1.184	3.304	0.005	0.109	0.109	568.299	0.032
Crushing/Proc. Equipment	2015	501	750	12.614	0.358	1.176	3.422	0.005	0.111	0.111	568.299	0.032
Crushing/Proc. Equipment	2015	1001	9999	32.981	0.422	1.343	5.019	0.005	0.14	0.14	568.299	0.038
Crushing/Proc. Equipment	2016	26	50	4.186	1.593	5.801	5.006	0.007	0.399	0.399	568.299	0.143
Crushing/Proc. Equipment Crushing/Proc. Equipment	2016 2016	51 121	120 175	3.576 5.132	0.72 0.513	3.823 3.241	4.631 3.883	0.006	0.379	0.379	568.299 568.299	0.065
Crushing/Proc. Equipment Crushing/Proc. Equipment	2016	176	250	5.132	0.36	1.178	3.883	0.006	0.21	0.21	568.299	0.046
Crushing/Proc. Equipment	2016	251	500	7.601	0.34	1.176	2.928	0.005	0.103	0.103	568.299	0.032
Crushing/Proc. Equipment	2016	501	750	11.944	0.339	1.14	3.021	0.005	0.099	0.099	568.299	0.03
Crushing/Proc. Equipment	2016	1001	9999	31.036	0.397	1.274	4.7	0.005	0.127	0.127	568.299	0.035
Crushing/Proc. Equipment	2017	26	50	3.684	1.402	5.623	4.827	0.007	0.354	0.354	568.299	0.126
Crushing/Proc. Equipment	2017	51	120	3.216	0.647	3.791	4.244	0.006	0.33	0.33	568.299	0.058
Crushing/Proc. Equipment	2017	121	175	4.681	0.468	3.236	3.45	0.006	0.185	0.185	568.299	0.042
Crushing/Proc. Equipment	2017	176	250	4.974	0.34	1.16	2.987	0.006	0.094	0.094	568.299	0.03
Crushing/Proc. Equipment	2017	251	500 750	7.242	0.324	1.118	2.602	0.005	0.088	0.088	568.299	0.029
Crushing/Proc. Equipment Crushing/Proc. Equipment	2017 2017	501 1001	750 9999	11.359 29.544	0.323	1.114 1.231	2.664 4.423	0.005	0.088	0.088	568.299 568.299	0.029
Crushing/Proc. Equipment Crushing/Proc. Equipment	2017	26	50	3.219	1.225	5.461	4.423	0.005	0.117	0.117	568.299	0.034
Crushing/Proc. Equipment	2018	51	120	2.881	0.58	3.763	3.881	0.007	0.284	0.284	568.299	0.052
Crushing/Proc. Equipment	2018	121	175	4.267	0.427	3.234	3.049	0.006	0.161	0.161	568.299	0.038
Crushing/Proc. Equipment	2018	176	250	4.701	0.322	1.146	2.622	0.006	0.083	0.083	568.299	0.029
Crushing/Proc. Equipment	2018	251	500	6.912	0.309	1.099	2.312	0.005	0.079	0.079	568.299	0.027

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Creaming-Price Equipment 2018 601 780 10.84 0.308 1.097 2.288 0.006 0.079 0.079 68.209 0.025	Equipment Type	Voor	Low UD	High HD	TOC	I DOC	L 60	NOV	502	DM40	DMO E	CO2	CH4
Creshing-Price Equipment 2018 1001 8999 28.23 0.896 1.1894 4.186 0.005 0.107 0.107 688.289 0.025 0.025 0.026 0.028 0.0	Equipment Type	Year	Low HP	High HP	TOG	ROG	CO 1.007	NOX	SO2	PM10	PM2.5		CH4
CircalmappProc. Equipment 2019 26 50 2,798 1064 5.316 4.485 0.007 0.269 0.269 0.269 0.269 0.260 0.261 0.	<u> </u>												
CreahungPrior, Equipment 2019 51 120 2.577 0.510 3.739 3.844 0.006 0.241 0.241 0.842.00 0.036 0.024nlpg/frox. Equipment 2019 176 2.560 4.461 0.304 1.134 2.3 0.006 0.041 0.041 0.842 0.006 0.041 0.044	<u> </u>												
Chashing-Price Equipment 2019 121 175 3,938 3,934 2,233 2,7 0,006 0,141 0,141 688,209 0,002 Chashing-Price Equipment 2019 251 500 6,552 0,255 1,067 2,048 0,005 0,074 0,074 688,229 0,022 0,000	<u> </u>												
Creating-Proc. Equipment 2019 251 500 6.592 (295 1.887 2.046 0.005 0.071 0.071 68.290 0.026 Creating-Proc. Equipment 2019 1001 99999 26.978 0.345 1.173 3.927 0.005 0.079 0.038 0.089 0.035 0.034 0.03	Crushing/Proc. Equipment	2019	121	175	3.938				0.006		0.141		0.035
Crushing/Proc. Equipment 2019 501 750 10,352 0,294 1,085 2,085 0,007 0,071 0,071 588,299 0,026 Crushing/Proc. Equipment 2019 501 101 9999 2,048 0,047 5,211 4,347 0,007 0,023 0,233 588,299 0,048 0,049 0,04	Crushing/Proc. Equipment	2019	176	250	4.451			2.3	0.006		0.074		0.027
Crushing/Price Equipment 2019 1001 99999 26.978 3.45 1.173 3.927 0.005 0.098 0.098 68.299 0.035 Crushing/Price Equipment 2020 51 120 2.348 4.73 3.722 3.249 0.006 0.206 0.206 69.299 0.042 0.004 0.007 0.230 0.206 0.206 0.206 0.206 0.026	Crushing/Proc. Equipment	2019	251	500	6.592	0.295	1.087	2.046	0.005	0.071	0.071	568.299	0.026
Coushing/Proc. Equipment 2020 28 50 2.489 0.947 5.211 4.347 0.007 0.233 0.233 686.299 0.035 Conshing/Proc. Equipment 2020 151 120 2.488 0.473 3.722 3.249 0.006 0.205 0.688.299 0.035 Conshing/Proc. Equipment 2020 176 250 1.750 3.673 0.367 3.234 2.392 0.006 0.026 0.205 0.68.299 0.035 Conshing/Proc. Equipment 2020 176 250 1.750 3.673 0.367 3.234 1.235 0.006 0.026 0.026 0.68.299 0.035 Conshing/Proc. Equipment 2020 2.551 5.00 6.283 0.281 1.078 1.739 0.005 0.003 0.003 68.299 0.025 Conshing/Proc. Equipment 2020 5.01 750 9.884 0.281 1.077 1.355 0.005 0.035 0.005 0.035 0.0	Crushing/Proc. Equipment												
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Crushing/Froc. Equipment 2021 576 500 5988 0.024 1.119 1.756 0.006 0.057 0.057 5682.99 0.024 Crushing/Froc. Equipment 2021 501 750 9.434 0.268 1.072 1.574 0.005 0.055 0.055 5682.99 0.024 Crushing/Froc. Equipment 2021 1.001 9999 24.586 0.314 1.118 0.3487 0.005 0.085 0.085 5682.99 0.024 Crushing/Froc. Equipment 2022 2.6 50 2.09 0.795 5.081 0.348 1.003 0.007 0.172 0.172 5682.99 0.074 0.006 0.006 0.008	Crushing/Proc. Equipment	2021	51	120	2.176	0.438	3.711	2.989	0.006	0.178	0.178		0.039
Cushing/Proc. Equipment 2021 551 500 5.988 0.288 1.072 1.574 0.005 0.055 0.055 5.88.3 0.024 Cushing/Proc. Equipment 2021 501 750 9.343 0.288 1.072 1.606 0.005 0.055 0.055 5.88.3 0.024 Cushing/Proc. Equipment 2021 10101 9898 24.586 0.314 1.136 3.487 0.005 0.08 0.08 588.299 0.028 Cushing/Proc. Equipment 2022 26 50 2.09 0.795 5.081 4.083 0.007 1.172 0.172 5.888 0.028	Crushing/Proc. Equipment												
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Crushing/Proc. Equipment 2023 51 120 1.914 0.385 3.7 2.552 0.006 0.132 0.132 568.299 0.034 Crushing/Proc. Equipment 2023 176 250 3.623 0.248 1.911 1.33 0.006 0.043 0.083 568.299 0.022 Crushing/Proc. Equipment 2023 570 500 5.444 0.244 1.064 1.227 0.005 0.042 0.042 568.299 0.022 Crushing/Proc. Equipment 2023 501 750 8.598 0.244 1.064 1.227 0.005 0.042 0.042 568.299 0.022 Crushing/Proc. Equipment 2023 501 750 8.598 0.244 1.065 1.251 0.005 0.042 0.042 568.299 0.022 Crushing/Proc. Equipment 2023 501 750 8.598 0.244 1.065 1.251 0.005 0.064 0.042 0.042 568.39 0.022 Crushing/Proc. Equipment 2023 1001 9999 22.463 0.287 1.107 3.16 0.005 0.066 568.299 0.022 Crushing/Proc. Equipment 2024 6 50 1.825 0.069 4 5.006 3.05 0.007 0.125 0.125 568.299 0.025 0.0					23.492								0.027
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													0.015
	Crushing/Proc. Equipment		251	500				0.292	0.005				0.015

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type Crushing/Proc. Equipment Crushing/Proc. Equipment Dumpers/Tenders Dumpers/Tenders	Year 2040 2040	501	High HP 750	TOG 5.941	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Crushing/Proc. Equipment Dumpers/Tenders	2040		700	3.941	0.169	1.059	0.292	0.005	0.011	0.011	568.299	0.015
Dumpers/Tenders	2040	1001	9999	13.333	0.17	1.059	2.457	0.005	0.024	0.024	568.299	0.015
Dumpers/Tenders	1990	16	25	2.645	2.213	4.999	6.919	0.855	0.741	0.741	568.299	0.199
	2000	16	25	2.444	2.045	4.69	6.397	0.065	0.571	0.571	568.299	0.184
Dumpers/Tenders	2005	16	25	1.554	1.3	3.337	5.74	0.065	0.426	0.426	568.299	0.117
Dumpers/Tenders	2010	16	25	0.963	0.806	2.507	4.804	0.007	0.271	0.271	568.299	0.072
Dumpers/Tenders	2011	16	25	0.921	0.771	2.456	4.686	0.007	0.251	0.251	568.299	0.069
Dumpers/Tenders	2012	16	25	0.887	0.742	2.416	4.576	0.007	0.232	0.232	568.299	0.066
Dumpers/Tenders	2013	16	25	0.86	0.719	2.385	4.477	0.007	0.216	0.216	568.3	0.064
Dumpers/Tenders Dumpers/Tenders	2014 2015	16 16	25 25	0.842 0.831	0.705 0.696	2.364	4.433 4.402	0.007	0.2 0.187	0.2 0.187	568.3 568.299	0.063
Dumpers/Tenders Dumpers/Tenders	2015	16	25	0.825	0.69	2.342	4.402	0.007	0.175	0.167	568.299	0.062
Dumpers/Tenders	2010	16	25	0.823	0.687	2.342	4.362	0.007	0.173	0.173	568.299	0.062
Dumpers/Tenders	2017	16	25	0.82	0.686	2.339	4.35	0.007	0.171	0.169	568.299	0.061
Dumpers/Tenders	2019	16	25	0.82	0.686	2.339	4.341	0.007	0.167	0.167	568.299	0.061
Dumpers/Tenders	2020	16	25	0.819	0.685	2.339	4.336	0.007	0.165	0.165	568.299	0.061
Dumpers/Tenders	2021	16	25	0.819	0.685	2.339	4.333	0.007	0.163	0.163	568.299	0.061
Dumpers/Tenders	2022	16	25	0.819	0.685	2.339	4.332	0.007	0.162	0.162	568.299	0.061
Dumpers/Tenders	2023	16	25	0.819	0.685	2.339	4.332	0.007	0.162	0.162	568.299	0.061
Dumpers/Tenders	2024	16	25	0.819	0.685	2.34	4.332	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2025	16	25	0.819	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2030	16	25	0.819	0.685	2.34	4.332	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2035	16	25	0.819	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Dumpers/Tenders	2040	16	25	0.819	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Excavators	1990	16	25	5.933	2.213	4.999	6.919	0.855	0.741	0.741	568.299	0.199
Excavators	1990	26	50	21.032	5.155	10.359	8.08	0.871	1.341	1.341	568.299	0.465
Excavators	1990 1990	51 121	120 175	29.647 35.634	2.469	5.901 5.271	15.421 15.075	0.791 0.758	1.413	1.413	568.299 568.299	0.222
Excavators Excavators	1990	176	250	50.388	1.947 1.947	5.271	15.075	0.758	1.096	1.096 1.096	568.299	0.175
Excavators	1990	251	500	65.206	1.71	12.155	14.225	0.662	0.93	0.93	568.3	0.173
Excavators	1990	501	750	108.079	1.71	12.155	14.225	1.018	0.947	0.947	568.299	0.154
Excavators	2000	16	25	4.937	1.841	4.315	6.281	0.065	0.543	0.543	568.299	0.166
Excavators	2000	26	50	18.836	4.616	9.494	7.102	0.066	0.958	0.958	568.299	0.416
Excavators	2000	51	120	21.925	1.826	4.602	10.156	0.06	0.913	0.913	568.299	0.164
Excavators	2000	121	175	22.624	1.236	3.672	9.345	0.057	0.525	0.525	568.299	0.111
Excavators	2000	176	250	25.927	1.001	2.794	8.952	0.057	0.409	0.409	568.299	0.09
Excavators	2000	251	500	34.719	0.91	3.974	8.491	0.05	0.362	0.362	568.299	0.082
Excavators	2000	501	750	57.546	0.91	3.974	8.491	0.052	0.362	0.362	568.299	0.082
Excavators	2005	16	25	2.091	0.779	2.397	5.219	0.065	0.319	0.319	568.299	0.07
Excavators	2005	26	50	16.217	3.974	8.597	6.562	0.066	0.871	0.871	568.299	0.358
Excavators	2005	51	120	19.001	1.582	4.354	8.632	0.06	0.853	0.853	568.299	0.142
Excavators	2005	121	175	18.9	1.032	3.452	7.905	0.057	0.461	0.461	568.299	0.093
Excavators	2005	176	250	18.379	0.71	1.892	7.456	0.057	0.276	0.276	568.299	0.064
Excavators	2005 2005	251 501	500 750	24.005 40.443	0.629	2.194 2.192	6.685 6.888	0.05 0.052	0.248	0.248	568.299 568.299	0.056
Excavators Excavators	2010	16	25	0.993664	0.835	4.56926		0.005	0.413	0.231	584.0737	0.037
Excavators Excavators	2010	26	50	0.993664	0.835	4.56926		0.005	0.413	0.38	584.0737	0.17
Excavators	2010	51	120	0.73275	0.616	3.69337		0.005	0.469	0.432	518.9941	0.17
Excavators	2010	121	175	0.572846	0.481		5.82964	0.005	0.299	0.275	525.0484	
Excavators	2010	176	250	0.422004	0.355	1.45526		0.005	0.182	0.167	525.2427	0.153
Excavators	2010	251	500	0.315965	0.265	1.44794		0.005	0.143	0.132	522.2909	
Excavators	2010	501	750	0.327987	0.276	1.53784		0.005	0.149	0.137	520.4269	
Excavators	2011	16	25	0.999474	0.84	4.67202		0.005	0.413	0.38	582.8586	
Excavators	2011	26	50	0.999474	0.84	4.67202		0.005	0.413	0.38	582.8586	
Excavators	2011	51	120	0.675188	0.567	3.65807		0.005	0.436	0.401	517.4139	
Excavators	2011	121	175	0.533269	0.448	3.15702		0.005	0.278	0.255	523.5178	
Excavators	2011	176	250	0.400356	0.336	1.41809		0.005	0.171	0.157	523.6886	
Excavators	2011	251	500	0.303301	0.255	1.41288		0.005	0.133	0.123	521.2972	
Excavators	2011	501	750	0.326107	0.274	1.47034		0.005	0.146	0.134	519.1221	0.151
Excavators	2012 2012	16 26	25 50	1.018057 1.018057	0.855 0.855	4.79179		0.005	0.412	0.379	581.4648 581.4648	
Excavators Excavators	2012	<u>∠</u> 6	120	0.67458	0.855	4.79179 3.68099		0.005	0.412	0.379	516.083	0.17
Excavators Excavators	2012	121	175	0.67458	0.567	3.68099		0.005	0.434	0.399	516.083	
Excavators	2012	176	250	0.334632	0.449	1.42562		0.005	0.273	0.255	522.4958	
Excavators Excavators	2012	251	500	0.402641	0.336	1.4255	4.05714	0.005	0.131	0.133	520.034	0.153
Excavators	2012	501	750	0.334165	0.233	1.47962	4.3898	0.005	0.145	0.121	517.8167	0.152
Excavators	2012	16	25	0.995402	0.836	4.80774		0.005	0.393	0.362	578.236	0.131
Excavators	2013	26	50	0.995402	0.836	4.80774	5.0526	0.005	0.393	0.362	578.236	0.17
Excavators	2013	51	120	0.639011	0.537	3.66866		0.005	0.404	0.372	513.7321	0.151
Excavators	2013	121	175	0.503929		3.16966		0.005	0.253	0.233	519.496	0.153

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Excavators	2013	176	250	0.383779	0.322	1.40068		0.005	0.157	0.145	519.8753	0.153
Excavators	2013	251	500	0.295491	0.248		3.73509	0.005	0.121	0.111	517.7809	0.152
Excavators	2013	501	750	0.301827	0.254		3.92892	0.005	0.126	0.116	514.1872	0.151
Excavators	2014	16	25	0.981904	0.825		4.96504	0.005	0.38	0.35	575.2674	0.17
Excavators	2014	26	50	0.981904	0.825	4.84434	4.96504	0.005	0.38	0.35	575.2674	0.17
Excavators	2014	51	120	0.610505	0.513	3.66313	5.13137	0.005	0.382	0.352	511.3057	0.151
Excavators	2014	121	175	0.464169	0.39	3.15438		0.005	0.229	0.211	516.9066	0.153
Excavators	2014	176	250	0.350137	0.294	1.34557	4.37384	0.005	0.139	0.128	517.3234	0.153
Excavators	2014	251	500	0.276896	0.233	1.32721	3.35284	0.005	0.108	0.099	515.2151	0.152
Excavators	2014	501	750	0.284069	0.239		3.54089	0.005	0.114	0.105	511.9453	0.151
Excavators	2015	16	25	0.991068 0.991068	0.833	4.92488		0.005	0.375	0.345	569.5116	0.17
Excavators	2015 2015	26 51	50 120	0.60346	0.833	4.92488 3.67943		0.005	0.375	0.345	569.5116 506.1727	0.17
Excavators Excavators	2015	121	175	0.60346	0.507	3.16762	4.4807	0.005	0.373	0.344	511.6869	0.151
Excavators	2015	176	250	0.430397	0.384	1.33148		0.005	0.221	0.203	512.0555	0.153
Excavators	2015	251	500	0.276143	0.232		3.21395	0.005	0.104	0.096	509.8675	0.152
Excavators	2015	501	750	0.28808	0.242	1.35372		0.005	0.113	0.104	506.6816	0.151
Excavators	2016	16	25	0.970016	0.815	4.94198		0.005	0.359	0.33	563.8026	0.17
Excavators	2016	26	50	0.970016	0.815	4.94198		0.005	0.359	0.33	563.8026	0.17
Excavators	2016	51	120	0.566011	0.476	3.66066		0.005	0.344	0.317	500.9659	0.151
Excavators	2016	121	175	0.425494	0.358	3.15771	4.08095	0.005	0.201	0.185	506.495	0.153
Excavators	2016	176	250	0.312033	0.262		3.66736	0.005	0.116	0.107	506.544	0.153
Excavators	2016	251	500	0.253752	0.213	1.23344		0.005	0.091	0.083	504.2899	0.152
Excavators	2016	501	750	0.287698	0.242	1.34881	3.35762	0.005	0.11	0.101	501.6596	0.151
Excavators	2017	16	25	0.91741	0.771	4.88904	4.67818	0.005	0.332	0.305	554.9101	0.17
Excavators	2017	26	50	0.91741	0.771	4.88904	4.67818	0.005	0.332	0.305	554.9101	0.17
Excavators	2017	51	120	0.523542	0.44	3.63939		0.005	0.31	0.285	493.409	0.151
Excavators	2017	121	175	0.397029	0.334	3.15091	3.69967	0.005	0.182	0.167	498.5222	0.153
Excavators	2017 2017	176 251	250 500	0.293543 0.237788	0.247	1.24911	3.31872 2.50715	0.005	0.105 0.081	0.097	498.4364 496.8098	0.153
Excavators Excavators	2017	501	750	0.237766	0.21	1.19652	2.71934	0.005	0.001	0.073	494.5496	0.152
Excavators	2017	16	25	0.818091	0.687	4.70022	4.39518	0.005	0.284	0.261	545.3468	0.132
Excavators	2018	26	50	0.818091	0.687	4.70022	4.39518	0.005	0.284	0.261	545.3468	0.17
Excavators	2018	51	120	0.438055	0.368	3.56214		0.005	0.25	0.23	486.056	0.151
Excavators	2018	121	175	0.324959	0.273	3.09338		0.005	0.142	0.13	490.6725	0.153
Excavators	2018	176	250	0.240329	0.202	1.15209	2.59377	0.005	0.079	0.073	490.2569	0.153
Excavators	2018	251	500	0.207823	0.175	1.13951	2.05045	0.005	0.066	0.061	489.1025	0.152
Excavators	2018	501	750	0.22476	0.189	1.22359		0.005	0.076	0.07	487.6528	0.152
Excavators	2019	16	25	0.75855	0.637	4.59698		0.005	0.25	0.23	536.9132	0.17
Excavators	2019	26	50	0.75855	0.637	4.59698		0.005	0.25	0.23	536.9132	0.17
Excavators	2019	51	120	0.386598	0.325	3.52421	3.36874	0.005	0.211	0.194	478.2452	0.151
Excavators	2019	121	175	0.293021		3.08163		0.005	0.122	0.112	482.6838	0.153
Excavators	2019	176	250	0.220917			2.24187	0.005		0.063		
Excavators Excavators	2019 2019	251 501	500 750	0.192898 0.209677	0.162 0.176	1.1135	1.77986	0.005	0.058	0.053	481.2361 479.2876	0.152
Excavators	2019	16	25	0.705964	0.170	4.50032		0.005	0.007	0.204	525.3675	0.132
Excavators	2020	26	50	0.705964	0.593			0.005	0.222	0.204	525.3675	0.17
Excavators	2020	51	120	0.356064		3.50495		0.005	0.185	0.17	468.0546	0.151
Excavators	2020	121	175	0.275327	0.231		2.27838	0.005	0.11	0.102	472.2891	0.153
Excavators	2020	176	250	0.211076	0.177		2.02738	0.005	0.061	0.056	471.8828	0.153
Excavators	2020	251	500	0.182542	0.153		1.57199	0.005	0.052	0.048	470.2956	0.152
Excavators	2020	501	750	0.202011	0.17		1.79718	0.005	0.061	0.056	468.8706	0.152
Excavators	2021	16	25	0.669315	0.562		3.91866	0.005	0.202	0.186	525.3774	0.17
Excavators	2021	26	50	0.669315			3.91866	0.005	0.202	0.186	525.3774	0.17
Excavators	2021	51	120	0.327314		3.49196		0.005	0.161	0.148	467.7906	0.151
Excavators	2021	121	175	0.257574		3.08975		0.005	0.099	0.091	472.3586	0.153
Excavators	2021	176	250	0.193738		1.10324		0.005	0.052	0.048	471.7931	0.153
Excavators	2021	251	500	0.170127	0.143	1.08777	1.33174	0.005	0.045	0.041	469.6156	0.152
Excavators Excavators	2021 2022	501 16	750 25	0.196683 0.568779	0.165		1.61856 3.70039	0.005	0.056 0.16	0.052 0.147	469.547 525.4468	0.152 0.17
Excavators Excavators	2022	26	50	0.568779	0.478		3.70039	0.005	0.16	0.147	525.4468	0.17
Excavators	2022	51	120	0.300779		3.47329		0.005	0.138	0.147	467.6256	0.17
Excavators	2022	121	175	0.22749	0.232	3.074	1.6781	0.005	0.081	0.127	472.1917	0.151
Excavators	2022	176	250	0.176606	0.148	1.09157		0.005	0.044	0.04	472.0412	0.153
Excavators	2022	251	500	0.152263	0.128		1.03988	0.005	0.035	0.032	469.7105	0.152
Excavators	2022	501	750	0.178436	0.15	1.144	1.2865	0.005	0.047	0.043	469.2892	0.152
Excavators	2023	16	25	0.535724	0.45		3.59356	0.005	0.139	0.128	525.4286	0.17
Excavators	2023	26	50	0.535724	0.45		3.59356	0.005	0.139	0.128	525.4286	0.17
Excavators	2023	51	120	0.273823	0.23		2.38066	0.005	0.116	0.107	467.1573	0.151
Excavators	2023	121	175	0.212046	0.178	3.07648	1.46245	0.005	0.072	0.066	472.277	0.153

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type Excavators	Year 2023	176	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Excavators	2023	170	250	0.168964	0.142	1.08965	1.20943	0.005	0.039	0.036	472.2131	0.153
Excavators	2023	251	500	0.145171	0.122	1.05093	0.89311	0.005	0.03	0.028	469.8892	0.152
Excavators	2023	501	750	0.171247	0.144	1.13199	1.15865	0.005	0.043	0.04	468.6826	0.152
Excavators	2024	16	25	0.495634	0.416			0.005	0.12	0.11	525.979	0.17
Excavators	2024	26	50	0.495634	0.416	4.20529	3.50816	0.005	0.12	0.11	525.979	0.17
Excavators	2024	51	120	0.258544	0.217	3.45322	2.24781	0.005	0.102	0.094	467.3843	0.151
Excavators	2024	121	175	0.202572	0.17	3.08336	1.32479	0.005	0.065	0.06	472.4279	0.153
Excavators	2024	176	250	0.165297	0.139	1.0899	1.10808	0.005	0.036	0.033	472.4415	0.153
Excavators Excavators Excavators Excavators Excavators Excavators Excavators Excavators	2024	251 501	500 750	0.144133	0.121	1.05369 1.13421	0.83129	0.005	0.029	0.026	469.7108	0.152
Excavators Excavators Excavators Excavators Excavators Excavators Excavators	2024	16	25	0.169017 0.47994	0.142	4.21941	1.10467 3.45298	0.005	0.041	0.037	468.652 525.7772	0.152
Excavators Excavators Excavators Excavators Excavators	2025	26	50	0.47994	0.403	4.21941	3.45298	0.005	0.107	0.099	525.7772	0.17
Excavators Excavators Excavators Excavators	2025	51	120	0.23878	0.201	3.43876		0.005	0.085	0.033	466.7376	0.151
Excavators Excavators Excavators	2025	121	175	0.187811	0.158	3.078	1.15367	0.005	0.057	0.052	472.4964	0.153
Excavators Excavators	2025	176	250	0.155588	0.131			0.005	0.032	0.029	472.5599	0.153
Excavators	2025	251	500	0.137039	0.115	1.05072	0.72641	0.005	0.026	0.024	470.2915	0.152
	2025	501	750	0.165305	0.139	1.13484	1.02571	0.005	0.038	0.035	468.5582	0.152
Excavators	2030	16	25	1.838	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Excavators	2030	26	50	2.458	0.602	5.309	3.393	0.007	0.038	0.038	568.299	0.054
Excavators	2030	51	120	3.618	0.301	3.806	1.676	0.006	0.034	0.034	568.299	0.027
Excavators	2030	121	175	3.914	0.213	3.362	0.525	0.006	0.023	0.023	568.299	0.019
Excavators	2030	176	250	5.258	0.203	1.145	0.452	0.006	0.016	0.016	568.299	0.018
Excavators	2030	251	500	7.722	0.202	1.088	0.433	0.005	0.016	0.016	568.299	0.018
Excavators	2030	501	750	12.807	0.202	1.088	0.437	0.005	0.016	0.016	568.299	0.018
Excavators	2035	16	25	1.838	0.685	2.339	4.332	0.007	0.161	0.161	568.299 568.299	0.061
Excavators Excavators	2035 2035	26 51	50 120	2.333 3.411	0.572	5.287 3.802	3.323 1.551	0.007	0.024	0.024	568.299	0.051
Excavators	2035	121	175	3.622	0.264	3.363	0.365	0.006	0.021	0.021	568.299	0.023
Excavators	2035	176	250	5.059	0.197	1.145	0.342	0.006	0.013	0.013	568.3	0.017
Excavators	2035	251	500	7.45	0.195	1.089	0.337	0.005	0.013	0.013	568.299	0.017
Excavators	2035	501	750	12.348	0.195	1.088	0.338	0.005	0.013	0.013	568.299	0.017
Excavators	2040	16	25	1.838	0.685	2.339	4.332	0.007	0.161	0.161	568.3	0.061
Excavators	2040	26	50	2.314	0.567	5.283	3.29	0.007	0.019	0.019	568.299	0.051
Excavators	2040	51	120	3.36	0.279	3.802	1.507	0.006	0.017	0.017	568.299	0.025
Excavators	2040	121	175	3.532	0.193	3.363	0.311	0.006	0.013	0.013	568.299	0.017
Excavators	2040	176	250	4.971	0.192	1.145	0.3	0.006	0.011	0.011	568.299	0.017
Excavators	2040	251	500	7.322	0.192	1.089	0.3	0.005	0.011	0.011	568.299	0.017
Excavators	2040	501	750	12.137	0.192	1.089	0.3	0.005	0.011	0.011	568.299	0.017
Forklifts	1990	26	50	11.848	4.826	9.773	7.952	0.692	1.266	1.266	568.299	0.435
Forklifts	1990	51	120	12.154	2.326	5.638	14.699	0.628	1.32	1.32	568.3	0.209
Forklifts	1990	121	175	14.423	1.537	4.938	12.932	0.602	0.849	0.849	568.299	0.138
Forklifts Forklifts	1990	176 251	250 500	19.845	1.537	4.938	12.932 12.267	0.602	0.849	0.849	568.299	0.138
Forklifts Forklifts	1990 2000		500	25.356	1.365	10.853		0.525	0.73	0.73	568.299 568.3	0.123
Forklifts	2000	26 51	120	10.952 9.146	4.461 1.75	9.216 4.459	7.035 9.75	0.059	0.882	0.882	568.299	0.402
Forklifts	2000	121	175	11.149	1.188	3.519	9.001	0.057	0.502	0.502	568.299	0.107
Forklifts	2000	176	250	11.958	0.926	2.534	8.546	0.057	0.372	0.372	568.299	0.107
Forklifts	2000	251	500	15.747	0.848	3.255	8.126	0.049	0.333	0.333	568.299	0.076
Forklifts	2005	26	50	10.087	4.108	8.778	6.62	0.065	0.891	0.891	568.299	0.37
Forklifts	2005	51	120	8.425	1.612	4.35	8.602	0.059	0.876	0.876	568.299	0.145
Forklifts	2005	121	175	9.959	1.061	3.418	7.94	0.057	0.475	0.475	568.299	0.095
Forklifts	2005	176	250	8.606	0.666	1.693	7.367	0.057	0.253	0.253	568.299	0.06
Forklifts	2005	251	500	10.976	0.591	1.803	6.611	0.049	0.23	0.23	568.299	0.053
Forklifts	2010	26	50	2.846117	2.392	7.62516		0.005	0.729	0.671	583.8704	0.17
Forklifts	2010	51	120	1.045472	0.878	4.10764		0.005	0.625	0.575	523.9205	0.153
Forklifts	2010	121	175	0.764801	0.643	3.54812		0.005	0.389	0.357	524.5625	0.153
Forklifts	2010	176	250	0.852639	0.716	2.88991		0.005	0.398	0.366	525.9172	0.153
Forklifts Forklifts	2010	251	500 50	0.814667	0.685	5.79345 7.5619	6.26642	0.005	0.381	0.351 0.657	526.239 582.4107	0.153
Forklifts Forklifts	2011	26 51	120	2.771689 1.023636	2.329 0.86		7.45983	0.005	0.715 0.617	0.657	582.4107	0.17 0.153
Forklifts	2011	121	175	0.759385	0.638	3.55732		0.005	0.385	0.355	523.2511	0.153
Forklifts	2011	176	250	0.819463	0.689	2.77115		0.005	0.381	0.35	524.6024	0.153
Forklifts	2011	251	500	0.787175	0.661	5.42187	7.84	0.005	0.368	0.338	524.9234	0.153
Forklifts	2012	26	50	2.800937	2.354	7.68036		0.005	0.72	0.663	580.951	0.17
Forklifts	2012	51	120	1.026513	0.863	4.13104		0.005	0.62	0.571	521.3009	0.153
Forklifts	2012	121	175	0.764904	0.643	3.58413		0.005	0.387	0.356	521.9397	0.153
Forklifts	2012	176	250	0.82428	0.693	2.77846		0.005	0.381	0.35	523.2876	0.153
Forklifts	2012	251	500	0.795085	0.668	5.42806		0.005	0.369	0.34	523.6078	0.153
Forklifts	2013	26	50	2.655997	2.232	7.4937	6.14743	0.005	0.689	0.634	578.0317	0.17
Forklifts	2013	51	120	0.996839	0.838	4.11855		0.005	0.603		518.6813	0.153

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

					500		1101/	000		5146 =		0114
Equipment Type	Year		High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Forklifts	2013	121	175 250	0.743778	0.625	3.57971 2.67477	6.90229	0.005	0.375	0.345	519.3169 520.658	0.153
Forklifts Forklifts	2013	176 251	500	0.786493 0.686735	0.661	4.6871	7.77338 6.91072	0.005	0.36 0.314	0.332	520.9766	0.153
Forklifts	2013	26	500	2.515249	2.114	7.32058		0.005	0.656	0.604	575.1123	0.133
Forklifts	2014	51	120	0.945485	0.794		6.84833	0.005	0.574	0.528	516.0617	0.153
Forklifts	2014	121	175	0.688099	0.578		6.35205	0.005	0.345	0.317	516.694	0.153
Forklifts	2014	176	250	0.731475	0.615	2.50114		0.005	0.33	0.304	518.0284	0.153
Forklifts	2014	251	500	0.644228	0.541		6.35258	0.005	0.289	0.266	518.3454	
Forklifts	2015	26	50	2.466892	2.073		5.93143	0.005	0.643	0.591	569.2736	0.17
Forklifts	2015	51	120	0.914509	0.768		6.60091	0.005	0.555	0.51	510.8225	0.153
Forklifts	2015	121	175	0.673169	0.566		6.13482	0.005	0.335	0.308	511.4484	0.153
Forklifts	2015	176	250	0.672054	0.565	2.32501		0.005	0.298	0.274	512.7693	0.153
Forklifts	2015	251	500	0.539875	0.454	3.29951	5.33227	0.005	0.237	0.218	513.083	0.153
Forklifts	2016	26	50	2.217878	1.864	6.93473		0.005	0.583	0.537	563.4349	0.17
Forklifts	2016	51	120	0.860278	0.723	4.02311		0.005	0.52	0.479	505.5833	0.153
Forklifts	2016	121	175	0.630613	0.53		5.67466	0.005	0.31	0.285	506.2028	
Forklifts	2016	176	250	0.641979	0.539		6.35303	0.005	0.28	0.257	507.5101	0.153
Forklifts	2016	251	500 50	0.419581	0.353	2.57209	4.04212 5.45035	0.005	0.174 0.536	0.16	507.8206	0.153
Forklifts Forklifts	2017 2017	26 51		2.026819	1.703 0.672			0.005	0.536	0.493	554.6769 497.7245	0.17
Forklifts Forklifts	2017	121	120 175	0.799635 0.604568	0.672		5.81772 5.36215	0.005	0.48	0.442	497.7245	0.153
Forklifts	2017	176	250	0.604568	0.508	2.0923	5.75116	0.005	0.294	0.27	498.3344	0.153
Forklifts	2017	251	500	0.369904	0.496	2.50803		0.005	0.252	0.232	499.0213	0.153
Forklifts	2018	26	50	1.658295	1.393	6.10276		0.005	0.447	0.411	545.9188	0.133
Forklifts	2018	51	120	0.675301	0.567	3.85819		0.005	0.4	0.368	489.8657	0.153
Forklifts	2018	121	175	0.508414	0.427		4.42984	0.005	0.241	0.222	490.4659	0.153
Forklifts	2018	176	250	0.506009	0.425	1.83475	4.93757	0.005	0.207	0.191	491.7326	0.153
Forklifts	2018	251	500	0.335655	0.282	1.87814	3.01864	0.005	0.125	0.115	492.0335	0.153
Forklifts	2019	26	50	1.480074	1.244	5.88034	4.86189	0.005	0.401	0.369	537.1608	0.17
Forklifts	2019	51	120	0.606336	0.509		4.54965	0.005	0.352	0.324	482.0069	0.153
Forklifts	2019	121	175	0.454984	0.382	3.28831	3.86458	0.005	0.21	0.193	482.5975	0.153
Forklifts	2019	176	250	0.445406	0.374	1.6773	4.2498	0.005	0.175	0.161	483.8438	
Forklifts	2019	251	500	0.31829	0.267	1.814	2.75148	0.005	0.112	0.103	484.1399	0.153
Forklifts	2020	26	50	1.337399	1.124	5.70563	4.68572	0.005	0.36	0.331	525.4833	0.17
Forklifts	2020	51	120	0.545921	0.459	3.75954		0.005	0.308	0.283	471.5285	0.153
Forklifts Forklifts	2020 2020	121 176	175 250	0.402357 0.348476	0.338	3.24885 1.44178		0.005	0.18 0.126	0.165 0.116	472.1062 473.3255	0.153
Forklifts	2020	251	500	0.299035	0.251	1.47807	2.43991	0.005	0.120	0.089	473.6151	0.153
Forklifts	2020	26	50	1.192536	1.002	5.53477	4.5202	0.005	0.318	0.292	525.4833	0.133
Forklifts	2021	51	120	0.490261	0.412	3.72	3.75592	0.005	0.267	0.245	471.5285	0.153
Forklifts	2021	121	175	0.366939	0.308	3.23128	2.9207	0.005	0.158	0.145	472.1062	0.153
Forklifts	2021	176	250	0.296154	0.249	1.33672		0.005	0.099	0.091	473.3255	
Forklifts	2021	251	500	0.301833				0.005	0.094	0.086	473.6151	
Forklifts	2022	26	50	1.02259	0.859	5.30418	4.31214	0.005	0.27	0.248	525.4833	0.17
Forklifts	2022	51	120	0.430627	0.362	3.67507	3.36021	0.005	0.223	0.205	471.5285	0.153
Forklifts	2022	121	175	0.324265	0.272	3.19749	2.47982	0.005	0.132	0.122	472.1062	0.153
Forklifts	2022	176	250	0.280841	0.236	1.3171	2.31941	0.005	0.09	0.083	473.3255	
Forklifts	2022	251	500	0.275829	0.232	1.21922	1.99119	0.005	0.077	0.071	473.6151	0.153
Forklifts	2023	26	50	0.911766	0.766	5.16597	4.15219	0.005	0.232	0.213	525.4833	0.17
Forklifts	2023	51	120	0.388709	0.327	3.64655	3.0569	0.005	0.189	0.174	471.5285	0.153
Forklifts Forklifts	2023	121	175	0.289923	0.244		2.11214	0.005	0.111	0.102	472.1062	0.153
Forklifts	2023	176	250 500	0.242474	0.204		1.80718	0.005	0.069	0.063	473.3255	0.153
Forklifts Forklifts	2023 2024	251 26	500	0.261765 0.823848	0.22	1.21596 5.0885		0.005	0.069	0.063 0.187	473.6151 525.4833	0.153
Forklifts	2024	51	120	0.823848	0.692	3.62907	2.81432	0.005	0.203	0.167	471.5285	0.17
Forklifts	2024	121	175	0.337063	0.224	3.17389		0.005	0.163	0.13	471.3263	0.153
Forklifts	2024	176	250	0.232645		1.21846		0.005	0.090	0.056	473.3255	
Forklifts	2024	251	500	0.258844	0.218	1.21901	1.72336	0.005	0.065	0.06	473.6151	0.153
Forklifts	2025	26	50	0.757155		5.02929		0.005	0.178	0.164	525.4833	0.17
Forklifts	2025	51	120	0.329382		3.61138		0.005	0.14	0.128	471.5285	
Forklifts	2025	121	175	0.248361	0.209	3.17013	1.653	0.005	0.084	0.078	472.1062	0.153
Forklifts	2025	176	250	0.226669	0.19	1.2143	1.46623	0.005	0.056	0.052	473.3255	
Forklifts	2025	251	500	0.255656	0.215	1.22207	1.65848	0.005	0.062	0.057	473.6151	0.153
Forklifts	2030	26	50	1.388	0.565	5.272	3.33	0.007	0.023	0.023	568.299	0.051
Forklifts	2030	51	120	1.48	0.283	3.799	1.555	0.006	0.021	0.021	568.299	0.025
Forklifts	2030	121	175	1.875	0.199	3.36	0.391	0.006	0.015	0.015	568.299	0.018
Forklifts	2030	176	250	2.524	0.195	1.144	0.341	0.006	0.012	0.012	568.299	0.017
Forklifts	2030	251	500	3.633	0.195	1.088	0.341	0.005	0.012	0.012	568.299	0.017
Forklifts	2035	26	50	1.371	0.558	5.234	3.268	0.007	0.017	0.017	568.299	0.05
Forklifts	2035	51	120	1.438	0.275	3.787	1.495	0.006	0.016	0.016	568.299	0.024

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

					200		NOV	000	51446	5146 =	000	
Equipment Type	Year		High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Forklifts	2035	121	175	1.775	0.189	3.35	0.299	0.006	0.012	0.012	568.3	0.017
Forklifts	2035	176	250	2.433	0.188	1.141	0.29	0.006	0.011	0.011	568.3	0.017
Forklifts	2035	251	500	3.502	0.188	1.085	0.29	0.005	0.011	0.011	568.299	0.017
Forklifts	2040 2040	26 51	50 120	1.38	0.562	5.256	3.272	0.007	0.017	0.017	568.299	0.05
Forklifts Forklifts	2040	121	175	1.444 1.777	0.276 0.189	3.794 3.356	1.491 0.288	0.006	0.016	0.016	568.299 568.299	0.024
		176	250									
Forklifts Forklifts	2040 2040	251	500	2.445 3.518	0.189	1.143	0.288	0.006	0.011	0.011	568.299 568.299	0.017
Generator Sets	1990	6	15	4.791	1.804	4.999	10	1.018	0.011	0.011	568.299	0.017
Generator Sets	1990	16	25	10.151	2.213	4.999	6.919	0.83	0.74	0.374	568.299	0.102
Generator Sets	1990	26	50	24.936	3.13	6.681	7.325	0.846	0.74	0.74	568.299	0.199
Generator Sets	1990	51	120	38.362	1.891	4.97	13.19	0.768	0.985	0.985	568.299	0.202
Generator Sets	1990	121	175	47.754	1.292	4.395	11.864	0.736	0.653	0.653	568.3	0.116
Generator Sets	1990	176	250	71.475	1.292	4.395	11.864	0.736	0.653	0.653	568.299	0.116
Generator Sets	1990	251	500	104.891	1.196	6.53	11.613	0.642	0.596	0.596	568.299	0.107
Generator Sets	1990	501	750	169.323	1.196	6.53	11.612	0.658	0.596	0.596	568.299	0.107
Generator Sets	1990	1001	9999	326.002	1.195	6.53	11.612	0.658	0.594	0.594	568.299	0.107
Generator Sets	2000	6	15	4.033	1.518	4.875	8.846	0.079	0.613	0.613	568.299	0.137
Generator Sets	2000	16	25	7.648	1.667	4.783	6.405	0.065	0.51	0.51	568.299	0.15
Generator Sets	2000	26	50	23.582	2.96	6.415	6.55	0.066	0.692	0.692	568.299	0.267
Generator Sets	2000	51	120	31.137	1.535	4.158	9.468	0.06	0.686	0.686	568.299	0.138
Generator Sets	2000	121	175	38.027	1.029	3.381	8.612	0.057	0.404	0.404	568.299	0.092
Generator Sets	2000	176	250	46.981	0.849	2.656	8.277	0.057	0.325	0.325	568.299	0.076
Generator Sets	2000	251	500	70.308	0.802	3.7	8.102	0.05	0.301	0.301	568.299	0.072
Generator Sets	2000	501	750	113.5	0.802	3.7	8.102	0.051	0.301	0.301	568.3	0.072
Generator Sets	2000	1001	9999	251.503	0.921	4.274	8.686	0.051	0.344	0.344	568.299	0.083
Generator Sets	2005	6	15	3.219	1.212	4.38	7.615	0.079	0.505	0.505	568.299	0.109
Generator Sets	2005	16	25	5.748	1.253	3.922	6.014	0.065	0.432	0.432	568.299	0.113
Generator Sets	2005	26	50	20.78	2.608	5.919	6.099	0.066	0.64	0.64	568.3	0.235
Generator Sets	2005	51	120	26.634	1.313	3.853	7.987	0.06	0.634	0.634	568.299	0.118
Generator Sets	2005	121	175	31.579	0.854	3.067	7.306	0.057	0.35	0.35	568.299	0.077
Generator Sets	2005 2005	176 251	250 500	33.443 47.834	0.604	1.801 2.206	6.892 6.465	0.057	0.229	0.229	568.299 568.299	0.054
Generator Sets Generator Sets	2005	501	750	79.444	0.545	2.206	6.609	0.051	0.211	0.211	568.3	0.049
Generator Sets	2005	1001	9999	195.712	0.717	2.719	7.582	0.051	0.255	0.214	568.299	0.03
Generator Sets	2010	6	15	2.532	0.717	4.027	6.387	0.008	0.233	0.233	568.299	0.086
Generator Sets	2010	16	25	4.408	0.961	3.309	5.477	0.007	0.342	0.342	568.299	0.086
Generator Sets	2010	26	50	16.299	2.045	5.353	5.68	0.007	0.522	0.522	568.299	0.184
Generator Sets	2010	51	120	20.399	1.005	3.677	6.573	0.006	0.516	0.516	568.299	0.09
Generator Sets	2010	121	175	24.447	0.661	2.986	5.87	0.006	0.286	0.286	568.299	0.059
Generator Sets	2010	176	250	23.668	0.428	1.333	5.501	0.006	0.163	0.163	568.299	0.038
Generator Sets	2010	251	500	33.685	0.384	1.482	5.015	0.005	0.153	0.153	568.299	0.034
Generator Sets	2010	501	750	56.116	0.396	1.482	5.147	0.005	0.155	0.155	568.299	0.035
Generator Sets	2010	1001	9999	147.466	0.54	1.93	6.544	0.005	0.193	0.193	568.299	0.048
Generator Sets	2011	6	15	2.413	0.908	3.952	6.134	0.008	0.358	0.358	568.299	0.081
Generator Sets	2011	16	25	4.22	0.92	3.179	5.36	0.007	0.325	0.325	568.299	0.083
Generator Sets	2011	26	50	15.152	1.901	5.2	5.585	0.007	0.495	0.495	568.3	0.171
Generator Sets	2011	51	120	19.003	0.937	3.64	6.226	0.006	0.493	0.493	568.299	0.084
Generator Sets	2011	121	175	22.889	0.619	2.974	5.544	0.006	0.274	0.274	568.299	0.055
Generator Sets	2011	176	250	21.62	0.391	1.249	5.125	0.006	0.147	0.147	568.299	0.035
Generator Sets	2011	251	500	30.74	0.35	1.36	4.654	0.005	0.138	0.138	568.299	0.031
Generator Sets Generator Sets	2011 2011	501 1001	750 9999	51.271 137.042	0.362	1.36 1.784	4.784 6.202	0.005	0.14	0.14	568.299 568.299	0.032
Generator Sets Generator Sets	2011	6	15	2.298	0.502	3.874	6.202 5.874	0.005	0.18	0.18	568.299	0.045
Generator Sets	2012	16	25	4.059	0.884	3.043	5.239	0.008	0.307	0.307	568.299	0.078
Generator Sets	2012	26	50	13.912	1.746	5.03	5.485	0.007	0.307	0.307	568.299	0.079
Generator Sets	2012	51	120	17.544	0.865	3.603	5.848	0.007	0.46	0.46	568.299	0.137
Generator Sets	2012	121	175	21.243	0.575	2.963	5.198	0.006	0.254	0.254	568.299	0.070
	2012	176	250	19.998	0.361	1.196	4.77	0.006	0.133	0.133	568.3	0.032
Generator Sets	2012		500	28.44	0.324	1.275	4.315	0.005	0.125	0.125	568.299	0.029
Generator Sets Generator Sets	2012	251	500									
		251 501	750	47.464	0.335	1.275	4.441	0.005	0.127	0.127	568.299	0.03
Generator Sets	2012				0.335 0.463	1.275 1.639	4.441 5.849	0.005	0.127 0.166	0.127 0.166	568.299 568.3	0.03
Generator Sets Generator Sets	2012 2012	501	750	47.464								
Generator Sets Generator Sets Generator Sets	2012 2012 2012	501 1001	750 9999	47.464 126.39	0.463	1.639	5.849	0.005	0.166	0.166	568.3	0.041 0.074
Generator Sets Generator Sets Generator Sets Generator Sets	2012 2012 2012 2013	501 1001 6	750 9999 15	47.464 126.39 2.187	0.463 0.823	1.639 3.796	5.849 5.616	0.005 0.008	0.166 0.318	0.166 0.318	568.3 568.299	0.041 0.074
Generator Sets Generator Sets Generator Sets Generator Sets Generator Sets Generator Sets	2012 2012 2012 2013 2013	501 1001 6 16	750 9999 15 25	47.464 126.39 2.187 3.907	0.463 0.823 0.851	1.639 3.796 2.907	5.849 5.616 5.117	0.005 0.008 0.007	0.166 0.318 0.289	0.166 0.318 0.289	568.3 568.299 568.299	0.041 0.074 0.076
Generator Sets	2012 2012 2012 2013 2013 2013	501 1001 6 16 26	750 9999 15 25 50 120	47.464 126.39 2.187 3.907 12.634	0.463 0.823 0.851 1.585	1.639 3.796 2.907 4.854	5.849 5.616 5.117 5.263	0.005 0.008 0.007 0.007	0.166 0.318 0.289 0.428	0.166 0.318 0.289 0.428	568.299 568.299 568.299	0.041 0.074 0.076 0.143 0.071
Generator Sets	2012 2012 2012 2013 2013 2013 2013 2013	501 1001 6 16 26 51 121 176	750 9999 15 25 50 120 175 250	47.464 126.39 2.187 3.907 12.634 16.078 19.587 18.602	0.463 0.823 0.851 1.585 0.792 0.53 0.336	1.639 3.796 2.907 4.854 3.567 2.953 1.16	5.849 5.616 5.117 5.263 5.478 4.873 4.428	0.005 0.008 0.007 0.007 0.006 0.006	0.166 0.318 0.289 0.428 0.424 0.233 0.122	0.166 0.318 0.289 0.428 0.424 0.233 0.122	568.299 568.299 568.299 568.299 568.299 568.299	0.041 0.074 0.076 0.143 0.071 0.047 0.03
Generator Sets	2012 2012 2012 2013 2013 2013 2013 2013	501 1001 6 16 26 51 121	750 9999 15 25 50 120	47.464 126.39 2.187 3.907 12.634 16.078 19.587	0.463 0.823 0.851 1.585 0.792 0.53	1.639 3.796 2.907 4.854 3.567 2.953	5.849 5.616 5.117 5.263 5.478 4.873	0.005 0.008 0.007 0.007 0.006 0.006	0.166 0.318 0.289 0.428 0.424 0.233	0.166 0.318 0.289 0.428 0.424 0.233	568.3 568.299 568.299 568.299 568.299 568.299 568.299 568.299	0.041 0.074 0.076 0.143 0.071 0.047

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Generator Sets	2013	1001	9999	115.946	0.425	1.502	5.494	0.005	0.152	0.152	568.299	0.038
Generator Sets	2014	6	15	2.081	0.783	3.723	5.369	0.008	0.298	0.298	568.299	0.07
Generator Sets	2014	16	25	3.767	0.821	2.78	5	0.007	0.272	0.272	568.299	0.074
Generator Sets	2014	26	50	11.368	1.427	4.683	5.048	0.007	0.389	0.389	568.299	0.128
Generator Sets	2014	51	120	14.638	0.721	3.532	5.147	0.006	0.385	0.385	568.299	0.065
Generator Sets	2014	121	175	17.974	0.486	2.945	4.565	0.006	0.212	0.212	568.299	0.043
Generator Sets	2014	176	250	17.205	0.311	1.13	4.025	0.006	0.111	0.111	568.3	0.028
Generator Sets	2014	251	500	24.516	0.279	1.157	3.603	0.005	0.104	0.104	568.299	0.025
Generator Sets	2014	501	750	40.956	0.289	1.157	3.724	0.005	0.106	0.106	568.299	0.026
Generator Sets	2014	1001	9999	106.127	0.389	1.377	5.15	0.005	0.138	0.138	568.299 568.299	0.035
Generator Sets Generator Sets	2015 2015	6 16	15 25	1.984 3.639	0.747	3.658 2.666	5.141 4.89	0.008	0.28	0.28	568.299	0.067
Generator Sets	2015	26	50	10.213	1.281	4.538	4.858	0.007	0.250	0.256	568.299	0.071
Generator Sets	2015	51	120	13.208	0.651	3.499	4.769	0.007	0.333	0.333	568.299	0.113
Generator Sets	2015	121	175	16.277	0.44	2.938	4.138	0.006	0.191	0.191	568.299	0.039
Generator Sets	2015	176	250	15.884	0.287	1.104	3.633	0.006	0.1	0.1	568.3	0.025
Generator Sets	2015	251	500	22.677	0.258	1.114	3.231	0.005	0.094	0.094	568.299	0.023
Generator Sets	2015	501	750	37.88	0.267	1.114	3.347	0.005	0.096	0.096	568.299	0.024
Generator Sets	2015	1001	9999	95.984	0.351	1.269	4.822	0.005	0.124	0.124	568.299	0.031
Generator Sets	2016	6	15	1.914	0.72	3.622	4.978	0.008	0.264	0.264	568.299	0.065
Generator Sets	2016	16	25	3.548	0.773	2.604	4.803	0.007	0.244	0.244	568.299	0.069
Generator Sets	2016	26	50	9.132	1.146	4.41	4.685	0.007	0.318	0.318	568.299	0.103
Generator Sets	2016	51	120	11.84	0.583	3.469	4.41	0.006	0.309	0.309	568.299	0.052
Generator Sets	2016	121	175	14.658	0.396	2.934	3.731	0.006	0.17	0.17	568.299	0.035
Generator Sets	2016	176	250	14.652	0.265	1.081	3.259	0.006	0.09	0.09	568.299	0.023
Generator Sets	2016	251	500	21.002	0.239	1.077	2.882	0.005	0.084	0.084	568.299	0.021
Generator Sets	2016	501	750	35.041	0.247	1.077	2.989	0.005	0.086	0.086	568.3	0.022
Generator Sets Generator Sets	2016 2017	1001	9999 15	88.441 1.857	0.324	1.204 3.599	4.542 4.847	0.005	0.113	0.113	568.299 568.299	0.029
Generator Sets	2017	16	25	3.476	0.099	2.564	4.729	0.003	0.23	0.233	568.299	0.068
Generator Sets	2017	26	50	8.107	1.017	4.292	4.522	0.007	0.285	0.285	568.299	0.000
Generator Sets	2017	51	120	10.557	0.52	3.442	4.072	0.006	0.274	0.274	568.299	0.046
Generator Sets	2017	121	175	13.162	0.356	2.931	3.347	0.006	0.151	0.151	568.299	0.032
Generator Sets	2017	176	250	13.548	0.245	1.063	2.91	0.006	0.081	0.081	568.299	0.022
Generator Sets	2017	251	500	19.649	0.224	1.048	2.579	0.005	0.076	0.076	568.299	0.02
Generator Sets	2017	501	750	32.544	0.23	1.048	2.66	0.005	0.077	0.077	568.299	0.02
Generator Sets	2017	1001	9999	82.27	0.301	1.161	4.293	0.005	0.104	0.104	568.299	0.027
Generator Sets	2018	6	15	1.805	0.679	3.58	4.728	0.008	0.237	0.237	568.299	0.061
Generator Sets	2018	16	25	3.412	0.744	2.531	4.661	0.007	0.224	0.224	568.299	0.067
Generator Sets	2018	26	50	7.133	0.895	4.182	4.366	0.007	0.253	0.253	568.299	80.0
Generator Sets	2018	51	120	9.356	0.461	3.418	3.752	0.006	0.239	0.239	568.299	0.041
Generator Sets	2018	121	175	11.794	0.319	2.93	2.989	0.006	0.133	0.133	568.299	0.028
Generator Sets	2018	176	250	12.549	0.226	1.048	2.582	0.006	0.072	0.072	568.299	0.02
Generator Sets Generator Sets	2018 2018	251 501	500 750	18.523 30.476	0.211	1.028	2.31	0.005	0.069	0.069	568.299 568.299	0.019
Generator Sets	2018	1001	9999	76.62	0.213	1.128	4.058	0.005	0.07	0.07	568.299	0.019
Generator Sets	2019	6	15	1.758	0.662	3.562	4.617	0.008	0.224		568.299	0.059
Generator Sets	2019	16	25	3.356	0.731	2.501	4.596	0.007	0.214		568.299	0.066
Generator Sets	2019	26	50	6.208	0.779	4.076	4.215	0.007	0.222	0.222	568.299	0.07
Generator Sets	2019	51	120	8.233	0.405	3.396	3.446	0.006	0.206	0.206	568.299	0.036
Generator Sets	2019	121	175	10.727	0.29	2.929	2.669	0.006	0.118	0.118	568.299	0.026
Generator Sets	2019	176	250	11.695	0.211	1.036	2.285	0.006	0.064	0.064	568.299	0.019
Generator Sets	2019	251	500	17.492	0.199	1.015	2.056	0.005	0.062	0.062	568.299	0.018
Generator Sets	2019	501	750	28.675	0.202	1.015	2.104	0.005	0.062	0.062	568.299	0.018
Generator Sets	2019	1001	9999	71.228	0.261	1.103	3.829	0.005	0.087	0.087	568.299	0.023
Generator Sets	2020	6	15	1.715	0.646	3.546	4.516	0.008	0.212		568.299	0.058
Generator Sets	2020	16	25	3.307	0.721	2.473	4.538	0.007	0.205	0.205	568.299	0.065
Generator Sets	2020	26	50	5.508	0.691	3.995	4.075	0.007	0.194		568.299	0.062
Generator Sets Generator Sets	2020 2020	51 121	120 175	7.383 9.884	0.364	3.38 2.93	3.173 2.38	0.006	0.179	0.179	568.299 568.299	0.032
Generator Sets	2020	176	250	10.963	0.207	1.026	2.016	0.006	0.103	0.103	568.299	0.024
Generator Sets	2020	251	500	16.528	0.198	1.026	1.816	0.005	0.057	0.057	568.299	0.017
Generator Sets	2020	501	750	27.045	0.191	1.005	1.858	0.005	0.056	0.056	568.299	0.017
Generator Sets	2020	1001	9999	66.08	0.242	1.082	3.608	0.005	0.079	0.079	568.3	0.021
Generator Sets	2021	6	15	1.683	0.634	3.531	4.441	0.008	0.201	0.201	568.299	0.057
				3.268	0.712	2.446	4.497	0.007	0.196	0.196	568.299	0.064
Generator Sets	2021	16	25	3.200	0.7 12							
	2021 2021	16 26	50	4.884	0.613	3.905	3.916	0.007	0.165	0.165	568.299	0.055
Generator Sets								0.007 0.006	0.165 0.153	0.165 0.153	568.299 568.299	0.055
Generator Sets Generator Sets	2021	26	50	4.884	0.613	3.905	3.916					

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Generator Sets	2021	251	500	15.395	0.175	0.996	1.562	0.005	0.048	0.048	568.299	0.015
Generator Sets	2021	501	750	25.135	0.177	0.996	1.596	0.005	0.048	0.048	568.299	0.016
Generator Sets	2021	1001	9999	60.247	0.22	1.06	3.372	0.005	0.07	0.07	568.3	0.019
Generator Sets	2022	6	15	1.662	0.626	3.519	4.39	0.008	0.193	0.193	568.299	0.056
Generator Sets	2022	16	25	3.242	0.706	2.426	4.47	0.007	0.188	0.188	568.299	0.063
Generator Sets	2022	26	50	4.466	0.56	3.858	3.796	0.007	0.143	0.143	568.299	0.05
Generator Sets	2022 2022	51 121	120 175	6.113	0.301	3.353 2.926	2.671	0.006	0.134	0.134	568.299	0.027
Generator Sets Generator Sets	2022	176	250	8.363 9.575	0.226	1.01	1.83 1.508	0.006	0.081	0.081	568.299 568.299	0.02
Generator Sets	2022	251	500	14.616	0.173	0.99	1.384	0.005	0.043	0.043	568.299	0.015
Generator Sets	2022	501	750	23.822	0.168	0.99	1.412	0.005	0.043	0.043	568.299	0.015
Generator Sets	2022	1001	9999	56.346	0.206	1.045	3.202	0.005	0.063	0.063	568.299	0.018
Generator Sets	2023	6	15	1.643	0.618	3.508	4.345	0.008	0.186	0.186	568.299	0.055
Generator Sets	2023	16	25	3.219	0.701	2.407	4.447	0.007	0.182	0.182	568.299	0.063
Generator Sets	2023	26	50	4.102	0.514	3.819	3.685	0.007	0.124	0.124	568.299	0.046
Generator Sets	2023	51	120	5.671	0.279	3.347	2.477	0.006	0.117	0.117	568.299	0.025
Generator Sets	2023	121	175	7.812	0.211	2.927	1.635	0.006	0.071	0.071	568.299	0.019
Generator Sets	2023	176	250	9.077	0.164	1.006	1.328	0.006	0.038	0.038	568.299	0.014
Generator Sets	2023	251	500 750	13.922	0.158	0.986	1.228	0.005	0.037	0.037	568.299	0.014
Generator Sets Generator Sets	2023	501	750	22.664	0.16	0.986	1.253	0.005	0.037	0.037	568.299	0.014
Generator Sets Generator Sets	2023 2024	1001 6	9999 15	53.06 1.627	0.194	1.031 3.499	3.058 4.305	0.005	0.058	0.058	568.299 568.299	0.017
Generator Sets	2024	16	25	3.2	0.612	2.39	4.426	0.008	0.178	0.178	568.299	0.062
Generator Sets	2024	26	50	3.789	0.475	3.787	3.582	0.007	0.107	0.170	568.299	0.042
Generator Sets	2024	51	120	5.287	0.26	3.342	2.321	0.006	0.101	0.101	568.299	0.023
Generator Sets	2024	121	175	7.312	0.197	2.929	1.462	0.006	0.062	0.062	568.299	0.017
Generator Sets	2024	176	250	8.611	0.155	1.003	1.169	0.006	0.033	0.033	568.299	0.014
Generator Sets	2024	251	500	13.26	0.151	0.983	1.082	0.005	0.032	0.032	568.3	0.013
Generator Sets	2024	501	750	21.567	0.152	0.983	1.104	0.005	0.032	0.032	568.299	0.013
Generator Sets	2024	1001	9999	50.108	0.183	1.018	2.929	0.005	0.052	0.052	568.3	0.016
Generator Sets	2025	6	15	1.613	0.607	3.491	4.269	0.008	0.178	0.178	568.299	0.054
Generator Sets	2025	16	25	3.185	0.694	2.376	4.407	0.007	0.175	0.175	568.299	0.062
Generator Sets Generator Sets	2025 2025	26 51	50 120	3.511 4.942	0.44	3.758 3.338	3.481 2.185	0.007	0.093	0.093	568.3 568.299	0.039
Generator Sets	2025	121	175	6.832	0.243	2.93	1.297	0.006	0.053	0.053	568.299	0.021
Generator Sets	2025	176	250	8.168	0.147	1	1.02	0.006	0.028	0.028	568.299	0.013
Generator Sets	2025	251	500	12.627	0.144	0.981	0.945	0.005	0.027	0.027	568.3	0.013
Generator Sets	2025	501	750	20.518	0.145	0.981	0.964	0.005	0.027	0.027	568.299	0.013
Generator Sets	2025	1001	9999	47.32	0.173	1.008	2.812	0.005	0.047	0.047	568.299	0.015
Generator Sets	2030	6	15	1.573	0.592	3.47	4.164	0.008	0.166	0.166	568.299	0.053
Generator Sets	2030	16	25	3.15	0.686	2.34	4.347	0.007	0.165	0.165	568.299	0.061
Generator Sets	2030	26	50	2.512	0.315	3.64	3.107	0.007	0.038	0.038	568.299	0.028
Generator Sets	2030	51	120	3.616	0.178	3.316	1.645	0.006	0.034	0.034	568.299	0.016
Generator Sets Generator Sets	2030 2030	121 176	175 250	4.837 6.637	0.13	2.929 0.998	0.601 0.504	0.006	0.023	0.023	568.299 568.299	0.011
Generator Sets	2030	251	500	10.441	0.12	0.938	0.304	0.005	0.015	0.015	568.299	0.01
Generator Sets	2030	501	750	16.888	0.119	0.978	0.470	0.005	0.015	0.015	568.299	0.01
Generator Sets	2030	1001	9999	35.17	0.113	0.979	2.483	0.005	0.029	0.029	568.299	0.011
Generator Sets	2035	6	15	1.565	0.589	3.47	4.143	0.008	0.162	0.162	568.299	0.053
Generator Sets	2035	16	25	3.144	0.685	2.34	4.332	0.007	0.162	0.162	568.299	0.061
Generator Sets	2035	26	50	2.206	0.276	3.607	2.991	0.007	0.018	0.018	568.299	0.024
Generator Sets	2035	51	120	3.176	0.156	3.31	1.458	0.006	0.016	0.016	568.299	0.014
Generator Sets	2035	121	175	4.187	0.113	2.929	0.373	0.006	0.013	0.013	568.299	0.01
Generator Sets	2035	176	250	6.1	0.11	0.998	0.331	0.006	0.011	0.011	568.299	0.009
Generator Sets Generator Sets	2035 2035	251 501	500 750	9.666 15.606	0.11	0.978 0.978	0.328 0.328	0.005	0.011	0.011	568.299 568.299	0.009
Generator Sets Generator Sets	2035	1001	9999	31.223	0.11	0.978	2.362	0.005	0.011	0.011	568.299	0.009
Generator Sets	2033	6	15	1.565	0.114	3.469	4.142	0.003	0.022	0.022	568.299	0.01
Generator Sets	2040	16	25	3.144	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Generator Sets	2040	26	50	2.182	0.273	3.601	2.941	0.007	0.012	0.012	568.3	0.024
Generator Sets	2040	51	120	3.086	0.152	3.308	1.399	0.006	0.012	0.012	568.299	0.013
Generator Sets	2040	121	175	3.958	0.107	2.928	0.293	0.006	0.01	0.01	568.299	0.009
Generator Sets	2040	176	250	5.86	0.106	0.997	0.277	0.006	0.009	0.009	568.299	0.009
Generator Sets	2040	251	500	9.29	0.106	0.978	0.277	0.005	0.009	0.009	568.299	0.009
Generator Sets	2040	501	750	14.997	0.106	0.978	0.277	0.005	0.009	0.009	568.3	0.009
Generator Sets	2040	1001	9999	29.36	0.107	0.978	2.33	0.005	0.02	0.02	568.299	0.009
Graders	1990	26 51	50	10.997	4.776	9.678	7.935	0.871	1.265	1.265	568.3	0.431
Graders Graders	1990	51 121	120 175	14.614 17.684	2.332	5.658	14.78	0.791 0.758	1.325 0.946	1.325	568.299 568.299	0.21
Graders Graders	1990	176	250		1.707 1.707	5.007	13.838	0.758	_	0.946		0.154
Graders	1990	1/0	∠50	24.561	1./0/	5.007	13.838	U./ 38	0.946	0.946	568.299	0.154

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Separt	Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Graders 2000 26 50 10.331 4467 9.298 7.082 5.066 5.935 508.298 5.0467 5.0468 5.0467 5.0468 5.0467 5.0468 5.0467 5.0468 5.0467 5.0468 5.0467 5.0468 5.0467 5.0468 5.0467 5.0468 5.0467 5.0468 5.0467 5.0468 5.0467 5.04688 5.04688 5.04	· · · · · · · · · · · · · · · · · · ·	1990			29.01	1.512	10.95	13.128	0.662	0.811		568.299	0.136
Genders 2000 51 120 11,628 1855 4675 10486 1068 0,904 0,904 5683.3 0,176 Genders 2000 176 250 15,766 1061 3,033 9,074 0,077 0,437 568,289 0,113 Genders 2000 251 500 14,855 0,851 4,848 8,007 0,075 0,437 0,437 568,289 0,113 Genders 2000 551 500 14,855 0,851 4,848 8,007 0,052 0,384 0,384 3,685 0,005 Genders 2000 551 750 3,8608 0,851 4,848 8,007 0,052 0,384 0,384 3,682 3,005 Genders 2000 551 750 3,8608 0,851 4,848 8,007 0,052 0,384 0,384 3,682 3,005 Genders 2005 571 750 3,8608 0,851 4,848 8,007 0,052 0,384 0,384 3,682 3,005 Genders 2005 571 750 1,751 1,751 1,751 1,751 1,751 Genders 2005 571 750 1,751 1,751 1,751 1,751 1,751 Genders 2005 291 500 1,326 0,892 2,913 7,117 0,05 2,791 0,779 568,289 0,073 Genders 2005 201 750 2,858 0,753 0,782 0,783 0,784 0,783 Genders 2010 266 50 3,818 6,938 0,783 0,784 0,785 0,785 0,785 0,785 Genders 2010 276 500 0,245 0,785 0,785 0,785 0,785 0,785 0,785 0,785 Genders 2010 276 500 0,245 0,785 0,785 0,785 0,785 0,785 0,785 0,785 0,785 Genders 2010 276 500 0,245 0,78	Graders	1990	501	750	61.406	1.512	10.95	13.128	1.018	0.826	0.826	568.3	0.136
Graders	Graders												0.404
Graders 2000 176 250 15.786 1061 3.039 9.744 0.077 0.437 568.299 0.086													
Graders 2000 251 500 18.455 9,961 4,948 8,085 0.05 0.344 0.384 5863 0.056 0.066 0.													
Graders 2000 601 750 39.084 4.848 8.805 0.522 0.384 0.884 68.299 0.086													
Graders 2005 26 50 9.193 3.993 8.599 6.612 0.066 0.886 0.886 568.299 0.366 0.066 0													
Graders 2005 51 120 10.174 16.23 4.406 0.021 0.06 0.849 0.849 568.3 0.146 0.061 0.													
Graders 2005 121 176 11.01 1.062 3.522 8.238 0.057 0.469 0.469 68.299 0.056 0.067 0.041 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067 0.134 0.067													
Graders													
Graders 2005 251 500 13286 0.692 2.913 7.117 0.05 0.279 0.279 568,299 0.026 (Graders 2005 501 750 2.8569 0.703 2.909 7.24 0.055 0.262 28 568,299 0.026 (Graders 2010 26 50 3.618169 3.04 8.828 6.50487 0.005 0.862 0.783 1547,2284 0.152 0.026 0													
Graders 2005 501 750 28.569 0.703 29.99 7.284 0.052 0.282 0.282 0.882.99 0.063													
Graders													
Graders 2010 51 120 157274 1322 49523 0.4605 0.050 0.884 0.786 523,7684 0.156 0.766 0.53,7684 0.156 0.167 0.566 0.666 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.667 0.066 0.167 0.050,3343 0.156 0.066 0.167 0.068 0.067 0.066 0.167 0.068 0.067 0.066 0.167 0.068 0.067 0.066 0.167 0.068													
Graders 2010													
Graders 2010 176 220 042787 0.358 1.43786 5.73143 0.005 0.182 0.167 503.0343 0.158 (Graders 2010 501 750 0.328341 0.128 0.072 1.81115 3.0781 0.005 0.202 0.202 562.299 0.048		2010		175		0.862			0.005				
Graders 2010 501 750 21.784 0.355 1.861 5.386 0.005 0.202 0.202 568.299 0.048	Graders	2010	176	250		0.358	1.43786	5.73143	0.005	0.182	0.167	530.3343	
Graders 2011 26 50 3,855035 3,071 8,9223 6,52829 0,005 0,86 0,791 645,8822 0,159 67aders 2011 51 120 1,554125 1,306 4,3423 10,3495 0,067 0,874 0,78 2,525,882 0,155 67aders 2011 176 120 1,554125 1,306 4,3423 10,3495 0,065 0,449 0,455 535,286 0,156 67aders 2011 176 250 0,436805 0,367 1,4456 6,14733 0,065 0,449 0,455 535,286 0,156 67aders 2011 251 500 0,341103 0,287 1,83104 3,8127 0,005 0,144 0,132 524,3479 0,153 67aders 2011 251 500 0,341103 0,287 1,83104 3,8127 0,005 0,144 0,132 524,3479 0,153 67aders 2012 26 50 3,888945 3,101 9,01183 1,55055 0,005 0,867 0,788 544,5383 0,159 67aders 2012 27 12 12 15 15 0,150 1,401 1,4	Graders	2010	251	500	0.323814	0.272	1.81115	3.80781	0.005	0.142	0.13	525.6597	0.153
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Graders 2018 26 50 3.342571 2.809 8.62631 6.17962 0.005 0.79 0.726 511.9098 0.159 Graders 2018 51 120 1.27956 1.075 4.69711 8.51954 0.005 0.697 0.641 487.6979 0.152 Graders 2018 121 175 0.78708 0.661 3.70957 6.60465 0.005 0.371 0.342 497.3767 0.155 Graders 2018 176 250 0.457376 0.384 1.41595 5.27094 0.005 0.171 0.158 495.431 0.154 Graders 2018 251 500 0.385909 0.324 1.56446 3.34465 0.005 0.171 0.158 495.431 0.153 Graders 2018 501 750 14.353 0.353 1.286 2.543 0.005 0.19 0.019 490.5758 0.153 Graders 2019 26 50 3													
Graders 2018 51 120 1.27956 1.075 4.69711 8.51954 0.005 0.697 0.641 487.6979 0.152 Graders 2018 121 175 0.78708 0.661 3.70957 6.60465 0.005 0.371 0.342 497.3767 0.155 Graders 2018 176 250 0.457376 0.384 1.41595 5.27094 0.005 0.171 0.158 495.431 0.154 Graders 2018 251 500 0.385909 0.324 1.56446 3.34465 0.005 0.129 0.119 490.5758 0.153 Graders 2018 501 750 14.353 0.353 1.286 2.543 0.005 0.09 0.09 568.299 0.031 Graders 2019 26 50 3.11378 2.616 8.27912 5.94463 0.005 0.737 0.678 503.7509 0.159													
Graders 2018 121 175 0.78708 0.661 3.70957 6.60465 0.005 0.371 0.342 497.3767 0.155 Graders 2018 176 250 0.457376 0.384 1.41595 5.27094 0.005 0.171 0.158 495.431 0.154 Graders 2018 251 500 0.385909 0.324 1.56446 3.34465 0.005 0.129 0.119 490.5758 0.153 Graders 2018 501 750 14.353 0.353 1.286 2.543 0.005 0.09 0.09 568.299 0.031 Graders 2019 26 50 3.11378 2.616 8.27912 5.94463 0.005 0.737 0.678 503.7509 0.159													
Graders 2018 176 250 0.457376 0.384 1.41595 5.27094 0.005 0.171 0.158 495.431 0.154 Graders 2018 251 500 0.385909 0.324 1.56446 3.34465 0.005 0.129 0.119 490.5758 0.153 Graders 2018 501 750 14.353 0.353 1.286 2.543 0.005 0.09 0.09 568.299 0.031 Graders 2019 26 50 3.11378 2.616 8.27912 5.94463 0.005 0.737 0.678 503.7509 0.159							-						
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Graders 2018 501 750 14.353 0.353 1.286 2.543 0.005 0.09 0.09 568.299 0.031 Graders 2019 26 50 3.11378 2.616 8.27912 5.94463 0.005 0.737 0.678 503.7509 0.159													
Graders 2019 26 50 3.11378 2.616 8.27912 5.94463 0.005 0.737 0.678 503.7509 0.159							1						0.031
	Graders												
	Graders	2019	51	120	1.228249	1.032	4.6424	8.1592	0.005	0.665	0.612	479.9011	

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Graders	2019	121	175	0.724541	0.609	3.65586	6.01354	0.005	0.337	0.31	489.0419	0.155
Graders	2019	176	250	0.428358	0.36	1.35927	4.86575	0.005	0.156	0.144	486.3288	0.154
Graders	2019	251	500	0.384059	0.323	1.52849	3.21794	0.005	0.124	0.114	482.5879	0.153
Graders	2019	501	750	13.635	0.335	1.255	2.276	0.005	0.08	0.08	568.299	0.03
Graders	2020	26	50	2.994737	2.516	8.13394	5.82549	0.005	0.709	0.652	492.8615	0.159
Graders	2020	51	120	1.161574	0.976	4.56142	7.72513	0.005	0.622	0.572	469.3371	0.152
Graders	2020	121	175	0.674427	0.567	3.62102	5.53045	0.005	0.309	0.284	478.0403	0.155
Graders	2020	176	250	0.41877	0.352	1.34183	4.67787	0.005	0.15	0.138	475.3037	0.154
Graders	2020	251	500	0.383198	0.322	1.5256	3.10731	0.005	0.121	0.111	471.9795	0.153
Graders	2020	501	750	12.961	0.319	1.229	2.031	0.005	0.072	0.072	568.299	0.028
Graders	2021	26	50	2.660206	2.235	7.62621	5.48468	0.005	0.631	0.581	492.9352	0.159
Graders	2021	51	120	1.072144	0.901	4.45175	7.12535	0.005	0.57	0.524	469.0701	0.152
Graders	2021	121	175	0.601372	0.505	3.55896	4.83947	0.005	0.27	0.248	478.5289	0.155
Graders	2021	176	250	0.398657	0.335	1.30687	4.38134	0.005	0.139	0.128	474.5386	0.153
Graders	2021	251	500	0.383194	0.322	1.46044	3.01257	0.005	0.117	0.108	471.8981	0.153
Graders	2021 2022	501	750 50	12.333 2.506375	0.303 2.106	1.207 7.42848	1.808 5.33188	0.005	0.064	0.064 0.547	568.299 493.0249	0.027
Graders		26 51	120	0.947815			6.36004	0.005	0.595		469.6301	0.159
Graders Graders	2022 2022	121	175	0.524016	0.796	4.32966 3.49283		0.005	0.493	0.453	478.5664	0.152
	2022	176	250	0.365229	0.307	1.27327	3.8881	0.005	0.229	0.211	474.239	0.153
Graders Graders	2022	251	500	0.365229	0.307	1.38967	2.80191	0.005	0.124	0.114	474.239	0.153
Graders	2022	501	750	11.747	0.311	1.187	1.606	0.005	0.108	0.057	568.299	0.133
Graders	2022	26	50	2.316861	1.947		5.14799	0.005	0.037	0.505	494.0202	0.026
Graders	2023	51	120	0.855685	0.719	4.22811	5.74006	0.005	0.436	0.401	469.2859	0.152
Graders	2023	121	175	0.463941	0.713	3.45006	3.54785	0.005	0.430	0.401	478.4629	0.155
Graders	2023	176	250	0.337478	0.284	1.25173	3.44101	0.005	0.111	0.103	473.9256	0.153
Graders	2023	251	500	0.367269	0.309	1.38481	2.70451	0.005	0.105	0.097	471.0306	0.152
Graders	2023	501	750	11.215	0.276	1.17	1.425	0.005	0.051	0.051	568.3	0.024
Graders	2024	26	50	2.201935	1.85	7.05059	5.0278	0.005	0.52	0.479	493.7913	0.16
Graders	2024	51	120	0.812369	0.683	4.20033	5.43389	0.005	0.408	0.375	469.8208	0.152
Graders	2024	121	175	0.433005	0.364	3.43239	3.20219	0.005	0.177	0.163	478.4966	0.155
Graders	2024	176	250	0.312074	0.262	1.22497	3.07323	0.005	0.1	0.092	473.6685	0.153
Graders	2024	251	500	0.348233	0.293	1.35613	2.43171	0.005	0.095	0.088	470.2664	0.152
Graders	2024	501	750	10.734	0.264	1.155	1.265	0.005	0.046	0.046	568.3	0.023
Graders	2025	26	50	2.21878	1.864	7.12535		0.005	0.522	0.48	493.5322	0.16
Graders	2025	51	120	0.759044	0.638	4.14911	5.07379	0.005	0.371	0.342	468.3155	0.151
Graders	2025	121	175	0.391287	0.329	3.41759		0.005	0.152	0.14	478.5084	0.155
Graders	2025	176	250	0.273788	0.23	1.17888		0.005	0.082	0.076	473.4704	0.153
Graders	2025	251	500	0.332717	0.28	1.31461	2.26485	0.005	0.088	0.081	470.7533	0.152
Graders	2025	501	750	10.301	0.253	1.141	1.125	0.005	0.041	0.041	568.3	0.022
Graders	2030	26	50	1.493	0.648	5.239	3.53	0.007	0.065	0.065	568.299	0.058
Graders	2030	51	120	2.028	0.323	3.775	1.903	0.006	0.058	0.058	568.299	0.029
Graders	2030	121	175	2.458	0.237	3.326	0.815	0.006	0.038	0.038	568.3	0.021
Graders	2030 2030	176 251	250 500	3.114 4.115	0.216	1.148 1.097	0.684 0.647	0.006	0.024	0.024	568.299 568.299	0.019
Graders	2030	501	750	8.717	0.214	1.097	0.654	0.005	0.023	0.023	568.299	0.019
Graders Graders	2030	26	50	1.367	0.214	5.189	3.356	0.005	0.023	0.023	568.299	0.019
Graders	2035	51	120	1.837	0.393	3.767	1.661	0.007	0.037	0.037	568.299	0.033
Graders	2035	121	175	2.136	0.206	3.326	0.506	0.006	0.022	0.034	568.3	0.020
Graders	2035	176	250	2.822	0.196	1.137	0.452	0.006	0.016	0.016	568.299	0.017
Graders	2035	251	500	3.746	0.195	1.083	0.434	0.005	0.016	0.016	568.299	0.017
Graders	2035	501	750	7.933	0.195	1.083	0.438	0.005	0.016	0.016	568.299	0.017
Graders	2040	26	50	1.297	0.563	5.161	3.298	0.007	0.026	0.026	568.3	0.05
Graders	2040	51	120	1.747	0.278	3.764	1.56	0.006	0.024	0.024	568.299	0.025
Graders	2040	121	175	2.002	0.193	3.326	0.38	0.006	0.017	0.017	568.299	0.017
Graders	2040	176	250	2.719	0.188	1.133	0.36	0.006	0.013	0.013	568.299	0.017
Graders	2040	251	500	3.619	0.188	1.079	0.351	0.005	0.013	0.013	568.299	0.017
Graders	2040	501	750	7.663	0.188	1.079	0.353	0.005	0.013	0.013	568.299	0.017
Off-Highway Tractors	1990	51	120	7.901	2.432	5.842	15.285	0.791	1.384	1.384	568.299	0.219
Off-Highway Tractors	1990	121	175	8.363	1.85	5.217	14.647	0.758	1.033	1.033	568.299	0.166
Off-Highway Tractors	1990	176	250	8.363	1.85	5.217	14.647	0.758	1.033	1.033	568.299	0.166
Off-Highway Tractors	1990	501	750	32.077	1.629	11.847	13.849	1.018	0.896	0.896	568.3	0.147
Off-Highway Tractors	1990	751	1000	45.779	1.622	11.847	13.849	1.018	0.888	0.888	568.3	0.146
Off-Highway Tractors	2000	51	120	6.648	2.047	5.046	11.606	0.06	0.972	0.972	568.299	0.184
Off-Highway Tractors	2000	121	175	6.386	1.413	4.213	10.675	0.057	0.602	0.602	568.299	0.127
Off-Highway Tractors	2000	176	250	5.736	1.269	3.665	10.426	0.057	0.532	0.532	568.299	0.114
Off-Highway Tractors	2000	501	750	22.339	1.134	6.836	9.864	0.052	0.461	0.461	568.299	0.102
Off-Highway Tractors	2000	751 51	1000	33.036	1.17	7.259	10.29	0.052	0.444	0.444	568.299	0.105
Off-Highway Tractors	2005	51	120	6.042	1.86	4.801	10.379	0.06	0.932	0.932	568.299	0.167
Off-Highway Tractors	2005	121	175	5.63	1.246	3.943	9.479	0.057	0.547	0.547	568.299	0.112

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Off-Highway Tractors	2005	176	250	4.641	1.027	2.923	9.16	0.057	0.425	0.425	568.299	0.092
Off-Highway Tractors	2005	501	750	17.978	0.913	4.992	8.543	0.052	0.372	0.372	568.299	0.082
Off-Highway Tractors	2005	751	1000	27.525	0.975	5.369	9.293	0.052	0.359	0.359	568.299	0.088
Off-Highway Tractors	2010	51	120	1.004164	0.844		7.39576	0.005	0.61	0.561	529.8898	0.154
Off-Highway Tractors	2010	121	175	0.623556	0.524	3.25207	6.19445	0.005	0.322	0.297	526.0485	0.153
Off-Highway Tractors Off-Highway Tractors	2010 2010	176 501	250 750	0.540439 0.353776	0.454	1.65183	6.56823 4.74911	0.005	0.241	0.222	522.8212 526.6401	0.152 0.153
Off-Highway Tractors	2010	751	1000	1.235451	1.038	13.844	12.2723	0.005	0.103	0.13	524.505	0.153
Off-Highway Tractors	2010	51	120	0.958318	0.805		7.12201	0.005	0.588	0.541	528.6123	0.154
Off-Highway Tractors	2011	121	175	0.588696	0.495		5.88095	0.005	0.307	0.282	524.5528	
Off-Highway Tractors	2011	176	250	0.522937	0.439	1.73271		0.005	0.23	0.212	521.5328	0.152
Off-Highway Tractors	2011	501	750	0.366196	0.308	1.66137	4.77936	0.005	0.166	0.153	525.3172	0.153
Off-Highway Tractors	2011	751	1000	1.235451	1.038	13.844	12.2723	0.005	0.624	0.574	523.1938	0.153
Off-Highway Tractors	2012	51	120	0.956826	0.804		7.07175	0.005	0.588	0.541	527.1281	0.154
Off-Highway Tractors	2012	121	175	0.573556	0.482		5.70904	0.005	0.299	0.276	523.1986	0.153
Off-Highway Tractors	2012	176	250	0.51645	0.434		6.26836	0.005	0.225	0.207	520.2636	0.152
Off-Highway Tractors	2012	501	750	0.3785	0.318		4.80904	0.005	0.169	0.155	523.9941	0.153
Off-Highway Tractors Off-Highway Tractors	2012 2013	751 51	1000 120	1.235451 0.915141	1.038 0.769	13.844	12.2723 6.79599	0.005	0.624 0.564	0.574	521.8825 524.1555	0.153 0.154
Off-Highway Tractors	2013	121	175	0.54434	0.769		5.42114	0.005	0.304	0.258	520.6151	0.153
Off-Highway Tractors	2013	176	250	0.508791	0.437		6.11434	0.005	0.219	0.201	517.5627	0.152
Off-Highway Tractors	2013	501	750	0.342496	0.428		4.32547	0.005	0.213	0.137	519.6246	0.153
Off-Highway Tractors	2013	751	1000	1.235451	1.038	13.844	12.2723	0.005	0.624	0.574	519.26	0.153
Off-Highway Tractors	2014	51	120	0.830806	0.698	3.97241	6.28073	0.005	0.513	0.472	520.8244	0.154
Off-Highway Tractors	2014	121	175	0.504784	0.424	3.26511	5.02525	0.005	0.258	0.237	518.1639	0.153
Off-Highway Tractors	2014	176	250	0.481559	0.405	1.62822	5.66092	0.005	0.203	0.187	514.3699	0.152
Off-Highway Tractors	2014	501	750	0.317193	0.267	1.33448	4.00651	0.005	0.133	0.122	516.904	0.153
Off-Highway Tractors	2014	751	1000	0.100665	0.085		2.27938	0.005	0.054	0.05	516.6375	0.153
Off-Highway Tractors	2015	51	120	0.802587	0.674		6.06726	0.005	0.494	0.455	515.3203	0.154
Off-Highway Tractors Off-Highway Tractors	2015 2015	121 176	175 250	0.478075 0.476529	0.402	3.26419	4.72365 5.52773	0.005	0.239	0.22	512.6079 509.1896	0.153 0.152
Off-Highway Tractors	2015	501	750	0.470329	0.262	1.17195		0.005	0.199	0.103	511.0814	0.152
Off-Highway Tractors	2015	751	1000	0.114305	0.096		2.29983	0.005	0.056	0.051	511.3924	0.153
Off-Highway Tractors	2016	51	120	0.743357	0.625	3.92464		0.005	0.454		509.4472	0.154
Off-Highway Tractors	2016	121	175	0.465284	0.391		4.51093	0.005	0.229	0.211	507.6294	0.153
Off-Highway Tractors	2016	176	250	0.426838	0.359	1.47177	4.92994	0.005	0.171	0.157	504.1229	0.152
Off-Highway Tractors	2016	501	750	0.299821	0.252		3.57265	0.005	0.117	0.108	505.762	0.153
Off-Highway Tractors	2016	751	1000	0.127675	0.107	0.97285		0.005	0.057	0.053	506.1474	
Off-Highway Tractors	2017	51	120	0.697857	0.586	3.90108		0.005	0.423	0.389	501.2453	0.154
Off-Highway Tractors Off-Highway Tractors	2017	121 176	175 250	0.423504	0.356	3.2589 1.403	4.02594 4.38216	0.005	0.205	0.189	499.2446	0.153
Off-Highway Tractors	2017 2017	501	750	0.389773 0.294592	0.328	1.14456		0.005	0.151	0.139	496.4983 497.6181	0.152 0.152
Off-Highway Tractors	2017	751	1000	0.294392		0.98542		0.005	0.112		498.2798	
Off-Highway Tractors	2018	51	120			3.83227		0.005	0.373		492.8709	
Off-Highway Tractors	2018	121	175	0.374746	0.315		3.49764	0.005	0.176	0.162		
Off-Highway Tractors	2018	176	250	0.323278		1.29494		0.005	0.119		488.6765	
Off-Highway Tractors	2018	501	750	0.232675	0.196	1.11871	2.1656	0.005	0.081	0.074	490.1818	0.153
Off-Highway Tractors	2018	751	1000	0.153606		0.99773		0.005	0.06	0.055		
Off-Highway Tractors	2019	51	120	0.562974		3.79465		0.005	0.331		484.2693	
Off-Highway Tractors	2019	121	175	0.350048		3.21895		0.005	0.159		483.4306	
Off-Highway Tractors	2019	176 501	250	0.283777	0.238	1.21832		0.005	0.098	0.09	481.2751	0.152
Off-Highway Tractors Off-Highway Tractors	2019 2019	501 751	750 1000	0.244248 0.166166	0.205	1.12934 1.00978		0.005	0.082	0.075	482.3091 482.5446	0.153 0.153
Off-Highway Tractors	2019	51	120	0.166166		3.78798		0.005	0.002		474.1481	0.153
Off-Highway Tractors	2020	121	175	0.322507		3.21511		0.005	0.307		472.9169	
Off-Highway Tractors	2020	176	250	0.263453	0.221		2.57547	0.005	0.086	0.079		0.152
Off-Highway Tractors	2020	501	750	0.239679	0.201		2.04663	0.005	0.076	0.07	471.8151	
Off-Highway Tractors	2020	751	1000	0.178457	0.15	1.02156		0.005	0.063	0.058	472.0545	0.153
Off-Highway Tractors	2021	51	120	0.469894		3.74258		0.005	0.261	0.24	474.5155	
Off-Highway Tractors	2021	121	175	0.307902		3.21953		0.005	0.129		472.9236	
Off-Highway Tractors	2021	176	250	0.237665	0.2		2.11341	0.005	0.072	0.067	471.0028	
Off-Highway Tractors	2021	501 751	750	0.215694	0.181		1.71505	0.005	0.063		471.8056	
Off-Highway Tractors	2021 2022	751 51	1000 120	0.190478 0.414344	0.16 0.348	1.0331 3.70994	2.41401	0.005	0.064		472.0545 475.2338	
Off-Highway Tractors Off-Highway Tractors	2022	121	175	0.414344		3.70994		0.005	0.219			0.154
Off-Highway Tractors	2022	176	250	0.213642	0.231		1.73242	0.005	0.107		471.1313	
Off-Highway Tractors	2022	501	750	0.20345	0.171		1.43309	0.005	0.055	0.05	471.1313	0.152
Off-Highway Tractors	2022	751	1000	0.202228	0.17		2.43162	0.005	0.066	0.06	472.0545	
Off-Highway Tractors	2023	51	120	0.37642		3.68654		0.005	0.187		476.0871	0.154
Off-Highway Tractors	2023	121	175	0.239199		3.14329			0.085		472.9962	0.153
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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HD	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Off-Highway Tractors	2023	176	250	0.20356	0.171	1.13796		0.005	0.053	0.049	470.845	0.152
Off-Highway Tractors	2023	501	750	0.199838	0.168	1.12418		0.005	0.051	0.047	471.9321	0.153
Off-Highway Tractors	2023	751	1000	0.213709	0.18	1.05538		0.005	0.067	0.062	472.0545	0.153
Off-Highway Tractors	2024	51	120	0.359218	0.302	3.69095		0.005	0.171	0.157	476.3711	0.154
Off-Highway Tractors	2024	121	175	0.21727	0.183		1.49579	0.005	0.071	0.066	473.097	0.153
Off-Highway Tractors	2024	176	250	0.200963	0.169	1.13461	1.37732	0.005	0.049	0.045	470.6894	0.152
Off-Highway Tractors	2024	501	750	0.200706	0.169	1.13006		0.005	0.048	0.044	471.9247	0.153
Off-Highway Tractors	2024	751	1000	0.22492	0.189	1.06613		0.005	0.068	0.063	472.0545	0.153
Off-Highway Tractors	2025	51	120	0.32831	0.276	3.66914		0.005	0.144	0.132	476.9211	0.154
Off-Highway Tractors	2025	121	175	0.208537	0.175	3.14246		0.005	0.065	0.059	473.3021	0.153
Off-Highway Tractors	2025	176	250	0.183862	0.154	1.13017		0.005	0.04	0.037	470.861	0.152
Off-Highway Tractors	2025	501	750	0.199094	0.167	1.13452		0.005	0.045	0.041	471.9169	0.153
Off-Highway Tractors	2025	751	1000	0.235862	0.198	1.07663		0.005	0.069	0.064	472.0545	0.153
Off-Highway Tractors Off-Highway Tractors	2030 2030	51 121	120 175	1.683 1.689	0.518	3.944 3.435	2.959 1.916	0.006	0.175	0.175 0.104	568.299 568.299	0.046
Off-Highway Tractors	2030	176	250	1.423	0.315	1.286	1.715	0.006	0.104	0.104	568.299	0.033
Off-Highway Tractors	2030	501	750	5.992	0.304	1.351	1.713	0.005	0.06	0.064	568.299	0.028
Off-Highway Tractors	2030	751	1000	8.981	0.318	1.409	3.569	0.005	0.078	0.078	568.3	0.027
Off-Highway Tractors	2035	51	120	1.359	0.418	3.902	2.35	0.006	0.107	0.107	568.299	0.037
Off-Highway Tractors	2035	121	175	1.361	0.301	3.421	1.252	0.006	0.065	0.065	568.299	0.027
Off-Highway Tractors	2035	176	250	1.211	0.268	1.232	1.115	0.006	0.042	0.042	568.299	0.024
Off-Highway Tractors	2035	501	750	5.163	0.262	1.238	1.045	0.005	0.04	0.04	568.299	0.023
Off-Highway Tractors	2035	751	1000	7.617	0.269	1.268	3.116	0.005	0.056	0.056	568.299	0.024
Off-Highway Tractors	2040	51	120	1.176	0.362	3.878	1.976	0.006	0.067	0.067	568.299	0.032
Off-Highway Tractors	2040	121	175	1.162	0.257	3.412	0.836	0.006	0.041	0.041	568.299	0.023
Off-Highway Tractors	2040	176	250	1.073	0.237	1.198	0.747	0.006	0.028	0.028	568.299	0.021
Off-Highway Tractors	2040	501	750	4.612	0.234	1.164	0.71	0.005	0.027	0.027	568.299	0.021
Off-Highway Tractors	2040	751	1000	6.743	0.238	1.183	2.844	0.005	0.042	0.042	568.299	0.021
Off-Highway Trucks	1990	121	175	6.457	2.005	5.36	15.394	0.758	1.133	1.133	568.299	0.18
Off-Highway Trucks	1990	176	250	8.597	2.005	5.36	15.394	0.758	1.133	1.133	568.299	0.18
Off-Highway Trucks	1990 1990	251 501	500 750	12.319 19.982	1.757 1.757	12.538	14.499	0.662	0.959	0.959	568.299	0.158
Off-Highway Trucks Off-Highway Trucks	1990	751	1000	28.084	1.737	12.538 12.538	14.499 14.499	1.018	0.976 0.963	0.976 0.963	568.299 568.3	0.158 0.157
Off-Highway Trucks	2000	121	175	4.115	1.746	3.772	9.57	0.057	0.963	0.963	568.299	0.137
Off-Highway Trucks	2000	176	250	4.454	1.039	2.896	9.178	0.057	0.425	0.425	568.299	0.093
Off-Highway Trucks	2000	251	500	6.594	0.94	4.214	8.675	0.05	0.376	0.376	568.299	0.084
Off-Highway Trucks	2000	501	750	10.696	0.94	4.214	8.675	0.052	0.376	0.376	568.299	0.084
Off-Highway Trucks	2000	751	1000	16.13	1.003	4.878	9.339	0.052	0.355	0.355	568.3	0.09
Off-Highway Trucks	2005	121	175	3.462	1.075	3.531	8.1	0.057	0.481	0.481	568.299	0.097
Off-Highway Trucks	2005	176	250	3.21	0.748	1.978	7.652	0.057	0.291	0.291	568.299	0.067
Off-Highway Trucks	2005	251	500	4.695	0.669	2.332	6.848	0.05	0.26	0.26	568.299	0.06
Off-Highway Trucks	2005	501	750	7.697	0.677	2.33	7.052	0.052	0.264	0.264	568.299	0.061
Off-Highway Trucks	2005	751	1000	12.436	0.773		8.177	0.052		0.266	568.299	0.069
Off-Highway Trucks	2010	121	175	0.758703		3.51002		0.005	0.39	0.359		
Off-Highway Trucks	2010	176	250	0.657432	0.552	2.13151		0.005	0.29	0.267	521.8781	0.152
Off-Highway Trucks	2010	251	500	0.5118	0.43	2.32222		0.005	0.213	0.196	528.8078	
Off-Highway Trucks	2010	501	750	0.633984		3.68555		0.005	0.276	0.254		
Off-Highway Trucks	2010	751	1000	0.549873		2.05613		0.005	0.211	0.194		
Off-Highway Trucks Off-Highway Trucks	2011 2011	121 176	175 250	0.704506 0.640546		3.48667 2.08881		0.005	0.357	0.328 0.256	521.3222 520.1539	0.152 0.152
Off-Highway Trucks	2011	251	500	0.515485		2.08881		0.005	0.278	0.256		0.152
Off-Highway Trucks	2011	501	750	0.643792	0.433	3.68121		0.005	0.276	0.193		
Off-Highway Trucks	2011	751	1000	0.55014		2.03783		0.005	0.211	0.194		
Off-Highway Trucks	2012	121	175	0.704248		3.51164		0.005	0.354	0.325		0.152
Off-Highway Trucks	2012	176	250	0.646155	0.543		6.43814	0.005	0.277	0.255		0.152
Off-Highway Trucks	2012	251	500	0.525914		2.29017		0.005	0.21	0.193		0.154
Off-Highway Trucks	2012	501	750	0.661317		3.73128		0.005	0.28	0.258		0.154
Off-Highway Trucks	2012	751	1000	0.55909	0.47	2.05327		0.005	0.213	0.196	523.3305	0.153
Off-Highway Trucks	2013	121	175	0.671819	0.565	3.51059	5.78297	0.005	0.33	0.304		0.152
Off-Highway Trucks	2013	176	250	0.623589		2.04802		0.005	0.263	0.242		
Off-Highway Trucks	2013	251	500	0.502477		2.17762		0.005	0.197	0.181	523.5459	0.154
Off-Highway Trucks	2013	501	750	0.645495		3.55888		0.005	0.268	0.247		0.154
Off-Highway Trucks	2013	751	1000	0.543085	0.456		6.89277	0.005	0.205	0.189	520.5876	
Off-Highway Trucks	2014	121	175	0.610195				0.005	0.292	0.269		
Off-Highway Trucks	2014	176	250	0.574728		1.93163		0.005	0.235	0.217	512.8333	
Off-Highway Trucks	2014	251	500	0.468214		2.07518		0.005	0.18	0.165		
Off-Highway Trucks	2014	501	750	0.576983		2.95299		0.005	0.231	0.212		0.154
Off-Highway Trucks	2014	751	1000	0.493307		1.77934		0.005	0.187		516.9385	
Off-Highway Trucks	2015	121	175	0.604782		3.48853		0.005	0.284	0.262		0.152
Off-Highway Trucks	2015	176	250	0.563373	0.473	1.89994	5.24228	0.005	0.227	0.209	507.8087	0.152

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type Off-Highway Trucks Off-Highway Trucks Off-Highway Trucks Off-Highway Trucks	Year 2015 2015	Low HP 251	High HP 500	TOG 0.457555	ROG 0.384	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Off-Highway Trucks Off-Highway Trucks	2015		000	0.437333	0.364	2.0367	4.52794	0.005	0.173	0.159	515.8419	0.154
Off-Highway Trucks	2010	501	750	0.537539	0.452	2.61969	5.12427	0.005	0.208	0.192	514.6436	0.154
	2015	751	1000	0.489174	0.411	1.77206		0.005	0.185	0.17	511.1369	
	2016	121	175	0.562854		3.45883		0.005	0.258	0.237	503.5515	
Off-Highway Trucks	2016	176	250	0.530487	0.446	1.82377	4.82646	0.005	0.208	0.191	502.4732	0.152
Off-Highway Trucks	2016	251	500	0.418147	0.351	1.88523	4.04798	0.005	0.153	0.141	509.8604	
Off-Highway Trucks	2016	501	750	0.497396		2.43646		0.005	0.187	0.172	508.3916	
Off-Highway Trucks	2016	751	1000	0.467579	0.393	1.70739		0.005	0.175	0.161	505.7218	
Off-Highway Trucks Off-Highway Trucks	2017 2017	121 176	175 250	0.525186	0.441	3.43636 1.75281		0.005	0.233	0.215	495.924 494.7935	0.152 0.152
Off-Highway Trucks	2017	251	500	0.496493	0.417	1.73261		0.005	0.136	0.174	501.4368	
Off-Highway Trucks	2017	501	750	0.468516	0.323	2.35644		0.005	0.130	0.123	500.1987	0.154
Off-Highway Trucks	2017	751	1000	0.430867	0.362	1.54555		0.005	0.159	0.146	497.1154	
Off-Highway Trucks	2018	121	175	0.456313	0.383	3.38333		0.005	0.192	0.177	488.0439	
Off-Highway Trucks	2018	176	250	0.405448	0.341	1.54329		0.005	0.141	0.13	487.6353	0.152
Off-Highway Trucks	2018	251	500	0.341588	0.287	1.5595	3.08995	0.005	0.113	0.104	493.5059	
Off-Highway Trucks	2018	501	750	0.413946	0.348	2.17619		0.005	0.143	0.132	492.1136	
Off-Highway Trucks	2018	751	1000	0.352998	0.297	1.35734	4.85753	0.005	0.126	0.116	487.7902	0.152
Off-Highway Trucks	2019	121	175	0.38382	0.323	3.32598		0.005	0.149	0.137	480.3623	0.152
Off-Highway Trucks	2019	176	250	0.365362	0.307	1.46079	2.98481	0.005	0.119	0.109	480.1703	0.152
Off-Highway Trucks	2019	251	500	0.313575	0.263	1.48346		0.005	0.097	0.089	485.3832	
Off-Highway Trucks	2019	501	750	0.389037	0.327		3.32044	0.005	0.129	0.118	483.2182	
Off-Highway Trucks	2019	751	1000	0.351304	0.295	1.3561	4.76495	0.005	0.124	0.114		
Off-Highway Trucks	2020	121	175	0.36879	0.31	3.3388	2.62769	0.005	0.137	0.126	470.0967	0.152
Off-Highway Trucks	2020	176	250	0.327003	0.275	1.39106		0.005	0.098	0.09	470.1675	
Off-Highway Trucks Off-Highway Trucks	2020 2020	251 501	500 750	0.292906	0.246	1.41417	3.05816	0.005	0.086	0.079	474.5787 472.7499	0.153 0.153
Off-Highway Trucks	2020	751	1000	0.360605	0.312	1.37163		0.005	0.125	0.115	469.8892	
Off-Highway Trucks	2020	121	175	0.331341	0.303	3.32405		0.005	0.123	0.113		
Off-Highway Trucks	2021	176	250	0.29675	0.249		2.10869	0.005	0.082	0.104	470.1932	0.152
Off-Highway Trucks	2021	251	500	0.267636	0.225	1.33781		0.005	0.072	0.066	474.542	0.153
Off-Highway Trucks	2021	501	750	0.348975	0.293	1.93522		0.005	0.106	0.098	472.991	0.153
Off-Highway Trucks	2021	751	1000	0.304392	0.256	1.25154		0.005	0.099	0.091	471.0552	0.152
Off-Highway Trucks	2022	121	175	0.286556	0.241	3.28383	1.81091	0.005	0.088	0.081	470.1813	0.152
Off-Highway Trucks	2022	176	250	0.255309	0.215	1.27852	1.61794	0.005	0.064	0.059	469.6151	0.152
Off-Highway Trucks	2022	251	500	0.233409	0.196	1.24664		0.005	0.054	0.05	474.7136	
Off-Highway Trucks	2022	501	750	0.313397	0.263		2.26799	0.005	0.088	0.081	473.9773	
Off-Highway Trucks	2022	751	1000	0.27833	0.234	1.2141	3.84239	0.005	0.086	0.079	472.3437	0.153
Off-Highway Trucks	2023	121	175	0.280582	0.236	3.30432		0.005	0.081	0.074	470.2917	0.152
Off-Highway Trucks	2023	176	250	0.24623	0.207		1.45572	0.005	0.059	0.054	469.4464	
Off-Highway Trucks	2023	251	500	0.222566	0.187	1.22057		0.005	0.048	0.044		
Off-Highway Trucks	2023 2023	501 751	750 1000	0.312722 0.254284	0.263	1.71923	3.54374	0.005	0.084	0.078	473.7666 472.8574	
Off-Highway Trucks Off-Highway Trucks	2023	121	175		0.214		1.49436		0.074		470.2638	
Off-Highway Trucks	2024	176	250	0.240426	0.202		1.35543	0.005	0.054	0.004	469.1126	
Off-Highway Trucks	2024	251	500	0.219543		1.20637		0.005	0.044	0.041	475.2203	
Off-Highway Trucks	2024	501	750	0.308071		1.64986		0.005	0.079		473.8394	
Off-Highway Trucks	2024	751	1000	0.248432		1.19994		0.005	0.069	0.064		
Off-Highway Trucks	2025	121	175	0.254265		3.32765		0.005	0.065	0.06	470.0035	
Off-Highway Trucks	2025	176	250	0.220008		1.21268		0.005	0.043	0.04	469.1258	
Off-Highway Trucks	2025	251	500	0.210955	0.177		1.06379	0.005	0.038	0.035	474.9697	0.154
Off-Highway Trucks	2025	501	750	0.280009		1.57807		0.005	0.066	0.061	476.314	0.154
Off-Highway Trucks	2025	751	1000	0.222695		1.14565		0.005	0.057	0.052		
Off-Highway Trucks	2030	121	175	0.739	0.229	3.425	0.563	0.006	0.025	0.025	568.299	0.02
Off-Highway Trucks	2030	176	250	0.932	0.217	1.166	0.481	0.006	0.017	0.017	568.3	0.019
Off-Highway Trucks	2030	251	500	1.52	0.216	1.104	0.458	0.005	0.017	0.017	568.299	0.019
Off-Highway Trucks	2030	501	750	2.467	0.217	1.104	0.463	0.005	0.017	0.017	568.299	0.019
Off-Highway Trucks	2030	751	1000	3.55	0.22	1.107	2.651	0.005	0.033	0.033	568.3	0.019
Off-Highway Trucks Off-Highway Trucks	2035 2035	121 176	175 250	0.68 0.894	0.211	3.425 1.167	0.38 0.353	0.006	0.016	0.016	568.299 568.299	0.019
Off-Highway Trucks	2035	251	500	1.461	0.208	1.107	0.333	0.005	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	501	750	2.371	0.208	1.105	0.348	0.005	0.013	0.013	568.299	0.018
Off-Highway Trucks	2035	751	1000	3.368	0.209	1.105	2.565	0.005	0.013	0.013	568.299	0.018
Off-Highway Trucks	2040	121	175	0.662	0.205	3.426	0.318	0.006	0.013	0.013	568.299	0.018
Off-Highway Trucks	2040	176	250	0.877	0.204	1.167	0.305	0.006	0.012	0.012	568.3	0.018
Off-Highway Trucks	2040	251	500	1.434	0.204	1.105	0.305	0.005	0.012	0.012		0.018
Off-Highway Trucks	2040	501	750	2.327	0.204	1.105	0.305	0.005	0.012	0.012	568.299	0.018
Off-Highway Trucks	2040	751	1000	3.296	0.205	1.105	2.532	0.005	0.026	0.026	568.299	0.018
Other Construction Equipment	1990	6	15	5.348	1.804	4.999	9.999	1.049	0.975	0.975	568.3	0.162
Other Construction Equipment	1990	16	25	8.578	2.213	4.999	6.919	0.855	0.741	0.741	568.299	0.199

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low UD	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Other Construction Equipment	1990	26	50	39.33	4.791	9.693	7.947	0.871	1.267	1.267	568.299	0.432
Other Construction Equipment	1990	51	120	56.637	2.388	5.782	15.176	0.791	1.343	1.343	568.299	0.432
Other Construction Equipment	1990	121	175	60.86	1.948	5.191	15.112	0.758	1.085	1.085	568.299	0.175
Other Construction Equipment	1990	251	500	128.26	1.72	11.412	14.332	0.662	0.927	0.927	568.299	0.155
Other Construction Equipment	2000	6	15	4.374	1.475	4.49	8.242	0.079	0.676	0.676	568.299	0.133
Other Construction Equipment	2000	16	25	7.591	1.958	4.53	6.358	0.065	0.563	0.563	568.3	0.176
Other Construction Equipment	2000	26	50	30.619	3.73	7.85	6.784	0.066	0.816	0.816	568.299	0.336
Other Construction Equipment	2000	51	120	38.817	1.636	4.283	9.507	0.06	0.786	0.786	568.3	0.147
Other Construction Equipment	2000	121	175	34.573	1.106	3.417	8.749	0.057	0.453	0.453	568.299	0.099
Other Construction Equipment	2000	251	500	61.92	0.83	3.67	8.069	0.05	0.321	0.321	568.299	0.074
Other Construction Equipment	2005	6	15	2.271	0.766	3.469	5.228	0.079	0.361	0.361	568.299	0.069
Other Construction Equipment	2005	16	25	3.564	0.919	2.642	5.412	0.065	0.347	0.347	568.3	0.082
Other Construction Equipment	2005	26	50	26.204	3.192	7.102	6.226	0.066	0.739	0.739	568.299	0.288
Other Construction Equipment	2005	51	120	33.145	1.397	4.043	8.067	0.06	0.725	0.725	568.299	0.126
Other Construction Equipment	2005 2005	121 251	175 500	28.235 41.035	0.903	3.208 2.051	7.379 6.334	0.057	0.392	0.392	568.299 568.299	0.081
Other Construction Equipment Other Construction Equipment	2005	6	15	1.52864	0.55 1.284	5.29076		0.005	0.497	0.22 0.457	587.5495	0.049
Other Construction Equipment	2010	16	25	1.52864	1.284	5.29076		0.005	0.497	0.457	587.5495	0.171
Other Construction Equipment	2010	26	50	1.52864	1.284	5.29076		0.005	0.497	0.457	587.5495	0.171
Other Construction Equipment	2010	51	120	0.92739	0.779		7.11752	0.005	0.549	0.505	523.1661	0.152
Other Construction Equipment	2010	121	175	0.769602	0.647	3.47406		0.005	0.38	0.349	522.1244	0.152
Other Construction Equipment	2010	251	500	0.480247	0.404	3.20434		0.005	0.219	0.201	530.8514	0.155
Other Construction Equipment	2011	6	15	1.531741	1.287	5.36962	5.5686	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipment	2011	16	25	1.531741	1.287	5.36962	5.5686	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipment	2011	26	50	1.531741	1.287	5.36962	5.5686	0.005	0.499	0.459	586.0703	0.171
Other Construction Equipment	2011	51	120	0.909764	0.764	3.89723		0.005	0.542	0.498	521.5282	0.152
Other Construction Equipment	2011	121	175	0.725704	0.61	3.41832		0.005	0.361	0.332	520.664	0.152
Other Construction Equipment	2011	251	500	0.449646	0.378	2.91483		0.005	0.204	0.188	529.9639	0.155
Other Construction Equipment	2012	6	15	1.548775	1.301		5.58169	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipment	2012	16	25	1.548775	1.301		5.58169	0.005	0.503	0.463	584.6639	0.171
Other Construction Equipment	2012	26	50	1.548775	1.301	5.47004		0.005	0.503	0.463	584.6639	0.171
Other Construction Equipment	2012	51	120	0.910724	0.765	3.91674	6.95644	0.005	0.543	0.5	519.9075	0.152
Other Construction Equipment Other Construction Equipment	2012 2012	121 251	175 500	0.730754 0.458869	0.614	3.4429 2.95715	6.91612 5.42334	0.005	0.363	0.334	519.3479 528.6246	0.152 0.155
Other Construction Equipment	2012	6	15	1.571874	1.321	5.57699		0.005	0.509	0.169	581.8471	0.133
Other Construction Equipment	2013	16	25	1.571874	1.321	5.57699		0.005	0.509	0.468	581.8471	0.171
Other Construction Equipment	2013	26	50	1.571874	1.321	5.57699		0.005	0.509	0.468	581.8471	0.171
Other Construction Equipment	2013	51	120	0.892781	0.75	3.91866		0.005	0.532	0.489	517.5939	0.152
Other Construction Equipment	2013	121	175	0.708053	0.595	3.41257		0.005	0.351	0.323	516.9857	0.152
Other Construction Equipment	2013	251	500	0.440093	0.37	2.79519		0.005	0.194	0.179	525.1086	0.154
Other Construction Equipment	2014	6	15	1.547867	1.301	5.60223	5.56546	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipment	2014	16	25	1.547867	1.301	5.60223	5.56546	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipment	2014	26	50	1.547867			5.56546	0.005	0.502	0.462	578.9591	0.171
Other Construction Equipment	2014	51	120	0.866935		3.90558		0.005	0.518	0.476	515.2847	0.152
Other Construction Equipment	2014	121	175	0.674237	0.567		6.37185	0.005	0.333	0.307	514.5518	0.152
Other Construction Equipment	2014	251	500	0.392211	0.33	2.47571		0.005	0.168	0.155	520.9444	0.154
Other Construction Equipment	2015	6	15	1.557753		5.68113		0.005	0.503	0.463		
Other Construction Equipment	2015	16	25	1.557753		5.68113		0.005	0.503	0.463		
Other Construction Equipment	2015	26	50	1.557753	1.309	5.68113		0.005	0.503	0.463		0.171
Other Construction Equipment	2015	51	120	0.860334	0.723	3.9159	6.53649	0.005	0.512	0.471	510.1706	0.152
Other Construction Equipment Other Construction Equipment	2015 2015	121 251	175 500	0.66302 0.386006	0.557 0.324	3.38183 2.40724		0.005	0.326	0.3 0.15	509.3069 515.1953	0.152 0.154
Other Construction Equipment Other Construction Equipment	2015	6	15	1.524032	1.281	5.67687		0.005	0.103	0.13	566.9782	0.134
Other Construction Equipment	2016	16	25	1.524032		5.67687		0.005	0.492	0.453	566.9782	0.171
Other Construction Equipment	2016	26	50	1.524032	1.281	5.67687		0.005	0.492	0.453	566.9782	0.171
Other Construction Equipment	2016	51	120	0.837049		3.90894		0.005	0.496	0.456	505.349	0.152
Other Construction Equipment	2016	121	175	0.62413		3.35672		0.005	0.306	0.281	503.9641	0.152
Other Construction Equipment	2016	251	500	0.366005	0.308	2.28488		0.005	0.151	0.139	509.7062	0.154
Other Construction Equipment	2017	6	15	1.480652			5.42066	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipment	2017	16	25	1.480652		5.65509	5.42066	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipment	2017	26	50	1.480652	1.244		5.42066	0.005	0.477	0.439	558.0007	0.171
Other Construction Equipment	2017	51	120	0.804436		3.88542		0.005	0.475	0.437	497.3832	0.152
Other Construction Equipment	2017	121	175	0.595557	0.5		5.49424	0.005	0.29	0.267	495.9311	0.152
Other Construction Equipment	2017	251	500	0.3449	0.29		3.77706	0.005	0.138	0.127	501.1295	0.154
Other Construction Equipment	2018	6	15	1.39068		5.54108		0.005	0.449	0.413	548.9388	0.171
Other Construction Equipment	2018	16	25	1.39068		5.54108		0.005	0.449	0.413	548.9388	0.171
Other Construction Equipment	2018	26	50	1.39068		5.54108		0.005	0.449	0.413		0.171
Other Construction Equipment	2018	51	120	0.711314		3.79863		0.005	0.417	0.383	490.018	0.153
Other Construction Equipment	2018	121	175	0.519398		3.26346		0.005	0.25	0.23	487.9859	0.152
Other Construction Equipment	2018	251	500	0.298599	0.251	1.81261	3.16693	0.005	0.115	0.105	493.36	0.154

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

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Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Other Construction Equipment	2019 2019	6 16	15 25	1.370834 1.370834	1.152	5.54123 5.54123		0.005	0.437	0.402	539.7349 539.7349	0.171
Other Construction Equipment Other Construction Equipment	2019	26	50	1.370834	1.152 1.152	5.54123		0.005	0.437	0.402	539.7349	0.171
Other Construction Equipment	2019	51	120	0.655004	0.55	3.7535	5.20336	0.005	0.437	0.402	482.2177	0.171
Other Construction Equipment	2019	121	175	0.490382	0.412	3.25619	4.4331	0.005	0.233	0.215	480.4518	0.152
Other Construction Equipment	2019	251	500	0.277883	0.233	1.66739		0.005	0.103	0.094	485.4127	0.154
Other Construction Equipment	2020	6	15	1.276029	1.072	5.40446		0.005	0.405	0.373	527.9656	0.171
Other Construction Equipment	2020	16	25	1.276029	1.072		5.03626	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipment	2020	26	50	1.276029	1.072	5.40446	5.03626	0.005	0.405	0.373	527.9656	0.171
Other Construction Equipment	2020	51	120	0.617777	0.519	3.73189	4.7712	0.005	0.354	0.325	472.2162	0.153
Other Construction Equipment	2020	121	175	0.461441	0.388	3.23528	4.11203	0.005	0.217	0.2	469.9837	0.152
Other Construction Equipment	2020	251	500	0.266788	0.224	1.6338	2.63672	0.005	0.096	0.088	475.2326	0.154
Other Construction Equipment	2021	6	15	1.201423	1.01	5.30749		0.005	0.382	0.351	527.7834	0.171
Other Construction Equipment	2021	16	25	1.201423	1.01	5.30749		0.005	0.382	0.351	527.7834	0.171
Other Construction Equipment	2021	26	50	1.201423	1.01		4.90234	0.005	0.382	0.351	527.7834	0.171
Other Construction Equipment	2021	51	120	0.573212	0.482	3.70304	4.4558	0.005	0.323	0.298	472.275	0.153
Other Construction Equipment	2021	121	175	0.392185	0.33	3.18275		0.005	0.18	0.165	469.7642	0.152
Other Construction Equipment	2021 2022	251	500	0.256006	0.215	1.59874		0.005	0.09 0.348	0.082	475.2124	0.154
Other Construction Equipment	2022	6 16	15 25	1.094466	0.92	5.16732		0.005	0.348	0.32	529.1825 529.1825	0.171
Other Construction Equipment Other Construction Equipment	2022	26	50	1.094466 1.094466	0.92	5.16732 5.16732		0.005	0.348	0.32	529.1825	0.171
Other Construction Equipment Other Construction Equipment	2022	51	120	0.523663	0.92		4.09846	0.005	0.346	0.32	472.3178	0.171
Other Construction Equipment	2022	121	175	0.351187	0.295	3.15539		0.005	0.266	0.203	469.6126	0.152
Other Construction Equipment	2022	251	500	0.223796	0.188	1.43828		0.005	0.074	0.068	475.9983	0.154
Other Construction Equipment	2023	6	15	1.030598	0.866	5.07368		0.005	0.322	0.296	529.3389	0.171
Other Construction Equipment	2023	16	25	1.030598	0.866	5.07368		0.005	0.322	0.296	529.3389	0.171
Other Construction Equipment	2023	26	50	1.030598	0.866	5.07368	4.59446	0.005	0.322	0.296	529.3389	0.171
Other Construction Equipment	2023	51	120	0.482844	0.406	3.63188	3.79013	0.005	0.259	0.238	471.9899	0.153
Other Construction Equipment	2023	121	175	0.325455	0.273	3.14152	2.69821	0.005	0.14	0.129	469.5579	0.152
Other Construction Equipment	2023	251	500	0.214667	0.18	1.39596	1.81226	0.005	0.069	0.063	476.1847	0.154
Other Construction Equipment	2024	6	15	0.984979	0.828	5.03181	4.51017	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipment	2024	16	25	0.984979	0.828	5.03181	4.51017	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipment	2024	26	50	0.984979	0.828	5.03181	4.51017	0.005	0.305	0.28	529.2094	0.171
Other Construction Equipment	2024	51	120	0.454266	0.382	3.61958		0.005	0.237	0.218	472.1254	0.153
Other Construction Equipment	2024	121	175	0.310043	0.261	3.14951	2.52019	0.005	0.13	0.12	469.5445	0.152
Other Construction Equipment	2024 2025	251 6	500 15	0.208244 0.901061	0.175	1.38248 4.87388	1.67692 4.30575	0.005	0.064 0.268	0.059	476.4838 528.9535	0.154
Other Construction Equipment Other Construction Equipment	2025	16	25	0.901061	0.757 0.757	4.87388		0.005	0.268	0.246	528.9535	0.171
Other Construction Equipment	2025	26	50	0.901061	0.757	4.87388		0.005	0.268	0.246	528.9535	0.171
Other Construction Equipment	2025	51	120	0.40612	0.737	3.58397	3.25221	0.005	0.203	0.240	472.7482	0.171
Other Construction Equipment	2025	121	175	0.279358	0.235	3.13647	2.16742	0.005	0.112	0.103	469.843	0.152
Other Construction Equipment	2025	251	500	0.200431	0.168	1.3582	1.55241	0.005	0.059	0.055	476.2959	0.154
Other Construction Equipment	2030	6	15	1.96	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Other Construction Equipment	2030	16	25	2.657	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Other Construction Equipment	2030	26	50	3.526	0.429	4.39	3.19	0.007	0.03	0.03	568.299	0.038
Other Construction Equipment	2030	51	120	5.348	0.225	3.538	1.576	0.006	0.027	0.027	568.3	0.02
Other Construction Equipment	2030	121	175	5.057	0.161	3.127	0.459	0.006	0.019	0.019	568.299	0.014
Other Construction Equipment	2030	251	500	11.523	0.154	1.028	0.391	0.005	0.014	0.014	568.3	0.013
Other Construction Equipment	2035	6	15	1.96	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Other Construction Equipment	2035	16	25	2.657	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Other Construction Equipment	2035	26	50	3.367	0.41	4.377	3.124	0.007	0.018	0.018	568.299	0.037
Other Construction Equipment	2035	51	120	5.057	0.213	3.536	1.474	0.006	0.017	0.017	568.299	0.019
Other Construction Equipment Other Construction Equipment	2035	121	175 500	4.686 11.034	0.15	3.128	0.334	0.006	0.013	0.013	568.299 568.299	0.013
Other Construction Equipment Other Construction Equipment	2035 2040	251 6	15	11.034	0.147 0.661	1.029 3.47	0.311 4.142	0.005	0.011	0.011	568.299	0.013
Other Construction Equipment Other Construction Equipment	2040	16	25	2.657	0.685	2.339	4.142	0.008	0.161	0.161	568.299	0.059
Other Construction Equipment	2040	26	50	3.359	0.409	4.377	3.096	0.007	0.101	0.101	568.3	0.036
Other Construction Equipment	2040	51	120	4.992	0.403	3.536	1.441	0.007	0.013	0.013	568.299	0.030
Other Construction Equipment	2040	121	175	4.556	0.145	3.128	0.29	0.006	0.014	0.014	568.299	0.013
Other Construction Equipment	2040	251	500	10.825	0.145	1.029	0.282	0.005	0.01	0.01	568.299	0.013
Other General Industrial Equipment	1990	6	15	4.264	1.804	4.999	9.999	0.833	0.968	0.968	568.299	0.162
Other General Industrial Equipment	1990	16	25	12.555	2.213	4.999	6.919	0.679	0.735	0.735	568.299	0.199
Other General Industrial Equipment	1990	26	50	38.808	4.828	9.768	7.957	0.692	1.266	1.266	568.299	0.435
Other General Industrial Equipment	1990	51	120	54.2	2.363	5.72	14.962	0.628	1.331	1.331	568.299	0.213
Other General Industrial Equipment	1990	121	175	57.106	1.61	5.066	13.434	0.602	0.88	0.88	568.299	0.145
Other General Industrial Equipment	1990	176	250	80.71	1.61	5.066	13.434	0.602	0.88	0.88	568.299	0.145
Other General Industrial Equipment	1990	251	500	139.861	1.425	11.207	12.743	0.525	0.756	0.756	568.299	0.128
Other General Industrial Equipment	1990	501	750	230.516	1.425	11.207	12.743	0.538	0.756	0.756	568.299	0.128
Other General Industrial Equipment	1990	751	1000	293.256	1.417	11.207	12.743	0.538	0.746	0.746	568.299	0.127
Other General Industrial Equipment	2000	6	15	2.475	1.047	4.258	7.362	0.079	0.428	0.428	568.299	0.094

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type Other General Industrial Equipment Other General Industrial Equipment Other General Industrial Equipment Other General Industrial Equipment	Year 2000 2000	Low HP	High HP 25	TOG 5.83	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Other General Industrial Equipment	2000		20	5.05	1.027	4.322	6.284	0.064	0.431	0.431	568.299	0.092
	2000	26	50	36.086	4.49	9.236	7.09	0.065	0.935	0.935	568.299	0.405
Other General Industrial Equipment	2000	51	120	43.196	1.883	4.733	10.664	0.059	0.91	0.91	568.299	0.169
	2000	121	175	44.74	1.261	3.852	9.686	0.057	0.536	0.536	568.299	0.113
Other General Industrial Equipment	2000	176	250	53	1.057	3.072	9.325	0.057	0.438	0.438	568.299	0.095
Other General Industrial Equipment	2000	251	500	93.834	0.956	5.179	8.862	0.049	0.385	0.385	568.299	0.086
Other General Industrial Equipment	2000 2000	501 751	750 1000	154.656	0.956	5.179	8.862 9.479	0.051	0.385	0.385	568.3 568.299	0.086
Other General Industrial Equipment Other General Industrial Equipment	2005	6	15	214.063 1.674	1.034 0.708	5.791 3.469	4.985	0.051	0.35	0.35	568.299	0.093
Other General Industrial Equipment	2005	16	25	4.288	0.755	2.4	5.226	0.064	0.315	0.315	568.299	0.068
Other General Industrial Equipment	2005	26	50	33.133	4.122	8.765	6.676	0.065	0.888	0.888	568.299	0.371
Other General Industrial Equipment	2005	51	120	37.812	1.649	4.418	9.041	0.059	0.867	0.867	568.299	0.148
Other General Industrial Equipment	2005	121	175	38.439	1.084	3.513	8.273	0.057	0.479	0.479	568.299	0.097
Other General Industrial Equipment	2005	176	250	38.228	0.762	2.065	7.795	0.057	0.301	0.301	568.299	0.068
Other General Industrial Equipment	2005	251	500	66.246	0.675	2.681	7.094	0.049	0.269	0.269	568.299	0.06
Other General Industrial Equipment	2005	501	750	110.94	0.686	2.681	7.252	0.051	0.272	0.272	568.3	0.061
Other General Industrial Equipment	2005	751	1000	166.893	0.806	3.276	8.322	0.051	0.28	0.28	568.299	0.072
Other General Industrial Equipment	2010	6	15	1.873274	1.574	6.00712		0.005	0.563	0.518	584.6401	0.17
Other General Industrial Equipment	2010	16	25	1.873274	1.574		5.68505	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Equipment	2010	26	50	1.873274	1.574		5.68505	0.005	0.563	0.518	584.6401	0.17
Other General Industrial Equipment	2010 2010	51 121	120 175	1.01726 0.746027	0.855 0.627	4.0773 3.51505	7.36447 7.0202	0.005	0.611	0.562	522.222 524.278	0.152 0.153
Other General Industrial Equipment Other General Industrial Equipment	2010	176	250	0.746027	0.627	2.61803		0.005	0.379	0.349	524.278	0.153
Other General Industrial Equipment	2010	251	500	0.489206	0.411		5.68219	0.005	0.339	0.202	525.4767	0.153
Other General Industrial Equipment	2010	501	750	0.368598	0.31	1.62081	4.78207	0.005	0.168	0.154	526.0709	0.153
Other General Industrial Equipment	2010	751	1000	0.368913	0.31		6.10226	0.005	0.148	0.136	524.505	0.153
Other General Industrial Equipment	2011	6	15	1.86071	1.564	6.08575	5.69446	0.005	0.562	0.517	583.1785	0.17
Other General Industrial Equipment	2011	16	25	1.86071	1.564	6.08575	5.69446	0.005	0.562	0.517	583.1785	0.17
Other General Industrial Equipment	2011	26	50	1.86071	1.564	6.08575	5.69446	0.005	0.562	0.517	583.1785	0.17
Other General Industrial Equipment	2011	51	120	1.006419	0.846	4.08854	7.24885	0.005	0.609	0.56	520.9164	0.152
Other General Industrial Equipment	2011	121	175	0.688559	0.579	3.47165	6.5273	0.005	0.352	0.324	522.9673	0.153
Other General Industrial Equipment	2011	176	250	0.679053	0.571	2.33422		0.005	0.313	0.288	524.489	0.153
Other General Industrial Equipment	2011	251	500	0.467324	0.393	2.74249		0.005	0.207	0.19	524.163	0.153
Other General Industrial Equipment	2011	501	750	0.373245	0.314		4.72869	0.005	0.163	0.15	524.7557	0.153
Other General Industrial Equipment Other General Industrial Equipment	2011 2012	751 6	1000 15	0.37971 1.895405	0.319 1.593	1.03813 6.24676		0.005	0.153 0.569	0.141	523.1938 581.7169	0.153 0.17
Other General Industrial Equipment	2012	16	25	1.895405	1.593		5.71254	0.005	0.569	0.524	581.7169	0.17
Other General Industrial Equipment	2012	26	50	1.895405	1.593	6.24676		0.005	0.569	0.524	581.7169	0.17
Other General Industrial Equipment	2012	51	120	1.008569	0.847		7.21493	0.005	0.612	0.563	519.6109	0.152
Other General Industrial Equipment	2012	121	175	0.685664	0.576	3.49618		0.005	0.349	0.321	521.6566	0.153
Other General Industrial Equipment	2012	176	250	0.675065	0.567	2.33594		0.005	0.308	0.284	523.1745	0.153
Other General Industrial Equipment	2012	251	500	0.47625	0.4	2.75094	5.39821	0.005	0.207	0.19	522.8493	0.153
Other General Industrial Equipment	2012	501	750	0.379047	0.319	1.63473	4.69855	0.005	0.161	0.148	523.4405	0.153
Other General Industrial Equipment	2012	751	1000	0.390508				0.005	0.158		521.8825	0.153
Other General Industrial Equipment	2013	6	15	1.848739		6.26146		0.005	0.556		578.7937	0.17
Other General Industrial Equipment	2013	16	25	1.848739		6.26146		0.005	0.556		578.7937	0.17
Other General Industrial Equipment	2013	26	50	1.848739		6.26146		0.005	0.556		578.7937	
Other General Industrial Equipment	2013	51	120	0.982208	0.825		7.03299	0.005	0.597		516.9998 519.0352	
Other General Industrial Equipment Other General Industrial Equipment	2013 2013	121 176	175 250	0.6403 0.609561	0.538 0.512	2.15134	6.02319	0.005	0.324		520.5455	
Other General Industrial Equipment	2013	251	500	0.434695		2.62159		0.005	0.273		520.3433	
Other General Industrial Equipment	2013	501	750	0.434093	0.29	1.58393		0.005	0.139		520.8102	
Other General Industrial Equipment	2013	751	1000	0.401306		1.06602		0.005	0.162	0.149	519.26	0.153
Other General Industrial Equipment	2014	6	15	1.810128	1.521	6.28785		0.005	0.544	0.5	575.8705	
Other General Industrial Equipment	2014	16	25	1.810128		6.28785		0.005	0.544	0.5	575.8705	0.17
Other General Industrial Equipment	2014	26	50	1.810128	1.521	6.28785	5.58361	0.005	0.544	0.5	575.8705	
Other General Industrial Equipment	2014	51	120	0.938561		4.09005		0.005	0.574		514.3886	
Other General Industrial Equipment	2014	121	175	0.621882		3.46929		0.005	0.312		516.4138	
Other General Industrial Equipment	2014	176	250	0.580321		2.05376		0.005	0.255		517.9164	
Other General Industrial Equipment	2014	251	500	0.422239		2.49943		0.005	0.172		517.5945	
Other General Industrial Equipment	2014	501 751	750	0.304364		1.48882			0.115		518.1798	
Other General Industrial Equipment Other General Industrial Equipment	2014 2015	751 6	1000 15	0.412103 1.779268	0.346 1.495	1.07997	5.52435	0.005	0.167 0.532	0.153	516.6375 570.0241	0.153
Other General Industrial Equipment Other General Industrial Equipment	2015	16	25	1.779268		6.32452		0.005	0.532	0.49	570.0241	0.17
Other General Industrial Equipment	2015	26	50	1.779268		6.32452		0.005	0.532	0.49	570.0241	0.17
Other General Industrial Equipment	2015	51	120	0.905303	0.761	4.0811	6.50163	0.005	0.553		509.1664	
Other General Industrial Equipment	2015	121	175	0.589015		3.45434		0.005	0.294	0.27	511.171	0.153
Other General Industrial Equipment	2015	176	250	0.538134	0.452	1.9257	5.64293	0.005	0.23		512.6584	
Other General Industrial Equipment	2015	251	500	0.420225	0.353	2.43603	4.42481	0.005	0.167		512.3397	
Other General Industrial Equipment	2015	501	750	0.298831	0.251	1.49062	3.36512	0.005	0.109	0.1	512.9191	0.153

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Other General Industrial Equipment	2015	751	1000	0.422901	0.355	1.09391		0.005	0.171	0.158	511.3924	0.153
Other General Industrial Equipment	2016	6	15	1.690474	1.42	6.25866	5.40705	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Equipment	2016	16	25	1.690474	1.42		5.40705	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Equipment	2016	26	50	1.690474	1.42		5.40705	0.005	0.506	0.466	564.1777	0.17
Other General Industrial Equipment	2016	51	120	0.851445	0.715	4.04541		0.005	0.518	0.476	503.9442	0.152
Other General Industrial Equipment	2016	121	175	0.559455	0.47		5.05466	0.005	0.276	0.254	505.9282	0.153
Other General Industrial Equipment	2016	176	250	0.519923	0.437	1.8667	5.40733	0.005	0.217	0.2	507.4004	0.153
Other General Industrial Equipment	2016	251	500	0.407021	0.342	2.36652	4.14966	0.005	0.159	0.146	507.085	0.153
Other General Industrial Equipment Other General Industrial Equipment	2016 2016	501 751	750 1000	0.289084 0.288345	0.243	1.49061	3.10202 4.7462	0.005	0.1	0.092	507.6584 506.1474	0.153
Other General Industrial Equipment	2016	6	15	1.605819	1.349	6.17923		0.005	0.112	0.103	555.4081	0.133
Other General Industrial Equipment	2017	16	25	1.605819	1.349			0.005	0.479	0.441	555.4081	0.17
Other General Industrial Equipment	2017	26	50	1.605819	1.349		5.27694	0.005	0.479	0.441	555.4081	0.17
Other General Industrial Equipment	2017	51	120	0.785454	0.66		5.72138	0.005	0.47	0.433	496.1109	0.152
Other General Industrial Equipment	2017	121	175	0.520155	0.437	3.39928	4.53359	0.005	0.25	0.23	498.0641	0.153
Other General Industrial Equipment	2017	176	250	0.489435	0.411	1.78	5.02246	0.005	0.199	0.183	499.5133	0.153
Other General Industrial Equipment	2017	251	500	0.397215	0.334	2.36453	3.9491	0.005	0.152	0.14	499.2028	0.153
Other General Industrial Equipment	2017	501	750	0.260833	0.219	1.48016	2.59187	0.005	0.086	0.079	499.7673	0.153
Other General Industrial Equipment	2017	751	1000	0.29828	0.251	1.05719	4.7865	0.005	0.114	0.105	498.2798	0.153
Other General Industrial Equipment	2018	6	15	1.373834	1.154	5.82717	4.97857	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Equipment	2018	16	25	1.373834	1.154	5.82717	4.97857	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Equipment	2018	26	50	1.373834	1.154	5.82717	4.97857	0.005	0.414	0.381	546.6385	0.17
Other General Industrial Equipment	2018	51	120	0.663253	0.557	3.87633		0.005	0.392	0.36	488.2775	0.152
Other General Industrial Equipment	2018	121	175	0.377931	0.318		3.23673	0.005	0.172	0.158	490.1999	0.153
Other General Industrial Equipment	2018 2018	176 251	250 500	0.360768 0.301755	0.303		3.64819 2.90735	0.005	0.135	0.124	491.6263 491.3207	0.153
Other General Industrial Equipment Other General Industrial Equipment	2018	501	750	0.301755	0.254		2.90735	0.005	0.104	0.095	491.3207	0.153
Other General Industrial Equipment	2018	751	1000	0.306245	0.210		4.81007	0.005	0.003	0.107	490.4122	0.153
Other General Industrial Equipment	2019	6	15	1.240314	1.042	5.66186		0.005	0.374	0.344	537.8689	0.133
Other General Industrial Equipment	2019	16	25	1.240314	1.042	5.66186		0.005	0.374	0.344	537.8689	0.17
Other General Industrial Equipment	2019	26	50	1.240314	1.042		4.80683	0.005	0.374	0.344	537.8689	0.17
Other General Industrial Equipment	2019	51	120	0.594634	0.5	3.82128	4.49674	0.005	0.343	0.315	480.4442	0.152
Other General Industrial Equipment	2019	121	175	0.359068	0.302	3.24129	2.99891	0.005	0.156	0.144	482.3357	0.153
Other General Industrial Equipment	2019	176	250	0.307665	0.259	1.29893	3.01996	0.005	0.106	0.097	483.7392	0.153
Other General Industrial Equipment	2019	251	500	0.283854	0.239	1.56115		0.005	0.092	0.085	483.4385	0.153
Other General Industrial Equipment	2019	501	750	0.236758	0.199	1.47441		0.005	0.076	0.07	483.9852	0.153
Other General Industrial Equipment	2019	751	1000	0.31421	0.264		4.83364	0.005	0.117	0.108	482.5446	0.153
Other General Industrial Equipment	2020	6	15	1.125869	0.946	5.50397	4.62219	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Equipment	2020	16	25	1.125869	0.946	5.50397	4.62219	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Equipment	2020	26	50	1.125869	0.946	5.50397	4.62219	0.005	0.334	0.307	526.1761	0.17
Other General Industrial Equipment Other General Industrial Equipment	2020 2020	51 121	120 175	0.53075 0.319281	0.446	3.77073 3.22922	4.06079 2.57503	0.005	0.296	0.272	469.9998 471.8502	0.152 0.153
Other General Industrial Equipment	2020	176	250	0.319261	0.237		2.66782	0.005	0.133		471.0302	0.153
Other General Industrial Equipment	2020	251	500				2.06187		0.03	0.067		0.153
Other General Industrial Equipment	2020	501	750	0.207847		1.46184		0.005	0.062	0.057	473.4638	
Other General Industrial Equipment	2020	751	1000	0.322174	0.271	1.085	4.85721	0.005	0.119		472.0545	
Other General Industrial Equipment	2021	6	15	0.989462		5.31354		0.005	0.289		526.1761	
Other General Industrial Equipment	2021	16	25	0.989462		5.31354		0.005	0.289		526.1761	0.17
Other General Industrial Equipment	2021	26	50	0.989462	0.831		4.42532	0.005	0.289	0.266	526.1761	0.17
Other General Industrial Equipment	2021	51	120	0.480398	0.404	3.74029		0.005	0.256	0.235	469.9998	
Other General Industrial Equipment	2021	121	175	0.302394	0.254		2.34745	0.005	0.121	0.111	471.8502	
Other General Industrial Equipment	2021	176	250	0.242448		1.17138		0.005	0.07		473.2231	0.153
Other General Industrial Equipment	2021	251	500	0.232592		1.32956		0.005	0.064	0.059		0.153
Other General Industrial Equipment	2021	501	750	0.197551		1.46305		0.005	0.054	0.05	473.4638	
Other General Industrial Equipment	2021	751	1000	0.328625		1.09291		0.005	0.12	0.11	472.0545	
Other General Industrial Equipment	2022	6	15	0.835231		5.07591		0.005	0.238		526.1761	0.17
Other General Industrial Equipment	2022	16	25	0.835231		5.07591		0.005	0.238		526.1761 526.1761	0.17
Other General Industrial Equipment Other General Industrial Equipment	2022 2022	26 51	50 120	0.835231 0.403101		5.07591 3.66821		0.005	0.238		469.9998	0.17 0.152
Other General Industrial Equipment Other General Industrial Equipment	2022	121	175	0.403101		3.23346		0.005	0.199		471.8502	
Other General Industrial Equipment	2022	176	250	0.222216			1.75874		0.111		473.2231	
Other General Industrial Equipment	2022	251	500	0.208015		1.17139		0.005	0.05	0.032	472.929	0.153
Other General Industrial Equipment	2022	501	750	0.177285		1.45658		0.005	0.046	0.042		
Other General Industrial Equipment	2022	751	1000	0.223076		1.03925		0.005	0.079		472.0545	
Other General Industrial Equipment	2023	6	15	0.717857		4.88317		0.005	0.194		526.1761	0.17
Other General Industrial Equipment	2023	16	25	0.717857	0.603		3.99304	0.005	0.194		526.1761	0.17
Other General Industrial Equipment	2023	26	50	0.717857		4.88317		0.005	0.194		526.1761	0.17
Other General Industrial Equipment	2023	51	120	0.366077		3.64703		0.005	0.168		469.9998	
Other General Industrial Equipment	2022	121	175	0.000560	0.2	2 17/52	1.60937	0.005	0.08	0.074	471.8502	0.153
Other General Industrial Equipment	2023 2023	176	175 250	0.238568 0.214876			1.53043		0.051		473.2231	0.153

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2 (CH4
Other General Industrial Equipment	2023	251	500	0.195172	0.164	1.12057	1.25618	0.005	0.043	0.04		0.153
Other General Industrial Equipment	2023	501	750	0.131565	0.111	1.10458	0.62571	0.005	0.023	0.021	473.4638 0).153
Other General Industrial Equipment	2023	751	1000	0.229255	0.193	1.04852	3.95649	0.005	0.08	0.073	472.0545 0).153
Other General Industrial Equipment	2024	6	15	0.649743	0.546	4.78022	3.85892	0.005	0.165	0.152		0.17
Other General Industrial Equipment	2024	16	25	0.649743	0.546		3.85892	0.005	0.165	0.152		0.17
Other General Industrial Equipment	2024	26	50	0.649743	0.546	4.78022	3.85892	0.005	0.165	0.152		0.17
Other General Industrial Equipment	2024	51	120	0.341745	0.287		2.70778	0.005	0.146	0.134).152
Other General Industrial Equipment	2024	121	175	0.226791	0.191		1.44774	0.005	0.073	0.067		0.153
Other General Industrial Equipment Other General Industrial Equipment	2024 2024	176 251	250 500	0.205547 0.187509	0.173 0.158	1.14124	1.31888 1.15288	0.005	0.046	0.042).153).153
Other General Industrial Equipment	2024	501	750	0.137014	0.156		0.62782	0.005	0.04	0.036		0.153
Other General Industrial Equipment	2024	751	1000	0.137014	0.113		3.97098	0.005	0.023	0.021		0.153
Other General Industrial Equipment	2025	6	15	0.585572	0.492		3.71721	0.005	0.136	0.125		0.17
Other General Industrial Equipment	2025	16	25	0.585572	0.492		3.71721	0.005	0.136	0.125		0.17
Other General Industrial Equipment	2025	26	50	0.585572	0.492		3.71721	0.005	0.136	0.125		0.17
Other General Industrial Equipment	2025	51	120	0.306396	0.257	3.61204	2.43889	0.005	0.118	0.109	469.9998 0).152
Other General Industrial Equipment	2025	121	175	0.224974	0.189	3.20434	1.36379	0.005	0.07	0.065	471.8502 0).153
Other General Industrial Equipment	2025	176	250	0.184121	0.155	1.13176	1.02801	0.005	0.036	0.033).153
Other General Industrial Equipment	2025	251	500	0.180295	0.151	1.10932		0.005	0.035	0.032).153
Other General Industrial Equipment	2025	501	750	0.139282	0.117	1.1152	0.629	0.005	0.023	0.021).153
Other General Industrial Equipment	2025	751	1000	0.241613	0.203		3.98546	0.005	0.081	0.074).153
Other General Industrial Equipment	2030	6	15	1.393	0.589	3.469	4.142	0.008	0.161	0.161		0.053
Other General Industrial Equipment	2030	16	25	3.889	0.685	2.339	4.332	0.007	0.161	0.161		0.061
Other General Industrial Equipment	2030	26 51	50	4.896	0.609	5.299	3.46 1.766	0.007	0.048	0.048		0.054
Other General Industrial Equipment Other General Industrial Equipment	2030 2030	51 121	120 175	7.091 7.93	0.309	3.802 3.357	0.641	0.006	0.043	0.043		0.027
Other General Industrial Equipment	2030	176	250	10.485	0.223	1.143	0.536	0.006	0.028	0.028		0.02
Other General Industrial Equipment	2030	251	500	20.447	0.208	1.087	0.506	0.005	0.018	0.018		0.018
Other General Industrial Equipment	2030	501	750	33.725	0.208	1.087	0.512	0.005	0.018	0.018		0.018
Other General Industrial Equipment	2030	751	1000	44.002	0.212	1.088	2.66	0.005	0.035	0.035		0.019
Other General Industrial Equipment	2035	6	15	1.393	0.589	3.469	4.142	0.008	0.161	0.161		0.053
Other General Industrial Equipment	2035	16	25	3.889	0.685	2.339	4.332	0.007	0.161	0.161	568.299 0	0.061
Other General Industrial Equipment	2035	26	50	4.535	0.564	5.255	3.334	0.007	0.025	0.025	568.299 (0.05
Other General Industrial Equipment	2035	51	120	6.486	0.282	3.794	1.567	0.006	0.022	0.022		0.025
Other General Industrial Equipment	2035	121	175	7.079	0.199	3.355	0.399	0.006	0.016	0.016		0.018
Other General Industrial Equipment	2035	176	250	9.803	0.195	1.143	0.355	0.006	0.013	0.013		0.017
Other General Industrial Equipment	2035	251	500	19.187	0.195	1.087	0.351	0.005	0.013	0.013		0.017
Other General Industrial Equipment	2035	501	750	31.624	0.195	1.087	0.351	0.005	0.013	0.013		0.017
Other General Industrial Equipment	2035 2040	751 6	1000 15	40.723 1.393	0.196	1.087 3.47	2.532 4.142	0.005	0.028	0.028		0.017
Other General Industrial Equipment Other General Industrial Equipment	2040	16	25	3.889	0.589	2.339	4.142	0.008	0.161	0.161		0.053
Other General Industrial Equipment	2040	26	50	4.521	0.562	5.257	3.283	0.007	0.101	0.101		0.05
Other General Industrial Equipment	2040	51	120	6.373	0.277	3.794	1.506	0.006	0.017	0.017		0.03
Other General Industrial Equipment	2040	121	175	6.806	0.191	3.356	0.315	0.006	0.012	0.012		0.017
Other General Industrial Equipment	2040	176	250	9.551	0.19	1.143	0.299	0.006	0.011	0.011		0.017
Other General Industrial Equipment	2040	251	500	18.696	0.19	1.087	0.299	0.005	0.011	0.011	568.299 0	0.017
Other General Industrial Equipment	2040	501	750	30.815	0.19	1.087	0.299	0.005	0.011	0.011		0.017
Other General Industrial Equipment	2040	751	1000	39.521	0.191	1.087	2.5	0.005	0.025	0.025		0.017
Other Material Handling Equipment	1990	26	50	12.278	4.763	9.649	7.932	0.692	1.252	1.252).429
Other Material Handling Equipment	1990	51	120	12.096	2.346	5.692	14.896	0.628	1.317	1.317).211
Other Material Handling Equipment	1990	121	175	16.59	1.599	5.041	13.377	0.602	0.872	0.872).144
Other Material Handling Equipment	1990	176	250	19.708	1.599	5.041	13.377	0.602	0.872	0.872).144
Other Material Handling Equipment	1990	251	500	23.083	1.417	11.046	12.702	0.525	0.75	0.75).127
Other Material Handling Equipment Other Material Handling Equipment	1990 2000	1001 26	9999 50	88.844 11.414	1.41 4.428	11.046 9.121	12.702 7.068	0.525	0.741	0.741		0.127
Other Material Handling Equipment Other Material Handling Equipment	2000	<u>∠</u> 6	120	9.647	1.871	4.712	10.623	0.065	0.925	0.925		0.399
Other Material Handling Equipment	2000	121	175	13	1.253	3.836	9.648	0.057	0.531	0.531		0.103
Other Material Handling Equipment	2000	176	250	12.957	1.051	3.061	9.289	0.057	0.435	0.435		0.094
Other Material Handling Equipment	2000	251	500	15.5	0.951	5.171	8.836	0.049	0.383	0.383		0.085
Other Material Handling Equipment	2000	1001	9999	65.006	1.031	5.779	9.45	0.049	0.384	0.384		0.093
Other Material Handling Equipment	2005	26	50	10.467	4.06	8.646	6.65	0.065	0.878	0.878		0.366
Other Material Handling Equipment	2005	51	120	8.426	1.634	4.393	9.001	0.059	0.857	0.857).147
Other Material Handling Equipment	2005	121	175	11.141	1.073	3.493	8.235	0.057	0.473	0.473		0.096
Other Material Handling Equipment	2005	176	250	9.335	0.757	2.058	7.76	0.057	0.299	0.299		0.068
Other Material Handling Equipment	2005	251	500	10.914	0.67	2.676	7.071	0.049	0.268	0.268		0.06
Other Material Handling Equipment	2005	1001	9999	50.601	0.803	3.267	8.291	0.049	0.278	0.278		0.072
Other Material Handling Equipment	2010	26	50	2.513226	2.112	7.14242		0.005	0.673	0.619		0.169
Other Material Handling Equipment	2010	51	120	0.880333	0.74		6.86036	0.005	0.55	0.506		0.153
Other Material Handling Equipment	2010	121	175	0.703937	0.592		6.62945	0.005	0.364			0.153
Other Material Handling Equipment	2010	176	250	0.639111	0.537	2.2178	7.05748	0.005	0.292	0.269	523.8689 0).152

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Other Material Handling Equipment	2010	251	500		0.399	2.89546		0.005	0.225	0.207	522.5525	0.152
Other Material Handling Equipment	2010	1001	9999	0.19342	0.163	0.96514	4.31467	0.005	0.1	0.092	524.505	0.153
Other Material Handling Equipment	2011	26	50	2.357707	1.981	6.95209	6.0264	0.005	0.644	0.593	580.4439	0.169
Other Material Handling Equipment	2011	51	120		0.702		6.54765	0.005	0.527	0.485	524.8938	0.153
Other Material Handling Equipment	2011	121	175		0.584		6.48588	0.005	0.36	0.331	523.3764	0.153
Other Material Handling Equipment	2011	176	250		0.535		6.98965	0.005	0.288	0.265	522.5592	0.152
Other Material Handling Equipment	2011	251	500		0.399	2.78574		0.005	0.221	0.203	521.2461	0.152
Other Material Handling Equipment	2011	1001	9999		0.177		4.35542	0.005	0.103	0.095	523.1938	0.153
Other Material Handling Equipment Other Material Handling Equipment	2012 2012	26 51	50 120		1.881 0.687		5.92499 6.36758	0.005	0.62 0.516	0.57 0.475	578.9892 523.5783	0.169
Other Material Handling Equipment	2012	121	175		0.582	3.47827	6.40913	0.005	0.357	0.473	522.0647	0.153
Other Material Handling Equipment	2012	176	250		0.543	2.19514		0.005	0.337	0.267	521.2496	0.152
Other Material Handling Equipment	2012	251	500			2.61135		0.005	0.214	0.197	519.9397	0.152
Other Material Handling Equipment	2012	1001	9999		0.191	0.99094		0.005	0.106	0.098	521.8825	0.153
Other Material Handling Equipment	2013	26	50		1.77	6.66457		0.005	0.596	0.548	576.0797	0.169
Other Material Handling Equipment	2013	51	120		0.608	3.82317		0.005	0.447	0.411	520.9473	0.153
Other Material Handling Equipment	2013	121	175	0.665996	0.56	3.43613	6.15356	0.005	0.333	0.306	519.4412	0.153
Other Material Handling Equipment	2013	176	250	0.634565	0.533	2.16882	6.82184	0.005	0.281	0.259	518.6302	0.152
Other Material Handling Equipment	2013	251	500		0.368	2.33558		0.005	0.195	0.179	517.327	0.152
Other Material Handling Equipment	2013	1001	9999		0.205	1.00384		0.005	0.11	0.101	519.26	0.153
Other Material Handling Equipment	2014	26	50		1.695	6.58988	5.75119	0.005	0.575	0.529	573.1702	0.169
Other Material Handling Equipment	2014	51	120		0.558	3.77914		0.005	0.412	0.379	518.3162	0.153
Other Material Handling Equipment	2014	121	175		0.528	3.43064		0.005	0.313	0.288	516.8178	0.153
Other Material Handling Equipment	2014	176	250		0.475			0.005	0.242	0.223	516.0109	0.152
Other Material Handling Equipment	2014	251	500		0.331	1.92674		0.005	0.169	0.155	514.7142	0.152
Other Material Handling Equipment	2014	1001	9999		0.141	0.97804		0.005	0.066	0.061	516.6375	0.153
Other Material Handling Equipment	2015	26 51	50 120		1.733	6.75642 3.75787	5.7994	0.005	0.586	0.539	567.3512 513.0541	0.169
Other Material Handling Equipment Other Material Handling Equipment	2015 2015	121	175		0.528 0.525	3.43301	4.98312 5.6445	0.005	0.383	0.352	513.0541	0.153
Other Material Handling Equipment	2015	176	250		0.323	1.74236	5.5323	0.005	0.300	0.282	510.7722	0.153
Other Material Handling Equipment	2015	251	500		0.333	1.91761	4.27243	0.005	0.166	0.151	509.4887	0.152
Other Material Handling Equipment	2015	1001	9999		0.148	0.98449		0.005	0.068	0.063	511.3924	0.153
Other Material Handling Equipment	2016	26	50		1.765	6.89161		0.005	0.593	0.546	561.5322	0.169
Other Material Handling Equipment	2016	51	120		0.514		4.79843	0.005	0.367	0.338	507.792	0.153
Other Material Handling Equipment	2016	121	175	0.581687	0.489	3.41823	5.21152	0.005	0.279	0.257	506.324	0.153
Other Material Handling Equipment	2016	176	250	0.474176	0.398	1.64277	5.19629	0.005	0.189	0.174	505.5335	0.152
Other Material Handling Equipment	2016	251	500		0.323	1.87077	4.05322	0.005	0.156	0.143	504.2631	0.152
Other Material Handling Equipment	2016	1001	9999		0.159	0.99739		0.005	0.07	0.065	506.1474	0.153
Other Material Handling Equipment	2017	26	50		1.615	6.63527	5.57447	0.005	0.546	0.502	552.8037	0.169
Other Material Handling Equipment	2017	51	120		0.488	3.75788		0.005	0.341	0.314	499.8989	0.153
Other Material Handling Equipment	2017	121	175		0.427	3.35117	4.48809	0.005	0.238	0.219	498.4537	0.153
Other Material Handling Equipment	2017	176	250		0.359	1.51249		0.005	0.163	0.15	497.6755	0.152
Other Material Handling Equipment	2017	251	500			1.86256		0.005	0.154	0.141	496.4249	0.152
Other Material Handling Equipment Other Material Handling Equipment	2017 2018	1001 26	9999 50			6.06083	3.52015	0.005	0.072	0.066	498.2798 544.0753	
Other Material Handling Equipment	2018	51	120			3.67482		0.005	0.437		492.0058	
Other Material Handling Equipment	2018	121	175			3.21803		0.005	0.271		490.5834	
Other Material Handling Equipment	2018	176	250		0.316		4.09187	0.005	0.175	0.124	489.8174	0.152
Other Material Handling Equipment	2018	251	500		0.296		3.52439	0.005	0.133	0.123	488.5866	0.152
Other Material Handling Equipment	2018	1001	9999			1.02319		0.005	0.074		490.4122	0.153
Other Material Handling Equipment	2019	26	50		1.275		5.17904	0.005	0.452		535.3468	
Other Material Handling Equipment	2019	51	120		0.36	3.63634	3.56573	0.005	0.231		484.1126	0.153
Other Material Handling Equipment	2019	121	175		0.28		2.77369	0.005	0.139		482.7131	0.153
Other Material Handling Equipment	2019	176	250	0.357063	0.3		3.81716	0.005	0.123		481.9594	
Other Material Handling Equipment	2019	251	500				3.37078		0.128		480.7483	
Other Material Handling Equipment	2019	1001	9999			1.03609		0.005	0.076	0.07	482.5446	
Other Material Handling Equipment	2020	26	50		1.245		5.13925		0.439		523.7088	
Other Material Handling Equipment	2020	51	120				3.10396	0.005	0.182		473.5884	
Other Material Handling Equipment	2020	121 176	175			3.17089		0.005	0.118		472.2193	0.153
Other Material Handling Equipment	2020 2020	176 251	250 500		0.291 0.282		3.59889 3.20974	0.005	0.115	0.106	471.482 470.2972	0.152 0.152
Other Material Handling Equipment Other Material Handling Equipment	2020	1001	9999	0.336187	0.282		3.20974	0.005	0.12	0.11	470.2972	0.152
Other Material Handling Equipment Other Material Handling Equipment	2020	26	50			5.95956		0.005	0.078		523.7088	
Other Material Handling Equipment	2021	51	120			3.60203		0.005	0.396		473.5884	0.169
Other Material Handling Equipment	2021	121	175			3.19638		0.005	0.100		472.2193	0.153
Other Material Handling Equipment	2021	176	250		0.269		3.08193	0.005	0.102	0.094	471.482	0.152
Other Material Handling Equipment	2021	251	500			1.44188		0.005	0.101	0.093		0.152
Other Material Handling Equipment	2021	1001	9999			0.97159		0.005	0.019		472.0545	0.153
Other Material Handling Equipment	2022	26	50			5.98386		0.005	0.385		523.7088	
Other Material Handling Equipment	2022	51	120				2.56673	0.005	0.121	0.111	473.5884	
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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Other Material Handling Equipment	2022	121	175	0.268495	0.226	3.17607	1.89383	0.005	0.103	0.095	472.2193	0.153
Other Material Handling Equipment	2022	176	250	0.272302	0.229	1.23917	2.42542	0.005	0.083	0.076	471.482	0.152
Other Material Handling Equipment	2022	251	500	0.269417	0.226	1.34592	2.06254	0.005	0.083	0.077	470.2972	0.152
Other Material Handling Equipment	2022	1001	9999	0.090526	0.076	0.97804		0.005	0.02	0.018	472.0545	0.153
Other Material Handling Equipment	2023	26	50	1.203044	1.011	5.75727	4.68435	0.005	0.34	0.313	523.7088	0.169
Other Material Handling Equipment	2023	51	120	0.267491	0.225	3.51535		0.005	0.104	0.095	473.5884	0.153
Other Material Handling Equipment	2023 2023	121 176	175 250	0.25813 0.246291	0.217	3.17066	1.76898 2.00366	0.005	0.096	0.088	472.2193 471.482	0.153
Other Material Handling Equipment Other Material Handling Equipment	2023	251	500	0.246291	0.207	1.20917 1.34382	1.87023	0.005	0.069	0.064	471.462	0.152 0.152
Other Material Handling Equipment	2023	1001	9999	0.236637	0.054	0.93935	2.26751	0.005	0.078	0.012	470.2972	0.152
Other Material Handling Equipment	2024	26	50	1.121754	0.943	5.6693	4.5789	0.005	0.314	0.289	523.7088	0.169
Other Material Handling Equipment	2024	51	120	0.262084	0.22	3.51036		0.005	0.096	0.089	473.5884	0.153
Other Material Handling Equipment	2024	121	175	0.247908	0.208	3.18111		0.005	0.088	0.081	472.2193	0.153
Other Material Handling Equipment	2024	176	250	0.250036	0.21	1.21822	1.98559	0.005	0.068	0.063	471.482	0.152
Other Material Handling Equipment	2024	251	500	0.252116	0.212	1.26223	1.75588	0.005	0.072	0.066	470.2972	0.152
Other Material Handling Equipment	2024	1001	9999	0.069034	0.058	0.9458	2.27759	0.005	0.018	0.017	472.0545	0.153
Other Material Handling Equipment	2025	26	50	0.88573	0.744	5.24797	4.23278	0.005	0.239	0.219	523.7088	0.169
Other Material Handling Equipment	2025	51	120	0.241784	0.203	3.49652	2.05524	0.005	0.081	0.074	473.5884	0.153
Other Material Handling Equipment	2025	121	175	0.225132	0.189	3.1679	1.39583	0.005	0.072	0.067	472.2193	0.153
Other Material Handling Equipment	2025	176	250	0.237677	0.2	1.19728	1.77352	0.005	0.06	0.055	471.482	0.152
Other Material Handling Equipment Other Material Handling Equipment	2025 2025	251	500 9999	0.242568	0.204	1.25988 0.9587	1.60116 2.29775	0.005	0.067	0.061	470.2972 472.0545	0.152 0.153
Other Material Handling Equipment Other Material Handling Equipment	2025	1001 26	50 50	1.542	0.065	5.237	3.447	0.005	0.019	0.017	568.299	0.153
Other Material Handling Equipment Other Material Handling Equipment	2030	51	120	1.542	0.304	3.784	1.762	0.007	0.048	0.048	568.299	0.053
Other Material Handling Equipment	2030	121	175	2.287	0.304	3.341	0.64	0.006	0.043	0.043	568.299	0.027
Other Material Handling Equipment	2030	176	250	2.539	0.206	1.138	0.535	0.006	0.018	0.018	568.299	0.018
Other Material Handling Equipment	2030	251	500	3.342	0.205	1.083	0.505	0.005	0.018	0.018	568.299	0.018
Other Material Handling Equipment	2030	1001	9999	13.763	0.218	1.084	2.653	0.005	0.035	0.035	568.299	0.019
Other Material Handling Equipment	2035	26	50	1.425	0.552	5.189	3.321	0.007	0.025	0.025	568.299	0.049
Other Material Handling Equipment	2035	51	120	1.432	0.277	3.774	1.563	0.006	0.022	0.022	568.299	0.025
Other Material Handling Equipment	2035	121	175	2.036	0.196	3.338	0.398	0.006	0.016	0.016	568.299	0.017
Other Material Handling Equipment	2035	176	250	2.369	0.192	1.137	0.354	0.006	0.013	0.013	568.299	0.017
Other Material Handling Equipment	2035	251	500	3.13	0.192	1.082	0.35	0.005	0.013	0.013	568.299	0.017
Other Material Handling Equipment	2035	1001	9999	12.454	0.197	1.082	2.525	0.005	0.027	0.027	568.299	0.017
Other Material Handling Equipment	2040	26	50	1.42	0.551	5.191	3.269	0.007	0.018	0.018	568.299	0.049
Other Material Handling Equipment Other Material Handling Equipment	2040 2040	51 121	120 175	1.407 1.956	0.272 0.188	3.775 3.339	1.502 0.314	0.006	0.017	0.017	568.3 568.299	0.024
Other Material Handling Equipment	2040	176	250	2.307	0.187	1.137	0.314	0.006	0.012	0.012	568.299	0.017
Other Material Handling Equipment	2040	251	500	3.048	0.187	1.082	0.298	0.005	0.011	0.011	568.299	0.016
Other Material Handling Equipment	2040	1001	9999	11.917	0.189	1.082	2.493	0.005	0.025	0.025	568.3	0.017
Pavers	1990	16	25	5.971	2.213	4.999	6.919	0.855	0.741	0.741	568.299	0.199
Pavers	1990	26	50	19.405	4.794	9.701	7.946	0.871	1.268	1.268	568.299	0.432
Pavers	1990	51	120	23.749	2.373	5.748	15.062	0.791	1.339	1.339	568.299	0.214
Pavers	1990	121	175	33.808	1.822	5.135	14.503	0.758	1.01	1.01	568.3	0.164
Pavers	1990	176	250	51.225	1.822	5.135	14.503	0.758	1.01	1.01	568.299	0.164
Pavers	1990	251	500	54.32	1.61	11.305	13.755	0.662	0.864	0.864	568.3	0.145
Pavers	2000	16	25	5.517	2.044	4.689	6.391	0.065	0.569	0.569	568.299	0.184
Pavers	2000	26	50	18.072	4.464	9.175	7.116	0.066	0.93	0.93	568.299	0.402
Pavers	2000	51	120	19.415	1.94	4.853	11.121	0.06	0.916	0.916	568.299	0.175
Pavers	2000	121	175 250	24.566	1.324	4.022	10.172	0.057	0.558	0.558	568.299	0.119
Pavers Pavers	2000 2000	176 251	500	33.03 35.713	1.175 1.058	3.443 6.242	9.909 9.422	0.057	0.488 0.426	0.488 0.426	568.299 568.299	0.106
Pavers	2005	16	25	3.746	1.388	3.497	5.819	0.05	0.426	0.426	568.299	0.095
Pavers	2005	26	50	16.699	4.125	8.722	6.746	0.066	0.883	0.883	568.299	0.123
Pavers	2005	51	120	17.345	1.733	4.584	9.797	0.06	0.869	0.869	568.299	0.156
Pavers	2005	121	175	21.287	1.147	3.731	8.921	0.057	0.5	0.5	568.299	0.103
Pavers	2005	176	250	26.087	0.928	2.661	8.591	0.057	0.382	0.382	568.299	0.083
Pavers	2005	251	500	27.622	0.818	4.283	7.91	0.05	0.335	0.335	568.299	0.073
Pavers	2010	16	25	2.244446	1.886	6.22261	5.97127	0.005	0.619	0.569	585.4019	0.17
Pavers	2010	26	50	2.244446	1.886	6.22261		0.005	0.619	0.569	585.4019	0.17
Pavers	2010	51	120	0.922393	0.775		7.01944	0.005	0.54	0.497	521.2606	0.152
Pavers	2010	121	175	0.693583	0.583	3.10662		0.005	0.337	0.31	525.3233	0.153
Pavers	2010	176	250	0.236627	0.199	1.01703		0.005	0.111	0.102	526.8527	0.153
Pavers	2010	251	500	0.240458	0.202	1.1256	3.56944	0.005	0.123	0.113	517.8758	0.151
Pavers	2011 2011	16 26	25 50	2.255759	1.895 1.895		5.97418 5.97418	0.005	0.621 0.621	0.571 0.571	583.8947 583.8947	0.17 0.17
Pavers Pavers	2011	51	120	0.882284	0.741		6.70468	0.005	0.621	0.571	519.7431	0.17
Pavers	2011	121	175	0.67473	0.741			0.005	0.327	0.479	524.0864	0.152
Pavers	2011	176	250	0.244703	0.206	1.02596		0.005	0.112		525.5251	0.153
Pavers	2011	251	500	0.249329	0.21		3.58498	0.005	0.125		516.5811	0.151
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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	СО	NOX	SO2	PM10	PM2.5	CO2	CH4
Pavers	2012	16	25	2.286702	1.921		5.86068	0.005	0.609	0.56	582.5825	0.17
Pavers	2012	26	50	2.286702	1.921		5.86068	0.005	0.609	0.56	582.5825	0.17
Pavers	2012	51	120	0.886577	0.745	3.81157	6.67323	0.005	0.523	0.481	518.3581	0.152
Pavers	2012	121	175	0.677654	0.569	3.13178	6.44162	0.005	0.329	0.303	522.8325	0.153
Pavers	2012	176	250	0.2532	0.213	1.035	4.41317	0.005	0.114	0.105	524.2222	0.153
Pavers	2012	251	500	0.257974	0.217	1.13914	3.59993	0.005	0.127	0.117	515.2863	0.151
Pavers	2013	16	25	2.27571	1.912	6.39148	5.84153	0.005	0.605	0.557	580.2093	0.171
Pavers	2013	26	50	2.27571	1.912	6.39148	5.84153	0.005	0.605	0.557	580.2093	
Pavers	2013	51	120	0.845721	0.711		6.43604	0.005	0.501	0.461	516.6013	
Pavers	2013	121	175	0.630117	0.529	3.11657	6.05919	0.005	0.304	0.28	519.6823	
Pavers	2013	176	250	0.245733	0.206		4.23038	0.005	0.106	0.098	521.5314	0.153
Pavers	2013	251	500	0.242925	0.204		3.39449	0.005	0.118	0.108	514.2313	
Pavers	2014	16	25	2.258865	1.898	6.3806	5.71682	0.005	0.595	0.547	577.016	0.171
Pavers	2014	26	50	2.258865	1.898	6.3806	5.71682	0.005	0.595	0.547	577.016	0.171
Pavers	2014	51	120	0.81298	0.683		6.19872	0.005	0.483	0.444	514.3769	0.152
Pavers	2014	121	175	0.597911	0.502	3.1146	5.73631	0.005	0.287	0.264	516.745	0.153
Pavers	2014	176	250	0.247393	0.208		4.14032	0.005	0.105	0.097	518.7225	0.153
Pavers	2014	251	500	0.214341	0.18		3.04734	0.005	0.101	0.093	512.1908	0.151
Pavers	2015	16	25	2.205076	1.853		5.63731	0.005	0.579	0.533	571.0859	
Pavers	2015	26 51	50	2.205076 0.809163	1.853	6.34019		0.005	0.579	0.533	571.0859 509.3767	0.17
Pavers Pavers	2015 2015	121	120 175	0.809163	0.68	3.78832	6.14096 5.53669	0.005	0.479	0.441	511.6457	0.152 0.153
Pavers Pavers	2015	176	250	0.582419	0.489	1.03121		0.005	0.277	0.255	511.6457	0.153
Pavers	2015	251	500	0.209561	0.214	0.97787	2.91741	0.005	0.107	0.098	506.0973	
Pavers	2015	16	25	2.174792	1.827	6.33993		0.005	0.097	0.069	565.2336	0.131
Pavers	2016	26	50	2.174792	1.827		5.57882	0.005	0.569	0.523	565.2336	0.17
Pavers	2016	51	120	0.773362	0.65	3.76854	5.88646	0.005	0.457	0.42	503.7795	0.152
Pavers	2016	121	175	0.515586	0.433		4.87397	0.005	0.242	0.223	506.5401	0.153
Pavers	2016	176	250	0.254126	0.214	1.03591		0.005	0.104	0.096	508.0698	
Pavers	2016	251	500	0.214564	0.18	0.9829	2.88492	0.005	0.096	0.089	500.9364	0.151
Pavers	2017	16	25	2.059621	1.731	6.19932	5.43675	0.005	0.54	0.496	556.4528	0.17
Pavers	2017	26	50	2.059621	1.731	6.19932	5.43675	0.005	0.54	0.496	556.4528	0.17
Pavers	2017	51	120	0.744072	0.625	3.75882	5.69243	0.005	0.437	0.402	495.9253	0.152
Pavers	2017	121	175	0.462819	0.389	3.06282	4.35312	0.005	0.214	0.197	498.967	0.153
Pavers	2017	176	250	0.247933	0.208	1.03652	3.80866	0.005	0.1	0.092	499.5617	0.153
Pavers	2017	251	500	0.199578	0.168	0.97942	2.48674	0.005	0.087	0.08	491.7843	0.151
Pavers	2018	16	25	1.831035	1.539	5.8493	5.12103	0.005	0.478	0.44	547.0785	0.17
Pavers	2018	26	50	1.831035	1.539	5.8493	5.12103	0.005	0.478	0.44	547.0785	0.17
Pavers	2018	51	120	0.637446	0.536	3.66032	5.01936	0.005	0.375	0.345	488.1812	0.152
Pavers	2018	121	175	0.403099	0.339	3.03913		0.005	0.183	0.168	491.322	0.153
Pavers	2018	176	250	0.235833	0.198		3.47438	0.005	0.092	0.085	491.543	0.153
Pavers	2018	251	500	0.195547	0.164		2.32002	0.005	0.083	0.076	484.2774	0.151
Pavers	2019	16	25	1.687019			4.91634		0.436	0.401	538.3246	
Pavers	2019	26	50	1.687019					0.436		538.3246	
Pavers	2019 2019	51 121	120	0.589904	0.496		4.67048	0.005	0.345	0.318	480.2509	
Pavers	2019	176	175	0.355588		3.01323 1.03181		0.005	0.159 0.084	0.146	483.3938 483.5743	
Pavers Pavers	2019	251	250 500	0.222293	0.166	0.98586		0.005	0.084	0.077	476.9707	0.153
Pavers	2020	16	25	1.568718		5.52345		0.005	0.402	0.073	526.2098	
Pavers	2020	26	50	1.568718		5.52345		0.005	0.402	0.37	526.2098	
Pavers	2020	51	120	0.558949	0.47		4.42718	0.005	0.325	0.299	469.8815	
Pavers	2020	121	175	0.324615	0.273	3.0097	2.91833	0.005	0.142	0.131	472.7746	
Pavers	2020	176	250	0.209036		1.02834		0.005	0.076	0.07	472.8337	0.153
Pavers	2020	251	500	0.195949	0.165		2.13394	0.005	0.077	0.071	466.2059	
Pavers	2021	16	25	1.43708		5.30162		0.005	0.37	0.34	526.5153	
Pavers	2021	26	50	1.43708	1.208		4.60183	0.005	0.37	0.34	526.5153	
Pavers	2021	51	120	0.499355	0.42	3.56251	4.02622	0.005	0.285	0.262	469.7736	0.152
Pavers	2021	121	175	0.304315	0.256	3.01647		0.005	0.13	0.12	472.5552	0.153
Pavers	2021	176	250	0.196899	0.165	1.02422	2.4844	0.005	0.07	0.064	472.4765	
Pavers	2021	251	500	0.195105	0.164	0.9877	2.05298	0.005	0.074	0.068	465.5908	
Pavers	2022	16	25	1.299052	1.092		4.42092	0.005	0.33	0.303	526.8963	
Pavers	2022	26	50	1.299052	1.092	5.11433		0.005	0.33	0.303		
Pavers	2022	51	120	0.443951		3.52511		0.005	0.248	0.228	470.1854	
Pavers	2022	121	175	0.255688			2.17958	0.005	0.104	0.095	472.7599	
Pavers	2022	176	250	0.167123	0.14		1.89985	0.005	0.055	0.05	472.3718	
	2022	251	500	0.178545	0.15		1.81028	0.005	0.063	0.058	466.0042	
Pavers		4.0					1 7 7 2 7 2 7	0.005	0.299	0.275	526.8595	0.17
Pavers	2023	16	25	1.198318	1.007	5.00667						
Pavers Pavers	2023 2023	26	50	1.198318	1.007	5.00667	4.28484	0.005	0.299	0.275	526.8595	0.17
Pavers	2023				1.007 0.349		4.28484 3.42661			0.275 0.208		0.17 0.152

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Facility and Taxas	I Vari	I ID	TEST LID	T00	DOO	1 00	NOV	000	I DM40	DM0.5	000	0114
Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Pavers	2023	176	250	0.154288	0.13	1.01018	1.6106	0.005	0.047	0.043	472.6051	0.153
Pavers	2023 2024	251	500	0.18061	0.152	0.98653		0.005	0.062	0.057	466.0038	
Pavers		16	25 50	1.130978	0.95	4.95625 4.95625		0.005		0.257	526.8565	0.17
Pavers	2024 2024	26 51	120	1.130978 0.40131	0.95 0.337	3.50784		0.005	0.279	0.257 0.196	526.8565 470.2262	0.17
Pavers	2024	121	175	0.40131	0.337	3.0042	3.2771 1.80882	0.005	0.213	0.196	470.2262	0.152
Pavers		176	250					0.005	0.064	0.078		
Pavers	2024 2024	251	500	0.141914 0.169789	0.119	1.00872 0.98624	1.34323	0.005		0.038	473.2362 467.1711	0.153
Pavers					0.143		1.54798		0.054		526.8533	0.151
Pavers	2025	16	25	1.092933	0.918	4.94451	4.13112	0.005	0.265	0.243		0.17
Pavers	2025 2025	26 51	50 120	1.092933 0.373474	0.918	4.94451	4.13112 3.06788	0.005	0.265	0.243 0.175	526.8533 469.8988	0.17 0.152
Pavers	2025	121	175	0.373474	0.314	3.49266	1.64396	0.005	0.19	0.173	472.485	0.152
Pavers	2025	176	250	0.214799	0.107	1.00414	1.03493	0.005	0.077	0.071	473.4832	0.153
Pavers	2025	251	500	0.127304	0.107	0.96892	1.03493	0.005		0.031	465.8824	0.153
Pavers	2025	16	25	1.849	0.115	2.339	4.332	0.005	0.039	0.036	568.299	0.151
Pavers	2030	26	50	3.42	0.845	5.396	3.841	0.007	0.134	0.134	568.299	0.061
Pavers	2030	51	120	4.084	0.408	3.8	2.468	0.007	0.134	0.134	568.3	0.076
Pavers	2030	121	175	5.577	0.406	3.326	1.425	0.006	0.121	0.121	568.299	0.036
Pavers	2030	176	250									
Pavers	2030	251	500	7.306 8.558	0.259	1.192 1.181	1.246 1.141	0.006	0.045	0.045	568.299 568.299	0.023
Pavers	2030	16	25	1.849	0.253	2.339	4.332	0.005				
Pavers	2035	26	50	2.812	0.685	5.26	4.332 3.555	0.007	0.161	0.161	568.299 568.299	0.061
Pavers Pavers	2035	26 51	120	3.386	0.694	3.774	1.986	0.007	0.076	0.076	568.299	0.062
Pavers Pavers	2035	121	175	4.543	0.336	3.774	0.889	0.006	0.069	0.069	568.299	0.03
	2035	176	250	6.219	0.244	1.157	0.869	0.006	0.043	0.043	568.3	0.022
Pavers	2035	251	500	7.364	0.221	1.137	0.772	0.005	0.027	0.027	568.299	0.019
Pavers Pavers	2033	16	25	1.849	0.216	2.339	4.332	0.003	0.026	0.026	568.299	0.019
	2040	26	50	2.504	0.663	5.189	3.393	0.007	0.161	0.161	568.299	0.055
Pavers	2040	51	120	3.03	0.302	3.763	1.731	0.007	0.047	0.047	568.299	0.033
Pavers Pavers	2040	121	175	3.958	0.302	3.319	0.583	0.006	0.043	0.043	568.299	0.027
Pavers	2040	176	250	5.625	0.213	1.138	0.525	0.006	0.027	0.027	568.299	0.018
Pavers	2040	251	500	6.703	0.198	1.085	0.323	0.005	0.018	0.018	568.299	0.017
Paving Equipment	1990	16	25	5.257	2.213	4.999	6.919	0.855	0.741	0.741	568.299	0.199
Paving Equipment	1990	26	50	21.788	4.84	9.783	7.965	0.833	1.277	1.277	568.299	0.199
Paving Equipment	1990	51	120	24.593	2.398	5.796	15.202	0.791	1.352	1.352	568.299	0.430
Paving Equipment	1990	121	175	35.738	1.88	5.196	14.821	0.758	1.044	1.044	568.3	0.210
Paving Equipment	1990	176	250	43.262	1.88	5.196	14.821	0.758	1.044	1.044	568.299	0.169
Paving Equipment	2000	16	25	4.652	1.958	4.53	6.358	0.065	0.563	0.563	568.299	0.176
Paving Equipment	2000	26	50	19.86	4.412	9.076	7.101	0.066	0.921	0.921	568.299	0.398
Paving Equipment	2000	51	120	19.826	1.933	4.844	11.122	0.06	0.909	0.909	568.299	0.174
Paving Equipment	2000	121	175	25.015	1.316	4.018	10.15	0.057	0.553	0.553	568.299	0.118
Paving Equipment	2000	176	250	26.974	1.172	3.458	9.895	0.057	0.486	0.486	568.299	0.105
Paving Equipment	2005	16	25	2.184	0.919	2.642	5.412	0.065		0.347	568.299	0.082
Paving Equipment	2005	26	50	18.352	4.077	8.626	6.73	0.066	0.875	0.875	568.299	0.367
Paving Equipment	2005	51	120	17.633	1.719	4.557	9.754	0.06	0.86	0.86	568.299	0.155
Paving Equipment	2005	121	175	21.589	1.135	3.705	8.873	0.057	0.494	0.494	568.299	0.102
Paving Equipment	2005	176	250	21.201	0.921	2.655	8.548	0.057	0.38	0.38	568.299	0.083
Paving Equipment	2010	16	25	1.378997	1.159		5.35696	0.005	0.47	0.433	578.6236	
Paving Equipment	2010	26	50	1.378997	1.159		5.35696	0.005	0.47	0.433	578.6236	
Paving Equipment	2010	51	120	0.934999	0.786		7.23593	0.005	0.553	0.508	526.5834	
Paving Equipment	2010	121	175	0.573407	0.482	3.13688		0.005	0.295	0.271	523.4127	0.152
Paving Equipment	2010	176	250	0.486641	0.409		6.03614	0.005	0.224	0.206	524.3728	
Paving Equipment	2011	16	25	1.380687	1.16		5.36974	0.005	0.472	0.434	577.1303	
Paving Equipment	2011	26	50	1.380687	1.16		5.36974	0.005	0.472	0.434	577.1303	
Paving Equipment	2011	51	120	0.895349	0.752		6.99544	0.005	0.536	0.493	524.9269	0.153
Paving Equipment	2011	121	175	0.56507	0.475	3.14337		0.005	0.29	0.267	522.1549	
Paving Equipment	2011	176	250	0.466258	0.392		5.77978	0.005	0.213	0.196	523.0323	
Paving Equipment	2012	16	25	1.384947	1.164		5.34363	0.005	0.47	0.432	575.687	0.168
Paving Equipment	2012	26	50	1.384947		5.06516		0.005	0.47	0.432	575.687	0.168
Paving Equipment	2012	51	120	0.910401		3.90635		0.005	0.546	0.503	523.5886	
Paving Equipment	2012	121	175	0.56544	0.475	3.15801	5.9326	0.005	0.29	0.267	520.7286	
Paving Equipment	2012	176	250	0.474854	0.399	1.657	5.81292	0.005	0.215	0.198	521.7154	
Paving Equipment	2013	16	25	1.327494	1.115	5.02677	5.2986	0.005	0.459	0.422	572.4644	
Paving Equipment	2013	26	50	1.327494	1.115	5.02677	5.2986	0.005	0.459	0.422	572.4644	
Paving Equipment	2013	51	120	0.845445	0.71	3.86369		0.005	0.507	0.467	520.6724	
Paving Equipment	2013	121	175	0.532035	0.447		5.60344	0.005	0.271	0.249	517.6606	
Paving Equipment	2013	176	250	0.40741	0.342		5.25206	0.005	0.18	0.166	519.5215	
Paving Equipment	2014	16	25	1.253528	1.053		5.18385	0.005	0.437	0.402	569.4822	0.168
Paving Equipment	2014	26	50	1.253528	1.053		5.18385	0.005	0.437	0.402	569.4822	0.168
Paving Equipment	2014	51	120	0.805438	0.677	-	6.36952	0.005	0.486	0.447	518.0756	
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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Facilities at Toron	Vasa	LawillD	I II ark I I ID	TOO	DOC		NOV	000	DM40	DMO 5	000	0114
Equipment Type Paving Equipment	Year 2014	Low HP 121	High HP 175	TOG 0.494038	ROG 0.415	CO 3.09686	NOX 5.21567	SO2 0.005	PM10 0.249	PM2.5 0.229	CO2 515.0343	CH4 0.152
Paving Equipment	2014	176	250	0.494036	0.415	1.37011		0.005	0.249	0.229	516.8998	0.152
Paving Equipment	2015	16	25	1.166929	0.981	4.86895		0.005	0.407	0.374	563.5534	0.168
Paving Equipment	2015	26	50	1.166929	0.981	4.86895		0.005	0.407	0.374	563.5534	0.168
Paving Equipment	2015	51	120	0.786628	0.661	3.83329		0.005	0.471	0.433	513.1672	0.153
Paving Equipment	2015	121	175	0.48887	0.411	3.10403		0.005	0.242	0.223	509.8942	0.152
Paving Equipment	2015	176	250	0.374849	0.315	1.37947	4.77176	0.005	0.159	0.146	511.6544	0.153
Paving Equipment	2016	16	25	1.178909	0.991	4.93662	4.98487	0.005	0.403	0.371	557.7058	0.168
Paving Equipment	2016	26	50	1.178909	0.991	4.93662	4.98487	0.005	0.403	0.371	557.7058	0.168
Paving Equipment	2016	51	120	0.741701	0.623	3.79639	5.7333	0.005	0.438	0.403	507.9102	0.153
Paving Equipment	2016	121	175	0.442497	0.372	3.08114	4.3217	0.005	0.214	0.197	504.8201	0.152
Paving Equipment	2016	176	250	0.353542	0.297	1.33145		0.005	0.148	0.136	506.1965	0.153
Paving Equipment	2017	16	25	1.102141	0.926	4.80403	4.72756	0.005	0.359	0.33	548.6481	0.168
Paving Equipment	2017	26	50	1.102141	0.926	4.80403		0.005	0.359	0.33	548.6481	0.168
Paving Equipment Paving Equipment	2017 2017	51 121	120 175	0.670017 0.407568	0.563	3.74146 3.07321	3.89633	0.005	0.391	0.359 0.179	500.1649 497.148	0.153
Paving Equipment	2017	176	250	0.407568	0.342	1.333	4.12109	0.005	0.195	0.179	497.146	0.152
Paving Equipment	2017	16	250	0.877571	0.237	4.41578		0.005	0.141	0.13	540.6115	0.133
Paving Equipment	2018	26	50	0.877571	0.737		4.31244	0.005	0.286	0.263	540.6115	0.168
Paving Equipment	2018	51	120	0.534861	0.737	3.60743		0.005	0.302	0.203	492.1184	0.153
Paving Equipment	2018	121	175	0.337615	0.284	3.02602		0.005	0.155	0.143	489.2024	0.152
Paving Equipment	2018	176	250	0.307374	0.258		3.58656	0.005	0.123	0.113	490.6833	0.153
Paving Equipment	2019	16	25	0.838543	0.705		4.23779	0.005	0.27	0.248	531.8612	0.168
Paving Equipment	2019	26	50	0.838543	0.705	4.40798	4.23779	0.005	0.27	0.248	531.8612	0.168
Paving Equipment	2019	51	120	0.50594	0.425	3.59849	4.04152	0.005	0.281	0.258	484.387	0.153
Paving Equipment	2019	121	175	0.302373	0.254	3.0109	2.6924	0.005	0.134	0.123	481.2251	0.152
Paving Equipment	2019	176	250	0.286526	0.241	1.24449		0.005	0.112	0.103	482.6441	0.153
Paving Equipment	2020	16	25	0.73951	0.621	4.22322	3.9519	0.005	0.217	0.2	520.1235	0.168
Paving Equipment	2020	26	50	0.73951	0.621	4.22322	3.9519	0.005	0.217	0.2	520.1235	0.168
Paving Equipment	2020	51	120	0.472907	0.397	3.58172	3.78064	0.005	0.256	0.235	473.3249	0.153
Paving Equipment	2020	121	175	0.294586	0.248	3.02393	2.55498	0.005	0.128	0.118	470.7359	0.152
Paving Equipment	2020	176	250	0.289784	0.243	1.25215	3.2202	0.005	0.111	0.102	472.1514	0.153
Paving Equipment Paving Equipment	2021 2021	16 26	25 50	0.698022 0.698022	0.587 0.587	4.21072 4.21072	3.88226 3.88226	0.005	0.2	0.184 0.184	520.3965 520.3965	0.168 0.168
Paving Equipment	2021	51	120	0.098022	0.355	3.5537	3.45065	0.005	0.219	0.104	473.2205	0.153
Paving Equipment	2021	121	175	0.422372	0.333	3.03229		0.005	0.213	0.105	470.6495	0.152
Paving Equipment	2021	176	250	0.250607	0.211	1.20904	2.58202	0.005	0.092	0.085	472.151	0.152
Paving Equipment	2022	16	25	0.68013	0.571	4.24448		0.005	0.188	0.173	520.6594	0.168
Paving Equipment	2022	26	50	0.68013	0.571	4.24448		0.005	0.188	0.173	520.6594	0.168
Paving Equipment	2022	51	120	0.351718	0.296	3.50075	2.99968	0.005	0.171	0.157	473.4475	0.153
Paving Equipment	2022	121	175	0.253077	0.213	3.03777	2.07331	0.005	0.101	0.093	470.6646	0.152
Paving Equipment	2022	176	250	0.232653	0.195	1.20363	2.22813	0.005	0.083	0.076	472.169	0.153
Paving Equipment	2023	16	25	0.644074			3.77446	0.005	0.173	0.159	521.1138	
Paving Equipment	2023	26	50	0.644074	0.541		3.77446	0.005	0.173	0.159	521.1138	
Paving Equipment	2023	51	120	0.331302	0.278	3.50331		0.005	0.152	0.14	473.427	0.153
Paving Equipment	2023	121	175	0.242414	0.204	3.05059		0.005	0.093	0.086	470.663	0.152
Paving Equipment	2023	176	250	0.208228	0.175		1.88495	0.005	0.07	0.065	472.169	0.153
Paving Equipment Paving Equipment	2024 2024	16 26	25 50	0.622364	0.523	4.27468 4.27468		0.005	0.164 0.164	0.151 0.151	521.0575 521.0575	0.169
Paving Equipment Paving Equipment	2024	<u>∠6</u> 51	120	0.622364	0.523	3.50288		0.005	0.164	0.151	473.1748	
Paving Equipment	2024	121	175	0.233948	0.262	3.06623		0.005	0.133	0.123	470.6614	0.153
Paving Equipment	2024	176	250	0.233948	0.138	1.11417	1.29567	0.005	0.048	0.079	470.0014	
Paving Equipment	2025	16	25	0.566694	0.476	4.20347		0.005	0.141	0.13	520.9975	
Paving Equipment	2025	26	50	0.566694	0.476	4.20347		0.005	0.141	0.13	520.9975	
Paving Equipment	2025	51	120	0.287394	0.241	3.48256		0.005	0.118	0.108	473.4239	0.153
Paving Equipment	2025	121	175	0.208465	0.175	3.03837	1.509	0.005	0.075	0.069	470.4844	0.152
Paving Equipment	2025	176	250	0.158556	0.133	1.11653		0.005	0.043	0.04	472.2341	0.153
Paving Equipment	2030	16	25	1.628	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2030	26	50	3.613	0.802	5.309	3.809	0.007	0.126	0.126	568.299	0.072
Paving Equipment	2030	51	120	4.007	0.39	3.774	2.393	0.006	0.114	0.114	568.3	0.035
Paving Equipment	2030	121	175	5.525	0.29	3.306	1.363	0.006	0.07	0.07	568.299	0.026
Paving Equipment	2030	176	250	5.771	0.25	1.171	1.176	0.006	0.042	0.042	568.299	0.022
Paving Equipment	2035	16	25	1.628	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Paving Equipment	2035	26	50	2.991	0.664	5.181	3.511	0.007	0.07	0.07	568.3	0.059
Paving Equipment	2035 2035	51 121	120 175	3.343 4.485	0.326	3.753	1.928	0.006	0.064	0.064	568.299	0.029
Paving Equipment Paving Equipment	2035	121 176	175 250	4.485 4.886	0.235	3.303 1.14	0.832 0.714	0.006	0.04	0.04	568.299 568.299	
Paving Equipment	2035	16	250	1.628	0.212	2.339	4.332	0.006	0.024	0.024	568.299	0.019
Paving Equipment	2040	26	50	2.651	0.589	5.111	3.361	0.007	0.161	0.161	568.3	0.053
Paving Equipment	2040	51	120	2.989	0.389	3.744	1.687	0.007	0.042	0.042	568.299	0.033
r army Equipmont	2070	J 1	120	2.000	U.ZJI	0.7 44	1.007	0.000	0.000	0.000	000.200	0.020

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Facilities and Town		1 UD	115-1-115	T00	D00	- 00	NOV	000	DM40	DM0.5	000	0114
Equipment Type	Year 2040	Low HP	High HP	TOG	ROG 0.205	CO	NOX	SO2 0.006	PM10 0.025	PM2.5 0.025	CO2 568.299	CH4 0.018
Paving Equipment Paving Equipment	2040	176	175 250	3.901 4.452	0.205	3.304 1.127	0.536 0.485	0.006	0.025	0.025	568.299	0.018
Plate Compactors	1990	6	15	2.156	1.804	4.999	9.999	1.049	0.975	0.017	568.299	0.017
Plate Compactors	2000	6	15	1.852	1.55	4.606	8.519	0.079	0.708	0.708	568.299	0.139
Plate Compactors	2005	6	15	0.955	0.799	3.503	5.435	0.079	0.377	0.377	568.299	0.072
Plate Compactors	2010	6	15	0.794	0.664	3.469	4.178	0.008	0.198	0.198	568.299	0.059
Plate Compactors	2011	6	15	0.791	0.662	3.469	4.15	0.008	0.172	0.172	568.299	0.059
Plate Compactors	2012	6	15	0.79	0.661	3.469	4.142	0.008	0.165	0.165	568.3	0.059
Plate Compactors	2013	6	15	0.79	0.661	3.469	4.142	0.008	0.162	0.162	568.3	0.059
Plate Compactors	2014	6	15	0.79	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2015	6	15	0.79	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2016	6	15	0.79	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2017	6	15	0.79	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2018	6	15	0.79	0.661	3.47	4.142	0.008	0.161	0.161	568.3	0.059
Plate Compactors	2019	6	15	0.79	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2020	6	15	0.79	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2021 2022	6	15 15	0.79 0.79	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Plate Compactors Plate Compactors	2022	6	15	0.79	0.661 0.661	3.469 3.469	4.142 4.142	0.008	0.161 0.161	0.161 0.161	568.299 568.299	0.059
Plate Compactors	2023	6	15	0.79	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2024	6	15	0.79	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2023	6	15	0.79	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2035	6	15	0.79	0.661	3.47	4.142	0.008	0.161	0.161	568.299	0.059
Plate Compactors	2040	6	15	0.79	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Pressure Washers	1990	6	15	4.972	1.804	4.999	9.999	1.018	0.974	0.974	568.299	0.162
Pressure Washers	1990	16	25	8.915	2.213	5	6.92	0.83	0.74	0.74	568.3	0.199
Pressure Washers	1990	26	50	20.959	2.601	5.721	7.129	0.846	0.821	0.821	568.299	0.234
Pressure Washers	1990	51	120	23.659	1.743	4.735	12.634	0.768	0.874	0.874	568.299	0.157
Pressure Washers	1990	121	175	82.001	1.272	4.353	11.763	1.123	0.649	0.649	568.299	0.114
Pressure Washers	1990	176	250	77.237	0.953	3.084	9.035	1.077	0.476	0.476	568.299	0.086
Pressure Washers	2000	6	15	4.186	1.518	4.875	8.846	0.079	0.613	0.613	568.299	0.137
Pressure Washers	2000	16	25	6.717	1.667	4.783	6.405	0.065	0.51	0.51	568.299	0.15
Pressure Washers	2000	26	50	19.934	2.474	5.524	6.381	0.066	0.615	0.615	568.3	0.223
Pressure Washers Pressure Washers	2000 2000	51 121	120 175	19.23 66.055	1.417 1.024	3.967 3.38	9.062 8.685	0.06	0.613	0.613	568.3 568.299	0.127
Pressure Washers	2000	176	250	35.508	0.438	1.005	6.315	0.058	0.399	0.399	568.299	0.092
Pressure Washers	2005	6	15	3.341	1.212	4.38	7.615	0.038	0.143	0.143	568.3	0.039
Pressure Washers	2005	16	25	5.048	1.253	3.922	6.014	0.065	0.432	0.432	568.299	0.113
Pressure Washers	2005	26	50	17.362	2.154	5.075	5.932	0.066	0.566	0.566	568.299	0.194
Pressure Washers	2005	51	120	16.424	1.21	3.682	7.651	0.06	0.566	0.566	568.299	0.109
Pressure Washers	2005	121	175	55.65	0.863	3.072	7.441	0.059	0.349	0.349	568.299	0.077
Pressure Washers	2005	176	250	21.871	0.27	0.986	4.822	0.058	0.111	0.111	568.299	0.024
Pressure Washers	2010	6	15	2.628	0.953	4.027	6.387	0.008	0.38	0.38	568.299	0.086
Pressure Washers	2010	16	25	3.872	0.961	3.309	5.477	0.007	0.342	0.342	568.299	0.086
Pressure Washers	2010	26	50	13.073	1.622	4.517	5.501	0.007	0.453	0.453	568.299	0.146
Pressure Washers	2010	51	120	12.296	0.906	3.503	6.273	0.006	0.451	0.451	568.299	0.081
Pressure Washers	2010	121	175	41.062	0.637	2.967	5.773	0.006	0.275	0.275	568.299	0.057
Pressure Washers	2010	176	250	16.502	0.203	0.986	2.5	0.006	0.1	0.1	568.299	0.018
Pressure Washers Pressure Washers	2011 2011	6 16	15 25	2.504 3.706	0.908	3.952 3.179	6.134 5.36	0.008	0.358	0.358	568.299 568.299	0.081
Pressure Washers	2011	26	50	12.056	1.496	4.382	5.405	0.007	0.325	0.325	568.299	0.063
Pressure Washers	2011	51	120	11.392	0.839	3.468	5.939	0.007	0.428	0.428	568.299	0.133
Pressure Washers	2011	121	175	38.303	0.594	2.953	5.441	0.006	0.263	0.263	568.299	0.053
Pressure Washers	2011	176	250	15.247	0.188	0.986	2.086	0.006	0.072	0.072	568.299	0.016
Pressure Washers	2012	6	15	2.385	0.865	3.874	5.874	0.008	0.338	0.338	568.299	0.078
Pressure Washers	2012	16	25	3.564	0.884	3.043	5.239	0.007	0.307	0.307	568.299	0.079
Pressure Washers	2012	26	50	10.983	1.363	4.238	5.306	0.007	0.402	0.402	568.299	0.123
Pressure Washers	2012	51	120	10.457	0.77	3.433	5.578	0.006	0.4	0.4	568.299	0.069
Pressure Washers	2012	121	175	35.56	0.551	2.941	5.109	0.006	0.244	0.244	568.299	0.049
Pressure Washers	2012	176	250	13.887	0.171	0.986	1.749	0.006	0.046	0.046	568.299	0.015
Pressure Washers	2013	6	15	2.27	0.823	3.796	5.616	0.008	0.318	0.318	568.299	0.074
Pressure Washers	2013	16	25	3.431	0.851	2.907	5.117	0.007	0.289	0.289	568.299	0.076
Pressure Washers	2013	26	50	9.897	1.228	4.092	5.086	0.007	0.367	0.367	568.299	0.11
Pressure Washers	2013	51	120	9.523	0.701	3.399	5.226	0.006	0.366	0.366	568.299	0.063
Pressure Washers Pressure Washers	2013 2013	121 176	175 250	32.885 12.508	0.51 0.154	2.931 0.986	4.803 1.468	0.006	0.225	0.225	568.299 568.299	0.046
Pressure Washers Pressure Washers	2013	6	15	2.16	0.783	3.723	5.369	0.006	0.021	0.021	568.299	0.013
Pressure Washers	2014	16	25	3.308	0.763	2.78	5.369	0.008	0.298	0.296	568.299	0.07
Pressure Washers	2014	26	50	8.833	1.096	3.951	4.873	0.007	0.272	0.272	568.299	0.074
Pressure Washers	2014	51	120	8.608	0.634	3.367	4.912	0.007	0.332	0.332	568.299	0.057
1 1000010 1140011510	2014	5	120	0.000	0.004	0.007	7.014	0.000	0.002	U.UUZ	JUU.233	0.007

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Pressure Washers	2014	121	175	30.292	0.469	2.923	4.513	0.006	0.206	0.206	568.299	0.042
Pressure Washers	2014	176	250	11.167	0.137	0.986	1.047	0.006	0.014	0.014	568.299	0.012
Pressure Washers	2015	6	15	2.059	0.747	3.657	5.141	0.008	0.28	0.28	568.299	0.067
Pressure Washers	2015	16	25	3.196	0.793	2.666	4.89	0.007	0.256	0.256	568.299	0.071
Pressure Washers	2015	26	50	7.868	0.976	3.833	4.685	0.007	0.3	0.3	568.299	0.088
Pressure Washers	2015	51	120	7.703	0.567	3.336	4.551	0.006	0.297	0.297	568.299	0.051
Pressure Washers	2015	121	175	27.567	0.427	2.917	4.115	0.006	0.187	0.187	568.299	0.038
Pressure Washers	2015	176	250	9.864	0.121	0.986	0.69	0.006	0.01	0.01	568.299	0.01
Pressure Washers	2016	6	15	1.986	0.72	3.622	4.978	0.008	0.264	0.264	568.299	0.065
Pressure Washers	2016	16	25	3.116	0.773	2.604	4.803	0.007	0.244	0.244	568.299	0.069
Pressure Washers	2016	26	50	6.97	0.865	3.729	4.515	0.007	0.269	0.269	568.299	0.078
Pressure Washers	2016	51	120 175	6.839 24.906	0.504	3.308	4.209	0.006	0.264	0.264	568.299	0.045
Pressure Washers	2016 2016	121 176	250	8.667	0.386	2.913 0.986	3.726 0.399	0.006	0.168	0.168	568.299 568.299	0.034
Pressure Washers Pressure Washers	2016	6	15	1.927	0.107	3.599	4.847	0.008	0.009	0.009	568.299	0.009
Pressure Washers	2017	16	25	3.053	0.099	2.564	4.729	0.008	0.23	0.23	568.299	0.068
Pressure Washers	2017	26	50	6.126	0.757	3.632	4.729	0.007	0.233	0.23	568.299	0.068
Pressure Washers	2017	51	120	6.031	0.76	3.283	3.888	0.007	0.233	0.24	568.3	0.000
Pressure Washers	2017	121	175	22.349	0.444	2.91	3.349	0.006	0.233	0.233	568.299	0.04
Pressure Washers	2017	176	250	8.288	0.102	0.986	0.317	0.006	0.009	0.009	568.299	0.009
Pressure Washers	2017	6	15	1.874	0.102	3.58	4.728	0.008	0.009	0.009	568.299	0.009
Pressure Washers	2018	16	25	2.997	0.679	2.531	4.661	0.008	0.237	0.237	568.299	0.067
Pressure Washers	2018	26	50	5.332	0.744	3.542	4.202	0.007	0.224	0.224	568.299	0.057
Pressure Washers	2018	51	120	5.276	0.388	3.26	3.584	0.006	0.203	0.203	568.299	0.035
Pressure Washers	2018	121	175	19.96	0.309	2.908	2.989	0.006	0.132	0.132	568.299	0.033
Pressure Washers	2018	176	250	8.072	0.099	0.986	0.277	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2019	6	15	1.824	0.662	3.562	4.617	0.008	0.224	0.224	568.299	0.059
Pressure Washers	2019	16	25	2.947	0.731	2.501	4.596	0.007	0.214	0.214	568.299	0.066
Pressure Washers	2019	26	50	4.585	0.569	3.457	4.053	0.007	0.184	0.184	568.299	0.051
Pressure Washers	2019	51	120	4.575	0.337	3.24	3.295	0.006	0.174	0.174	568.299	0.03
Pressure Washers	2019	121	175	18.102	0.28	2.907	2.67	0.006	0.117	0.117	568.299	0.025
Pressure Washers	2019	176	250	8.005	0.098	0.986	0.265	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2020	6	15	1.78	0.646	3.546	4.516	0.008	0.212	0.212	568.299	0.058
Pressure Washers	2020	16	25	2.904	0.721	2.473	4.538	0.007	0.205	0.205	568.299	0.065
Pressure Washers	2020	26	50	4.025	0.499	3.393	3.917	0.007	0.161	0.161	568.299	0.045
Pressure Washers	2020	51	120	4.048	0.298	3.225	3.036	0.006	0.151	0.151	568.299	0.026
Pressure Washers	2020	121	175	16.638	0.258	2.907	2.383	0.006	0.104	0.104	568.299	0.023
Pressure Washers	2020	176	250	8.005	0.098	0.986	0.265	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2021	6	15	1.747	0.634	3.531	4.441	0.008	0.201	0.201	568.299	0.057
Pressure Washers	2021	16	25	2.87	0.712	2.446	4.497	0.007	0.196	0.196	568.299	0.064
Pressure Washers	2021	26	50	3.542	0.439	3.329	3.765	0.007	0.136	0.136	568.299	0.039
Pressure Washers	2021	51	120	3.592	0.264	3.21	2.766	0.006	0.129	0.129	568.299	0.023
Pressure Washers	2021	121	175	15.389	0.238	2.907	2.118	0.006	0.093	0.093	568.299	0.021
Pressure Washers	2021	176	250	8.005	0.098	0.986	0.265	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2022	6	15	1.725	0.626	3.519	4.39	0.008	0.193	0.193	568.299	0.056
Pressure Washers	2022	16	25	2.847	0.706	2.426	4.47	0.007	0.188	0.188	568.299	0.063
Pressure Washers	2022	26	50	3.213	0.398	3.291	3.649	0.007	0.117	0.117	568.3	0.035
Pressure Washers	2022	51	120	3.281	0.241	3.202	2.56	0.006	0.112	0.112	568.299	0.021
Pressure Washers	2022	121	175	14.252	0.221	2.907	1.871	0.006	0.082	0.082	568.299	0.019
Pressure Washers	2022	176	250	8.005	0.098	0.986	0.265	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2023	6	15	1.706	0.618	3.508	4.345	0.008	0.186	0.186	568.299	0.055
Pressure Washers	2023	16	25	2.827	0.701	2.407	4.447	0.007	0.182	0.182	568.299	0.063
Pressure Washers	2023	26	50	2.928	0.363	3.26	3.541	0.007	0.101	0.101	568.299	0.032
Pressure Washers	2023	51	120	3.012	0.222	3.196	2.377	0.006	0.097	0.097	568.299	0.02
Pressure Washers	2023	121	175	13.244	0.205	2.907	1.665	0.006	0.072	0.072	568.299	0.018
Pressure Washers	2023	176	250	8.005	0.098	0.986	0.265	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2024	6	15	1.689	0.612	3.499	4.305	0.008	0.181	0.181	568.299	0.055
Pressure Washers	2024	16	25	2.811	0.697	2.39	4.426	0.007	0.178	0.178	568.299	0.062
Pressure Washers	2024	26 51	50 120	2.685	0.333	3.233	3.441 2.229	0.007	0.087	0.087	568.299	0.03
Pressure Washers	2024			2.78	0.204	3.191		0.006	0.084	0.084	568.299	0.018
Pressure Washers	2024	121	175	12.332	0.191	2.907	1.482	0.006	0.062	0.062	568.299	0.017
Pressure Washers	2024 2025	176 6	250 15	8.005 1.674	0.098 0.607	0.986 3.491	0.265 4.269	0.006	0.009	0.009 0.178	568.299 568.299	0.008
Pressure Washers								0.008				
Pressure Washers	2025	16 26	25	2.797	0.694	2.376	4.407	0.007	0.175	0.175	568.299	0.062
Pressure Washers	2025	26	50	2.472	0.306	3.21	3.344	0.007	0.075	0.075	568.299	0.027
Pressure Washers	2025	51	120	2.575	0.189	3.186	2.1	0.006	0.072	0.072	568.299	0.017
Pressure Washers	2025 2025	121 176	175 250	11.476 8.005	0.178	2.907 0.986	1.31 0.265	0.006	0.053	0.053	568.299 568.299	0.016
Pressure Washers Pressure Washers	2025		250 15	1.632	0.098	3.47	4.164	0.008	0.009	0.009	568.299	0.008
		6 16										
Pressure Washers	2030	16	25	2.766	0.686	2.34	4.347	0.007	0.165	0.165	568.299	0.061

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

(F.) . T				T00	500		NOV	000	DIMA	D140.5	200	0114
Equipment Type	Year		High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Pressure Washers	2030 2030	26 51	50 120	1.735 1.821	0.215	3.124 3.167	2.989	0.007	0.03	0.03	568.299 568.3	0.019
Pressure Washers Pressure Washers	2030	121	175	8.178	0.134	2.907	1.594 0.619	0.006	0.028	0.028	568.299	0.012
Pressure Washers	2030	176	250	8.005	0.120	0.986	0.819	0.006	0.024	0.024	568.299	0.008
Pressure Washers	2035	6	15	1.624	0.589	3.47	4.143	0.008	0.162	0.162	568.3	0.053
Pressure Washers	2035	16	25	2.761	0.685	2.34	4.332	0.007	0.162	0.162	568.299	0.061
Pressure Washers	2035	26	50	1.515	0.188	3.101	2.882	0.007	0.015	0.015	568.299	0.016
Pressure Washers	2035	51	120	1.58	0.116	3.161	1.421	0.006	0.014	0.014	568.299	0.01
Pressure Washers	2035	121	175	7.052	0.109	2.907	0.382	0.006	0.013	0.013	568.299	0.009
Pressure Washers	2035	176	250	8.005	0.098	0.986	0.265	0.006	0.009	0.009	568.299	0.008
Pressure Washers	2040	6	15	1.624	0.589	3.469	4.142	0.008	0.161	0.161	568.299	0.053
Pressure Washers	2040	16	25	2.761	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Pressure Washers	2040	26	50	1.5	0.186	3.098	2.836	0.007	0.01	0.01	568.299	0.016
Pressure Washers	2040	51	120	1.54	0.113	3.16	1.365	0.006	0.01	0.01	568.299	0.01
Pressure Washers	2040	121	175	6.649	0.103	2.907	0.293	0.006	0.01	0.01	568.299	0.009
Pressure Washers	2040	176	250	8.005	0.098	0.986	0.265	0.006	0.009	0.009	568.299	0.008
Pumps	1990	6	15	3.929	1.804	4.999	10	1.018	0.974	0.974	568.299	0.162
Pumps	1990 1990	16 26	25 50	12.652 33.318	2.213 3.307	4.999 7.004	6.92 7.391	0.83	0.74	0.74	568.299 568.299	0.199
Pumps	1990	51	120	44.398	1.941	5.049	13.378	0.846 0.768	0.964 1.022	0.964 1.022	568.299	0.298 0.175
Pumps Pumps	1990	121	175	54.599	1.328	4.466	12.036	0.768	0.678	0.678	568.299	0.175
Pumps	1990	176	250	78.462	1.328	4.466	12.036	0.736	0.678	0.678	568.299	0.119
Pumps	1990	251	500	123.784	1.222	7.034	11.736	0.730	0.614	0.614	568.3	0.119
Pumps	1990	501	750	204.643	1.222	7.034	11.736	0.658	0.614	0.614	568.299	0.11
Pumps	1990	1001	9999	484.933	1.22	7.034	11.736	0.658	0.612	0.612	568.299	0.11
Pumps	2000	6	15	3.754	1.723	4.875	9.08	0.079	0.747	0.747	568.299	0.155
Pumps	2000	16	25	11.979	2.095	4.783	6.405	0.065	0.569	0.569	568.299	0.189
Pumps	2000	26	50	31.461	3.123	6.715	6.608	0.066	0.718	0.718	568.299	0.281
Pumps	2000	51	120	36.02	1.575	4.223	9.604	0.06	0.711	0.711	568.3	0.142
Pumps	2000	121	175	43.406	1.055	3.435	8.734	0.057	0.419	0.419	568.299	0.095
Pumps	2000	176	250	51.67	0.874	2.707	8.397	0.057	0.339	0.339	568.299	0.078
Pumps	2000	251	500	83.09	0.82	3.956	8.188	0.05	0.311	0.311	568.299	0.074
Pumps	2000	501	750	137.368	0.82	3.956	8.188	0.051	0.311	0.311	568.299	0.074
Pumps	2000	1001	9999	372.377	0.936	4.533	8.775	0.051	0.351	0.351	568.299	0.084
Pumps	2005 2005	6 16	15 25	3.036 9.278	1.394 1.622	4.38 3.922	7.817 6.014	0.079	0.621 0.483	0.621 0.483	568.299 568.299	0.125 0.146
Pumps Pumps	2005	26	50	27.809	2.76	6.203	6.155	0.065	0.463	0.463	568.299	0.146
Pumps	2005	51	120	30.825	1.348	3.91	8.1	0.06	0.657	0.657	568.3	0.121
Pumps	2005	121	175	36.106	0.878	3.114	7.408	0.057	0.363	0.363	568.299	0.079
Pumps	2005	176	250	36.853	0.623	1.836	6.99	0.057	0.239	0.239	568.299	0.056
Pumps	2005	251	500	56.766	0.56	2.32	6.535	0.05	0.219	0.219	568.299	0.05
Pumps	2005	501	750	96.43	0.575	2.32	6.679	0.051	0.221	0.221	568.299	0.051
Pumps	2005	1001	9999	289.357	0.728	2.838	7.658	0.051	0.258	0.258	568.299	0.065
Pumps	2010	6	15	2.449	1.124	4.027	6.554	0.008	0.473	0.473	568.299	0.101
Pumps	2010	16	25	7.245	1.267	3.309	5.477	0.007	0.384	0.384	568.299	0.114
Pumps	2010	26	50	22.041	2.188	5.634	5.74	0.007	0.545	0.545	568.3	0.197
Pumps	2010	51	120	23.77	1.039	3.735	6.675	0.006	0.538	0.538	568.299	0.093
Pumps	2010	121	175	28.171	0.685	3.033	5.961	0.006	0.298	0.298	568.299	0.061
Pumps	2010	176	250	26.273	0.444	1.359	5.586	0.006	0.17	0.17	568.299	0.04
Pumps	2010 2010	251 501	500 750	40.384 68.724	0.398	1.536 1.536	5.074 5.207	0.005	0.158 0.161	0.158 0.161	568.299 568.299	0.035
Pumps Pumps	2010	1001	9999	218.911	0.41	1.991	6.617	0.005	0.161	0.161	568.299	0.037
Pumps	2010	6	15	2.324	1.067	3.952	6.283	0.003	0.190	0.190	568.299	0.049
Pumps	2011	16	25	6.815	1.192	3.179	5.36	0.007	0.361	0.361	568.299	0.090
Pumps	2011	26	50	20.53	2.038	5.474	5.645	0.007	0.518	0.518	568.299	0.183
Pumps	2011	51	120	22.177	0.969	3.698	6.322	0.006	0.514	0.514	568.299	0.087
Pumps	2011	121	175	26.426	0.642	3.02	5.63	0.006	0.286	0.286	568.299	0.058
Pumps	2011	176	250	24.051	0.407	1.272	5.206	0.006	0.153	0.153	568.299	0.036
Pumps	2011	251	500	36.969	0.365	1.405	4.71	0.005	0.143	0.143	568.299	0.032
Pumps	2011	501	750	62.964	0.376	1.405	4.841	0.005	0.145	0.145	568.299	0.033
Pumps	2011	1001	9999	203.755	0.512	1.835	6.273	0.005	0.183	0.183	568.299	0.046
Pumps	2012	6	15	2.194	1.007	3.874	5.999	0.008	0.407	0.407	568.299	0.09
Pumps	2012	16	25	6.363	1.113	3.043	5.239	0.007	0.337	0.337	568.299	0.1
Pumps	2012	26	50	18.887	1.875	5.296	5.545	0.007	0.488	0.488	568.299	0.169
Pumps	2012	51	120	20.51	0.896	3.66	5.939	0.006	0.481	0.481	568.299	0.08
Pumps	2012	121	175	24.576	0.597	3.009	5.28	0.006	0.265	0.265	568.299	0.053
Pumps	2012	176	250	22.301	0.377	1.218	4.846	0.006	0.139	0.139	568.299	0.034
Pumps	2012 2012	251 501	500 750	34.322 58.469	0.338	1.311	4.367	0.005	0.13	0.13	568.299	0.03
Pumps						1.311	4.495	0.005	0.132	0.132	568.299	0.031
Pumps	2012	1001	9999	188.287	0.473	1.682	5.916	0.005	0.168	0.168	568.299	0.042

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Pumps	2013	6	15	2.065	0.948	3.796	5.716	0.008	0.373	0.373	568.299	0.085
Pumps	2013	16	25	5.914	1.034	2.907	5.117	0.007	0.314	0.314	568.3	0.093
Pumps	2013	26	50	17.185	1.706	5.11	5.323	0.007	0.448	0.448	568.299	0.153
Pumps	2013	51	120	18.831	0.823	3.623	5.563	0.006	0.443	0.443	568.299	0.074
Pumps	2013	121	175	22.712	0.552	2.998	4.949	0.006	0.244	0.244	568.299	0.049
Pumps	2013	176	250	20.801	0.352	1.181	4.498	0.006	0.127	0.127	568.3	0.031
Pumps	2013	251	500	32.081	0.316	1.241	4.037	0.005	0.119	0.119	568.299	0.028
Pumps	2013	501	750	54.658	0.326	1.241	4.163	0.005	0.121	0.121	568.299	0.029
Pumps	2013	1001	9999	173.151	0.435	1.538	5.558	0.005	0.154	0.154	568.299	0.039
Pumps Pumps	2014 2014	6 16	15 25	1.942 5.492	0.891	3.723 2.78	5.445 5	0.008	0.341	0.341	568.299 568.299	0.08
Pumps	2014	26	50	15.493	1.538	4.929	5.107	0.007	0.409	0.409	568.299	0.088
Pumps	2014	51	120	17.179	0.751	3.587	5.226	0.007	0.403	0.403	568.299	0.138
Pumps	2014	121	175	20.895	0.508	2.989	4.635	0.006	0.222	0.222	568.299	0.045
Pumps	2014	176	250	19.3	0.326	1.149	4.09	0.006	0.115	0.115	568.299	0.029
Pumps	2014	251	500	29.829	0.294	1.181	3.648	0.005	0.108	0.108	568.299	0.026
Pumps	2014	501	750	50.824	0.303	1.181	3.77	0.005	0.11	0.11	568.299	0.027
Pumps	2014	1001	9999	158.959	0.399	1.406	5.21	0.005	0.141	0.141	568.299	0.036
Pumps	2015	6	15	1.831	0.84	3.658	5.196	0.008	0.311	0.311	568.299	0.075
Pumps	2015	16	25	5.112	0.894	2.666	4.89	0.007	0.27	0.27	568.299	0.08
Pumps	2015	26	50	13.946	1.384	4.775	4.916	0.007	0.371	0.371	568.3	0.124
Pumps	2015	51	120	15.537	0.679	3.554	4.842	0.006	0.364	0.364	568.3	0.061
Pumps	2015	121	175	18.983	0.461	2.983	4.202	0.006	0.2	0.2	568.299	0.041
Pumps	2015	176	250	17.881	0.302	1.122	3.693	0.006	0.104	0.104	568.299	0.027
Pumps	2015 2015	251 501	500 750	27.722 47.213	0.273	1.134 1.134	3.272 3.389	0.005	0.097	0.097	568.299 568.299	0.024
Pumps	2015	1001	9999	144.304	0.281	1.134	4.878	0.005	0.099	0.099	568.299	0.025
Pumps Pumps	2016	6	15	1.762	0.809	3.622	5.023	0.003	0.127	0.127	568.299	0.032
Pumps	2016	16	25	4.893	0.855	2.604	4.803	0.007	0.255	0.255	568.299	0.073
Pumps	2016	26	50	12.497	1.24	4.64	4.742	0.007	0.235	0.335	568.299	0.111
Pumps	2016	51	120	13.964	0.61	3.523	4.478	0.006	0.325	0.325	568.299	0.055
Pumps	2016	121	175	17.155	0.417	2.978	3.789	0.006	0.179	0.179	568.299	0.037
Pumps	2016	176	250	16.558	0.28	1.099	3.313	0.006	0.094	0.094	568.299	0.025
Pumps	2016	251	500	25.804	0.254	1.093	2.919	0.005	0.088	0.088	568.299	0.022
Pumps	2016	501	750	43.884	0.262	1.093	3.028	0.005	0.089	0.089	568.299	0.023
Pumps	2016	1001	9999	133.448	0.335	1.223	4.596	0.005	0.116	0.116	568.3	0.03
Pumps	2017	6	15	1.713	0.786	3.599	4.887	0.008	0.272	0.272	568.299	0.07
Pumps	2017	16	25	4.745	0.83	2.564	4.729	0.007	0.243	0.243	568.299	0.074
Pumps	2017	26	50	11.12	1.104	4.514	4.578	0.007	0.301	0.301	568.299	0.099
Pumps	2017	51	120	12.49	0.546	3.495	4.134	0.006	0.287	0.287	568.299	0.049
Pumps	2017 2017	121	175 250	15.466	0.376	2.975	3.4	0.006	0.159	0.159	568.299 568.299	0.033
Pumps Pumps	2017	176 251	500	15.375 24.243	0.239	1.08 1.062	2.958 2.613	0.006	0.064	0.064	568.299	0.023
Pumps	2017	501	750	40.958	0.239	1.062	2.695	0.005	0.079	0.079	568.299	0.021
Pumps	2017	1001	9999	124.604	0.244	1.177	4.343	0.005	0.106	0.106	568.299	0.022
Pumps	2018	6	15	1.669	0.766	3.58	4.762	0.008	0.256	0.256	568.299	0.069
Pumps	2018	16	25	4.618	0.807	2.531	4.661	0.007	0.232	0.232	568.299	0.072
Pumps	2018	26	50	9.809	0.973	4.397	4.422	0.007	0.267	0.267	568.299	0.087
Pumps	2018	51	120	11.107	0.485	3.471	3.808	0.006	0.252	0.252	568.299	0.043
Pumps	2018	121	175	13.918	0.338	2.974	3.035	0.006	0.14	0.14	568.299	0.03
Pumps	2018	176	250	14.304	0.242	1.065	2.624	0.006	0.075	0.075	568.299	0.021
Pumps	2018	251	500	22.927	0.226	1.041	2.34	0.005	0.071	0.071	568.299	0.02
Pumps	2018	501	750	38.511	0.23	1.041	2.401	0.005	0.072	0.072	568.299	0.02
Pumps	2018	1001	9999	116.529	0.293	1.144	4.105	0.005	0.098	0.098	568.299	0.026
Pumps	2019	6	15	1.63	0.748	3.562	4.647	0.008	0.241	0.241	568.3	0.067
Pumps	2019	16	25	4.503	0.787	2.501	4.596	0.007	0.222	0.222	568.3	0.071
Pumps	2019	26	50	8.56	0.849	4.284	4.269	0.007	0.235	0.235	568.299	0.076
Pumps	2019 2019	51 121	120 175	9.812 12.706	0.429	3.449 2.974	3.497 2.711	0.006	0.217	0.217 0.124	568.299 568.299	0.038
Pumps Pumps	2019	176	250	13.378	0.309	1.052	2.711	0.006	0.124	0.124	568.299	0.027
Pumps	2019	251	500	21.711	0.214	1.032	2.084	0.005	0.067	0.067	568.3	0.02
Pumps	2019	501	750	36.35	0.217	1.027	2.133	0.005	0.065	0.065	568.299	0.019
Pumps	2019	1001	9999	108.825	0.273	1.118	3.873	0.005	0.089	0.089	568.299	0.024
Pumps	2020	6	15	1.593	0.731	3.546	4.542	0.008	0.227	0.227	568.299	0.066
Pumps	2020	16	25	4.396	0.769	2.473	4.538	0.007	0.212	0.212	568.299	0.069
Pumps	2020	26	50	7.613	0.755	4.197	4.128	0.007	0.206	0.206	568.299	0.068
	2020	51	120	8.832	0.386	3.432	3.219	0.006	0.189	0.189	568.299	0.034
Pumps	2020											
Pumps Pumps	2020	121	175	11.744	0.285	2.974	2.418	0.006	0.111	0.111	568.299	0.025
			175 250	11.744 12.575	0.285 0.212	2.974 1.042	2.418 2.05	0.006	0.111	0.111	568.299 568.299	0.025

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Pumps	2020	501	750	34.373	0.205	1.017	1.884	0.005	0.058	0.058	568.299	0.018
Pumps	2020	1001	9999	101.462	0.255	1.096	3.649	0.005	0.081	0.081	568.3	0.023
Pumps	2021	6	15	1.563	0.717	3.531	4.462	0.008	0.214	0.214	568.299	0.064
Pumps	2021	16	25	4.302	0.752	2.446	4.497	0.007	0.201	0.201	568.299	0.067
Pumps	2021	26	50	6.761	0.671	4.099	3.966	0.007	0.175	0.175	568.299	0.06
Pumps	2021	51	120	7.94	0.347	3.412	2.928	0.006	0.162	0.162	568.3	0.031
Pumps	2021 2021	121 176	175 250	10.713 11.658	0.26 0.197	2.968 1.031	2.101 1.759	0.006	0.096	0.096 0.052	568.299 568.299	0.023
Pumps	2021	251	500	19.186	0.197	1.031	1.759	0.006	0.052	0.052	568.299	0.017
Pumps	2021	501	750	32.005	0.109	1.007	1.618	0.005	0.05	0.05	568.299	0.017
Pumps Pumps	2021	1001	9999	92.954	0.131	1.007	3.409	0.005	0.03	0.03	568.3	0.017
Pumps	2022	6	15	1.54	0.707	3.519	4.408	0.008	0.203	0.203	568.299	0.063
Pumps	2022	16	25	4.229	0.739	2.426	4.47	0.007	0.193	0.193	568.299	0.066
Pumps	2022	26	50	6.194	0.614	4.048	3.846	0.007	0.152	0.152	568.299	0.055
Pumps	2022	51	120	7.351	0.321	3.404	2.708	0.006	0.142	0.142	568.299	0.029
Pumps	2022	121	175	9.985	0.242	2.969	1.86	0.006	0.085	0.085	568.299	0.021
Pumps	2022	176	250	11.025	0.186	1.025	1.534	0.006	0.045	0.045	568.299	0.016
Pumps	2022	251	500	18.249	0.18	1.001	1.404	0.005	0.044	0.044	568.3	0.016
Pumps	2022	501	750	30.396	0.181	1.001	1.432	0.005	0.044	0.044	568.3	0.016
Pumps	2022	1001	9999	87.313	0.219	1.058	3.236	0.005	0.065	0.065	568.299	0.019
Pumps	2023	6	15	1.521	0.698	3.508	4.359	0.008	0.194	0.194	568.299	0.063
Pumps	2023	16	25	4.165	0.728	2.407	4.447	0.007	0.186	0.186	568.299	0.065
Pumps	2023	26 51	50	5.699	0.565	4.007	3.734	0.007	0.131	0.131	568.299	0.051
Pumps	2023		120	6.838	0.299	3.398	2.511	0.006	0.123	0.123	568.299	0.026
Pumps Pumps	2023 2023	121 176	175 250	9.349 10.47	0.227	2.971 1.021	1.662 1.351	0.006	0.075	0.075	568.299 568.299	0.02
Pumps Pumps	2023	251	500	17.411	0.177	0.998	1.351	0.006	0.04	0.04	568.299	0.015
Pumps	2023	501	750	28.971	0.171	0.998	1.271	0.005	0.039	0.039	568.299	0.015
Pumps	2023	1001	9999	82.523	0.207	1.043	3.09	0.005	0.059	0.059	568.299	0.018
Pumps	2024	6	15	1.503	0.69	3.499	4.316	0.008	0.188	0.188	568.299	0.062
Pumps	2024	16	25	4.107	0.718	2.39	4.426	0.007	0.181	0.181	568.299	0.064
Pumps	2024	26	50	5.272	0.523	3.974	3.63	0.007	0.114	0.114	568.299	0.047
Pumps	2024	51	120	6.391	0.279	3.393	2.352	0.006	0.107	0.107	568.299	0.025
Pumps	2024	121	175	8.769	0.213	2.973	1.486	0.006	0.065	0.065	568.299	0.019
Pumps	2024	176	250	9.948	0.168	1.018	1.189	0.006	0.034	0.034	568.3	0.015
Pumps	2024	251	500	16.61	0.164	0.994	1.098	0.005	0.033	0.033	568.299	0.014
Pumps	2024	501	750	27.614	0.164	0.994	1.12	0.005	0.034	0.034	568.299	0.014
Pumps	2024	1001	9999	78.184	0.196	1.031	2.96	0.005	0.054	0.054	568.299	0.017
Pumps	2025	6	15	1.488	0.683	3.491	4.278	0.008	0.183	0.183	568.299	0.061
Pumps	2025 2025	16 26	25 50	4.058 4.891	0.709 0.485	2.376 3.943	4.407 3.528	0.007	0.177	0.177	568.299 568.299	0.064
Pumps Pumps	2025	51	120	5.988	0.465	3.389	2.213	0.007	0.099	0.099	568.299	0.043
Pumps	2025	121	175	8.209	0.201	2.974	1.318	0.006	0.056	0.056	568.3	0.023
Pumps	2025	176	250	9.449	0.159	1.016	1.038	0.006	0.029	0.029	568.299	0.014
Pumps	2025	251	500	15.837	0.156	0.992	0.958	0.005	0.028	0.028	568.3	0.014
Pumps	2025	501	750	26.308	0.157	0.992	0.977	0.005	0.029	0.029	568.3	0.014
Pumps	2025	1001	9999	74.054	0.186	1.02	2.84	0.005	0.049	0.049	568.299	0.016
Pumps	2030	6	15	1.445	0.663	3.47	4.164	0.008	0.166	0.166	568.299	0.059
Pumps	2030	16	25	3.928	0.687	2.34	4.347	0.007	0.165	0.165	568.3	0.061
Pumps	2030	26	50	3.513	0.348	3.814	3.146	0.007	0.04	0.04	568.299	0.031
Pumps	2030	51	120	4.416	0.193	3.367	1.662	0.006	0.036	0.036	568.299	0.017
Pumps	2030	121	175	5.842	0.142	2.973	0.61	0.006	0.024	0.024	568.299	0.012
Pumps	2030	176	250	7.699	0.13	1.013	0.511	0.006	0.016	0.016	568.299	0.011
Pumps	2030	251	500	13.115	0.129	0.989	0.482	0.005	0.016	0.016	568.299	0.011
Pumps	2030	501	750	21.709	0.129	0.989	0.488	0.005	0.016	0.016	568.299	0.011
Pumps	2030 2035	1001 6	9999 15	55.475 1.44	0.139	0.99 3.469	2.504 4.143	0.005	0.03 0.162	0.03 0.162	568.299 568.299	0.012
Pumps Pumps	2035	16	25	3.919	0.685	2.34	4.143	0.008	0.162	0.162	568.299	0.059
Pumps	2035	26	50	3.089	0.306	3.778	3.028	0.007	0.102	0.102	568.299	0.001
Pumps	2035	51	120	3.891	0.300	3.776	1.47	0.007	0.019	0.019	568.299	0.027
Pumps	2035	121	175	5.059	0.123	2.973	0.377	0.006	0.014	0.014	568.299	0.011
Pumps	2035	176	250	7.07	0.119	1.012	0.335	0.006	0.011	0.011	568.299	0.01
Pumps	2035	251	500	12.118	0.119	0.989	0.331	0.005	0.011	0.011	568.299	0.01
Pumps	2035	501	750	20.034	0.119	0.989	0.331	0.005	0.011	0.011	568.299	0.01
Pumps	2035	1001	9999	49.373	0.124	0.989	2.38	0.005	0.023	0.023	568.299	0.011
Pumps	2040	6	15	1.44	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Pumps	2040	16	25	3.919	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Pumps	2040	26	50	3.056	0.303	3.77	2.976	0.007	0.013	0.013	568.299	0.027
Pumps	2040	51	120	3.777	0.165	3.358	1.41	0.006	0.012	0.012	568.299	0.014
Pumps	2040	121	175	4.771	0.116	2.971	0.295	0.006	0.01	0.01	568.299	0.01

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Pumps	2040	176	250	6.779	0.114	1.012	0.279	0.006	0.009	0.009	568.299	0.01
Pumps	2040	251	500	11.622	0.114	0.989	0.279	0.005	0.009	0.009	568.299	0.01
Pumps	2040	501	750	19.214	0.114	0.989	0.279	0.005	0.009	0.009	568.299	0.01
Pumps	2040	1001	9999	46.343	0.116	0.989	2.347	0.005	0.02	0.02	568.299	0.01
Rollers	1990	6	15	4.21	1.804	4.999	9.999	1.049	0.975	0.975	568.299	0.162
Rollers	1990	16	25	10.903	2.213	4.999	6.919	0.855	0.741	0.741	568.299	0.199
Rollers	1990	26	50	45.466	4.738	9.598	7.927	0.871	1.256	1.256	568.299	0.427
Rollers	1990	51	120	51.677	2.372	5.756	15.111	0.791	1.332	1.332	568.3	0.214
Rollers	1990	121	175	75.451	1.889	5.165	14.858	0.758	1.046	1.046	568.299	0.17
Rollers	1990	176	250	106.808	1.889	5.165	14.858	0.758	1.046	1.046	568.299	0.17
Rollers	1990	251	500	135.093	1.669	11.266	14.103	0.662	0.896	0.896	568.299	0.15
Rollers	2000	6	15	3.444	1.475	4.49	8.242	0.079	0.676	0.676	568.3	0.133
Rollers	2000	16	25	9.648	1.958	4.53	6.358	0.065	0.563	0.563	568.299	0.176
Rollers	2000	26	50	38.643	4.027	8.379	6.941	0.066	0.861	0.861	568.299	0.363
Rollers	2000	51	120	39.062	1.793	4.585	10.425	0.06	0.844	0.844	568.299	0.161
Rollers	2000	121	175	48.357	1.21	3.749	9.501	0.057	0.503	0.503	568.299	0.109
Rollers	2000	176	250	59.24	1.047	3.108	9.211	0.057	0.427	0.427	568.299	0.094
Rollers	2000	251	500	77.413	0.956	5.254	8.821	0.05	0.379	0.379	568.299	0.086
Rollers	2005	6	15	1.788	0.766	3.469	5.228	0.079	0.361	0.361	568.299	0.069
Rollers	2005	16	25	4.53	0.919	2.642	5.412	0.065	0.347	0.347	568.299	0.082
Rollers	2005	26	50	34.997	3.647	7.864	6.51	0.066	0.808	0.808	568.299	0.329
Rollers	2005	51	120	34.046	1.563	4.289	8.963	0.06	0.79	0.79	568.299	0.141
Rollers	2005	121	175	40.854	1.023	3.44	8.18	0.057	0.441	0.441	568.299	0.092
Rollers	2005	176	250	44.594	0.788	2.262	7.822	0.057	0.319	0.319	568.299	0.071
Rollers	2005 2010	251	500	56.466 1.637529	0.697 1.376	3.183 5.19619	7.196 5.58863	0.05	0.282 0.516	0.282	568.299 584.6125	0.062
Rollers Rollers	2010	6 16	15 25	1.637529	1.376		5.58863	0.005	0.516	0.475	584.6125	0.17
	2010	26	50	1.637529	1.376	5.19619		0.005	0.516	0.475	584.6125	0.17
Rollers Rollers	2010	51	120	0.983879	0.827	3.91429		0.005	0.516	0.475	527.6279	0.17
Rollers	2010	121	175	0.963679	0.627		5.60543	0.005	0.36	0.243	524.1952	0.154
Rollers	2010	176	250	0.616159	0.43	2.19572	7.34127	0.005	0.268	0.247	526.2539	0.153
Rollers	2010	251	500	0.682816	0.574	4.92169		0.005	0.313	0.288	533.878	0.155
Rollers	2011	6	15	1.599963	1.344	5.18315	5.5647	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	16	25	1.599963	1.344	5.18315	5.5647	0.005	0.508	0.467	583.1085	0.17
Rollers	2011	26	50	1.599963	1.344	5.18315		0.005	0.508	0.467	583.1085	0.17
Rollers	2011	51	120	0.924436	0.777	3.86451	7.13388	0.005	0.533	0.491	525.9391	0.153
Rollers	2011	121	175	0.498798	0.419		5.44712	0.005	0.257	0.237	522.9396	0.153
Rollers	2011	176	250	0.556319	0.467	2.03431		0.005	0.242	0.222	524.8924	0.153
Rollers	2011	251	500	0.597293	0.502	4.46947	6.64358	0.005	0.275	0.253	529.5965	0.155
Rollers	2012	6	15	1.624226	1.365	5.26844	5.568	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	16	25	1.624226	1.365	5.26844	5.568	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	26	50	1.624226	1.365	5.26844	5.568	0.005	0.511	0.471	581.6678	0.17
Rollers	2012	51	120	0.924087	0.776	3.87893	7.08604	0.005	0.534	0.491	524.5269	0.153
Rollers	2012	121	175	0.497788	0.418			0.005	0.255	0.235	521.5511	0.153
Rollers	2012	176	250	0.555818	0.467		6.64215	0.005	0.241	0.222	523.5608	0.153
Rollers	2012	251	500	0.604557	0.508	4.53336		0.005	0.278	0.256	528.1357	0.155
Rollers	2013	6	15	1.5981	1.343	5.27142		0.005	0.5	0.46	578.8662	0.17
Rollers	2013	16	25	1.5981	1.343		5.50162	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	26	50	1.5981	1.343		5.50162	0.005	0.5	0.46	578.8662	0.17
Rollers	2013	51	120	0.873627	0.734	3.84356		0.005	0.504	0.464	521.8163	0.153
Rollers	2013	121	175	0.468308	0.394		5.11335	0.005	0.238	0.219	519.0689	0.153
Rollers	2013	176	250	0.495332 0.470274	0.416		5.94235	0.005	0.213	0.196	520.4083	0.153
Rollers	2013 2014	251	500		0.395		5.43748	0.005	0.213	0.196	524.7654 575.7953	0.154
Rollers	2014	6 16	15 25	1.556684 1.556684	1.308		5.39309 5.39309	0.005	0.484	0.445 0.445	575.7953	0.17
Rollers Rollers	2014	26	50	1.556684	1.308	5.24275		0.005	0.484	0.445	575.7953	0.17
Rollers	2014	51	120	0.827072	0.695		6.39036	0.005	0.476	0.438	518.7866	0.17
Rollers	2014	121	175	0.43778	0.368		4.72375	0.005	0.470	0.438	516.7600	0.153
Rollers	2014	176	250	0.453642	0.381		5.40344	0.005	0.191	0.202	517.8111	0.153
Rollers	2014	251	500	0.449616	0.378		5.18322	0.005	0.202	0.176	522.0518	0.154
Rollers	2015	6	15	1.559602	1.31		5.36547	0.005	0.481	0.443	569.9207	0.17
	2015	16	25	1.559602	1.31		5.36547	0.005	0.481	0.443	569.9207	0.17
Rollers	2010			1.559602	1.31		5.36547	0.005	0.481	0.443		0.17
		26	50							•		
Rollers Rollers Rollers	2015	26 51	120		0.683		6.27158	0.005	0.467	0.43	513.5052	0.153
Rollers				0.813228 0.433087		3.80891	6.27158 4.63035	0.005	0.467 0.215	0.43 0.198	513.5052 511.3935	0.153
Rollers Rollers	2015 2015	51	120	0.813228	0.683	3.80891 3.00605					511.3935	
Rollers Rollers Rollers	2015 2015 2015	51 121	120 175	0.813228 0.433087	0.683 0.364	3.80891 3.00605	4.63035 4.93191	0.005	0.215	0.198 0.157		0.153
Rollers Rollers Rollers Rollers	2015 2015 2015 2015	51 121 176	120 175 250	0.813228 0.433087 0.41293	0.683 0.364 0.347	3.80891 3.00605 1.65049	4.63035 4.93191 5.03147	0.005	0.215 0.171	0.198 0.157	511.3935 512.8234	0.153 0.153
Rollers Rollers Rollers Rollers Rollers	2015 2015 2015 2015 2015 2015	51 121 176 251	120 175 250 500	0.813228 0.433087 0.41293 0.441373	0.683 0.364 0.347 0.371	3.80891 3.00605 1.65049 3.24549	4.63035 4.93191 5.03147 5.2356	0.005 0.005 0.005	0.215 0.171 0.195	0.198 0.157 0.179 0.423	511.3935 512.8234 517.2848	0.153 0.153 0.154

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HD	High LID	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2 CH4
Equipment Type Rollers	2016	51	High HP 120	0.747631	0.628	3.75537	5.80563	0.005	0.428	0.393	508.1987 0.153
Rollers	2016	121	175	0.402004	0.626	2.99334		0.005	0.428	0.393	505.9041 0.153
Rollers	2016	176	250	0.366563	0.308	1.50673		0.005	0.197	0.138	507.6939 0.153
Rollers	2016	251	500	0.397483	0.334	2.95647	4.45617	0.005	0.173	0.159	513.4154 0.155
Rollers	2017	6	15	1.425352	1.198	5.14727		0.005	0.436	0.401	555.0199 0.17
Rollers	2017	16	25	1.425352	1.198	5.14727		0.005	0.436	0.401	555.0199 0.17
Rollers	2017	26	50	1.425352	1.198	5.14727	5.09771	0.005	0.436	0.401	555.0199 0.17
Rollers	2017	51	120	0.690109	0.58	3.71315	5.4114	0.005	0.392	0.361	500.1525 0.153
Rollers	2017	121	175	0.373471	0.314	2.98069		0.005	0.18	0.166	497.9088 0.153
Rollers	2017	176	250	0.326364	0.274	1.40849		0.005	0.129	0.119	499.7021 0.153
Rollers	2017	251	500	0.353236	0.297	2.68487	3.84047	0.005	0.15	0.138	505.8318 0.155
Rollers	2018	6	15	1.26668	1.064	4.92335	4.8416	0.005	0.387	0.356	546.2905 0.17
Rollers	2018	16	25	1.26668	1.064	4.92335	4.8416	0.005	0.387	0.356	546.2905 0.17
Rollers	2018	26	50	1.26668	1.064	4.92335	4.8416	0.005	0.387	0.356	546.2905 0.17
Rollers	2018	51	120	0.572467	0.481	3.60981	4.65049	0.005	0.32	0.294	492.2118 0.153
Rollers	2018	121	175	0.315632	0.265	2.94895	3.18126	0.005	0.147	0.135	490.1805 0.153
Rollers	2018	176	250	0.251419	0.211	1.24341	2.99492	0.005	0.094	0.086	491.6643 0.153
Rollers	2018	251	500	0.291314	0.245	2.23145	3.09814	0.005	0.119	0.11	497.9962 0.155
Rollers	2019	6	15	1.156606	0.972	4.77841	4.64491	0.005	0.349	0.321	537.546 0.17
Rollers	2019	16	25	1.156606	0.972	4.77841	4.64491	0.005	0.349	0.321	537.546 0.17
Rollers	2019	26	50	1.156606	0.972	4.77841		0.005	0.349	0.321	537.546 0.17
Rollers	2019	51	120	0.502836	0.423	3.55726		0.005	0.275	0.253	484.3362 0.153
Rollers	2019	121	175	0.27475	0.231	2.93251		0.005	0.124	0.114	482.4531 0.153
Rollers	2019	176	250	0.250477	0.21	1.24854		0.005	0.092	0.084	483.7769 0.153
Rollers	2019	251	500	0.278634	0.234		2.90839	0.005	0.111	0.102	489.9774 0.155
Rollers	2020	6	15	1.102095	0.926		4.53426	0.005	0.329	0.303	525.8798 0.17
Rollers	2020	16	25	1.102095	0.926		4.53426	0.005	0.329	0.303	525.8798 0.17
Rollers	2020	26	50	1.102095 0.462004	0.926		4.53426	0.005	0.329	0.303	525.8798 0.17
Rollers Rollers	2020 2020	51 121	120 175	0.462004	0.388	3.53135	2.45176	0.005	0.247 0.113	0.228	473.8594 0.153 471.9177 0.153
Rollers	2020	176	250	0.248138	0.213	1.25343		0.005	0.113	0.104	473.3669 0.153
Rollers	2020	251	500	0.279691	0.235	2.11346		0.005	0.109	0.101	479.3254 0.155
Rollers	2021	6	15	1.008559	0.847	4.59681		0.005	0.294	0.101	525.7908 0.17
Rollers	2021	16	25	1.008559	0.847	4.59681	4.35097	0.005	0.294	0.27	525.7908 0.17
Rollers	2021	26	50	1.008559	0.847	4.59681	4.35097	0.005	0.294	0.27	525.7908 0.17
Rollers	2021	51	120	0.42061	0.353	3.50719		0.005	0.219	0.202	473.9012 0.153
Rollers	2021	121	175	0.229571	0.193	2.9256	2.11691	0.005	0.097	0.09	471.9799 0.153
Rollers	2021	176	250	0.23384	0.196	1.22849	2.49332	0.005	0.081	0.075	473.4704 0.153
Rollers	2021	251	500	0.26246	0.221	1.94995	2.58936	0.005	0.1	0.092	479.3294 0.155
Rollers	2022	6	15	0.878567	0.738	4.40241	4.12773	0.005	0.25	0.23	525.691 0.17
Rollers	2022	16	25	0.878567	0.738	4.40241	4.12773	0.005	0.25	0.23	525.691 0.17
Rollers	2022	26	50	0.878567	0.738		4.12773	0.005	0.25	0.23	525.691 0.17
Rollers	2022	51	120	0.369089			3.21896		0.186	0.171	473.9291 0.153
Rollers	2022	121	175	0.195547			1.71408	0.005	0.079	0.072	
Rollers	2022	176	250	0.221959	0.187	1.22821	2.2116	0.005	0.077	0.071	473.5135 0.153
Rollers	2022	251	500	0.259221	0.218			0.005	0.097	0.089	478.9817 0.155
Rollers	2023	6	15	0.786211	0.661	4.25236		0.005	0.212	0.195	525.8616 0.17
Rollers	2023	16	25	0.786211	0.661	4.25236		0.005	0.212	0.195	
Rollers Rollers	2023 2023	26 51	50 120	0.786211 0.341189	0.661	4.25236 3.45461	3.9211 3.00302	0.005	0.212	0.195 0.152	525.8616 0.17 473.9363 0.153
Rollers	2023	121	175	0.341189	0.267	2.90949		0.005	0.163	0.132	471.9351 0.153
Rollers	2023	176	250	0.1784	0.13	1.23448		0.005	0.008	0.002	473.5164 0.153
Rollers	2023	251	500	0.25159	0.100		2.29003	0.005	0.070	0.085	478.3028 0.155
Rollers	2023	6	15	0.738433	0.62		3.82449	0.005	0.192	0.003	525.9565 0.17
Rollers	2024	16	25	0.738433	0.62		3.82449	0.005	0.192	0.177	525.9565 0.17
Rollers	2024	26	50	0.738433	0.62	4.20667	3.82449	0.005	0.192	0.177	525.9565 0.17
Rollers	2024	51	120	0.323417	0.272	3.45055		0.005	0.15	0.138	474.0072 0.153
Rollers	2024	121	175	0.168235	0.141	2.91426		0.005	0.061	0.056	472.012 0.153
Rollers	2024	176	250	0.213553	0.179		1.97675	0.005	0.07	0.064	473.512 0.153
Rollers	2024	251	500	0.24978	0.21	1.96121		0.005	0.09	0.083	477.9001 0.155
Rollers	2025	6	15	0.677074	0.569		3.68893	0.005	0.167	0.154	
Rollers	2025	16	25	0.677074	0.569		3.68893	0.005	0.167	0.154	
Rollers	2025	26	50	0.677074	0.569		3.68893	0.005	0.167	0.154	
Rollers	2025	51	120	0.303987	0.255	3.44432		0.005	0.135	0.125	473.851 0.153
Rollers	2025	121	175	0.150791	0.127		1.10088	0.005	0.049	0.045	471.9696 0.153
Rollers	2025	176	250	0.205768	0.173	1.21477		0.005	0.066	0.06	473.6813 0.153
Rollers	2025	251	500	0.251787	0.212		2.19998	0.005	0.09	0.083	477.5732 0.154
Rollers	2030	6	15	1.543	0.661	3.469	4.142	0.008	0.161	0.161	568.299 0.059
Rollers	2030	16	25	3.377	0.685	2.339	4.332	0.007	0.161	0.161	568.299 0.061
Rollers	2030	26	50	5.638	0.587	4.784	3.48	0.007	0.073	0.073	568.299 0.053

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

F			11: 1 115	T00	D00		NOV	200	DIMA	D140.5	000	0114
Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Rollers	2030	51	120	6.528	0.299	3.639	1.95	0.006	0.066	0.066	568.299	0.027
Rollers	2030 2030	121	175	8.923	0.223	3.203	0.907	0.006	0.042	0.042	568.299	0.02
Rollers Rollers	2030	176 251	250 500	11.047 15.637	0.195	1.099 1.056	0.745 0.697	0.006	0.024	0.024	568.299 568.299	0.017
Rollers	2035	6	15	1.543	0.193	3.469	4.142	0.003	0.023	0.023	568.299	0.017
Rollers	2035	16	25	3.377	0.685	2.34	4.332	0.007	0.161	0.161	568.3	0.039
Rollers	2035	26	50	4.867	0.507	4.711	3.28	0.007	0.101	0.101	568.299	0.045
Rollers	2035	51	120	5.632	0.258	3.629	1.65	0.007	0.035	0.035	568.299	0.043
Rollers	2035	121	175	7.351	0.184	3.204	0.523	0.006	0.023	0.023	568.299	0.025
Rollers	2035	176	250	9.79	0.173	1.091	0.465	0.006	0.016	0.023	568.299	0.015
Rollers	2035	251	500	13.949	0.173	1.048	0.442	0.005	0.016	0.016	568.3	0.015
Rollers	2040	6	15	1.543	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Rollers	2040	16	25	3.377	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Rollers	2040	26	50	4.508	0.469	4.682	3.207	0.007	0.024	0.024	568.299	0.042
Rollers	2040	51	120	5.228	0.24	3.625	1.525	0.006	0.021	0.021	568.299	0.021
Rollers	2040	121	175	6.731	0.168	3.205	0.373	0.006	0.015	0.015	568.299	0.015
Rollers	2040	176	250	9.355	0.165	1.092	0.348	0.006	0.012	0.012	568.299	0.014
Rollers	2040	251	500	13.378	0.165	1.048	0.341	0.005	0.012	0.012	568.299	0.014
Rough Terrain Forklifts	1990	26	50	13.299	5.191	10.416	8.098	0.871	1.348	1.348	568.299	0.468
Rough Terrain Forklifts	1990	51	120	11.91	2.52	6.008	15.753	0.791	1.432	1.432	568.299	0.227
Rough Terrain Forklifts	1990	121	175	19.775	2.092	5.422	15.888	0.758	1.178	1.178	568.299	0.188
Rough Terrain Forklifts	1990	176	250	27.042	2.092	5.422	15.888	0.758	1.178	1.178	568.299	0.188
Rough Terrain Forklifts	1990	251	500	35.607	1.834	12.637	14.986	0.662	0.998	0.998	568.299	0.165
Rough Terrain Forklifts	2000	26	50	11.216	4.378	9.045	7.041	0.066	0.919	0.919	568.3	0.395
Rough Terrain Forklifts	2000	51	120	8.517	1.802	4.574	10.225	0.06	0.881	0.881	568.299	0.162
Rough Terrain Forklifts	2000	121	175	11.484	1.215	3.676	9.36	0.057	0.511	0.511	568.3	0.109
Rough Terrain Forklifts	2000	176	250	13.186	1.02	2.927	9.021	0.057	0.418	0.418	568.299	0.092
Rough Terrain Forklifts	2000	251	500	18.049	0.929	4.415	8.59	0.05	0.37	0.37	568.299	0.083
Rough Terrain Forklifts	2005	26	50	9.835	3.839	8.285	6.528	0.066	0.844	0.844	568.299	0.346
Rough Terrain Forklifts	2005	51	120	7.351	1.555	4.289	8.677	0.06	0.82	0.82	568.299	0.14
Rough Terrain Forklifts	2005	121	175	9.61	1.016	3.403	7.941	0.057	0.447	0.447	568.3	0.091
Rough Terrain Forklifts	2005	176	250	9.418	0.728	1.995	7.52	0.057	0.289	0.289	568.299	0.065
Rough Terrain Forklifts	2005	251	500	12.496	0.643	2.406	6.82	0.05	0.258	0.258	568.299	0.058
Rough Terrain Forklifts	2010	26	50	1.514602	1.273	4.9076	5.57504	0.005	0.495	0.455	583.8316	0.17
Rough Terrain Forklifts	2010	51	120	0.607871	0.511		5.81073	0.005	0.386	0.355	525.5318	
Rough Terrain Forklifts Rough Terrain Forklifts	2010 2010	121 176	175 250	0.37661 0.759196	0.316	2.9137 2.86785	4.78775 7.87723	0.005	0.212	0.195	524.1127 527.6921	0.153
Rough Terrain Forklifts	2010	251	500	0.739190	0.325		5.79984	0.005	0.331	0.323	518.8116	
Rough Terrain Forklifts	2010	26	50	1.444446	1.214	4.83823	5.52279	0.005	0.108	0.133	582.3751	0.131
Rough Terrain Forklifts	2011	51	120	0.549079	0.461	3.4365	5.4371	0.005	0.352	0.324	524.0504	0.17
Rough Terrain Forklifts	2011	121	175	0.339518	0.285	2.87624	4.45534	0.005	0.193	0.177	522.735	0.153
Rough Terrain Forklifts	2011	176	250	0.686556		2.63351	7.1588	0.005	0.317	0.292	525.8441	0.153
Rough Terrain Forklifts	2011	251	500	0.390538				0.005			517.5182	
Rough Terrain Forklifts	2012	26	50	1.441034		4.88018		0.005	0.476	0.438	580.9231	
Rough Terrain Forklifts	2012	51	120	0.530399		3.43501		0.005	0.34	0.312	522.6299	
Rough Terrain Forklifts	2012	121	175	0.336361		2.88643		0.005	0.189	0.174	521.4414	0.153
Rough Terrain Forklifts	2012	176	250	0.693119	0.582	2.65596	7.11155	0.005	0.319	0.293	524.4406	0.153
Rough Terrain Forklifts	2012	251	500	0.394706	0.332	1.86253	5.83389	0.005	0.171	0.157	516.2249	0.151
Rough Terrain Forklifts	2013	26	50	1.427232	1.199	4.88715	5.34043	0.005	0.454	0.417	578.2559	0.17
Rough Terrain Forklifts	2013	51	120	0.469882		3.39906		0.005	0.299	0.275	519.906	0.153
Rough Terrain Forklifts	2013	121	175	0.283862		2.86094		0.005	0.153	0.141	518.7027	0.153
Rough Terrain Forklifts	2013	176	250	0.418518	0.352		4.79966	0.005	0.184	0.169	521.6392	
Rough Terrain Forklifts	2013	251	500	0.334838	0.281		4.62017	0.005	0.141	0.129	514.2815	
Rough Terrain Forklifts	2014	26	50	1.40671		4.88713		0.005	0.436	0.401	575.3526	
Rough Terrain Forklifts	2014	51	120	0.417386	0.351		4.46728	0.005	0.261	0.24	517.2602	0.153
Rough Terrain Forklifts	2014	121	175	0.263476		2.85182		0.005	0.139	0.128	516.0907	0.153
Rough Terrain Forklifts	2014	176	250	0.221616		1.21218		0.005	0.087	0.08	517.7663	
Rough Terrain Forklifts	2014	251	500	0.202465	0.17		3.49973	0.005	0.076	0.07	511.6567	0.151
Rough Terrain Forklifts	2015	26	50	1.414803		4.93325		0.005	0.431	0.397	569.4875	
Rough Terrain Forklifts	2015	51	120	0.401892		3.36619		0.005	0.247	0.228	512.0859	
Rough Terrain Forklifts	2015	121 176	175 250	0.25808	0.217	2.85917		0.005	0.133	0.122	510.8541	0.153
Rough Terrain Forklifts Rough Terrain Forklifts	2015 2015	176 251	500	0.166466 0.207111	0.14	1.01164 0.95822		0.005	0.058	0.054	512.1638 506.4349	
Rough Terrain Forklifts Rough Terrain Forklifts	2015	251	500	1.378654			5.09924	0.005	0.077	0.071	506.4349	
Rough Terrain Forklifts Rough Terrain Forklifts	2016	26 51	120	0.358928	1.158 0.302		3.84005	0.005		0.382	507.0659	
Rough Terrain Forklifts Rough Terrain Forklifts	2016	121	175	0.358928	0.302	2.865	3.84005	0.005	0.213 0.124	0.196	507.0659	0.153
Rough Terrain Forklifts Rough Terrain Forklifts	2016	176	250	0.248476	0.209		2.46843	0.005	0.124	0.114	505.596	
Rough Terrain Forklifts Rough Terrain Forklifts	2016	251	500	0.171278	0.144		3.54169	0.005	0.059	0.054	501.2134	
Rough Terrain Forklifts	2017	26	50	1.318488	1.108		4.90253	0.005	0.382	0.072	554.6234	
Rough Terrain Forklifts	2017	51	120	0.322506	0.271		3.41759	0.005	0.362	0.332	499.1682	
rrough romain r Orkillo	2017	JI	120	0.022000	U.Z/ I	0.01110	0.71700	0.000	0.102	0.107	TUU. 100Z	0.100

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Rough Ternan Forkillts	Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Rough Ternan Forkillis 2017 176 250 0.175905 0.144 1.02382 247389 0.005 0.054 0.950.007 0.155	, , ,,			U									
Rough Terrain Forkiths 2016 2017 2018 2018 2018 2018 2018 2018 2018 2018	<u> </u>												
Rough Terrain Forkills	<u> </u>	_											
Rough Terrain Forkiths	Rough Terrain Forklifts	_											
Rough Terrain Forkiths	Rough Terrain Forklifts	2018	51	120	0.264415	0.222	3.26976	2.84496	0.005	0.136	0.125	491.2107	0.153
Rough Terrain Forkilits	Rough Terrain Forklifts	2018	121	175	0.194786	0.164	2.84245	2.34168	0.005	0.088	0.081	489.9869	0.153
Rough Terrain Forkillis 2019 26 50 1.200779 0.009 4.67406 4.65746 0.006 0.328 0.328 0.331 537.3827 0.17 Rough Terrain Forkillis 2019 171 775 0.177589 0.149 2.84002 2.05752 0.006 0.171 0.483.3109 0.138 Rough Terrain Forkillis 2019 271 78 295 0.17589 0.149 2.84002 2.05752 0.006 0.171 0.099 482.1188 0.153 Rough Terrain Forkillis 2019 261 500 0.138362 0.116 0.96004 1.96109 0.005 0.036 0.038	Rough Terrain Forklifts				0.181003	0.152	1.02948	2.48748	0.005		0.055		0.153
Rough Terrain Forkillis 2019	Rough Terrain Forklifts					0.145			0.005				0.151
Rough Terrain Forkiths													
Rough Terrain Forklitts													
Rough Terrain Forkillits	<u> </u>												
Rough Terrain Forkilits	<u> </u>												
Rough Terrain Forkliffs													
Rough Terrain Forklifts 2020 121 175 0,170022 0,143 2,94466 1,66889 0,005 0,088 0,663 471,7152 0,1538 0,1538 0,054 0,055 0,055 0,054 0,055	5												
Rough Terrain Forkliffs	<u> </u>												
Rough Terrain Forklifts 2021 51 120 0.05844 0.099 0.41684 1.30199 0.005 0.028 0.026 468.7709 0.158	<u> </u>												
Rough Terrain Forklifts	Rough Terrain Forklifts												
Rough Terrain Forkilifs 2021 121 175 0.154972 0.13 2.8447 1.6161 0.005 0.06 0.05 471.7575 0.153 Rough Terrain Forkilifs 2021 176 250 0.136824 0.115 0.93973 1.61186 0.005 0.037 0.034 472.5469 0.153 Rough Terrain Forkilifs 2021 251 500 0.109168 0.092 0.94604 1.30199 0.005 0.028 0.026 465.7442 0.151 Rough Terrain Forkilifs 2022 26 50 0.93876 0.788 1.3039 4.04131 0.005 0.028 0.026 465.7442 0.151 Rough Terrain Forkilifs 2022 51 120 0.18871 0.159 3.24374 2.0983 0.005 0.073 0.007 477.6773 0.153 Rough Terrain Forkilifs 2022 121 175 0.142514 0.12 2.84493 1.04075 0.051 0.007 177.6773 0.153 Rough Terrain Forkilifs 2022 176 250 0.00140994 0.118 0.98924 1.61888 0.005 0.037 0.004 472.5469 0.153 Rough Terrain Forkilifs 2022 176 250 0.00140994 0.118 0.98924 1.6188 0.005 0.037 0.004 472.5469 0.153 Rough Terrain Forkilifs 2023 26 50 0.00121 0.006 0.03700 0.55798 0.009 0.0079 0.004 472.5469 0.153 Rough Terrain Forkilifs 2023 26 50 0.00121 0.008 0.03700 0.55798 0.009 0.009 0.009 466.5589 0.153 Rough Terrain Forkilifs 2023 51 120 0.178416 0.153 2.0271 1.8983 0.005 0.009 0.009 466.5589 0.153 Rough Terrain Forkilifs 2023 176 0.005 0.002 0.003 0.004 0.	Rough Terrain Forklifts	2021	26	50	1.152538	0.968	4.65658	4.41145	0.005	0.304	0.279	525.3844	0.17
Rough Terrain Forklifts	Rough Terrain Forklifts					0.175	3.25191	2.28534					0.153
Rough Terrain Forklifts 2021 251 500 0.109168 0.092 0.94604 1.30199 0.005 0.028 0.026 465.7442 0.151 Rough Terrain Forklifts 2022 26 50 0.93878 0.789 3.038 0.40131 0.002 0.288 0.219 525.015 0.171 Rough Terrain Forklifts 2022 51 120 0.18871 0.159 2.4374 2.0883 0.005 0.073 0.067 473.088 0.153 Rough Terrain Forklifts 2022 176 250 0.140994 0.118 0.98924 1.6188 0.005 0.037 0.067 473.088 0.153 Rough Terrain Forklifts 2022 251 500 0.00121 0.068 0.9370 0.5778 0.005 0.034 472.5408 0.153 Rough Terrain Forklifts 2022 251 500 0.00121 0.068 0.9370 0.5778 0.009 0.004 6.058 0.153 Rough Terrain Forklifts 2023 26 50 0.82158 0.089 4.12519 3.65338 0.005 0.004 0.014 471.6271 0.153 Rough Terrain Forklifts 2023 26 50 0.82158 0.089 4.12519 3.65338 0.005 0.004	Rough Terrain Forklifts												
Rough Terrain Forkliffs 2022 26 50 0.93878 0.788 4.3038 4.0413 0.005 0.238 0.219 525.0151 0.178 Rough Terrain Forkliffs 2022 151 120 0.18871 0.159 3.2474 2.0983 0.006 0.073 0.076 747.099 1.187 Rough Terrain Forkliffs 2022 176 250 0.14039 0.118 0.98924 1.6188 0.005 0.037 0.034 472.5408 1.588 Rough Terrain Forkliffs 2022 176 250 0.14093 0.118 0.98924 1.6188 0.005 0.037 0.034 472.5408 1.588 Rough Terrain Forkliffs 2022 251 500 0.081218 0.086 0.93709 0.55798 0.006 0.009 0.008 465.598 0.151 Rough Terrain Forkliffs 2023 2.65 0.086 0.081218 0.086 0.93709 0.55798 0.006 0.009 0.008 465.598 0.151 Rough Terrain Forkliffs 2023 2.65 0.081218 0.086 0.93709 0.55798 0.006 0.008 0.065.598 0.151 Rough Terrain Forkliffs 2023 1.176 0.132417 0.111 2.84428 0.12798 0.005 0.044 0.005 0.472 0.153 Rough Terrain Forkliffs 2023 1.176 0.132417 0.111 2.84428 0.12798 0.005 0.034 0.032 472.7784 0.153 Rough Terrain Forkliffs 2023 1.176 0.0024 0.005 0.034 0.032 472.7784 0.153 Rough Terrain Forkliffs 2024 2.65 0.062748 0.005 0.035 0.034 0.032 472.7784 0.153 Rough Terrain Forkliffs 2024 2.65 0.062748 0.005 0.03	Rough Terrain Forklifts												
Rough Terrain Forkliffs 2022 51 120 0.18871 0.159 3.24374 2.0823 0.005 0.073 0.067 473.089 0.153	Rough Terrain Forklifts												
Rough Terrain Forkliffs 2022 176 250 0.142314 0.12 2.84439 1.40475 0.005 0.051 0.047 471.6773 0.158 Rough Terrain Forkliffs 2022 176 250 0.140939 0.118 0.98924 1.61888 0.005 0.037 0.034 472.5408 0.158 Rough Terrain Forkliffs 2022 251 500 0.081218 0.068 0.93709 0.55798 0.005 0.009 0.008 466.5598 0.151 Rough Terrain Forkliffs 2023 51 120 0.172416 0.15 3.24217 1.9536 0.005 0.004 0.008 465.598 0.151 Rough Terrain Forkliffs 2023 511 120 0.172416 0.15 3.24217 1.9536 0.005 0.044 0.059 473.1594 0.153 Rough Terrain Forkliffs 2023 176 250 0.137090 0.116 0.99897 1.47399 0.005 0.034 0.032 472.7784 0.153 Rough Terrain Forkliffs 2023 176 250 0.137090 0.116 0.99897 1.47399 0.005 0.034 0.032 472.7784 0.153 Rough Terrain Forkliffs 2024 266 50 0.68748 0.057 0.0987 0.058 0.005 0.004 471.0177 0.153 Rough Terrain Forkliffs 2024 266 50 0.68748 0.057 0.0987 0.005 0.008 466.540 0.151 Rough Terrain Forkliffs 2024 121 175 0.122467 0.103 2.8468 1.91392 0.005 0.039 0.035 471.5346 0.153 Rough Terrain Forkliffs 2024 121 175 0.122467 0.103 2.8468 1.91392 0.005 0.039 0.035 471.5346 0.153 Rough Terrain Forkliffs 2024 121 175 0.12467 0.103 2.93416 1.04413 0.005 0.039 0.035 471.5346 0.153 Rough Terrain Forkliffs 2024 251 500 0.04864 0.066 0.93746 0.7582 0.005 0.009 0.008 466.5479 0.153 Rough Terrain Forkliffs 2025 51 500 0.07864 0.066 0.93746 0.7582 0.005 0.009 0.008 466.5479 0.153 Rough Terrain Forkliffs 2025 51 500 0.04864 0.066 0.93746 0.7582 0.005 0.009 0.008 466.5479 0.158 Rough Terrain Forkliffs 2025 51 500 0.04864 0.066 0.03746 0.7582 0.005 0.009 0.008 466.5479 0.158 Rough Terrain Forkliffs 2025 51 500 0.145265 0.1373 0.0073													
Rough Terrain Forklitis	- 3												
Rough Terrain Forkliffs 2022 251 500 0.081218 0.068 0.93709 0.05789 0.005 0.009 0.008 466.5588 0.1518	S												
Rough Terrain Forklifts 2023 25 50 0.82158 0.69 4.12519 3.85338 0.005 0.024 0.187 524.8024 0.17 Rough Terrain Forklifts 2023 51 120 0.178416 0.15 3.24217 1.1816 0.005 0.004 0.005 0.004 0.005 0.004 Rough Terrain Forklifts 2023 121 175 0.132417 0.111 2.84289 1.21796 0.005 0.004 0.004 471.6217 0.153 Rough Terrain Forklifts 2023 121 175 0.132417 0.111 2.84289 1.21796 0.005 0.004 0.004 471.6217 0.153 Rough Terrain Forklifts 2023 251 500 0.082146 0.005 0.008 0.005 0.004 0.004 471.6217 0.153 Rough Terrain Forklifts 2024 26 50 0.678789 0.57 3.91822 3.65343 0.005 0.006 0.006 4065.005 0.007 Rough Terrain Forklifts 2024 51 120 0.172725 0.145 3.2468 1.91329 0.005 0.056 0.004 470.6213 0.153 Rough Terrain Forklifts 2024 176 2.50 0.141528 0.119 0.99524 1.4013 0.005 0.005 0.004 470.6213 0.153 Rough Terrain Forklifts 2024 176 2.50 0.141528 0.119 0.99524 1.4013 0.005 0.005 0.008 466.5479 0.151 Rough Terrain Forklifts 2024 251 500 0.78846 0.066 0.93746 0.47582 0.005 0.009 0.008 466.5479 0.151 Rough Terrain Forklifts 2024 276 50 0.54252 0.456 0.93740 0.47582 0.005 0.009 0.008 466.5479 0.151 Rough Terrain Forklifts 2025 26 50 0.54252 0.456 0.93740 0.47582 0.005 0.005 0.007	<u> </u>												
Rough Terrain Forklifts 2023 51 120 0.178416 0.15 3.24217 1.1936 0.005 0.04 0.059 473.1584 0.153 Rough Terrain Forklifts 2023 176 250 0.132417 0.111 2.84289 1.21786 0.005 0.03 0.04 0.032 472.7784 0.153 Rough Terrain Forklifts 2023 176 250 0.137509 0.116 0.98987 1.47399 0.005 0.034 0.032 472.7784 0.153 0.006 0.006 0.006 0.008 406.554 0.151 0.006 0.007 0.008 406.554 0.151 0.006 0.007 0.008 406.554 0.151 0.006 0.007 0.008 406.554 0.151 0.006 0.007 0.008 406.554 0.151 0.006 0.007 0.008 406.554 0.151 0.007 0.008 0	<u> </u>												
Rough Terrain Forkliffs 2023 121 175 0.132417 0.111 2.84289 1.21798 0.005 0.043 0.04 471.6217 0.153 Rough Terrain Forkliffs 2023 251 500 0.082146 0.069 0.93788 0.55845 0.005 0.049 0.032 472.7784 0.153 0.006 0.094 0.007 0.008 472.7784 0.153 0.008 0.00	Ü												
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Rough Terrain Forklifts 2024 26 50 0.678189 0.57 3.91822 3.65343 0.005 0.168 0.152 524.9235 0.17 Rough Terrain Forklifts 2024 51 120 0.172725 0.145 3.24468 1.91320 0.005 0.058 0.054 473.0631 0.153 Rough Terrain Forklifts 2024 121 175 0.122467 0.103 2.83416 1.04413 0.005 0.038 0.054 473.0631 0.153 Rough Terrain Forklifts 2024 176 250 0.141528 0.119 0.99524 1.48012 0.005 0.035 0.035 477.58267 0.153 Rough Terrain Forklifts 2024 251 500 0.078846 0.066 0.93746 0.47582 0.005 0.039 0.003 472.8827 0.151 Rough Terrain Forklifts 2025 26 50 0.542352 0.466 3.74002 3.47688 0.005 0.018 0.158 Rough Terrain Forklifts 2025 121 175 0.16354 0.137 3.23971 0.055 0.051 0.047 473.0366 0.158 Rough Terrain Forklifts 2025 121 175 0.103861 0.087 2.82091 0.78628 0.005 0.03 0.028 477.4745 0.152 Rough Terrain Forklifts 2025 251 500 0.48758 0.029 0.4888 0.005 0.03 0.038 472.9267 0.153 Rough Terrain Forklifts 2025 251 500 0.048187 0.069 0.94151 0.47663 0.005 0.039 0.033 472.9267 0.153 Rough Terrain Forklifts 2030 26 50 1.404 0.548 5.031 3.359 0.007 0.039 0.039 686.299 0.049 Rough Terrain Forklifts 2030 121 175 1.888 0.2 3.291 0.537 0.006 0.034 0.034 686.299 0.049 Rough Terrain Forklifts 2030 121 175 1.888 0.2 3.291 0.537 0.006 0.034 0.034 686.299 0.049 Rough Terrain Forklifts 2030 121 175 1.888 0.2 3.291 0.537 0.006 0.004 0.016 686.299 0.016 Rough Terrain Forklifts 2030 121 175 1.888 0.2 3.291 0.537 0.006 0.016 0.016 686.299 0.016 Rough Terrain Forklifts 2035 26 50 1.331 0.519 5.011 3.267 0.007 0.022 0.022 686.299 0.016 Rough Terrain Forklifts 2035 251 500 3.524 0.181 1.107 0.443 0.005 0.016 0.016 686.299 0.016 Rough	Rough Terrain Forklifts	2023	176	250	0.137509	0.116	0.98987	1.47399	0.005	0.034	0.032	472.7784	0.153
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Rubber Tired Dozers 1990 176 250 8.746 1.886 5.29 14.831 0.758 1.059 1.059 568.299 0.17 Rubber Tired Dozers 1990 251 500 11.084 1.655 12.26 13.986 0.662 0.899 0.899 568.299 0.149 Rubber Tired Dozers 1990 501 750 16.688 1.655 12.26 13.986 1.018 0.915 0.915 568.3 0.149 Rubber Tired Dozers 1990 751 1000 24.619 1.645 12.26 13.986 1.018 0.903 0.903 568.299 0.148 Rubber Tired Dozers 2000 121 175 4.761 1.454 4.295 10.881 0.057 0.624 0.624 568.299 0.131 Rubber Tired Dozers 2000 176 250 6.043 1.303 3.733 10.625 0.057 0.548 0.548 568.299 0.117 Rubber Tired Dozers 2000 251 500 7.775 1.161 6.982 10.023 0.05 0.474 0.474 568.299 0.104 Rubber Tired Dozers 2000 751 1000 17.842 1.192 7.415 10.456 0.052 0.451 0.451 568.3 0.107 Rubber Tired Dozers 2005 121 175 4.21 1.286 4.026 9.666 0.057 0.567 0.567 568.299 0.116	Rough Terrain Forklifts												
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Rubber Tired Dozers 2000 251 500 7.775 1.161 6.982 10.023 0.05 0.474 0.474 568.299 0.104 Rubber Tired Dozers 2000 501 750 11.706 1.161 6.982 10.023 0.052 0.474 0.474 568.299 0.104 Rubber Tired Dozers 2000 751 1000 17.842 1.192 7.415 10.456 0.052 0.451 0.451 568.3 0.107 Rubber Tired Dozers 2005 121 175 4.21 1.286 4.026 9.666 0.057 0.567 0.567 568.299 0.116													
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Rubber Tired Dozers 2005 121 175 4.21 1.286 4.026 9.666 0.057 0.567 0.567 568.299 0.116	Rubber Tired Dozers												
	Rubber Tired Dozers												0.116
	Rubber Tired Dozers	2005	176	250					0.057				0.095

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Rubber Tired Dozers	2005	251	500	6.277	0.937	5.159	8.574	0.05	0.38	0.38	568.299	0.084
Rubber Tired Dozers	2005	501	750	9.496	0.942	5.15	8.694	0.052	0.382	0.382	568.299	0.085
Rubber Tired Dozers	2005	751	1000	14.937	0.998	5.524	9.444	0.052	0.369	0.369	568.299	0.09
Rubber Tired Dozers	2010	121	175	1.12265	0.943		9.78349	0.005	0.555	0.511	526.3128	0.153
Rubber Tired Dozers Rubber Tired Dozers	2010 2010	176 251	250 500	0.840919 0.88356	0.707	2.68761 6.7191	8.22344 8.70703	0.005	0.394	0.362	527.9126 533.1476	0.154 0.155
Rubber Tired Dozers	2010	501	750	0.619996	0.742	3.1214	7.42352	0.005	0.269	0.374	525.7054	0.153
Rubber Tired Dozers	2010	751	1000	12.178	0.814	4.027	8.149	0.005	0.203	0.240	568.299	0.133
Rubber Tired Dozers	2011	121	175	1.128595	0.948	4.18594	9.7992	0.005	0.557	0.513	524.9639	0.153
Rubber Tired Dozers	2011	176	250	0.852039	0.716	2.69892	8.24976	0.005	0.396	0.364	526.5967	0.154
Rubber Tired Dozers	2011	251	500	0.878525	0.738	6.65601	8.60406	0.005	0.402	0.37	532.0871	0.155
Rubber Tired Dozers	2011	501	750	0.62921	0.529	3.13084	7.4622	0.005	0.272	0.25	524.3841	0.153
Rubber Tired Dozers	2011	751	1000	11.693	0.781	3.772	7.805	0.005	0.276	0.276	568.299	0.07
Rubber Tired Dozers	2012	121	175	1.133798	0.953	4.1998	9.81194	0.005	0.559	0.515	523.6318	0.153
Rubber Tired Dozers	2012	176	250	0.862577	0.725	2.70943		0.005	0.398	0.366	525.281	0.154
Rubber Tired Dozers Rubber Tired Dozers	2012 2012	251 501	500 750	0.883165 0.635938	0.742	3.13648	8.58436	0.005	0.401	0.369	530.6589 523.0626	0.155 0.153
Rubber Tired Dozers	2012	751	1000	11.228	0.334	3.531	7.474	0.005	0.274	0.252	568.299	0.153
Rubber Tired Dozers	2012	121	175	1.138698	0.75	4.21297	9.82334	0.005	0.561	0.516	520.9836	0.153
Rubber Tired Dozers	2013	176	250	0.859983	0.723	2.71092	8.10695	0.005	0.395	0.363	522.6456	0.154
Rubber Tired Dozers	2013	251	500	0.864011	0.726		8.33658	0.005	0.39	0.359	527.9093	0.155
Rubber Tired Dozers	2013	501	750	0.641687	0.539		7.49129	0.005	0.275	0.253	520.4266	0.153
Rubber Tired Dozers	2013	751	1000	10.78	0.72	3.306	7.155	0.005	0.249	0.249	568.299	0.065
Rubber Tired Dozers	2014	121	175	1.143391	0.961		9.83401	0.005	0.563	0.518	518.335	0.153
Rubber Tired Dozers	2014	176	250	0.858402	0.721	2.71199		0.005	0.392	0.361	520.0105	0.154
Rubber Tired Dozers	2014	251	500	0.841688	0.707	6.16471	8.05819	0.005	0.376	0.346	524.6758	0.155
Rubber Tired Dozers	2014	501 751	750	0.610646	0.513	2.75605		0.005	0.258	0.237	517.7903 568.3	0.153
Rubber Tired Dozers Rubber Tired Dozers	2014 2015	121	1000 175	10.347 1.147937	0.691	3.096 4.23794	6.849 9.84425	0.005	0.236	0.236	513.0549	0.062
Rubber Tired Dozers	2015	176	250	0.866859	0.903	2.7204	7.9837	0.005	0.394	0.362	514.7359	0.154
Rubber Tired Dozers	2015	251	500	0.842228	0.708	6.10151	7.99736	0.005	0.373	0.343	519.1472	0.155
Rubber Tired Dozers	2015	501	750	0.616719	0.518	2.76062	7.15777	0.005	0.259	0.238	512.5253	0.153
Rubber Tired Dozers	2015	751	1000	9.895	0.661	2.901	6.556	0.005	0.222	0.222	568.299	0.059
Rubber Tired Dozers	2016	121	175	1.152013	0.968	4.24901	9.85328	0.005	0.566	0.52	507.7744	0.153
Rubber Tired Dozers	2016	176	250	0.875531	0.736		7.99508	0.005	0.395	0.364	509.4615	0.154
Rubber Tired Dozers	2016	251	500	0.819146	0.688	5.82829		0.005	0.359	0.33	513.3109	0.155
Rubber Tired Dozers	2016	501	750	0.622662	0.523	2.7651	7.16821	0.005	0.26	0.239	507.2601	0.153
Rubber Tired Dozers Rubber Tired Dozers	2016 2017	751 121	1000 175	9.45 1.074198	0.631	2.723	6.277 9.12915	0.005	0.208	0.208	568.3 499.4096	0.057
Rubber Tired Dozers	2017	176	250	0.840865	0.903	2.65514		0.005	0.375	0.463	501.5475	0.153
Rubber Tired Dozers	2017	251	500	0.787455	0.662	5.52569		0.005	0.341	0.343	505.8493	0.155
Rubber Tired Dozers	2017	501	750	0.625767	0.526	2.76746		0.005	0.26	0.239	499.3665	0.153
Rubber Tired Dozers	2017	751	1000	9.018	0.602	2.56	6.013	0.005	0.195	0.195	568.299	0.054
Rubber Tired Dozers	2018	121	175	0.954751	0.802	3.98965	8.02079	0.005	0.46	0.424	491.4921	0.153
Rubber Tired Dozers	2018	176	250	0.796398		2.51156		0.005	0.35	0.322	493.6337	0.154
Rubber Tired Dozers	2018	251	500	0.71175		4.98205		0.005	0.3	0.276	498.1862	
Rubber Tired Dozers	2018	501	750	0.602699		2.75902		0.005	0.248	0.228	491.4726	
Rubber Tired Dozers	2018 2019	751 121	1000 175	8.6 0.90312	0.574	2.413 3.94854	5.764	0.005	0.183	0.183	568.299 483.5585	0.051
Rubber Tired Dozers Rubber Tired Dozers	2019	176	250	0.90312		2.45855		0.005	0.433	0.398	485.172	0.153
Rubber Tired Dozers	2019	251	500	0.680848	0.631		6.14335	0.005	0.336	0.26	490.383	0.154
Rubber Tired Dozers	2019	501	750	0.541107		2.59814		0.005	0.218	0.201	483.5786	
Rubber Tired Dozers	2019	751	1000	8.196	0.547	2.281	5.528	0.005	0.171	0.171	568.299	0.049
Rubber Tired Dozers	2020	121	175	0.864425	0.726		7.18525	0.005	0.411	0.378	473.0116	
Rubber Tired Dozers	2020	176	250	0.737248		2.37104		0.005	0.318	0.293	474.7928	
Rubber Tired Dozers	2020	251	500	0.636621		4.41134		0.005	0.259	0.238	479.7569	
Rubber Tired Dozers	2020	501	750	0.543245		2.60108		0.005	0.218	0.201	473.0562	
Rubber Tired Dozers	2020	751	1000	7.811	0.522	2.164	5.306	0.005	0.16	0.16	568.299	0.047
Rubber Tired Dozers Rubber Tired Dozers	2021 2021	121 176	175 250	0.822557 0.714624	0.691	3.84814 2.31719		0.005	0.386	0.355	472.9751 474.7984	
Rubber Tired Dozers Rubber Tired Dozers	2021	251	500	0.714624	0.492			0.005	0.306	0.214	474.7964	
Rubber Tired Dozers	2021	501	750	0.545338		2.60396		0.005	0.232	0.214	473.0459	
Rubber Tired Dozers	2021	751	1000	7.448	0.497	2.057	5.095	0.005	0.15	0.15	568.299	
Rubber Tired Dozers	2022	121	175	0.714312	0.6	3.75194		0.005	0.326	0.3	473.9122	
Rubber Tired Dozers	2022	176	250	0.571708	0.48		5.04648	0.005	0.24	0.22	474.6166	
Rubber Tired Dozers	2022	251	500	0.565033	0.475		4.80775	0.005	0.22	0.202	479.3107	
Rubber Tired Dozers	2022	501	750	0.547387	0.46		6.12245	0.005	0.218	0.201	473.035	0.153
Rubber Tired Dozers	2022	751	1000	7.106	0.475	1.961	4.896	0.005	0.14	0.14	568.299	0.042
Rubber Tired Dozers	2023	121	175	0.700073	0.588	3.7664	5.65638	0.005	0.316	0.291	473.9009	
Rubber Tired Dozers	2023	176	250	0.467601	0.393	1.78266	4.09011	0.005	0.184	0.169	474.5967	0.153

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

· -					500		1101/	200	L 51446	5146 =	200	
Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Rubber Tired Dozers	2023	251	500	0.531484	0.447	3.68617	4.40835	0.005	0.202	0.185	479.4678	0.155
Rubber Tired Dozers	2023	501	750	0.502999	0.423	2.59131	5.33389	0.005	0.196	0.18	473.0234	0.153
Rubber Tired Dozers	2023	751	1000	6.786	0.453	1.874	4.709	0.005	0.131	0.131	568.299	0.04
Rubber Tired Dozers	2024	121	175	0.633623	0.532	3.69636	5.0144	0.005	0.279	0.257	473.5147	0.153
Rubber Tired Dozers	2024	176	250 500	0.474702	0.399	1.79685	4.0904	0.005	0.184	0.17	474.5854	0.153
Rubber Tired Dozers	2024	251		0.495724	0.417	3.45746		0.005	0.182	0.168	479.3938	0.155
Rubber Tired Dozers	2024 2024	501 751	750 1000	0.506146 6.485	0.425	2.59604	5.33372 4.532	0.005	0.196	0.18 0.123	473.0111 568.299	0.153
Rubber Tired Dozers Rubber Tired Dozers	2024	121	175	0.548636	0.433	1.796 3.61238		0.005	0.123	0.123	474.1029	0.039
Rubber Tired Dozers	2025	176	250	0.442605	0.401	1.72032	3.80547	0.005	0.23	0.212	474.1029	0.153
Rubber Tired Dozers	2025	251	500	0.436562	0.372	2.95895	3.36957	0.005	0.151	0.133	479.0915	0.155
Rubber Tired Dozers	2025	501	750	0.509225	0.428	2.60066	5.33346	0.005	0.196	0.18	472.9981	0.153
Rubber Tired Dozers	2025	751	1000	6.203	0.414	1.725	4.365	0.005	0.115	0.115	568.299	0.037
Rubber Tired Dozers	2030	121	175	1.303	0.398	3.496	2.034	0.006	0.111	0.111	568.299	0.035
Rubber Tired Dozers	2030	176	250	1.556	0.335	1.322	1.828	0.006	0.069	0.069	568.299	0.03
Rubber Tired Dozers	2030	251	500	2.16	0.322	1.401	1.658	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2030	501	750	3.261	0.323	1.401	1.694	0.005	0.064	0.064	568.299	0.029
Rubber Tired Dozers	2030	751	1000	5.063	0.338	1.465	3.676	0.005	0.082	0.082	568.299	0.03
Rubber Tired Dozers	2035	121	175	1.054	0.322	3.481	1.345	0.006	0.071	0.071	568.299	0.029
Rubber Tired Dozers	2035	176	250	1.326	0.286	1.262	1.203	0.006	0.046	0.046	568.299	0.025
Rubber Tired Dozers	2035	251	500	1.868	0.279	1.279	1.107	0.005	0.043	0.043	568.3	0.025
Rubber Tired Dozers	2035	501	750	2.816	0.279	1.279	1.126	0.005	0.043	0.043	568.299	0.025
Rubber Tired Dozers	2035	751	1000	4.306	0.287	1.312	3.204	0.005	0.06	0.06	568.299	0.025
Rubber Tired Dozers	2040	121	175	0.9	0.275	3.47	0.903	0.006	0.045	0.045	568.299	0.024
Rubber Tired Dozers	2040	176	250	1.176	0.253	1.225	0.81	0.006	0.031	0.031	568.299	0.022
Rubber Tired Dozers	2040	251	500	1.672	0.249	1.198	0.758	0.005	0.029	0.029	568.299	0.022
Rubber Tired Dozers	2040	501	750	2.519	0.25	1.198	0.767	0.005	0.029	0.029	568.3	0.022
Rubber Tired Dozers	2040	751	1000	3.814	0.254	1.218	2.91	0.005	0.045	0.045	568.3	0.023
Rubber Tired Loaders	1990	16	25	5.92	2.213	4.999	6.919	0.855	0.741	0.741	568.299	0.199
Rubber Tired Loaders	1990	26	50	23.869	4.848	9.805	7.964	0.871	1.279	1.279	568.299	0.437
Rubber Tired Loaders	1990	51 121	120 175	22.055	2.368	5.728 5.094	14.978	0.791 0.758	1.345 0.995	1.345	568.299 568.299	0.213
Rubber Tired Loaders Rubber Tired Loaders	1990 1990	176	250	30.1 42.179	1.791 1.791	5.094	14.294 14.294	0.758	0.995	0.995	568.3	0.161
Rubber Tired Loaders Rubber Tired Loaders	1990	251	500	59.295	1.583	11.282	13.545	0.756	0.995	0.993	568.3	0.161
Rubber Tired Loaders	1990	501	750	121.471	1.583	11.282	13.545	1.018	0.867	0.867	568.299	0.142
Rubber Tired Loaders	1990	751	1000	147.851	1.575	11.282	13.545	1.018	0.858	0.858	568.299	0.142
Rubber Tired Loaders	2000	16	25	5.105	1.908	4.438	6.326	0.065	0.555	0.555	568.299	0.172
Rubber Tired Loaders	2000	26	50	21.853	4.439	9.15	7.065	0.066	0.928	0.928	568.299	0.4
Rubber Tired Loaders	2000	51	120	17.155	1.842	4.652	10.433	0.06	0.896	0.896	568.299	0.166
Rubber Tired Loaders	2000	121	175	20.951	1.246	3.765	9.552	0.057	0.526	0.526	568.299	0.112
Rubber Tired Loaders	2000	176	250	24.776	1.052	3.019	9.216	0.057	0.433	0.433	568.299	0.094
Rubber Tired Loaders	2000	251	500	35.779	0.955	4.797	8.766	0.05	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	501	750	73.296	0.955	4.797	8.766	0.052	0.381	0.381	568.299	0.086
Rubber Tired Loaders	2000	751	1000	95.549	1.018	5.369	9.342	0.052	0.372	0.372	568.299	0.091
Rubber Tired Loaders	2005	16	25	2.273	0.849	2.519	5.321	0.065	0.333	0.333	568.299	0.076
Rubber Tired Loaders	2005	26	50	19.43	3.947	8.471	6.59	0.066	0.86	0.86	568.299	0.356
Rubber Tired Loaders	2005	51	120	14.973	1.608	4.379	8.954	0.06	0.841	0.841	568.3	0.145
Rubber Tired Loaders	2005	121	175	17.677	1.052	3.496	8.183	0.057	0.464	0.464	568.299	0.094
Rubber Tired Loaders	2005	176	250	18.23	0.774	2.143	7.781	0.057	0.31	0.31	568.3	0.069
Rubber Tired Loaders	2005	251	500	25.602	0.683	2.836	7.066	0.05	0.275	0.275	568.3	0.061
Rubber Tired Loaders	2005	501 751	750	53.332	0.695	2.831	7.236	0.052	0.278	0.278	568.299	0.062
Rubber Tired Loaders	2005 2010	751 16	1000 25	74.257 2.807425	0.791 2.359	3.279	8.232 6.29919	0.052	0.275	0.275 0.675	568.299 581.9969	0.071
Rubber Tired Loaders Rubber Tired Loaders	2010	26	50	2.807425		7.88269		0.005	0.734	0.675	581.9969	0.169
Rubber Tired Loaders Rubber Tired Loaders	2010	51	120	1.132276	0.951	4.28386		0.005	0.734	0.626	519.5038	0.151
Rubber Tired Loaders Rubber Tired Loaders	2010	121	175	0.772004		3.56499		0.005	0.387	0.020	523.9006	0.151
Rubber Tired Loaders	2010	176	250	0.475737	0.043	1.50852		0.005	0.199	0.183	522.3501	0.152
Rubber Tired Loaders	2010	251	500	0.495122	0.416	2.61599		0.005	0.211	0.194	521.885	0.152
Rubber Tired Loaders	2010	501	750	0.454547		2.10254		0.005	0.197	0.181	507.2864	
Rubber Tired Loaders	2010	751	1000	0.464861		1.45926		0.005	0.187	0.172	523.2526	0.152
Rubber Tired Loaders	2011	16	25	2.679774		7.77095		0.005	0.711	0.654	581.4262	0.17
Rubber Tired Loaders	2011	26	50	2.679774	2.252	7.77095	6.24779	0.005	0.711	0.654	581.4262	0.17
Rubber Tired Loaders	2011	51	120	1.113092	0.935	4.28739	7.68957	0.005	0.671	0.618	517.9363	0.151
Rubber Tired Loaders	2011	121	175	0.757164	0.636	3.57219	6.81375	0.005	0.378	0.348	522.5315	0.152
Rubber Tired Loaders	2011	176	250	0.481296		1.50155		0.005	0.197	0.181	520.9732	0.152
Rubber Tired Loaders	2011	251	500	0.501144		2.56846		0.005	0.209	0.192	520.154	0.152
Rubber Tired Loaders	2011	501	750	0.472712	0.397	2.12943		0.005	0.2	0.184	505.881	0.148
Rubber Tired Loaders	2011	751	1000	0.476526	0.4		6.69396	0.005	0.191	0.176	521.9232	0.152
Rubber Tired Loaders	2012	16	25	2.730745		7.96233		0.005	0.724	0.666	579.9785	0.17
Rubber Tired Loaders	2012	26	50	2.730745	2.295	7.96233	6.30427	0.005	0.724	0.666	579.9785	0.17

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	CH4
Rubber Tired Loaders 2012 176 250 0.492248 0.414 1.51119 5.8565 0.09 1.198 1.198 5.19.646 Rubber Tired Loaders 2012 251 500 0.513.63 3.638 5.8974 0.09 2.21 1.018 1.018 2.012 5.01 7.50 0.486752 0.408 2.14848 5.07921 0.006 0.201 0.188 5.04.68 2.22 1.018 1.018 0.006 0.201 0.185 5.06.682 2.20 1.018 1.018 5.06.682 2.00 0.006 0.201 0.185 5.06.682 2.00 0.006 0.00 0.019 0.006 0.00 0.006 0.00 0.006 0.00 0.006 0.00 0.006 0.00 0.006 0.00 0.008 0.00 0.006 0.006 0.00 0.006 0.00 0.006 0.00 0.006 0.00 0.006 0.006 0.006 0.007 0.006 0.006 0.006 0.006 0.008	_
Rubber Tired Loaders 2012 251 500 0.515336 0.433 259883 5,5874 0.005 0.211 0.194 516-282 Rubber Tired Loaders 2012 751 100 0.48616 0.409 1.47877 6.73245 0.005 0.194 0.178 520-2016 Rubber Tired Loaders 2013 16 2 2.60616 2.19 7.83573 0.1844 0.005 0.696 0.64 57.7016 Rubber Tired Loaders 2013 26 50 2.60616 2.19 7.83573 0.1844 0.005 0.696 0.64 57.1918 Rubber Tired Loaders 2013 121 175 0.750707 0.831 3.60722 6.0063 0.006 0.686 0.64 57.1918 Rubber Tired Loaders 2013 175 0.750707 0.831 3.60722 6.0063 0.006 0.080 0.339 1.333 16 2.75 0.04824 0.75 1.04824 0.7522 1.04824 0.005 0.080	0.152
Rubber Tired Loaders 2012 501 750 A865752 0.408 2.14848 5.07921 0.005 0.20 0.188 504.6822 Rubber Tired Loaders 2013 1.6 25 2.60616 2.19 7.83573 6.18444 0.00 0.686 0.64 677.0151 Rubber Tired Loaders 2013 2.6 50 2.60616 2.19 7.83573 6.18444 0.00 0.685 0.64 677.0151 Rubber Tired Loaders 2013 51 120 1.087575 0.914 4.31523 7.47688 0.005 0.654 0.602 513.388 Rubber Tired Loaders 2013 176 250 0.496211 0.411 1.5142 5.7523 0.005 0.05400 0.018 1.618.733 Rubber Tired Loaders 2013 551 750 0.49047 0.412 2.0523 4.99146 0.00 0.919 1.818.50738 Rubber Tired Loaders 2013 551 750 0.49047 0.412 5.75646	6 0.152
Rubber Tired Loaders 2013 16 25 2,60616 2,19 7,83573 6,18494 0,005 0,959 0,64 6,77,015 Rubber Tired Loaders 2013 26 50 2,60616 2,19 7,83573 6,18494 0,005 0,959 0,64 6,77,015 Rubber Tired Loaders 2013 51 120 1,037576 9,314 3,13523 7,47589 0,05 0,654 0,062 513,3858 Rubber Tired Loaders 2013 176 0,750707 0,631 3,60722 6,6063 0,005 0,546 0,062 513,3858 Rubber Tired Loaders 2013 176 0,750707 0,631 3,60722 6,6063 0,005 0,546 0,062 513,3858 Rubber Tired Loaders 2013 176 250 0,408511 0,417 1,5142 5,75230 0,005 0,196 0,181 151,6973 Rubber Tired Loaders 2013 176 250 0,408511 0,417 1,5142 5,75230 0,005 0,196 0,181 151,6973 Rubber Tired Loaders 2013 501 750 0,40474 0,412 2,022 3,49944 0,005 0,196 0,181 151,6973 Rubber Tired Loaders 2013 501 750 0,40474 0,412 2,022 3,49944 0,005 0,199 0,183 802,888 Rubber Tired Loaders 2014 16 25 2,51646 2,115 7,7699 6,10324 0,005 0,199 0,183 802,888 Rubber Tired Loaders 2014 16 25 2,51646 2,115 7,7699 6,10324 0,005 0,076 0,622 573,521 Rubber Tired Loaders 2014 16 25 2,51646 2,115 7,7699 6,10324 0,005 0,076 0,622 573,521 Rubber Tired Loaders 2014 51 120 1,005758 0,888 3,62796 0,005 0,076 0,622 573,521 Rubber Tired Loaders 2014 51 100 0,005 0	
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Rubber Tired Loaders 2013 26 50 2.60616 2.19 7.83573 6.18494 0.005 0.656 0.64 577.015 Rubber Tired Loaders 2013 51 120 1087575 0.914 3.1523 7.47589 0.055 0.654 0.052 513.9361 Rubber Tired Loaders 2013 176 0.750707 0.631 3.60722 6.0683 0.005 0.564 0.052 513.9361 Rubber Tired Loaders 2013 176 250 0.496811 0.417 1.1542 5.75293 0.005 0.96 0.181 516.973 Rubber Tired Loaders 2013 251 500 0.517428 0.435 2.55447 8.4738 0.005 0.99 0.181 515.937 Rubber Tired Loaders 2013 501 750 0.49047 0.412 2.0823 4.99146 0.005 0.199 0.183 502.858 Rubber Tired Loaders 2013 751 000 0.484243 0.407 1.45163 6.66719 0.005 0.199 0.183 502.858 Rubber Tired Loaders 2014 16 25 2.51646 2.115 7.7699 6.10524 0.005 0.676 0.622 573.5211 Rubber Tired Loaders 2014 26 50 2.51646 2.115 7.7699 6.10524 0.005 0.676 0.622 573.5211 Rubber Tired Loaders 2014 26 50 2.51646 2.115 7.7699 6.10524 0.005 0.676 0.622 573.5211 Rubber Tired Loaders 2014 121 175 0.70216 0.665 3.65536 6.2799 0.005 0.676 0.622 573.5211 Rubber Tired Loaders 2014 121 175 0.70216 0.665 3.65536 6.2799 0.005 0.676 0.622 573.5211 Rubber Tired Loaders 2014 121 175 0.70216 0.665 3.65636 6.2799 0.005 0.676 0.622 573.5211 Rubber Tired Loaders 2014 121 175 0.70216 0.665 3.65636 6.2799 0.005 0.676 0.622 573.5211 Rubber Tired Loaders 2014 251 0.000 0.483251 0.406 1.94616 1.81047 0.005 0.19 0.589 510.0098 Rubber Tired Loaders 2014 551 100 0.483251 0.406 1.94616 1.81047 0.005 0.19 0.18 151.5098 Rubber Tired Loaders 2014 571 100 0.48227 0.414 1.87424 0.6904 0.005 0.19 0.175 149.865 Rubber Tired Loaders 2015 16 25 2.508512 2.108 7.8343 1.11232 0.005 0.676 0.621 567.672 Rubber Tired Loaders 2015 16 25 0.482642 0.406 1.94616 1.81047 0.005 0.19 0.175 149.865 Rubber Tired Loaders 2015 51 120 1.018295 0.856 1.2798 0.005 0.076 0.021 567.672 Rubber Tired Loaders 2015 51 120 0.48262 0.405 0.48343 0.11232 0.005 0.076 0.021 567.072 Rubber Tired Loaders 2016 51 100 0.48262 0.405 0.48343 0.1032 0.005 0.076 0.021 567.072 Rubber Tired Loaders 2016 51 100 0.48262 0.405 0.4834	
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Rubber Tired Loaders 2018 51 120 0.779856 0.655 4.04742 5.47032 0.005 0.452 0.416 484.0937 Rubber Tired Loaders 2018 121 175 0.533198 0.448 3.42332 4.36814 0.005 0.242 0.223 489.5114 Rubber Tired Loaders 2018 176 250 0.396861 0.333 1.34644 4.13133 0.005 0.14 0.129 487.9023 Rubber Tired Loaders 2018 251 500 0.397312 0.334 1.86807 3.72607 0.005 0.14 0.128 484.5703 Rubber Tired Loaders 2018 501 750 0.393495 0.331 1.55549 3.5437 0.005 0.14 0.129 476.5663 Rubber Tired Loaders 2018 751 1000 0.399711 0.336 1.21289 5.67315 0.005 0.142 488.4037 Rubber Tired Loaders 2019 16 25 1.906195 1.602 6.97769 <td></td>	
Rubber Tired Loaders 2018 176 250 0.396861 0.333 1.34644 4.13133 0.005 0.14 0.129 487.9023 Rubber Tired Loaders 2018 251 500 0.397312 0.334 1.86807 3.72607 0.005 0.14 0.128 484.5703 Rubber Tired Loaders 2018 501 750 0.393495 0.331 1.55549 3.5437 0.005 0.14 0.129 476.5663 Rubber Tired Loaders 2018 751 1000 0.399711 0.336 1.21289 5.67315 0.005 0.142 488.4037 Rubber Tired Loaders 2019 16 25 1.906195 1.602 6.97769 5.43193 0.005 0.518 0.476 536.2254 Rubber Tired Loaders 2019 26 50 1.906195 1.602 6.97769 5.43193 0.005 0.518 0.476 536.2254	
Rubber Tired Loaders 2018 251 500 0.397312 0.334 1.86807 3.72607 0.005 0.14 0.128 484.5705 Rubber Tired Loaders 2018 501 750 0.393495 0.331 1.55549 3.5437 0.005 0.14 0.129 476.5663 Rubber Tired Loaders 2018 751 1000 0.399711 0.336 1.21289 5.67315 0.005 0.154 0.142 488.4037 Rubber Tired Loaders 2019 16 25 1.906195 1.602 6.97769 5.43193 0.005 0.518 0.476 536.2254 Rubber Tired Loaders 2019 26 50 1.906195 1.602 6.97769 5.43193 0.005 0.518 0.476 536.2254	14 0.152
Rubber Tired Loaders 2018 501 750 0.393495 0.331 1.55549 3.5437 0.005 0.14 0.129 476.5663 Rubber Tired Loaders 2018 751 1000 0.399711 0.336 1.21289 5.67315 0.005 0.154 0.142 488.4037 Rubber Tired Loaders 2019 16 25 1.906195 1.602 6.97769 5.43193 0.005 0.518 0.476 536.2254 Rubber Tired Loaders 2019 26 50 1.906195 1.602 6.97769 5.43193 0.005 0.518 0.476 536.2254	
Rubber Tired Loaders 2018 751 1000 0.399711 0.336 1.21289 5.67315 0.005 0.154 0.142 488.4037 Rubber Tired Loaders 2019 16 25 1.906195 1.602 6.97769 5.43193 0.005 0.518 0.476 536.2254 Rubber Tired Loaders 2019 26 50 1.906195 1.602 6.97769 5.43193 0.005 0.518 0.476 536.2254	
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Rubber Tired Loaders 2019 26 50 1.906195 1.602 6.97769 5.43193 0.005 0.518 0.476 536.2254	
Dubbor Tirod Loadero	
Rubber Tired Loaders 2019 51 120 0.707701 0.595 3.97887 5.00611 0.005 0.402 0.37 475.8636	
Rubber Tired Loaders 2019 121 175 0.482139 0.405 3.38084 3.85918 0.005 0.213 0.196 481.7364 Rubber Tired Loaders 2019 176 250 0.368194 0.309 1.30248 3.74452 0.005 0.126 0.116 480.0997	
Rubber Tired Loaders 2019 176 250 0.368194 0.309 1.30246 3.74432 0.005 0.126 0.116 460.0997 Rubber Tired Loaders 2019 251 500 0.363843 0.306 1.7248 3.28755 0.005 0.123 0.113 477.0415	
Rubber Tired Loaders 2019 501 750 0.348958 0.293 1.45157 3.01875 0.005 0.118 0.109 471.1874	
Rubber Tired Loaders 2019 751 1000 0.384887 0.323 1.20834 5.45926 0.005 0.146 0.134 480.523	
Rubber Tired Loaders 2020 16 25 1.761913 1.48 6.76793 5.25369 0.005 0.474 0.436 524.6967	
Rubber Tired Loaders 2020 26 50 1.761913 1.48 6.76793 5.25369 0.005 0.474 0.436 524.6967	
Rubber Tired Loaders 2020 51 120 0.661113 0.556 3.94839 4.68644 0.005 0.367 0.338 465.6735	
Rubber Tired Loaders 2020 121 175 0.450696 0.379 3.36809 3.51735 0.005 0.194 0.178 471.2135	
Rubber Tired Loaders 2020 176 250 0.345399 0.29 1.26885 3.42116 0.005 0.114 0.104 469.5127	
Rubber Tired Loaders 2020 251 500 0.343959 0.289 1.6304 3.01666 0.005 0.112 0.103 466.783	
Rubber Tired Loaders 2020 501 750 0.329462 0.277 1.39991 2.76722 0.005 0.107 0.099 462.193	3 0.149
Rubber Tired Loaders 2020 751 1000 0.370676 0.311 1.20366 5.25309 0.005 0.139 0.127 469.9352	0.152

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Rubber Tired Loaders	2021	16	25	1.577419	1.325	6.44855	4.97419	0.005	0.409	0.376	524.5505	0.17
Rubber Tired Loaders	2021	26	50	1.577419	1.325	6.44855	4.97419	0.005	0.409	0.376	524.5505	0.17
Rubber Tired Loaders	2021	51	120	0.592559	0.498	3.8917	4.21491	0.005	0.316	0.291	466.4213	0.151
Rubber Tired Loaders	2021	121	175	0.411896	0.346	3.35381	3.11886	0.005	0.171	0.157	471.0804	0.152
Rubber Tired Loaders	2021	176	250	0.316703	0.266	1.24034	2.9977	0.005	0.1	0.092	469.5642	0.152
Rubber Tired Loaders	2021	251	500	0.314488	0.264	1.52922	2.61037	0.005	0.097	0.09	467.9277	0.151
Rubber Tired Loaders	2021	501	750	0.322962	0.271	1.39703	2.64092	0.005	0.102	0.094	462.0548	0.149
Rubber Tired Loaders	2021	751	1000	0.350105	0.294	1.2055	4.97489	0.005	0.128	0.118	471.2577	0.152
Rubber Tired Loaders	2022	16	25	1.402643	1.179	6.20445	4.74817	0.005	0.354	0.326	524.7914	0.17
Rubber Tired Loaders	2022	26	50	1.402643	1.179	6.20445	4.74817	0.005	0.354	0.326	524.7914	0.17
Rubber Tired Loaders	2022	51	120	0.523774	0.44	3.83931	3.7684	0.005	0.267	0.245	466.4936	0.151
Rubber Tired Loaders	2022	121	175	0.350975	0.295	3.30208	2.5181	0.005	0.136	0.125	470.9274	0.152
Rubber Tired Loaders	2022	176	250	0.269035	0.226	1.188	2.34693	0.005	0.079	0.072	469.9041	0.152
Rubber Tired Loaders	2022	251	500	0.281674	0.237	1.441	2.17525	0.005	0.081	0.075	468.1288	0.151
Rubber Tired Loaders	2022	501	750	0.27713	0.233	1.31524	2.0971	0.005	0.08	0.074	463.8194	0.15
Rubber Tired Loaders	2022	751	1000	0.229104	0.193	1.16216	3.61655	0.005	0.074	0.069	472.8577	0.153
Rubber Tired Loaders	2023	16	25	1.248748	1.049	5.97233	4.52113	0.005	0.304	0.279	524.304	0.17
Rubber Tired Loaders	2023	26	50	1.248748	1.049	5.97233	4.52113	0.005	0.304	0.279	524.304	0.17
Rubber Tired Loaders	2023	51	120	0.490267	0.412	3.82678	3.51183	0.005	0.238	0.219	466.5584	0.151
Rubber Tired Loaders	2023	121	175	0.320411	0.269	3.29198	2.19586	0.005	0.118	0.108	470.6601	0.152
Rubber Tired Loaders	2023	176	250	0.249759	0.21	1.17136	2.05963	0.005	0.069	0.063	469.824	0.152
Rubber Tired Loaders	2023	251	500	0.258421	0.217	1.38396	1.86629	0.005	0.069	0.064	468.466	0.152
Rubber Tired Loaders	2023	501	750	0.269537	0.226	1.32307	1.92719	0.005	0.074	0.069	464.5553	0.15
Rubber Tired Loaders	2023	751	1000	0.229405	0.193	1.17379	3.52792	0.005	0.071	0.065	472.3032	0.153
Rubber Tired Loaders	2024	16	25	1.200513	1.009	5.98698	4.46751	0.005	0.286	0.263	524.2299	0.17
Rubber Tired Loaders	2024	26	50	1.200513	1.009	5.98698	4.46751	0.005	0.286	0.263	524.2299	0.17
Rubber Tired Loaders	2024	51	120	0.472864	0.397	3.83209	3.33895	0.005	0.22	0.203	466.8084	0.151
Rubber Tired Loaders	2024	121	175	0.292737	0.246	3.28823	1.88365	0.005	0.1	0.092	470.3567	0.152
Rubber Tired Loaders	2024	176	250	0.234511	0.197	1.1607	1.80598	0.005	0.06	0.056	469.7875	0.152
Rubber Tired Loaders	2024	251	500	0.249195	0.209	1.3518	1.70166	0.005	0.063	0.058	468.5133	0.152
Rubber Tired Loaders	2024	501	750	0.268468	0.226	1.33327	1.88137	0.005	0.072	0.066	464.8656	0.15
Rubber Tired Loaders	2024	751	1000	0.238754	0.201	1.19144	3.54358	0.005	0.071	0.066	472.3454	0.153
Rubber Tired Loaders	2025	16	25	1.142731	0.96	5.9413	4.34846	0.005	0.259	0.238	523.9076	0.169
Rubber Tired Loaders	2025	26	50	1.142731	0.96	5.9413	4.34846	0.005	0.259	0.238	523.9076	0.169
Rubber Tired Loaders	2025	51	120	0.418779	0.352	3.79086	2.97026	0.005	0.179	0.165	466.8982	0.151
Rubber Tired Loaders	2025	121	175	0.266202	0.224	3.28059		0.005	0.084	0.077	470.4594	0.152
Rubber Tired Loaders	2025	176	250	0.211073	0.177	1.1417	1.44207	0.005	0.048	0.045	469.8711	0.152
Rubber Tired Loaders	2025	251	500	0.22979	0.193	1.2763	1.43264	0.005	0.053	0.048	469.1434	0.152
Rubber Tired Loaders	2025	501	750	0.252566	0.212	1.33262	1.65408	0.005	0.064	0.059	465.0523	0.15
Rubber Tired Loaders	2025	751	1000	0.196905	0.165	1.12172	3.08852	0.005	0.052	0.048	472.4559	0.153
Rubber Tired Loaders	2030	16	25	1.834	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Rubber Tired Loaders	2030	26	50	3.121	0.634	5.181	3.5	0.007	0.062	0.062	568.3	0.057
Rubber Tired Loaders	2030	51	120	2.953	0.317	3.759	1.875	0.006	0.056	0.056	568.299	0.028
Rubber Tired Loaders	2030	121	175	3.898	0.232	3.312	0.787	0.006	0.036	0.036	568.299	0.02
Rubber Tired Loaders	2030	176	250	4.951	0.21	1.138	0.655	0.006	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2030	251	500	7.812	0.208	1.085	0.619	0.005	0.021	0.021	568.299	0.018
Rubber Tired Loaders	2030	501	750	16.018	0.208	1.085	0.627	0.005	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2030	751	1000	20.168	0.214	1.099	2.722	0.005	0.039	0.039	568.299	0.019
Rubber Tired Loaders	2035	16	25	1.834	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Rubber Tired Loaders	2035	26	50	2.833	0.575	5.126	3.337	0.007	0.035	0.035	568.299	0.051
Rubber Tired Loaders	2035	51	120	2.663	0.286	3.751	1.639	0.006	0.033	0.033	568.299	0.025
Rubber Tired Loaders	2035	121	175	3.376	0.2	3.312	0.481	0.006	0.022	0.022	568.299	0.018
Rubber Tired Loaders	2035	176	250	4.514	0.191	1.129	0.434	0.006	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	251	500	7.156	0.191	1.076	0.416	0.005	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	501	750	14.669	0.191	1.076	0.421	0.005	0.015	0.015	568.299	0.017
Rubber Tired Loaders	2035	751	1000	18.204	0.193	1.082	2.584	0.005	0.03	0.03	568.299	0.017
Rubber Tired Loaders	2040	16	25	1.834	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Rubber Tired Loaders	2040	26	50	2.684	0.545	5.102	3.283	0.007	0.024	0.024	568.3	0.049
Rubber Tired Loaders	2040	51	120	2.53	0.271	3.748	1.543	0.006	0.022	0.022	568.3	0.024
Rubber Tired Loaders	2040	121	175	3.172	0.188	3.314	0.365	0.006	0.016	0.016	568.299	0.017
Rubber Tired Loaders	2040	176	250	4.375	0.185	1.128	0.346	0.006	0.013	0.013	568.299	0.016
Rubber Tired Loaders	2040	251	500	6.953	0.185	1.076	0.338	0.005	0.013	0.013	568.3	0.016
Rubber Tired Loaders	2040	501	750	14.247	0.185	1.076	0.34	0.005	0.013	0.013	568.299	0.016
Rubber Tired Loaders	2040	751	1000	17.496	0.186	1.076	2.522	0.005	0.026	0.016	568.299	0.016
Scrapers	1990	51	120	7.335	2.413	5.806	15.182	0.791	1.373	1.373	568.299	0.010
Scrapers	1990	121	175	8.743	1.823	5.174	14.491	0.758	1.017	1.017	568.299	0.217
Scrapers	1990	176	250	12.369	1.823	5.174	14.491	0.758	1.017	1.017	568.299	0.164
Scrapers	1990	251	500	16.73	1.607	11.673	13.709	0.662	0.867	0.867	568.299	0.104
Scrapers	1990	501	750	28.902	1.607	11.673	13.709	1.018	0.883	0.883	568.299	0.145
Scrapers	2000	51	120	6.006	1.975	4.906	11.177	0.06	0.863	0.883	568.299	0.143
		J 1	120	0.000	1.070	7.500	11.1//	0.00	U.J+3	ししょうせき	JUU.Z33	

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Sorgeners 2000 121 176 6.486 1.394 4.044 10.226 0.057 0.572 0.572 508.299 0.175 0.575 0.059 0.175 0.059 0.175 0.059 0.175 0.059 0.175 0.059 0.175 0.059 0.175 0.059 0.175 0.059 0.175 0.059 0.175 0.059 0.175 0.059 0.175 0.059 0.175 0.059 0.059 0.175 0.059 0.05	Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Sorapers 2000 176 250 8,022 1,183 3,423 9,944 0,677 0,483 0,483 698,299 0,185 0,085 0,481													0.121
Scoppers 2000 901 P50 1908 1082 1082 8.04 942 0852 045 043 943 948 9299 016	Scrapers	2000	176	250	8.023	1.183	3.423	9.944	0.057	0.493	0.493		0.106
Scarpers 2005 61 120 5.58 1.763 4.685 8.087 0.06 0.091 0.091 6.082.200 1.055	Scrapers	2000	251	500	11.061	1.062	6.04	9.42	0.05	0.43	0.43		0.095
Scrippers 2005 121 175 5.592 1168 3.76 8.934 0.057 0.514 0.514 568.299 0.05 0.05 0.051 0.514 568.299 0.05 0.05 0.051 0													0.095
Scrippers 2005	Scrapers					1.763							0.159
Scrapers 2005 251 500 8.477 0.814 4.07 7.854 0.05 0.331 0.331 588.39 0.05													0.105
Scrapers 2005 501 750 14.794 0.822 4.063 7.39 0.025 0.331 0.333 568.298 0.05 0.													0.083
Scrapers 2010 51 120 0.828186 0.696 3.97834 7.09453 0.005 0.507 0.466 657.9651 0.15													0.073
Scrapers 2010 121 176 203907 079 3,25778 4,25874 0,005 0,444 0,408 532,551 0.15 Scrapers 2010 176 250 0,383907 079 3,25278 4,35279 0,005 0,449 0,408 522,551 0.15 Scrapers 2010 251 500 0,595043 0.5 4,1393 6,75544 0,005 0,209 0,129 2,525,522 1,15 Scrapers 2010 501 7,550 0,454495 0,328 3,13677 1,55344 0,005 0,209 0,129 2,525,522 0,15 Scrapers 2011 51 700 0,454495 0,328 3,13677 1,55344 0,005 0,209 0,129 2,525,522 0,15 Scrapers 2011 51 71 720 0,331534 0,639 4,0055 7,06927 0,005 0,449 0,005 0,209 0,129 2,525,522 0,125 Scrapers 2011 171 175 0,0331534 0,639 4,0055 7,06927 0,005 0,449 0,005 0,209 0,129 2,525,522 0,125 Scrapers 2011 176 250 0,335156 0,746 0,32537 0,005 0,449 0,005 0,309 0,129 2,525,522 0,125 Scrapers 2011 176 250 0,335156 0,746 0,32537 0,005 0,449 0,005 0,409 0,409 1,531,835 0,151 0,400													
Scrapers 2010 176 251 500 0.39807 0.79 3.25278 9.42837 0.005 0.434 0.399 5.09.9818 0.15 Scrapers 2010 251 500 0.596043 0.5 1.399 6.75244 0.005 0.27 0.015 5.525 5.521.553 0.155 0.055 0.00													
Scrapers 2010 251 500 0.599043 0.5 4.1939 6.75544 0.005 0.272 0.25 525.1553 0.15 Scrapers 2011 501 750 0.45465 0.082 3.15671 5.344 0.005 0.272 0.25 525.1553 0.15 Scrapers 2011 51 120 0.331534 0.699 4.00655 7.09821 0.006 0.599 0.469 536.4691 0.15 Scrapers 2011 176 250 0.930155 0.784 3.2574 9.34756 0.005 0.490 0.490 531.635 0.15 Scrapers 2011 176 250 0.930155 0.784 3.2574 9.34756 0.005 0.43 0.396 518.6705 0.15 Scrapers 2011 251 500 0.590447 0.046 1.45631 6.0472 0.005 0.246 523.9033 0.15 Scrapers 2011 501 750 0.45682 0.386 3.14165 5.48614 0.005 0.208 0.191 524.1241 0.15 Scrapers 2012 251 1.20 0.467004 0.712 0.46611 1.1199 0.005 0.208 0.191 524.1241 0.15 Scrapers 2012 176 250 0.383111 0.068 3.2909 3.0373 0.005 0.448 0.412 529.8168 0.15 Scrapers 2012 271 176 250 0.38811 0.7861 3.2909 3.0373 0.005 0.448 0.412 529.8168 0.15 Scrapers 2012 251 500 0.58648 0.001 4.16192 0.64239 0.006 0.247 522.6784 0.15 Scrapers 2013 171 175 0.85683 0.0681 0.068 0.006 0.247 522.6784 0.15 Scrapers 2013 171 175 0.85683 0.0681 0.068 0.006 0.249 0.422 0.247 522.6784 0.15 Scrapers 2013 171 175 0.85683 0.0681 0.0681 0.006 0.240 0.422 0.247 522.6784 0.15 Scrapers 2013 176 250 0.22168 0.773 3.86138 3.3026 0.006 0.248 0.247 522.6784 0.15 Scrapers 2014 51 1.20 0.35588 0.006 0.0891 0.006 0.244 0.242 0.240	· ·												
Scrapers 2010 501 750 0.454495 0.382 31.9771 5.93444 0.005 0.209 0.192 525.522 0.185													
Scrapers													0.153
Scrippers 2011													0.157
Scrapers 2011 176 250 0.393155 0.784 3.22574 9.34756 0.005 0.43 0.395 619.67605 0.15 Carapers 2011 501 750 0.45802 0.395 31.4166 0.48672 0.005 0.289 0.246 1.236 2.328 3.01													0.155
Scraperis 2011 251 500 0.590447 0.496 4.14563 6.64672 0.005 0.268 0.246 523.9083 0.156 52676978 2012 51 120 0.45670 0.356 3.1466 6.46674 0.005 0.268 0.247 522.1421 0.15 52769678 2012 121 175 0.915165 0.769 3.8569 6.35485 0.005 0.59 0.477 535.1238 0.15 52769678 2012 176 250 0.3935111 0.766 3.2290 9.33173 0.005 0.43 0.395 518.3955 0.005 5276978 2012 251 500 0.596548 0.501 4.7616 0.500 0.596548 0.501 4.16162 0.4629 0.005 0.005 0.43 0.395 518.3955 0.005 5276978 2012 251 500 0.596548 0.501 4.16162 0.4629 0.005 0.005 0.249 0.005													0.152
Scrapers 2011 501 750 0.45862 0.385 3.14165 5.48614 0.005 0.208 0.191 524.1241 0.15				500	0.590447	0.496	4.14563	6.64672	0.005	0.268			0.153
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Scrapers 2022 51 120 0.809995 0.681 4.20484 6.45548 0.005 0.494 0.454 483.4481 0.15													0.156

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Scrapers	2022	121	175	0.463814	0.39	3.41662		0.005	0.204	0.187	478.7411	0.155
Scrapers	2022	176	250	0.406319	0.341		3.66905	0.005	0.16	0.147	469.2686	0.152
Scrapers	2022	251	500	0.313802	0.264		2.87856	0.005	0.112	0.103	473.2304	0.153
Scrapers	2022	501	750	0.266627	0.224	1.50816		0.005	0.09	0.083	471.2788	0.152
Scrapers	2023	51	120	0.7496	0.63		6.02603	0.005	0.458	0.421	483.0296	0.156
Scrapers	2023	121	175	0.430003	0.361	3.39533	3.47913	0.005	0.184	0.169	478.6814	0.155
Scrapers	2023	176	250	0.37772	0.317	1.67839	3.2838	0.005	0.144	0.133	469.5597	0.152
Scrapers	2023	251	500	0.301363	0.253	1.97527	2.66611	0.005	0.105	0.096	473.1772	0.153
Scrapers	2023	501	750	0.26361	0.222	1.51295		0.005	0.087	0.08	471.2953	0.152
Scrapers	2024	51	120	0.683919	0.575	4.09486		0.005	0.414	0.381	482.7009	0.156
Scrapers	2024	121	175	0.399992	0.336	3.37249	3.15631	0.005	0.166	0.153	478.8089	0.155
Scrapers	2024	176	250	0.358714	0.301	1.62739	3.01379	0.005	0.133	0.122	469.3521	0.152
Scrapers	2024	251	500	0.291137	0.245	1.92055	2.47694	0.005	0.098	0.09	472.8455	0.153
Scrapers	2024	501	750	0.253257	0.213	1.46065		0.005	0.081	0.074	471.4291	0.152
Scrapers	2025	51	120	0.673967	0.566	4.09423		0.005	0.405	0.372	482.3629	0.156
Scrapers	2025	121	175	0.34526	0.29	3.3209	2.63098	0.005	0.137	0.126	478.9476	0.155
Scrapers	2025	176	250	0.346529	0.291		2.80326	0.005	0.125	0.115	469.4459	0.152
Scrapers	2025	251	500	0.257328	0.216	1.7318	2.05051	0.005	0.081	0.074	472.5394	0.153
Scrapers	2025	501	750	0.218534	0.184	1.33825	1.71287	0.005	0.064	0.059	472.115	0.153
Scrapers	2030	51	120	1.248	0.41	3.866	2.384	0.006	0.111	0.111	568.299	0.037
Scrapers	2030	121	175	1.445	0.301	3.389	1.32	0.006	0.068	0.068	568.299	0.027
Scrapers	2030	176	250	1.794	0.264	1.206	1.149	0.006	0.042	0.042	568.299	0.023
Scrapers	2030	251	500	2.697	0.259	1.184	1.057	0.005	0.04	0.04	568.299	0.023
Scrapers	2030	501	750	4.666	0.259	1.184	1.075	0.005	0.04	0.04	568.299	0.023
Scrapers	2035	51	120	1.058	0.348	3.842	1.943	0.006	0.064	0.064	568.299	0.031
Scrapers	2035	121	175	1.199	0.25	3.382	0.824	0.006	0.04	0.04	568.299	0.022
Scrapers	2035	176	250	1.553	0.229	1.175	0.717	0.006	0.026	0.026	568.299	0.02
Scrapers	2035 2035	251 501	500 750	2.356 4.075	0.226	1.123 1.123	0.674 0.682	0.005	0.025	0.025	568.3 568.299	0.02
Scrapers	2035	501	120	0.962	0.226	3.833	1.715	0.005	0.025	0.025	568.299	0.02
Scrapers	2040	121	175	1.063	0.310	3.381	0.549	0.006	0.026	0.026	568.299	0.028
Scrapers Scrapers	2040	176	250	1.425	0.221	1.159	0.498	0.006	0.020	0.020	568.3	0.02
Scrapers	2040	251	500	2.175	0.209	1.139	0.475	0.005	0.017	0.017	568.299	0.018
Scrapers	2040	501	750	3.76	0.209	1.1	0.473	0.005	0.017	0.017	568.299	0.018
Signal Boards	1990	6	15	2.838	1.804	4.999	9.999	1.049	0.975	0.975	568.299	0.162
Signal Boards	1990	26	50	33.688	3.65	7.626	7.518	0.871	1.035	1.035	568.299	0.329
Signal Boards	1990	51	120	41.675	2.037	5.201	13.738	0.791	1.095	1.095	568.3	0.183
Signal Boards	1990	121	175	54.982	1.395	4.603	12.364	0.758	0.728	0.728	568.3	0.125
Signal Boards	1990	176	250	90.827	1.685	5.563	14.94	0.917	0.88	0.88	686.695	0.152
Signal Boards	2000	6	15	2.085	1.325	4.257	7.675	0.079	0.61	0.61	568.299	0.119
Signal Boards	2000	26	50	31.608	3.424	7.268	6.709	0.066	0.765	0.765	568.299	0.309
Signal Boards	2000	51	120	33.68	1.646	4.338	9.835	0.06	0.756	0.756	568.299	0.148
Signal Boards	2000	121	175	43.484	1.103	3.53	8.941	0.057	0.447	0.447	568.299	0.099
Signal Boards	2000	176	250	59.587	1.105	3.359	10.385	0.069	0.438	0.438	686.695	0.099
Signal Boards	2005	6	15	1.168	0.742	3.469	4.981	0.079	0.35	0.35	568.299	0.066
Signal Boards	2005	26	50	27.711	3.002	6.663	6.227	0.066	0.704	0.704	568.299	0.27
Signal Boards	2005	51	120	28.596	1.398	4	8.234	0.06	0.695	0.695	568.299	0.126
Signal Boards	2005	121	175	35.881	0.91	3.185	7.528	0.057	0.383	0.383	568.3	0.082
Signal Boards	2005	176	250	41.93	0.778	2.245	8.577	0.069	0.303	0.303	686.695	0.07
Signal Boards	2010	6	15	1.04	0.661	3.469	4.142	0.008	0.155	0.155	568.299	0.059
Signal Boards	2010	26	50	21.63	2.343	6.009	5.792	0.007	0.571	0.571	568.299	0.211
Signal Boards	2010	51	120	21.667	1.059	3.811	6.693	0.006	0.56	0.56	568.299	0.095
Signal Boards	2010	121	175	27.641	0.701	3.102	5.958	0.006	0.311	0.311	568.299	0.063
Signal Boards	2010	176	250	29.698	0.551	1.651	6.749	0.007	0.212	0.212	686.695	0.049
Signal Boards	2011	6	15	1.04	0.661	3.469	4.142	0.008	0.156	0.156	568.299	0.059
Signal Boards	2011	26	50	20.109	2.178	5.834	5.698	0.007	0.541	0.541	568.299	0.196
Signal Boards	2011	51	120	20.187	0.986	3.774	6.327	0.006	0.535	0.535	568.299	0.089
Signal Boards	2011 2011	121 176	175 250	25.933	0.658	3.09	5.615	0.006	0.298	0.298	568.299	0.059
Signal Boards Signal Boards	2011	6	250 15	27.264 1.04	0.506 0.661	1.548 3.469	6.272 4.142	0.007	0.19 0.16	0.19 0.16	686.695 568.299	0.045
Signal Boards	2012	26	50	18.413	1.995	5.632	5.596	0.008	0.16	0.16	568.299	0.059
Signal Boards	2012	51	120	18.605	0.909	3.733	5.923	0.007	0.308	0.308	568.299	0.18
Signal Boards	2012	121	175	24.082	0.909	3.733	5.923	0.006	0.498	0.496	568.3	0.082
Signal Boards	2012	176	250	25.308	0.469	1.483	5.81	0.007	0.273	0.273	686.695	0.033
Signal Boards	2012	6	15	1.04	0.469	3.469	4.142	0.007	0.171	0.171	568.299	0.042
Signal Boards	2013	26	50	16.687	1.808	5.427	5.362	0.007	0.465	0.161	568.299	0.039
Signal Boards	2013	51	120	17.043	0.833	3.694	5.532	0.007	0.456	0.456	568.299	0.103
Signal Boards	2013	121	175	22.253	0.564	3.067	4.903	0.006	0.450	0.450	568.3	0.075
Signal Boards	2013	176	250	23.66	0.439	1.439	5.369	0.007	0.156	0.156	686.695	0.039
Signal Boards	2014	6	15	1.04	0.661	3.469	4.142	0.007	0.161	0.161	568.299	0.059
10.g. a. Doardo	-017			1.04	0.001	5.400	⊤∠	0.000	0.101	0.101	000.200	0.000

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

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Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Signal Boards	2014	26	50	15.005	1.625	5.231	5.139	0.007	0.422	0.422	568.299	0.146
Signal Boards	2014 2014	51 121	120 175	15.539 20.512	0.759 0.52	3.658 3.058	5.186 4.582	0.006	0.414 0.228	0.414 0.228	568.299	0.068
Signal Boards Signal Boards	2014	176	250	22.034	0.52	1.402	4.857	0.006	0.228	0.228	568.299 686.695	0.046
Signal Boards	2014	6	15	1.04	0.408	3.469	4.142	0.007	0.141	0.141	568.299	0.059
Signal Boards	2015	26	50	13.489	1.461	5.068	4.943	0.007	0.382	0.382	568.299	0.033
Signal Boards	2015	51	120	14.067	0.687	3.624	4.791	0.006	0.371	0.371	568.299	0.062
Signal Boards	2015	121	175	18.694	0.474	3.052	4.136	0.006	0.205	0.205	568.299	0.042
Signal Boards	2015	176	250	20.523	0.38	1.371	4.365	0.007	0.127	0.127	686.695	0.034
Signal Boards	2016	6	15	1.04	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Signal Boards	2016	26	50	12.061	1.306	4.921	4.761	0.007	0.343	0.343	568.299	0.117
Signal Boards	2016	51	120	12.653	0.618	3.594	4.414	0.006	0.33	0.33	568.299	0.055
Signal Boards	2016	121	175	16.949	0.43	3.047	3.708	0.006	0.183	0.183	568.299	0.038
Signal Boards	2016	176	250	19.106	0.354	1.344	3.894	0.007	0.114	0.114	686.695	0.031
Signal Boards	2017	6	15	1.04	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Signal Boards	2017	26	50	10.695	1.158	4.785	4.59	0.007	0.306	0.306	568.299	0.104
Signal Boards	2017	51	120	11.32	0.553	3.566	4.059	0.006	0.29	0.29	568.299	0.049
Signal Boards	2017	121	175	15.322	0.388	3.044	3.305	0.006	0.161	0.161	568.299	0.035
Signal Boards	2017	176	250	17.83	0.33	1.323	3.452	0.007	0.101	0.101	686.695	0.029
Signal Boards	2018	6	15	1.04	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Signal Boards	2018	26	50	9.4	1.018	4.657	4.427	0.007	0.27	0.27	568.299	0.091
Signal Boards	2018 2018	51 121	120 175	10.078 13.836	0.492 0.351	3.541 3.043	3.723 2.93	0.006	0.252 0.141	0.252 0.141	568.299 568.299	0.044
Signal Boards	2018	176	250	16.678	0.309		3.04	0.006	0.141	0.141		0.031
Signal Boards Signal Boards	2018	6	250 15	1.04	0.309	1.306 3.47	4.142	0.007	0.09	0.09	686.695 568.299	0.027
Signal Boards	2019	26	50	8.189	0.887	4.538	4.142	0.008	0.101	0.101	568.3	0.039
Signal Boards	2019	51	120	8.938	0.437	3.519	3.41	0.006	0.216	0.216	568.299	0.039
Signal Boards	2019	121	175	12.677	0.321	3.043	2.601	0.006	0.125	0.125	568.299	0.029
Signal Boards	2019	176	250	15.682	0.291	1.292	2.676	0.007	0.08	0.08	686.695	0.026
Signal Boards	2020	6	15	1.04	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Signal Boards	2020	26	50	7.28	0.788	4.448	4.132	0.007	0.206	0.206	568.299	0.071
Signal Boards	2020	51	120	8.081	0.395	3.504	3.134	0.006	0.187	0.187	568.299	0.035
Signal Boards	2020	121	175	11.756	0.298	3.043	2.309	0.006	0.11	0.11	568.299	0.026
Signal Boards	2020	176	250	14.813	0.274	1.281	2.35	0.007	0.071	0.071	686.695	0.024
Signal Boards	2021	6	15	1.04	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Signal Boards	2021	26	50	6.598	0.714	4.38	4.002	0.007	0.179	0.179	568.299	0.064
Signal Boards	2021	51	120	7.434	0.363	3.493	2.889	0.006	0.162	0.162	568.299	0.032
Signal Boards	2021 2021	121 176	175 250	10.965 14.033	0.278	3.043	2.043	0.006	0.098	0.098	568.299 686.695	0.025
Signal Boards Signal Boards	2021	6	15	1.04	0.26	1.273 3.469	4.142	0.007	0.063	0.063	568.3	0.023
Signal Boards	2022	26	50	6.047	0.655	4.325	3.88	0.007	0.154	0.154	568.299	0.059
Signal Boards	2022	51	120	6.908	0.337	3.484	2.668	0.006	0.141	0.141	568.299	0.03
Signal Boards	2022	121	175	10.249	0.26	3.044	1.801	0.006	0.086	0.086	568.299	0.023
Signal Boards	2022	176	250	13.317	0.247	1.266	1.782	0.007	0.055	0.055	686.695	0.022
Signal Boards	2023	6	15	1.04	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Signal Boards	2023	26	50	5.57	0.603	4.282	3.767	0.007	0.132	0.132	568.299	0.054
Signal Boards	2023	51	120	6.449	0.315	3.478	2.472	0.006	0.122	0.122	568.299	0.028
Signal Boards	2023	121	175	9.619	0.244	3.045	1.602	0.006	0.075	0.075	568.299	0.022
Signal Boards	2023	176	250	12.678	0.235	1.263	1.562	0.007	0.048	0.048	686.695	0.021
Signal Boards	2024	6	15	1.04	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Signal Boards	2024	26	50	5.168	0.559	4.247	3.662	0.007	0.114	0.114	568.299	0.05
Signal Boards	2024	51	120	6.055	0.296	3.474	2.315	0.006	0.105	0.105	568.299	0.026
Signal Boards	2024	121 176	175	9.047 12.079	0.229	3.047	1.427	0.006	0.065	0.065	568.299	0.02
Signal Boards Signal Boards	2024 2025	176 6	250 15	12.079	0.224	1.259 3.469	1.37 4.142	0.007	0.041 0.161	0.041	686.695 568.299	0.02
Signal Boards Signal Boards	2025	6 26	50	4.819	0.661	3.469 4.217	3.561	0.008	0.161	0.161	568.299	0.059
Signal Boards	2025	51	120	5.705	0.322	3.47	2.179	0.007	0.098	0.089	568.299	0.047
Signal Boards	2025	121	175	8.5	0.215	3.049	1.262	0.006	0.055	0.055	568.299	0.023
Signal Boards	2025	176	250	11.509	0.213	1.257	1.192	0.007	0.035	0.035	686.695	0.019
Signal Boards	2030	6	15	1.04	0.661	3.47	4.142	0.007	0.161	0.161	568.299	0.059
Signal Boards	2030	26	50	3.631	0.393	4.099	3.193	0.007	0.04	0.04	568.299	0.035
Signal Boards	2030	51	120	4.366	0.213	3.451	1.657	0.006	0.035	0.035	568.3	0.019
Signal Boards	2030	121	175	6.201	0.157	3.048	0.586	0.006	0.024	0.024	568.299	0.014
Signal Boards	2030	176	250	9.484	0.176	1.255	0.594	0.007	0.019	0.019	686.695	0.015
Signal Boards	2035	6	15	1.04	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Signal Boards	2035	26	50	3.294	0.356	4.067	3.082	0.007	0.02	0.02	568.299	0.032
Signal Boards	2035	51	120	3.929	0.192	3.445	1.482	0.006	0.018	0.018	568.299	0.017
Signal Boards	2035	121	175	5.439	0.138	3.048	0.372	0.006	0.014	0.014	568.299	0.012
Signal Boards	2035	176	250	8.75	0.162	1.254	0.401	0.007	0.014	0.014	686.695	0.014
Signal Boards	2040	6	15	1.04	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059

D-64 September 2016

Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Signal Boardris	E				T00	D00		L NOV	000	L D1440	D140.5	000	0114
Signal Boards 2040 51 120 3,948 0,189 3,447 1,428 0,006 0,011 0,011 566,239 0,011 586,239	Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Signal Bounds 2040 121 175 5.177 0.131 3.05 0.280 0.006 0.011 0.011 586.299 0.015 0.007 0.012 0.012 0.007 0.012 0.011 0.011 586.299 0.018 0.007 0.012 0.012 0.007 0.012 0.014 0.007 0.012 0.014 0.007 0.012 0.014 0.007 0.007 0.012 0.014 0.007	-												
Signal Bourds	ŭ												
Skil Sizer Loaders	<u> </u>												
Skid Steer Loaders	U												
Sind Steer Loaders													
Side Steer Loaders													
Side Steer Loaders	Skid Steer Loaders												
Sied Sieder Loaders 2000 61 120 10.902 1579 4.162 9.028 0.06 0.779 0.779 688.289 0.142 (Sied Sieder Loaders 2005 16 25 3.352 1.505 4.708 1.3079 5.913 0.05 0.065 0.067 0.776 688.289 0.142 (Sied Sieder Loaders 2005 61 120 9.248 1.339 3.079 5.913 0.05 0.065 0.067 0.716 588.3 0.272 5868 Sieder Loaders 2005 61 120 9.248 1.339 3.089 7.656 0.065 0.067 0.716 586.390 0.272 5868 Sieder Loaders 2010 16 25 1.180644 1 4.48486 5.29746 0.005 0.0435 0.401 586.3366 0.775 5868 Sieder Loaders 2010 16 25 1.180644 1 4.48486 5.29746 0.005 0.0435 0.401 586.3366 0.775 5868 Sieder Loaders 2010 17 10 20 1.054832 0.424 3.40766 5.19365 0.005 0.0435 0.401 586.3366 0.775 5868 Sieder Loaders 2011 18 25 1.05547 0.807 4.48486 5.29746 0.005 0.044 0.317 586.3366 0.775 5868 Sieder Loaders 2011 18 25 1.05547 0.807 4.48486 5.29746 0.005 0.044 0.317 586.3366 0.775 5868 Sieder Loaders 2011 18 25 1.05547 0.807 4.3876 5.19365 0.005 0.044 0.317 586.3266 0.075 5868 5869 0.005 0	Skid Steer Loaders												0.335
Sied Steer Loaders	Skid Steer Loaders	2000	51	120		1.579	4.162	9.028	0.06		0.779	568.299	0.142
Sixid Steer Loaders 2005 51 120 9,248 1,339 3,988 7,653 0,06 0,712 0,712 586,299 0,175 0,712 586,299 0,175 0,712 586,299 0,175 0,712 586,299 0,175 0,712 586,299 0,175 0,712 586,299 0,175 0,712 586,299 0,175 0,712 586,299 0,175 0,712 586,299 0,175 0,712 586,299 0,175 0,712 586,299 0,175 0,712 0	Skid Steer Loaders	2005	16	25	3.352	1.505	3.709	5.913	0.065		0.461	568.299	0.135
Skid Steer Loaders 2010 16 25 1.189844 1 4.48486 5.29745 0.005 0.435 0.401 S86.3366 0.177 Skid Steer Loaders 2010 51 120 0.50432 0.424 3.4076 5.19396 0.005 0.435 0.401 S86.3366 0.177 Skid Steer Loaders 2011 16 25 0.50547/ 0.887 4.32764 5.2015 0.005 0.404 0.317 525.6915 0.175 Skid Steer Loaders 2011 16 25 0.50547/ 0.887 4.32764 5.2015 0.005 0.402 0.37 584.7285 0.177 Skid Steer Loaders 2011 26 50 1.095747 0.887 4.32764 5.2163 0.005 0.402 0.37 584.7285 0.177 Skid Steer Loaders 2011 27 51 51 520 0.460210 3.37 3.38539 4.8341 0.005 0.337 584.7285 0.177 Skid Steer Loaders 2012 16 25 1.031332 0.887 4.33765 5.12974 0.005 0.388 0.357 583.1288 0.177 Skid Steer Loaders 2012 26 50 1.031332 0.887 4.33765 5.12974 0.005 0.388 0.357 583.1288 0.177 Skid Steer Loaders 2012 51 120 0.44329 0.372 3.38462 4.73478 0.005 0.383 5.7 583.1288 0.177 Skid Steer Loaders 2012 51 120 0.44329 0.372 3.38462 4.73478 0.005 0.333 0.279 522.5357 0.158 Skid Steer Loaders 2013 3 16 25 0.908612 0.733 4.17576 4.84472 0.005 0.333 0.279 522.5357 0.158 Skid Steer Loaders 2013 3 16 25 0.908612 0.733 4.17576 4.84472 0.005 0.333 0.307 583.1580 0.144 0.177 Skid Steer Loaders 2013 3 16 0.04339 0.40438 0.343 3.38537 4.84472 0.005 0.333 0.307 580.0144 0.177 Skid Steer Loaders 2013 4 16 25 0.736746 0.6864 4.01586 4.54073 0.005 0.286 0.283 577.0757 0.77	Skid Steer Loaders	2005		50	12.458				0.066	0.716	0.716		0.272
Side Steer Loaders	Skid Steer Loaders												
Skid Steer Loaders													
Side Siner Loaders													-
Sikel Steen Loaders													
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Skid Steer Loaders													
Skid Steer Loaders	Skid Steer Loaders												0.171
Skid Steer Loaders	Skid Steer Loaders												0.153
Skid Steer Loaders 2014 16 25 0.7970746 0.064 4.01868 4.54075 0.005 0.271 0.249 519.6388 0.153 (3.64 Steer Loaders 2014 16 25 0.790746 0.064 4.01868 4.54075 0.005 0.266 0.263 977.0757 0.173 (3.64 Steer Loaders 2014 51 1.20 0.361873 0.304 3.3329 4.0133 3.0329 4.0133 0.005 0.258 0.263 977.0757 0.173 (3.64 Steer Loaders 2014 51 1.20 0.361873 0.304 3.3329 4.0133 3.029 4.0133 0.005 0.258 0.268 1.268 1.074 0.075 0.005 0.268 0.268 1.074 0.075 0.005 0.268 0.268 1.074 0.075 0.005 0.268 0.268 0.005 0.00	Skid Steer Loaders	2013		25	0.908612	0.763	4.17576	4.84472	0.005	0.337	0.31	580.0144	0.171
Skid Steer Loaders 2014 16 25 0.790746 0.064 4.01585 4.54075 0.005 0.286 0.263 577.0757 0.177 Skid Steer Loaders 2014 26 50 0.790746 0.064 4.01585 4.54075 0.005 0.286 0.263 577.0757 0.177 Skid Steer Loaders 2014 51 120 0.361873 0.304 3.33829 4.0133 0.005 0.287 0.268 577.4757 0.175 Skid Steer Loaders 2015 16 25 0.760751 0.639 4.00436 4.43612 0.005 0.267 0.246 571.4195 0.175 Skid Steer Loaders 2015 26 50 0.760751 0.639 4.00436 4.43612 0.005 0.267 0.246 571.4195 0.175 Skid Steer Loaders 2015 51 120 0.349713 0.294 3.33751 3.8106 0.005 0.267 0.246 571.4195 0.175 Skid Steer Loaders 2016 16 25 0.713135 0.599 3.95661 4.26784 0.005 0.241 0.221 565.2281 0.175 Skid Steer Loaders 2016 26 50 0.713135 0.599 3.95661 4.26784 0.005 0.241 0.221 565.2281 0.175 Skid Steer Loaders 2016 51 120 0.32560 0.273 1.015 0.599 3.95661 4.26784 0.005 0.241 0.221 565.2281 0.175 Skid Steer Loaders 2016 51 120 0.32560 0.273 1.015 0.005 0.275 0.015 0.0	Skid Steer Loaders	2013		50	0.908612	0.763	4.17576	4.84472	0.005	0.337	0.31	580.0144	0.171
Skid Steer Loaders	Skid Steer Loaders												0.153
Skid Steer Loaders	Skid Steer Loaders												
Skid Steer Loaders													
Skid Steer Loaders													
Skid Steer Loaders 2016 16 25 0.713135 0.599 3.95661 4.26784 0.005 0.22 0.203 511.595 0.155 Skid Steer Loaders 2016 26 50 0.713135 0.599 3.95661 4.26784 0.005 0.241 0.221 565.2281 0.175 Skid Steer Loaders 2016 51 120 0.325064 0.273 3.32767 3.53439 0.005 0.197 0.182 506.2971 0.153 Skid Steer Loaders 2017 51 120 0.325064 0.273 3.32767 3.53439 0.005 0.197 0.182 506.2971 0.153 Skid Steer Loaders 2017 52 50 0.676461 0.568 3.91907 4.11272 0.005 0.217 0.2 556.7144 0.171 Skid Steer Loaders 2017 26 50 0.676461 0.568 3.91907 4.11272 0.005 0.217 0.2 556.7144 0.171 Skid Steer Loaders 2017 51 120 0.303772 0.255 3.31863 0.005 0.177 0.162 506.2971 0.153 Skid Steer Loaders 2017 52 50 0.676461 0.568 3.91907 4.11272 0.005 0.217 0.2 556.7144 0.171 Skid Steer Loaders 2018 16 25 0.579635 0.487 3.78725 3.88962 0.005 0.178 0.164 547.5575 0.17 Skid Steer Loaders 2018 16 25 0.579635 0.487 3.78725 3.88962 0.005 0.178 0.164 547.5575 0.17 Skid Steer Loaders 2018 51 120 0.35863 0.261 3.28204 2.86 0.005 0.14 0.129 490.0935 0.153 Skid Steer Loaders 2018 51 120 0.35863 0.261 3.28204 2.86 0.005 0.14 0.129 490.0935 0.153 Skid Steer Loaders 2019 26 50 0.531282 0.446 3.73957 3.75009 0.005 0.154 0.141 539.2667 0.171 Skid Steer Loaders 2019 26 50 0.522771 0.439 3.76397 3.75009 0.005 0.154 0.141 539.2667 0.171 Skid Steer Loaders 2019 51 120 0.2373 0.199 3.27736 2.65586 0.005 0.154 0.141 539.2667 0.171 Skid Steer Loaders 2020 16 25 0.522771 0.439 3.76397 3.75009 0.005 0.154 0.141 539.267 0.171 Skid Steer Loaders 2020 16 25 0.522771 0.439 3.76397 3.75009 0.005 0.154 0.141 539.267 0.171 Skid Steer Loaders 2020 16 25 0.486515 0.409 3.73158 3.57304 0.005 0.154 0.141 539.267 0.171 Skid Steer Loaders 2021 16 25 0.486515 0.409 3.73158 3.57304 0.005 0.154 0.141 539.267 0.171 Skid Steer Loaders 2021 16 25 0.486515 0.409 3.73158 3.57304 0.005 0.156 0.166 0.171 Skid Steer Loaders 2021 16 25 0.486515 0.409 3.73158 3.75009 0.005 0.056 0.059 0.059 0.772 Skid Steer Loaders 2021 16 25 0.486515 0.409 3.73158 3.75304 0.005 0.056 0.059 0.059 0.0572 Skid Steer Loaders 2													
Skid Steer Loaders 2016 16 25 0.713135 0.599 3.95661 4.26784 0.005 0.241 0.221 565.2281 0.17 Skid Steer Loaders 2016 51 120 0.325064 0.273 3.32767 3.53439 0.005 0.197 0.182 506.2971 0.153 Skid Steer Loaders 2017 16 25 0.676461 0.568 3.91907 4.11272 0.005 0.217 0.2 556.7144 0.171 Skid Steer Loaders 2017 16 25 0.676461 0.568 3.91907 4.11272 0.005 0.217 0.2 556.7144 0.171 Skid Steer Loaders 2017 51 120 0.303772 0.255 3.31863 3.28618 0.005 0.177 0.182 498.3256 0.153 Skid Steer Loaders 2018 16 25 0.579635 0.487 3.78725 3.88962 0.005 0.177 0.162 498.3256 0.153 Skid Steer Loaders 2018 16 25 0.579635 0.487 3.78725 3.88962 0.005 0.178 0.164 547.5575 0.17 Skid Steer Loaders 2018 16 25 0.579635 0.487 3.78725 3.88962 0.005 0.178 0.164 547.5575 0.17 Skid Steer Loaders 2018 16 25 0.579635 0.487 3.78725 3.88962 0.005 0.178 0.164 547.5575 0.17 Skid Steer Loaders 2018 51 120 0.256853 0.216 3.28204 2.86 0.005 0.148 0.144 539.2667 0.171 Skid Steer Loaders 2018 51 120 0.256853 0.216 3.28204 2.86 0.005 0.147 0.124 949.03935 0.153 Skid Steer Loaders 2019 16 25 0.531282 0.446 3.73957 3.75009 0.005 0.154 0.141 539.2667 0.171 Skid Steer Loaders 2019 16 25 0.531282 0.446 3.73957 3.75009 0.005 0.154 0.141 539.2667 0.171 Skid Steer Loaders 2019 51 120 0.2373 0.199 3.27736 (2.56566 0.005 0.124 0.124 1839.2667 0.171 Skid Steer Loaders 2020 16 25 0.522771 0.439 3.76397 3.69113 0.005 0.154 0.141 539.2667 0.171 Skid Steer Loaders 2020 16 25 0.522771 0.439 3.76397 3.69113 0.005 0.154 0.141 539.2667 0.171 Skid Steer Loaders 2020 16 25 0.522771 0.439 3.76397 3.69113 0.005 0.154 0.141 539.2667 0.171 Skid Steer Loaders 2020 16 25 0.486515 0.409 3.73158 3.57304 0.005 0.165 0.14 0.133 527.7577 0.171 Skid Steer Loaders 2020 26 50 0.486515 0.409 3.73158 3.57304 0.005 0.168 0.11 527.4501 0.171 Skid Steer Loaders 2021 26 50 0.486515 0.409 3.73158 3.57304 0.005 0.168 0.11 527.4501 0.171 Skid Steer Loaders 2021 51 120 0.128181 0.44 3.2733 7.3826 0.005 0.006 0.089 471.9774 0.153 Skid Steer Loaders 2021 51 120 0.186313 0.489 3.373158 3.57304 0.005 0.089 0.08													
Skid Steer Loaders													
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Skid Steer Loaders 2017 16 25 0.676461 0.568 3.91907 4.11272 0.005 0.217 0.2 556.7144 0.177	Skid Steer Loaders												0.153
Skid Steer Loaders 2017 51 120 0.303772 0.255 3.31863 3.28618 0.005 0.177 0.162 998.3256 0.155 Skid Steer Loaders 2018 16 25 0.579635 0.487 3.78725 3.88962 0.005 0.178 0.164 547.5575 0.17 Skid Steer Loaders 2018 51 120 0.256853 0.487 3.78725 3.88962 0.005 0.178 0.164 547.5575 0.17 Skid Steer Loaders 2018 51 120 0.256853 0.216 3.28204 2.86 0.005 0.14 0.129 490.0935 0.153 Skid Steer Loaders 2019 16 25 0.531282 0.446 3.73957 3.75009 0.005 0.154 0.141 539.2667 0.171 Skid Steer Loaders 2019 26 50 0.531282 0.446 3.73957 3.75009 0.005 0.154 0.141 539.2667 0.171 Skid Steer Loaders 2019 51 120 0.2373 0.199 3.27736 2.65586 0.005 0.122 0.112 482.3844 0.153 Skid Steer Loaders 2019 51 120 0.2373 0.199 3.27736 2.65586 0.005 0.122 0.112 482.3844 0.153 Skid Steer Loaders 2020 26 50 0.522771 0.439 3.76397 3.69113 0.005 0.154 0.131 527.7577 0.171 Skid Steer Loaders 2020 26 50 0.522771 0.439 3.76397 3.69113 0.005 0.145 0.133 527.7577 0.171 Skid Steer Loaders 2020 51 120 0.224183 0.188 3.2771 2.5046 0.005 0.108 0.1 471.9075 0.153 Skid Steer Loaders 2021 16 25 0.486515 0.409 3.73158 3.57304 0.005 0.168 0.116 527.4501 0.171 Skid Steer Loaders 2021 16 25 0.486515 0.409 3.73158 3.57304 0.005 0.168 0.116 527.4501 0.171 Skid Steer Loaders 2021 26 50 0.434318 0.365 3.65597 3.43266 0.005 0.108 0.19 677.772 0.153 Skid Steer Loaders 2021 51 120 0.241817 0.178 3.26697 3.43266 0.005 0.103 0.095 527.2726 0.171 Skid Steer Loaders 2022 16 25 0.434318 0.365 3.65597 3.43266 0.005 0.093 0.086 527.4231 0.175 Skid Steer Loaders 2022 56 50 0.434318 0.365 3.65597 3.43266 0.005 0.009 0.009 471.9774 0.153 Skid Steer Loaders 2022 56 50 0.436318 0.365 3.65597 3.43266 0.005 0.009 0.009 527.2726 0.171 Skid Steer Loaders 2022 56 50 0.436318 0.365 3.65597 3.43266 0.005 0.009 0.009 527.2726 0.171 Skid Steer Loaders 2023 56 50 0.436318 0.365 3.65597 3.43266 0.005 0.009 0.009 527.2726 0.171 Skid Steer Loaders 2024 51 120 0.15637 0.183 0.343 3.6601 3.30934 0.005 0.009 0.009 527.2726 0.171 Skid Steer Loaders 2025 51 120 0.1	Skid Steer Loaders	2017	16	25	0.676461	0.568	3.91907	4.11272	0.005		0.2	556.7144	0.171
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Skid Steer Loaders 2018	Skid Steer Loaders	_											0.153
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	Skid Steer Loaders												0.037
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D-65 September 2016

Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HD	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Equipment Type Surfacing Equipment	1990	26	50	8.011	4.203	8.629	7.726	0.871	1.147	1.147	568.299	0.379
Surfacing Equipment	1990	51	120	18.985	2.203	5.473	14.403	0.791	1.214	1.214	568.299	0.198
Surfacing Equipment	1990	121	175	19.781	1.707	4.883	13.91	0.758	0.927	0.927	568.3	0.154
Surfacing Equipment	1990	176	250	31.103	1.707	4.883	13.91	0.758	0.927	0.927	568.299	0.154
Surfacing Equipment	1990	251	500	45.625	1.526	9.66	13.316	0.662	0.805	0.805	568.299	0.137
Surfacing Equipment	1990	501	750	71.58	1.526	9.66	13.316	1.018	0.82	0.82	568.299	0.137
Surfacing Equipment	2000	26	50	6.689	3.509	7.426	6.755	0.066	0.779	0.779	568.299	0.316
Surfacing Equipment	2000	51	120	14.399	1.671	4.385	9.991	0.06	0.768	0.768	568.299	0.15
Surfacing Equipment	2000	121	175	13.132	1.133	3.583	9.132	0.057	0.458	0.458	568.299	0.102
Surfacing Equipment	2000	176	250	17.689	0.97	2.937	8.84	0.057	0.385	0.385	568.299	0.087
Surfacing Equipment	2000	251	500	26.875	0.899	4.584	8.551	0.05	0.347	0.347	568.299	0.081
Surfacing Equipment	2000	501	750	42.164	0.899	4.584	8.551	0.052	0.347	0.347	568.299	0.081
Surfacing Equipment	2005	26	50	6.001	3.148	6.936	6.318	0.066	0.727	0.727	568.3	0.284
Surfacing Equipment	2005	51	120	12.568	1.458	4.122	8.636	0.06	0.718	0.718	568.299	0.131
Surfacing Equipment Surfacing Equipment	2005 2005	121 176	175 250	11.032 13.31	0.952	3.316 2.16	7.874 7.529	0.057	0.402	0.402	568.3 568.299	0.085
Surfacing Equipment Surfacing Equipment	2005	251	500	19.448	0.73	3.023	6.988	0.057	0.29	0.29	568.299	0.065
Surfacing Equipment	2005	501	750	31.164	0.664	3.019	7.132	0.052	0.262	0.262	568.299	0.059
Surfacing Equipment	2010	26	50	1.528976	1.285	4.99949		0.005	0.479	0.202	593.0498	0.033
Surfacing Equipment	2010	51	120	0.730908	0.614	3.59404		0.005	0.437	0.402	524.0289	0.173
Surfacing Equipment	2010	121	175	0.662829	0.557	3.09066		0.005	0.318	0.292	522.4909	0.152
Surfacing Equipment	2010	176	250	0.488779	0.411	1.7501	6.37687	0.005	0.212	0.195	530.3611	0.154
Surfacing Equipment	2010	251	500	0.29849	0.251	1.5491	4.43284	0.005	0.144	0.133	522.9659	0.152
Surfacing Equipment	2010	501	750	0.208991	0.176	1.09654	3.5514	0.005	0.112	0.103	524.8847	0.153
Surfacing Equipment	2011	26	50	1.476255	1.24	4.95391	5.62022	0.005	0.467	0.43	590.2612	0.172
Surfacing Equipment	2011	51	120	0.710662	0.597	3.58797	5.98734	0.005	0.427	0.393	522.8446	0.153
Surfacing Equipment	2011	121	175	0.6472	0.544	3.07389		0.005	0.312	0.287	521.1883	0.152
Surfacing Equipment	2011	176	250	0.481299	0.404	1.72048		0.005	0.207	0.191	529.0217	0.154
Surfacing Equipment	2011	251	500	0.289572	0.243	1.48634		0.005	0.136	0.125	520.4212	0.152
Surfacing Equipment	2011	501	750	0.214952	0.181		3.56055	0.005	0.113	0.104	523.5482	0.153
Surfacing Equipment	2012	26	50	1.500607	1.261	5.03037	5.63914	0.005	0.473	0.435	588.7118	0.172
Surfacing Equipment	2012	51	120	0.709653	0.596	3.59999		0.005	0.426	0.392	521.4233	0.153
Surfacing Equipment Surfacing Equipment	2012 2012	121 176	175 250	0.653605 0.481696	0.549	3.0893 1.72816	6.48747 6.22653	0.005	0.315	0.29	519.886 527.6815	0.152 0.154
Surfacing Equipment	2012	251	500	0.290035	0.403	1.49574		0.005	0.207	0.191	519.0487	0.152
Surfacing Equipment	2012	501	750	0.210249	0.177	1.04051	3.45723	0.005	0.109	0.124	521.0672	0.152
Surfacing Equipment	2013	26	50	1.455428	1.223		5.53803	0.005	0.457	0.421	585.7193	0.172
Surfacing Equipment	2013	51	120	0.69949	0.588	3.60266		0.005	0.415	0.382	518.7481	0.153
Surfacing Equipment	2013	121	175	0.588968	0.495	3.00889		0.005	0.286	0.263	518.4738	0.152
Surfacing Equipment	2013	176	250	0.441295	0.371	1.62196		0.005	0.187	0.172	524.5301	0.154
Surfacing Equipment	2013	251	500	0.288988	0.243	1.50462	4.09243	0.005	0.131	0.121	516.1488	0.152
Surfacing Equipment	2013	501	750	0.215353	0.181	1.04387	3.46124	0.005	0.11	0.101	518.3853	0.152
Surfacing Equipment	2014	26	50	1.358041	1.141	4.87668	5.42525	0.005	0.434	0.399	582.7249	0.172
Surfacing Equipment	2014	51	120	0.665267			5.52029	0.005	0.391	0.36	516.3377	0.153
Surfacing Equipment	2014	121	175	0.561853			5.71146	0.005	0.273	0.251	515.8203	
Surfacing Equipment	2014	176	250	0.364211	0.306		5.10182	0.005	0.149	0.137	521.4518	
Surfacing Equipment	2014	251	500	0.2821	0.237	1.50147		0.005	0.125	0.115		0.152
Surfacing Equipment	2014	501	750	0.206755	0.174		3.28435	0.005	0.103	0.095		0.153
Surfacing Equipment	2015	26	50	1.223408	1.028	4.69178		0.005	0.402	0.37	576.7706	
Surfacing Equipment	2015	51	120	0.651534	0.547	3.57496	5.37414	0.005	0.378	0.348	510.1417	0.152
Surfacing Equipment Surfacing Equipment	2015 2015	121 176	175 250	0.568 0.36864	0.477		5.73307	0.005	0.276 0.151	0.254	510.5481 516.058	0.152 0.154
Surfacing Equipment	2015	251	500	0.386581	0.241	1.51303		0.005	0.131	0.139	508.3985	
Surfacing Equipment	2015	501	750	0.211433			3.28678	0.005	0.120	0.110		0.152
Surfacing Equipment	2016	26	50	1.243319	1.045		5.27275	0.005	0.406	0.030	570.8145	0.172
Surfacing Equipment	2016	51	120	0.621267	0.522		5.05142	0.005	0.349	0.321	505.0873	
Surfacing Equipment	2016	121	175	0.544572		3.00649		0.005	0.265	0.244		0.152
Surfacing Equipment	2016	176	250	0.365495	0.307	1.42946		0.005	0.148	0.136	510.7058	0.154
Surfacing Equipment	2016	251	500	0.258417	0.217		3.46816	0.005	0.111	0.102		
Surfacing Equipment	2016	501	750	0.192579		0.99966		0.005	0.093	0.085	506.967	0.153
Surfacing Equipment	2017	26	50	1.10469	0.928	4.60324		0.006	0.365	0.336	564.4772	0.173
Surfacing Equipment	2017	51	120	0.604716		3.55587		0.005	0.337	0.31	498.36	0.153
Surfacing Equipment	2017	121	175	0.541755	0.455		5.39296	0.005	0.264	0.243	496.2741	0.152
Surfacing Equipment	2017	176	250	0.325463	0.273	1.3431	4.46793	0.005	0.129	0.119	501.8465	0.154
Surfacing Equipment	2017	251	500	0.242435	0.204		3.10636	0.005	0.103	0.094	496.885	0.152
Surfacing Equipment	2017	501	750	0.190932	0.16		2.76955	0.005	0.09	0.083	499.7117	0.153
Surfacing Equipment	2018	26	50	0.927049	0.779		4.81982	0.006	0.32	0.294	555.7363	0.173
Surfacing Equipment	2018	51	120	0.49279		3.48871	4.28388	0.005	0.268	0.247	491.3172	0.153
Surfacing Equipment	2018	121	175	0.44632		2.97609		0.005	0.215	0.198	488.4406	
Surfacing Equipment	2018	176	250	0.286758	0.241	1.234	3.98866	0.005	0.113	0.104	494.1388	0.154

D-66 September 2016

Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Surfacing Equipment 2018 261 500 0.1187325 0.1671 1,2567 2,2588 0,006 0.076 0.077 487.8722 0.1182 1,576	Carrier and Torre	V	I UD	11:-1-115	T00	DOO	- 00	NOV	000	L DN440	DMO 5	000	1 0114
Surfacing Equipment 2019 26 90 750 0168556 10142 098347 20885 00.05 0.075 0.077 88.88 0.152	Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Surfacing Equipment 2019 26 50 0.755381 043 4.0998 4.1999 0.006 0.25 0.23 647.0482 0.1755 0.25501600 0.0076	<u> </u>												
Surfacing Equipment 2019 51 120 0.4.2278 0.356 3.44850 3.82008 0.005 0.204 0.1074 0.00	<u> </u>												
Surfacing Equipment 2019 121 175 0.425034 0.377 2.97177 4.2866 0.006 0.204 0.187 479.6717 0.182 5.007160 0.0071	0 1 1												
Surfacing Equipment 2019 976 500 0.257694 0.217 12.176 3.9893 0.050 0.010 0.093 486.4477 0.154 0.055 0.055 0.075 0.005									0.005			479.6717	
Surfacing Equipment 2019 501 750 0.168821 0.342 0.99372 2.78787 0.005 0.076 0.077 490.166 0.152 0.01461 0.006 0.216 0.006 0.216 0.006 0.006 0.216 0.00	Surfacing Equipment	2019	176	250	0.257694	0.217	1.21576	3.39993	0.005	0.101	0.093	486.8417	0.154
Surfacing Equipment 2020 26 50 0.637408 0.398 1,93397 4,23906 0.006 0.216 0.199 1535,5279 0.175 0.175 0.0076 0.0077 0.0076 0.007	Surfacing Equipment	2019	251	500	0.173135	0.145	1.2143	1.89944	0.005	0.068	0.063	481.8965	0.152
Surfacing Equipment 2020 51 120 0.392246 0.33 3.43932 51216 0.006 0.705 0.709 473.8188 0.153 Surfacing Equipment 2020 176 250 0.392246 0.392 5.29308 3.67326 0.005 0.176 1480.5079 0.152 5.29306 0.2022 0.005 0.176 0.009 476.4261 0.154 5.29306 0.2022 0.005 0.176 0.009 476.4261 0.154 5.29306 0.2022 0.005 0.176 0.009 476.4261 0.154 5.29306 0.005 0.007 0.009 476.4261 0.154 5.29306 0.005 0.007 0.009 476.4261 0.154 5.29306 0.005 0.007 0.009 476.4261 0.154 5.29306 0.005 0.007 0.009 476.4261 0.154 5.29306 0.005 0.007 0.009 476.4261 0.154 5.29306 0.005 0.007 0.009 476.4261 0.154 5.29306 0.005 0.007 0.009 476.4261 0.154 5.29306 0.005 0.007 0.009 476.4261 0.154 5.29306 0.005 0.007 0.009 476.4261 0.154 5.29306 0.005 0.007 0.009 0.007 0.009 0.009 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00	Surfacing Equipment						0.99372						
Surfacing Equipment 2020	<u> </u>												
Surfacing Equipment 2020 176 250 0.252128 0.212 121714 3.22243 0.005 0.097 0.088 476.4261 0.154 Surfacing Equipment 2020 501 750 0.158671 0.142 0.05869 2.08374 0.005 0.074 0.088 476.4261 0.154 Surfacing Equipment 2021 501 750 0.158671 0.142 0.05869 2.08374 0.005 0.074 0.068 476.833 0.152 0.052													
Surfacing Equipment 2020 251 500 0.173203 0.146 12.1002 1.83756 0.006 0.07 0.002 471.0331 0.1532 Surfacing Equipment 2021 26 501 0.168871 0.1532 0.98698 0.0037 0.005 0.07 0.002 471.0331 0.1532 Surfacing Equipment 2021 26 50 0.60314 0.507 3.93231 4.18875 0.006 0.244 0.188 535.784 0.1735 0.307607 0.005 0.7075 0.705 0.0													
Surfacing Equipment 2021 501 750 0.188871 0.142 0.39589 2.09374 0.005 0.074 0.068 146,6252 0.152 Surfacing Equipment 2021 51 120 0.370971 0.323 1.481875 0.006 0.205 0.074 0.068 146,6252 0.152 Surfacing Equipment 2021 51 120 0.370971 0.323 1.481875 0.006 0.051 0.175 0.476,000 0.153 Surfacing Equipment 2021 176 250 0.370971 0.321 3.48181 3.48112 0.005 0.191 0.175 474.0006 0.153 Surfacing Equipment 2021 176 250 0.24586 0.207 1.2154 2.9936 0.005 0.092 0.085 477.7448 0.152 Surfacing Equipment 2021 51 500 0.167580 1.11 1.02026 1.752 0.0958 0.005 0.092 0.085 477.7448 0.152 0.1	<u> </u>												
Surfacing Equipment 2021 26 50 0.60314 0.507 3.93231 4.18075 0.006 0.204 0.188 1535.784 0.1716 0.00716	0 1 1												
Surfacing Equipment 2021 51 120 0.370907 0.312 3.48619 3.486112 0.005 0.191 0.175 474.0090 0.158 0.0074 0.005 0.00						_							
Surfacing Equipment 2021 121 175 0.307112 0.258 2.91995 0.0958 0.005 0.145 0.134 469.1687 0.132 0.0074 0.0099 0.005 0.0064 0.0059 0.0064 0.006	Surfacing Equipment												
Surfacing Equipment 2021 251 500 0.16788 0.141 1.20226 1.75222 0.005 0.064 0.056 471.7484 0.158 Surfacing Equipment 2021 250 501 0.148802 1.152 0.99181 1.5971 2.005 0.057 470.7487 0.158 Surfacing Equipment 2022 26 50 0.599183 0.428 3.77243 3.9114 0.006 0.154 0.142 535.8364 0.173 Surfacing Equipment 2022 151 175 0.288318 0.239 2.90957 2.70137 0.005 0.13 0.12 4681259 0.158 Surfacing Equipment 2022 176 250 0.231350 1.056 1.273 0.005 0.13 0.12 4681259 0.158 Surfacing Equipment 2022 251 500 0.158717 0.158 1.758 0.005 0.057 0.005 0.13 0.12 4681259 0.158 Surfacing Equipment 2022 251 500 0.158717 0.158 1.758 0.005 0.057 0.005 0.057 0.005 0.007 0.005 0.00	Surfacing Equipment	2021	121	175	0.307112	0.258	2.91895	3.09858	0.005		0.134		0.152
Surfacing Equipment 2021 501 750 0.148862 0.125 0.99181 1.59712 0.005 0.067 0.074 70.4087 0.152 Surfacing Equipment 2022 51 170 0.34882 0.293 3.40936 3.4474 0.005 0.175 0.151 1.73 6.3863 0.153 Surfacing Equipment 2022 121 170 0.34882 0.293 3.40936 3.4474 0.005 0.175 0.161 473.6362 0.153 Surfacing Equipment 2022 176 250 0.34882 0.293 3.40936 3.4474 0.005 0.175 0.161 473.6362 0.153 Surfacing Equipment 2022 176 250 0.233135 0.196 1.21737 2.66709 0.005 0.078 476.9511 0.154 Surfacing Equipment 2022 251 500 0.1547 0.132 1.01647 1.5573 0.005 0.075 0.053 0.076 476.9516 0.155 Surfacing Equipment 2022 561 750 0.136805 0.116 0.98819 1.35503 0.005 0.052 0.084 470.4004 0.152 Surfacing Equipment 2023 51 120 0.321277 0.27 0.39556 3.05811 0.005 0.155 0.141 474.4898 0.153 Surfacing Equipment 2023 176 250 0.22795 0.192 1.21946 2.50162 0.005 0.051 0.014 474.4898 0.153 Surfacing Equipment 2023 176 250 0.22795 0.192 1.21946 2.50162 0.005 0.056 0.017 476.9606 0.154 Surfacing Equipment 2023 251 0.005 0.1545 0.118 0.114 474.4898 0.153 Surfacing Equipment 2023 501 750 0.119512 0.11 0.98843 1.08053 0.005 0.016 0.017 470.346 0.152 Surfacing Equipment 2024 561 570 0.39686 0.154 0.153 0.154 0.154 0.154 Surfacing Equipment 2024 561 570 0.39686 0.154 0.154 0.154 0.154 Surfacing Equipment 2024 51 176 2.029679 0.251 3.3993 2.8828 0.005 0.014 0.037 472.4466 0.153 Surfacing Equipment 2024 51 176 2.029679 0.251 3.3993 2.8828 0.005 0.014 0.017 475.966 0.154 Surfacing Equipment 2024 51 176 2.029679 0.251 3.3993 2.8828 0.005 0.014 0.017 475.966 0.154 Surfacing Equipment 2024 51 176 2.29679 0.251 3.3993 0.8850 0.055	Surfacing Equipment	2021			0.245986	0.207	1.21854	2.99364	0.005	0.092	0.085	476.8023	0.154
Surfacing Equipment 2022 26 50 0.599163 0.428 3.77243 3.9114 0.006 0.154 0.142 535.8364 0.173 Surfacing Equipment 2022 121 175 0.348818 0.233 2.90987 2.70137 0.005 0.18 0.175 0.181 747.8362 0.153 Surfacing Equipment 2022 176 250 0.233180 0.238 2.90987 2.70137 0.005 0.03 0.024 468.1259 0.152 Surfacing Equipment 2022 251 500 0.167417 0.132 1.16047 1.5573 0.005 0.081 0.078 476.9591 0.152 Surfacing Equipment 2022 251 500 0.167417 0.132 1.16047 1.5573 0.005 0.081 0.078 470.4004 0.152 Surfacing Equipment 2022 501 750 0.136805 0.155 0.98819 1.35653 0.006 0.052 0.084 470.4004 0.152 Surfacing Equipment 2023 26 50 0.51987 0.437 3.83184 3.9242 0.006 0.155 0.144 535.9295 0.173 Surfacing Equipment 2023 51 120 0.321277 0.07 3.93566 0.0581 0.0157 0.144 470.4094 0.152 Surfacing Equipment 2023 176 2.087066 0.224 2.91383 2.4516 0.005 0.159 0.147 470.0141 0.152 Surfacing Equipment 2023 176 0.987066 0.224 2.91383 2.4516 0.005 0.159 0.147 470.0141 0.152 Surfacing Equipment 2023 176 0.987066 0.224 2.91383 2.4516 0.005 0.015 0.014 0.074 0.152 Surfacing Equipment 2023 251 500 0.156473 0.131 1.6329 1.47556 0.005 0.056 0.051 470.3746 0.152 Surfacing Equipment 2023 251 500 0.156473 0.131 1.6329 1.47556 0.005 0.056 0.051 470.3746 0.152 Surfacing Equipment 2024 26 50 0.396453 0.333 3.66193 1.76628 0.005 0.014 0.017 0.7663 0.152 Surfacing Equipment 2024 26 50 0.396453 0.333 3.66193 3.7628 0.005 0.014 0.017 0.7663 0.018	Surfacing Equipment												
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Surfacing Equipment 2022 251 500 0.157417 0.132 1.16047 1.5573 0.005 0.057 0.053 470.5248 0.152 Surfacing Equipment 2022 501 750 0.138060 0.151 70.0 1.05080 0.051 1.006 0.052 0.064 470.4004 0.152 Surfacing Equipment 2023 51 1.006 0.051 0.051 0.054 470.4004 0.152 Surfacing Equipment 2023 51 1.006 0.051 0.051 0.051 0.161 0.161 0.162 0.163 0.161 0.161 0.162 0.163 0.161 0.161 0.162 0.163 0.161 0.161 0.162 0.163 0.161 0.161 0.162 0.163 0.162 0.163 0.161 0.161 0.162 0.163 0.163 0.161 0.161 0.162 0.163 0.162 0.163 0.161 0.162 0.163 0.163 0.161 0.162 0.163 0.163 0.161 0.162 0.163 0.163 0.161 0.162 0.163 0.1	<u> </u>												
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Surfacing Equipment 2023 251 500 0.1586473 0.131 1.16329 1.47556 0.005 0.056 0.051 470.3746 0.152 Surfacing Equipment 2024 26 50 0.396453 0.333 3.66193 3.72069 0.006 0.116 0.107 536.0304 0.173 Surfacing Equipment 2024 26 50 0.396453 0.333 3.66193 3.72069 0.006 0.116 0.107 536.0304 0.173 Surfacing Equipment 2024 27 175 0.271298 0.281 3.9393 2.8628 0.005 0.142 0.131 475.3806 0.154 Surfacing Equipment 2024 176 250 0.29160 0.716 1.18272 2.29383 0.005 0.071 0.065 477.096 0.154 Surfacing Equipment 2024 176 2.50 0.29160 0.76 1.18272 2.29383 0.005 0.071 0.065 477.096 0.154 Surfacing Equipment 2024 501 750 0.112194 0.094 0.98493 0.94669 0.005 0.056 0.051 477.096 0.154 Surfacing Equipment 2025 26 50 0.279239 0.235 3.53733 3.57642 0.006 0.032 0.072 5.861.4 0.773 Surfacing Equipment 2025 51 120 0.276433 0.232 3.35733 3.57642 0.006 0.082 0.075 5.861.4 0.773 Surfacing Equipment 2025 51 176 0.227452 0.187 2.92802 1.987 0.005 0.056 0.051 477.111 0.154 Surfacing Equipment 2025 176 2.50 0.176026 0.148 1.14337 1.74736 0.05 0.055 0.051 477.111 0.154 Surfacing Equipment 2025 251 500 0.152175 0.128 1.16861 1.3268 0.005 0.051 0.047 470.2827 0.152 Surfacing Equipment 2025 251 500 0.152175 0.128 1.16861 1.3268 0.005 0.055 0.051 477.111 0.154 Surfacing Equipment 2025 251 500 0.152175 0.128 1.16861 1.3268 0.005 0.055 0.051 477.111 0.154 Surfacing Equipment 2025 251 500 0.152175 0.128 1.16861 1.3268 0.005 0.055 0.051 477.111 0.154 Surfacing Equipment 2025 251 500 0.152175 0.128 1.16861 1.3268 0.005 0.055 0.051 0.075 0.556 0.152 Surfacing Equipment 2025 251 250 250 250 250 250 250 250 250 250 250 250	Surfacing Equipment												
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Sweepers/Scrubbers 1990 6 15 4.971 1.804 5 9.999 0.833 0.968 0.968 568.299 0.162 Sweepers/Scrubbers 1990 16 25 10.019 2.213 5 6.92 0.679 0.735 0.735 568.299 0.199 Sweepers/Scrubbers 1990 26 50 32.867 4.512 9.199 7.836 0.692 1.202 1.202 568.299 0.407 Sweepers/Scrubbers 1990 51 120 39.044 2.254 5.53 14.467 0.628 1.259 1.259 568.299 0.203 Sweepers/Scrubbers 1990 121 175 48.318 1.505 4.861 12.813 0.602 0.818 0.818 568.299 0.135 Sweepers/Scrubbers 1990 176 250 56.322 1.505 4.861 12.813 0.602 0.818 0.818 568.299 0.135 Sweepers/Scrubbers 2000 6	Surfacing Equipment												
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Sweepers/Scrubbers 1990 26 50 32.867 4.512 9.199 7.836 0.692 1.202 1.202 568.299 0.407 Sweepers/Scrubbers 1990 51 120 39.044 2.254 5.53 14.467 0.628 1.259 1.259 568.299 0.203 Sweepers/Scrubbers 1990 121 175 48.318 1.505 4.861 12.813 0.602 0.818 0.818 568.299 0.135 Sweepers/Scrubbers 1990 176 250 56.322 1.505 4.861 12.813 0.602 0.818 0.818 568.299 0.135 Sweepers/Scrubbers 2000 6 15 2.886 1.047 4.258 7.362 0.079 0.428 0.428 568.299 0.094													
Sweepers/Scrubbers 1990 51 120 39.044 2.254 5.53 14.467 0.628 1.259 1.259 568.299 0.203 Sweepers/Scrubbers 1990 121 175 48.318 1.505 4.861 12.813 0.602 0.818 0.818 568.299 0.135 Sweepers/Scrubbers 1990 176 250 56.322 1.505 4.861 12.813 0.602 0.818 0.818 568.299 0.135 Sweepers/Scrubbers 2000 6 15 2.886 1.047 4.258 7.362 0.079 0.428 0.428 568.299 0.094													
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Sweepers/Scrubbers 1990 176 250 56.322 1.505 4.861 12.813 0.602 0.818 0.818 568.299 0.135 Sweepers/Scrubbers 2000 6 15 2.886 1.047 4.258 7.362 0.079 0.428 0.428 568.299 0.094													
Sweepers/Scrubbers 2000 6 15 2.886 1.047 4.258 7.362 0.079 0.428 0.428 568.299 0.094													
	Sweepers/Scrubbers												
	Sweepers/Scrubbers												0.098

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Facility as a set Time	V	Lawill	I I ala I ID	TOG	DOC		NOV	000	DM40	ם מסוב	CO2	CHA
Equipment Type Sweepers/Scrubbers	Year 2000	26	High HP 50	30.182	ROG 4.144	CO 8.622	NOX 6.934	SO2 0.065	PM10 0.882	PM2.5 0.882	568.299	CH4 0.373
Sweepers/Scrubbers	2000	51	120	29.565	1.706	4.394	9.702	0.059	0.84	0.84	568.299	0.373
Sweepers/Scrubbers	2000	121	175	37.084	1.155	3.49	8.929	0.057	0.481	0.481	568.299	0.104
Sweepers/Scrubbers	2000	176	250	34.578	0.924	2.598	8.516	0.057	0.371	0.371	568.3	0.083
Sweepers/Scrubbers	2005	6	15	1.951	0.708	3.469	4.985	0.079	0.35	0.35	568.299	0.063
Sweepers/Scrubbers	2005	16	25	3.505	0.774	2.526	5.326	0.064	0.323	0.323	568.299	0.069
Sweepers/Scrubbers	2005	26	50	28.008	3.845	8.25	6.52	0.065	0.844	0.844	568.299	0.346
Sweepers/Scrubbers	2005	51	120	27.009	1.559	4.253	8.538	0.059	0.826	0.826	568.299	0.14
Sweepers/Scrubbers	2005	121	175	32.779	1.021	3.349	7.851	0.057	0.45	0.45	568.3	0.092
Sweepers/Scrubbers	2005	176	250	25.002	0.668	1.76	7.318	0.057	0.258	0.258	568.299	0.06
Sweepers/Scrubbers	2010	6	15	2.154395	1.81	6.34286	5.8263	0.005	0.615	0.566	583.6982	0.17
Sweepers/Scrubbers	2010	16	25	2.154395	1.81	6.34286	5.8263	0.005	0.615	0.566	583.6982	0.17
Sweepers/Scrubbers	2010	26	50	2.154395	1.81	6.34286	5.8263	0.005	0.615	0.566	583.6982	0.17
Sweepers/Scrubbers	2010	51	120	1.093749	0.919	4.10149		0.005	0.657	0.604	526.7953	0.153
Sweepers/Scrubbers	2010	121	175	1.189152	0.999	4.21032	10.3895	0.005	0.578	0.532	525.6912	0.153
Sweepers/Scrubbers	2010 2011	176	250 15	0.69332 2.104606	0.583 1.768	6.34227	7.47446 5.80317	0.005	0.319	0.294	522.3625 582.239	0.152 0.17
Sweepers/Scrubbers Sweepers/Scrubbers	2011	6 16	25	2.104606	1.768	6.34227	5.80317	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	26	50	2.104606	1.768	6.34227	5.80317	0.005	0.606	0.557	582.239	0.17
Sweepers/Scrubbers	2011	51	120	1.070043	0.899	4.08877	7.49949	0.005	0.651	0.599	525.4783	0.17
Sweepers/Scrubbers	2011	121	175	1.134336	0.953	4.14616		0.005	0.554	0.509	524.377	0.153
Sweepers/Scrubbers	2011	176	250	0.623199	0.524	2.16425		0.005	0.284	0.261	521.0566	0.152
Sweepers/Scrubbers	2012	6	15	2.177617	1.83		5.85015	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	16	25	2.177617	1.83		5.85015	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	26	50	2.177617	1.83	6.54958	5.85015	0.005	0.621	0.571	580.7797	0.17
Sweepers/Scrubbers	2012	51	120	1.078889	0.907	4.12474		0.005	0.659	0.606	524.1613	0.153
Sweepers/Scrubbers	2012	121	175	1.141423	0.959	4.16243	9.95689	0.005	0.558	0.513	523.0627	0.153
Sweepers/Scrubbers	2012	176	250	0.63315	0.532	2.17716		0.005	0.286	0.264	519.7507	0.152
Sweepers/Scrubbers	2013	6	15	2.124198	1.785		5.78778	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	16	25	2.124198	1.785		5.78778	0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	26	50	2.124198	1.785	6.54294		0.005	0.608	0.559	577.8612	0.17
Sweepers/Scrubbers	2013	51	120	1.019559	0.857		7.14773	0.005	0.626	0.576	521.5273	0.153
Sweepers/Scrubbers	2013 2013	121 176	175 250	1.122038	0.943	4.12302	9.76352	0.005	0.547	0.503	520.4343 517.1389	0.153
Sweepers/Scrubbers Sweepers/Scrubbers	2013	6	15	0.590836 2.103399	0.496 1.767	2.05413 6.59249		0.005	0.263	0.242	574.9427	0.152 0.17
Sweepers/Scrubbers	2014	16	25	2.103399	1.767	6.59249		0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	26	50	2.103399	1.767	6.59249		0.005	0.603	0.555	574.9427	0.17
Sweepers/Scrubbers	2014	51	120	0.990916	0.833	4.07085		0.005	0.61	0.562	518.8933	0.153
Sweepers/Scrubbers	2014	121	175	1.041854	0.875	4.04161	9.10792	0.005	0.503	0.463	517.8058	0.153
Sweepers/Scrubbers	2014	176	250	0.600544	0.505	2.06593	6.70399	0.005	0.265	0.244	514.5271	0.152
Sweepers/Scrubbers	2015	6	15	2.151059	1.807	6.75408	5.77191	0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	16	25	2.151059	1.807	6.75408		0.005	0.611	0.562	569.1058	0.17
Sweepers/Scrubbers	2015	26	50	2.151059	1.807		5.77191	0.005	0.611	0.562		
Sweepers/Scrubbers	2015	51	120	0.991855	0.833	4.09682		0.005	0.61	0.561	513.6254	0.153
Sweepers/Scrubbers	2015	121	175	0.998266	0.839	3.98239		0.005	0.479	0.441	512.5489	0.153
Sweepers/Scrubbers	2015	176	250	0.610252		2.07774		0.005	0.268	0.246	509.3035	0.152
Sweepers/Scrubbers	2016	6	15	2.119969	1.781		5.72609	0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers	2016	16	25	2.119969	1.781	6.78514		0.005	0.603	0.555	563.2688	0.17
Sweepers/Scrubbers Sweepers/Scrubbers	2016 2016	26 51	50 120	2.119969 0.931404	1.781 0.783		5.72609 6.45405	0.005	0.603 0.571	0.555 0.525	563.2688 508.3574	0.17 0.153
Sweepers/Scrubbers Sweepers/Scrubbers	2016	121	175	0.931404	0.783		7.78746	0.005	0.571	0.525	508.3574	0.153
Sweepers/Scrubbers	2016	176	250	0.61965	0.746	2.08905		0.005	0.419	0.365	507.292	0.153
Sweepers/Scrubbers	2017	6	15	2.037349	1.712		5.62558	0.005	0.582	0.535	554.5133	0.132
Sweepers/Scrubbers	2017	16	25	2.037349	1.712	6.7185	5.62558	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	26	50	2.037349	1.712		5.62558	0.005	0.582	0.535	554.5133	0.17
Sweepers/Scrubbers	2017	51	120	0.857444	0.72	4.01005		0.005	0.52	0.479	500.4555	
Sweepers/Scrubbers	2017	121	175	0.845582	0.711		7.42433	0.005	0.395	0.363	499.4066	0.153
Sweepers/Scrubbers	2017	176	250	0.610026	0.513	2.08973		0.005	0.264	0.243	496.2444	0.152
Sweepers/Scrubbers	2018	6	15	1.838607	1.545		5.39866	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	16	25	1.838607	1.545	6.4442	5.39866	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	26	50	1.838607	1.545		5.39866	0.005	0.531	0.488	545.7578	0.17
Sweepers/Scrubbers	2018	51	120	0.713411	0.599		5.13595	0.005	0.428	0.394	492.5536	
Sweepers/Scrubbers	2018	121	175	0.700892	0.589	3.58832		0.005	0.32	0.294	491.5213	0.153
Sweepers/Scrubbers	2018	176	250	0.415916	0.349		4.30158	0.005	0.169	0.156	488.409	0.152
Sweepers/Scrubbers	2019	6	15	1.703052	1.431	6.26782		0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	16	25	1.703052	1.431	6.26782		0.005	0.491	0.452	537.0023	0.17
Sweepers/Scrubbers	2019	26	50	1.703052	1.431	6.26782		0.005	0.491	0.452		0.17
Sweepers/Scrubbers	2019	51	120	0.654062	0.55		4.77259	0.005	0.387	0.356	484.6516	
Sweepers/Scrubbers	2019	121	175	0.62277	0.523	3.4491	5.30082	0.005	0.277	0.255	483.6359	
Sweepers/Scrubbers	2019	176	250	0.279258	0.235	1.23013	2.86598	0.005	0.099	0.091	480.5735	0.152

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

E				T00	D00		NOV	000	DMAG	D140.5	000	0114
Equipment Type	Year	Low HP	_	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Sweepers/Scrubbers Sweepers/Scrubbers	2020 2020	6 16	15 25	1.599203 1.599203	1.344	6.1554 6.1554	5.09515	0.005	0.463	0.426 0.426	525.3284 525.3284	0.17
Sweepers/Scrubbers	2020	26	50	1.599203	1.344	6.1554	5.09515	0.005	0.463	0.426	525.3284	0.17 0.17
Sweepers/Scrubbers	2020	51	120	0.618762	0.52	3.82752	4.4821	0.005	0.463	0.420	474.1157	0.17
Sweepers/Scrubbers	2020	121	175	0.549287	0.462	3.35909		0.005	0.237	0.218	473.1221	0.153
Sweepers/Scrubbers	2020	176	250	0.246498	0.207	1.13655		0.005	0.079	0.073	470.1263	0.152
Sweepers/Scrubbers	2021	6	15	1.450842	1.219	5.89996		0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	16	25	1.450842	1.219	5.89996		0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	26	50	1.450842	1.219	5.89996	4.84946	0.005	0.412	0.379	525.3284	0.17
Sweepers/Scrubbers	2021	51	120	0.523878	0.44	3.75746	3.96194	0.005	0.291	0.268	474.1157	0.153
Sweepers/Scrubbers	2021	121	175	0.457963	0.385	3.24726	3.70723	0.005	0.187	0.172	473.1221	0.153
Sweepers/Scrubbers	2021	176	250	0.195441	0.164	1.1084	1.75821	0.005	0.055	0.051	470.1263	0.152
Sweepers/Scrubbers	2022	6	15	1.199805	1.008	5.45118		0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	16	25	1.199805	1.008	5.45118		0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	26	50	1.199805	1.008		4.49049	0.005	0.335	0.308	525.3284	0.17
Sweepers/Scrubbers	2022	51	120	0.443216	0.372		3.47218	0.005	0.232	0.214	474.1157	0.153
Sweepers/Scrubbers	2022	121	175	0.382446	0.321		3.00243	0.005	0.145	0.133	473.1221	0.153
Sweepers/Scrubbers Sweepers/Scrubbers	2022 2023	176	250 15	0.181362 0.903476	0.152	1.10147 4.97095		0.005	0.05	0.046	470.1263 525.3284	0.152
	2023	6 16	25	0.903476	0.759	4.97095		0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers Sweepers/Scrubbers	2023	26	50	0.903476	0.759	4.97095		0.005	0.248	0.229	525.3284	0.17
Sweepers/Scrubbers	2023	51	120	0.903476	0.759		3.28536	0.005	0.246	0.229	474.1157	0.17
Sweepers/Scrubbers	2023	121	175	0.417244	0.331		2.60853	0.005	0.126	0.116	473.1221	0.153
Sweepers/Scrubbers	2023	176	250	0.188622	0.158	1.11413		0.005	0.05	0.046	470.1263	0.152
Sweepers/Scrubbers	2024	6	15	0.887865	0.746	5.00321	4.0788	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	16	25	0.887865	0.746	5.00321	4.0788	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	26	50	0.887865	0.746	5.00321	4.0788	0.005	0.239	0.219	525.3284	0.17
Sweepers/Scrubbers	2024	51	120	0.395131	0.332	3.69288	3.09846	0.005	0.188	0.173	474.1157	0.153
Sweepers/Scrubbers	2024	121	175	0.316819	0.266	3.23374		0.005	0.107	0.099	473.1221	0.153
Sweepers/Scrubbers	2024	176	250	0.195631	0.164	1.12729		0.005	0.051	0.046	470.1263	0.152
Sweepers/Scrubbers	2025	6	15	0.740656	0.622	4.76791	3.85568	0.005	0.191	0.176	525.3284	0.17
Sweepers/Scrubbers	2025	16	25	0.740656	0.622	4.76791	3.85568	0.005	0.191	0.176	525.3284	0.17
Sweepers/Scrubbers	2025	26	50	0.740656	0.622	4.76791	3.85568	0.005	0.191	0.176	525.3284	0.17
Sweepers/Scrubbers	2025	51	120	0.360743	0.303	3.66402		0.005	0.16	0.147	474.1157	0.153
Sweepers/Scrubbers Sweepers/Scrubbers	2025 2025	121 176	175 250	0.25385	0.213	3.201 1.14005	1.63811	0.005	0.072	0.066	473.1221 470.1263	0.153 0.152
Sweepers/Scrubbers	2025	6	15	1.624	0.17	3.47	1.61588 4.142	0.005	0.051	0.047	568.299	0.152
Sweepers/Scrubbers	2030	16	25	3.103	0.685	2.34	4.332	0.007	0.161	0.161	568.299	0.061
Sweepers/Scrubbers	2030	26	50	3.714	0.509	4.947	3.294	0.007	0.026	0.026	568.299	0.046
Sweepers/Scrubbers	2030	51	120	4.528	0.261	3.703	1.569	0.006	0.023	0.023	568.299	0.023
Sweepers/Scrubbers	2030	121	175	6.02	0.187	3.275	0.431	0.006	0.017	0.017	568.299	0.016
Sweepers/Scrubbers	2030	176	250	6.813	0.182	1.116	0.37	0.006	0.013	0.013	568.299	0.016
Sweepers/Scrubbers	2035	6	15	1.624	0.589	3.47	4.142	0.008	0.161	0.161	568.299	0.053
Sweepers/Scrubbers	2035	16	25	3.103	0.685	2.34	4.332	0.007	0.161	0.161	568.3	0.061
Sweepers/Scrubbers	2035	26	50	3.681	0.505	4.929	3.214	0.007	0.017	0.017	568.299	0.045
Sweepers/Scrubbers	2035	51	120	4.386	0.253	3.698	1.486	0.006	0.016	0.016	568.299	0.022
Sweepers/Scrubbers	2035	121	175	5.628	0.175	3.271	0.313	0.006	0.012	0.012	568.299	0.015
Sweepers/Scrubbers	2035	176	250	6.501	0.173	1.114	0.294	0.006	0.011	0.011	568.299	0.015
Sweepers/Scrubbers	2040	6	15	1.624	0.589	3.47	4.142	0.008	0.161	0.161	568.3	0.053
Sweepers/Scrubbers	2040	16	25	3.103	0.685	2.34	4.332	0.007	0.161	0.161	568.299	0.061
Sweepers/Scrubbers	2040	26	50	3.675	0.504	4.925	3.203	0.007	0.016	0.016	568.3	0.045
Sweepers/Scrubbers	2040	51 121	120 175	4.354	0.251	3.697	1.469	0.006	0.015	0.015	568.299 568.299	0.022
Sweepers/Scrubbers Sweepers/Scrubbers	2040 2040	176	250	5.537 6.454	0.172 0.172	3.27 1.114	0.284 0.284	0.006	0.011	0.011	568.299	0.015
Tractors/Loaders/Backhoes	1990	16	250	5.699	2.213	4.999	6.919	0.855	0.741	0.011	568.299	0.015
Tractors/Loaders/Backhoes	1990	26	50	23.587	4.787	9.698	7.939	0.853	1.267	1.267	568.299	0.199
Tractors/Loaders/Backhoes	1990	51	120	19.595	2.333	5.659	14.779	0.791	1.327	1.327	568.299	0.431
Tractors/Loaders/Backhoes	1990	121	175	28.833	1.751	5.008	14.021	0.758	0.974	0.974	568.299	0.158
Tractors/Loaders/Backhoes	1990	176	250	48.841	1.751	5.008	14.021	0.758	0.974	0.974	568.299	0.158
Tractors/Loaders/Backhoes	1990	251	500	86.854	1.551	10.967	13.298	0.758	0.834	0.834	568.3	0.139
Tractors/Loaders/Backhoes	1990	501	750	130.281	1.551	10.967	13.298	1.139	0.85	0.85	568.299	0.139
Tractors/Loaders/Backhoes	2000	16	25	5.225	2.029	4.66	6.391	0.065	0.57	0.57	568.299	0.183
Tractors/Loaders/Backhoes	2000	26	50	21.043	4.271	8.855	6.964	0.066	0.903	0.903	568.299	0.385
Tractors/Loaders/Backhoes	2000	51	120	14.597	1.738	4.448	9.784	0.06	0.862	0.862	568.299	0.156
Tractors/Loaders/Backhoes	2000	121	175	19.393	1.178	3.534	9.027	0.057	0.494	0.494	568.299	0.106
Tractors/Loaders/Backhoes	2000	176	250	26.283	0.942	2.634	8.625	0.057	0.38	0.38	568.299	0.085
Tractors/Loaders/Backhoes	2000	251	500	48.341	0.863	3.629	8.225	0.057	0.339	0.339	568.299	0.077
Tractors/Loaders/Backhoes	2000	501	750	72.512	0.863	3.629	8.225	0.059	0.339	0.339	568.299	0.077
Tractors/Loaders/Backhoes	2005	16	25	3.067	1.191	3.137	5.648	0.065	0.404	0.404	568.299	0.107
Tractors/Loaders/Backhoes	2005	26	50	18.069	3.667	8.018	6.405	0.066	0.819	0.819	568.299	0.33

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type Year Low HP High Tractors/Loaders/Backhoes 2005 51 120 Tractors/Loaders/Backhoes 2005 121 173 Tractors/Loaders/Backhoes 2005 176 250 Tractors/Loaders/Backhoes 2005 251 500 Tractors/Loaders/Backhoes 2010 16 25 Tractors/Loaders/Backhoes 2010 26 50 Tractors/Loaders/Backhoes 2010 51 120 Tractors/Loaders/Backhoes 2010 121 175 Tractors/Loaders/Backhoes 2010 176 250 Tractors/Loaders/Backhoes 2010 176 250 Tractors/Loaders/Backhoes 2010 501 750 Tractors/Loaders/Backhoes 2010 501 750 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes	10. 12.595 16.035 10. 18.392 10. 32.511 10. 49.91 15. 1.894649 10. 0.792369 15. 0.559066 10. 0.408454 10. 0.391383 10. 0.330642 10. 1.788969 10. 0.766159 10. 0.400263 10. 0.400263 10. 0.383321	ROG 1.499 0.974 0.659 0.58 0.594 1.592 0.666 0.47 0.343 0.329 0.278 1.503 1.503 0.644 0.457	3.83197 3.20391 1.44044 2.07689 1.80487 5.86306 5.86306 3.83083	4.39795 5.58613 5.58613	SO2 0.06 0.057 0.057 0.059 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005	PM10 0.802 0.432 0.256 0.23 0.561 0.561 0.504 0.285 0.178 0.172 0.153	PM2.5 0.802 0.432 0.256 0.23 0.516 0.516 0.464 0.263 0.158 0.141 0.497	568.299 568.3 568.299 568.299 569.9866 569.9866 533.5879 521.9624 522.8516 526.5923 517.4169 569.4176	CH4 0.135 0.087 0.059 0.052 0.053 0.166 0.166 0.155 0.152 0.152 0.153 0.151
Tractors/Loaders/Backhoes 2005 176 250 Tractors/Loaders/Backhoes 2005 251 500 Tractors/Loaders/Backhoes 2005 501 750 Tractors/Loaders/Backhoes 2010 16 25 Tractors/Loaders/Backhoes 2010 26 50 Tractors/Loaders/Backhoes 2010 51 120 Tractors/Loaders/Backhoes 2010 121 173 Tractors/Loaders/Backhoes 2010 176 250 Tractors/Loaders/Backhoes 2010 251 500 Tractors/Loaders/Backhoes 2010 501 750 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 51 120	18.392 10. 32.511 10. 49.91 15. 1.894649 10. 0.792369 15. 0.559066 10. 0.408454 10. 0.391383 10. 0.330642 15. 1.788969 10. 0.766159 15. 0.544391 16. 0.400263 10. 0.383321	0.659 0.58 0.594 1.592 1.592 0.666 0.47 0.343 0.329 0.278 1.503 1.503 0.644 0.457	1.774 1.993 1.99 5.95576 5.95576 3.83197 3.20391 1.44044 2.07689 1.80487 5.86306 5.86306 3.83083	7.181 6.451 6.656 5.63221 5.63221 6.31224 5.68573 5.58586 5.18517 4.39795 5.58613 5.58613	0.057 0.057 0.059 0.005 0.005 0.005 0.005 0.005 0.005 0.005	0.256 0.23 0.234 0.561 0.561 0.504 0.285 0.178 0.172 0.153 0.54	0.256 0.23 0.234 0.516 0.516 0.464 0.263 0.163 0.158	568.3 568.299 568.299 569.9866 569.9866 533.5879 521.9624 522.8516 526.5923 517.4169	0.059 0.052 0.053 0.166 0.166 0.155 0.152 0.152 0.153 0.151
Tractors/Loaders/Backhoes 2005 251 500 Tractors/Loaders/Backhoes 2005 501 750 Tractors/Loaders/Backhoes 2010 16 25 Tractors/Loaders/Backhoes 2010 26 50 Tractors/Loaders/Backhoes 2010 51 120 Tractors/Loaders/Backhoes 2010 121 173 Tractors/Loaders/Backhoes 2010 176 250 Tractors/Loaders/Backhoes 2010 251 500 Tractors/Loaders/Backhoes 2010 501 750 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 51 120	0 32.511 0 49.91 5 1.894649 0 1.894649 0 0.792369 5 0.559066 0 0.408454 0 0.391383 0 0.330642 5 1.788969 0 0.766159 5 0.544391 0 0.400263 0 0.383321	0.58 0.594 1.592 1.592 0.666 0.47 0.343 0.329 0.278 1.503 1.503 0.644 0.457	1.993 1.99 5.95576 5.95576 3.83197 3.20391 1.44044 2.07689 1.80487 5.86306 5.86306 3.83083	6.451 6.656 5.63221 5.63221 6.31224 5.68573 5.58586 5.18517 4.39795 5.58613 5.58613	0.057 0.059 0.005 0.005 0.005 0.005 0.005 0.005 0.005	0.23 0.234 0.561 0.561 0.504 0.285 0.178 0.172 0.153	0.23 0.234 0.516 0.516 0.464 0.263 0.163 0.158	568.299 568.299 569.9866 569.9866 533.5879 521.9624 522.8516 526.5923 517.4169	0.052 0.053 0.166 0.166 0.155 0.152 0.152 0.153 0.151
Tractors/Loaders/Backhoes 2005 501 750 Tractors/Loaders/Backhoes 2010 16 25 Tractors/Loaders/Backhoes 2010 26 50 Tractors/Loaders/Backhoes 2010 51 120 Tractors/Loaders/Backhoes 2010 121 173 Tractors/Loaders/Backhoes 2010 176 250 Tractors/Loaders/Backhoes 2010 251 500 Tractors/Loaders/Backhoes 2010 501 750 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 51 120	49.91 5 1.894649 0 1.894649 0 0.792369 5 0.559066 0 0.408454 0 0.330642 5 1.788969 0 0.766159 5 0.544391 0 0.400263 0 0.383321	0.594 1.592 1.592 0.666 0.47 0.343 0.329 0.278 1.503 1.503 0.644 0.457	1.99 5.95576 5.95576 3.83197 3.20391 1.44044 2.07689 1.80487 5.86306 5.86306 3.83083	6.656 5.63221 5.63221 6.31224 5.68573 5.58586 5.18517 4.39795 5.58613 5.58613	0.059 0.005 0.005 0.005 0.005 0.005 0.005 0.005	0.234 0.561 0.561 0.504 0.285 0.178 0.172 0.153 0.54	0.234 0.516 0.516 0.464 0.263 0.163 0.158 0.141	568.299 569.9866 569.9866 533.5879 521.9624 522.8516 526.5923 517.4169	0.053 0.166 0.166 0.155 0.152 0.152 0.153 0.151
Tractors/Loaders/Backhoes 2010 16 25 Tractors/Loaders/Backhoes 2010 26 50 Tractors/Loaders/Backhoes 2010 51 120 Tractors/Loaders/Backhoes 2010 121 173 Tractors/Loaders/Backhoes 2010 176 250 Tractors/Loaders/Backhoes 2010 251 500 Tractors/Loaders/Backhoes 2010 501 750 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 51 120	5 1.894649 0 1.894649 0 0.792369 5 0.559066 0 0.408454 0 0.391383 0 0.330642 5 1.788969 0 0.766159 5 0.544391 0 0.400263 0 0.383321	1.592 1.592 0.666 0.47 0.343 0.329 0.278 1.503 1.503 0.644 0.457	5.95576 5.95576 3.83197 3.20391 1.44044 2.07689 1.80487 5.86306 5.86306 3.83083	5.63221 5.63221 6.31224 5.68573 5.58586 5.18517 4.39795 5.58613 5.58613	0.005 0.005 0.005 0.005 0.005 0.005 0.005	0.561 0.561 0.504 0.285 0.178 0.172 0.153 0.54	0.516 0.516 0.464 0.263 0.163 0.158 0.141	569.9866 569.9866 533.5879 521.9624 522.8516 526.5923 517.4169	0.166 0.166 0.155 0.152 0.152 0.153 0.151
Tractors/Loaders/Backhoes 2010 26 50 Tractors/Loaders/Backhoes 2010 51 120 Tractors/Loaders/Backhoes 2010 121 173 Tractors/Loaders/Backhoes 2010 176 250 Tractors/Loaders/Backhoes 2010 251 500 Tractors/Loaders/Backhoes 2010 501 750 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 51 120	0 1.894649 0 0.792369 5 0.559066 0 0.408454 0 0.391383 0 0.330642 5 1.788969 0 0.766159 5 0.544391 0 0.400263 0 0.383321	1.592 0.666 0.47 0.343 0.329 0.278 1.503 1.503 0.644 0.457	5.95576 3.83197 3.20391 1.44044 2.07689 1.80487 5.86306 5.86306 3.83083	5.63221 6.31224 5.68573 5.58586 5.18517 4.39795 5.58613 5.58613	0.005 0.005 0.005 0.005 0.005 0.005	0.561 0.504 0.285 0.178 0.172 0.153 0.54	0.516 0.464 0.263 0.163 0.158 0.141	569.9866 533.5879 521.9624 522.8516 526.5923 517.4169	0.166 0.155 0.152 0.152 0.153 0.151
Tractors/Loaders/Backhoes 2010 51 120 Tractors/Loaders/Backhoes 2010 121 173 Tractors/Loaders/Backhoes 2010 176 250 Tractors/Loaders/Backhoes 2010 251 500 Tractors/Loaders/Backhoes 2010 501 750 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 51 120	0.0 0.792369 5 0.559066 0 0.408454 0 0.391383 0 0.330642 5 1.788969 0 0.766159 5 0.544391 0 0.400263 0 0.383321	0.666 0.47 0.343 0.329 0.278 1.503 1.503 0.644 0.457	3.83197 3.20391 1.44044 2.07689 1.80487 5.86306 5.86306 3.83083	6.31224 5.68573 5.58586 5.18517 4.39795 5.58613 5.58613	0.005 0.005 0.005 0.005 0.005 0.005	0.504 0.285 0.178 0.172 0.153 0.54	0.464 0.263 0.163 0.158 0.141	533.5879 521.9624 522.8516 526.5923 517.4169	0.155 0.152 0.152 0.153 0.151
Tractors/Loaders/Backhoes 2010 121 175 Tractors/Loaders/Backhoes 2010 176 250 Tractors/Loaders/Backhoes 2010 251 500 Tractors/Loaders/Backhoes 2010 501 750 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 51 120	5 0.559066 0 0.408454 0 0.391383 0 0.330642 5 1.788969 0 0.766159 5 0.544391 0 0.400263 0 0.383321	0.47 0.343 0.329 0.278 1.503 1.503 0.644 0.457	3.20391 1.44044 2.07689 1.80487 5.86306 5.86306 3.83083	5.68573 5.58586 5.18517 4.39795 5.58613 5.58613	0.005 0.005 0.005 0.005 0.005	0.285 0.178 0.172 0.153 0.54	0.263 0.163 0.158 0.141	521.9624 522.8516 526.5923 517.4169	0.152 0.152 0.153 0.151
Tractors/Loaders/Backhoes 2010 176 250 Tractors/Loaders/Backhoes 2010 251 500 Tractors/Loaders/Backhoes 2010 501 750 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 51 120	0 0.408454 0 0.391383 0 0.330642 5 1.788969 0 1.788969 0 0.766159 5 0.544391 0 0.400263	0.343 0.329 0.278 1.503 1.503 0.644 0.457	1.44044 2.07689 1.80487 5.86306 5.86306 3.83083	5.58586 5.18517 4.39795 5.58613 5.58613	0.005 0.005 0.005 0.005	0.178 0.172 0.153 0.54	0.163 0.158 0.141	522.8516 526.5923 517.4169	0.152 0.153 0.151
Tractors/Loaders/Backhoes 2010 251 500 Tractors/Loaders/Backhoes 2010 501 750 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 51 120	0 0.391383 0 0.330642 5 1.788969 0 1.788969 0 0.766159 5 0.544391 0 0.400263	0.329 0.278 1.503 1.503 0.644 0.457	2.07689 1.80487 5.86306 5.86306 3.83083	5.18517 4.39795 5.58613 5.58613	0.005 0.005 0.005	0.172 0.153 0.54	0.158 0.141	526.5923 517.4169	0.153 0.151
Tractors/Loaders/Backhoes 2010 501 750 Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 51 120	0 0.330642 5 1.788969 0 1.788969 0 0.766159 5 0.544391 0 0.400263 0 0.383321	0.278 1.503 1.503 0.644 0.457	1.80487 5.86306 5.86306 3.83083	4.39795 5.58613 5.58613	0.005 0.005	0.153 0.54	0.141	517.4169	0.151
Tractors/Loaders/Backhoes 2011 16 25 Tractors/Loaders/Backhoes 2011 26 50 Tractors/Loaders/Backhoes 2011 51 120	5 1.788969 0 1.788969 0 0.766159 5 0.544391 0 0.400263 0 0.383321	1.503 1.503 0.644 0.457	5.86306 5.86306 3.83083	5.58613 5.58613	0.005	0.54			
Tractors/Loaders/Backhoes20112650Tractors/Loaders/Backhoes201151120	1.788969 0 0.766159 5 0.544391 0 0.400263 0 0.383321	1.503 0.644 0.457	5.86306 3.83083	5.58613					0.166
Tractors/Loaders/Backhoes 2011 51 120	0 0.766159 5 0.544391 0 0.400263 0 0.383321	0.457	3.83083			0.54	0.497	569.4176	0.166
	0 0.400263 0 0.383321		3 21/6/	6.12981	0.005	0.491	0.451	531.2907	0.155
Tractors/Loaders/Backhoes 2011 121 175	0.383321	0.336	3.21404	5.49667	0.005	0.277	0.255	520.8772	0.152
Tractors/Loaders/Backhoes 2011 176 250		0.000	1.41416	5.38873	0.005	0.172	0.158	521.7143	0.152
Tractors/Loaders/Backhoes 2011 251 500		0.322	2.01155	4.98779	0.005	0.167	0.154	525.0356	0.153
Tractors/Loaders/Backhoes 2011 501 750		0.283	1.80098	4.35896	0.005	0.153	0.14	516.0241	0.151
Tractors/Loaders/Backhoes 2012 16 25		1.494	5.92961	5.57167	0.005	0.537	0.494	568.1171	0.166
Tractors/Loaders/Backhoes 2012 26 50		1.494	5.92961	5.57167	0.005	0.537	0.494	568.1171	0.166
Tractors/Loaders/Backhoes 2012 51 120		0.643	3.85825	6.07938	0.005	0.49	0.45	529.8013	0.155
Tractors/Loaders/Backhoes 2012 121 175 Tractors/Loaders/Backhoes 2012 176 250		0.464	3.24733	5.48812	0.005	0.279	0.257	519.5807	0.152
Tractors/Loaders/Backhoes2012176250Tractors/Loaders/Backhoes2012251500		0.343	1.42415	5.3794	0.005	0.173		520.5233 523.6066	
Tractors/Loaders/Backhoes 2012 251 500 750 750 750 750 750 750 750 750 750		0.329	2.03631 1.81138	4.9585 4.30593	0.005	0.168	0.154 0.141	514.6158	0.153
Tractors/Loaders/Backhoes 2013 16 25		1.437	5.8983	5.50692	0.005	0.153	0.141	566.4101	0.131
Tractors/Loaders/Backhoes 2013 26 50		1.437	5.8983	5.50692	0.005	0.52	0.478	566.4101	0.167
Tractors/Loaders/Backhoes 2013 51 120		0.619	3.85259		0.005	0.468	0.431	526.7149	0.155
Tractors/Loaders/Backhoes 2013 121 179		0.453	3.25593	5.32658	0.005	0.269	0.248	516.748	0.152
Tractors/Loaders/Backhoes 2013 176 250	0.404183	0.34	1.40715	5.22143	0.005	0.168	0.155	517.9916	0.152
Tractors/Loaders/Backhoes 2013 251 500	0.386263	0.325	1.98237	4.77348	0.005	0.162	0.149	520.6472	0.153
Tractors/Loaders/Backhoes 2013 501 750	0.357231	0.3	1.8218	4.31599	0.005	0.155	0.143	511.8955	0.151
Tractors/Loaders/Backhoes 2014 16 25		1.336	5.77182	5.36869	0.005	0.488	0.449	564.0421	0.167
Tractors/Loaders/Backhoes 2014 26 50		1.336	5.77182	5.36869	0.005	0.488	0.449	564.0421	0.167
Tractors/Loaders/Backhoes 2014 51 120		0.582	3.82724	5.58081	0.005	0.438	0.403	523.0168	0.155
Tractors/Loaders/Backhoes 2014 121 175		0.423	3.23863	4.93788	0.005	0.248	0.228	513.8903	0.152
Tractors/Loaders/Backhoes 2014 176 250			1.37555	4.92175	0.005	0.159	0.146	515.1747	0.152
Tractors/Loaders/Backhoes 2014 251 500		0.312	1.87787	4.48819	0.005	0.152	0.14	517.1237	0.153
Tractors/Loaders/Backhoes2014501750Tractors/Loaders/Backhoes20151625		0.305	1.8331 5.79091	4.24344 5.32019	0.005	0.154	0.141	511.3367 558.7085	0.151 0.167
Tractors/Loaders/Backhoes 2015 26 50		1.307	5.79091	5.32019	0.005	0.477	0.439	558.7085	0.167
Tractors/Loaders/Backhoes 2015 51 120			3.83198	5.4221	0.005	0.477	0.439	517.3652	
Tractors/Loaders/Backhoes 2015 121 179				4.83599	0.005	0.244		508.6819	
Tractors/Loaders/Backhoes 2015 176 250			1.37366		0.005	0.155		509.6269	
Tractors/Loaders/Backhoes 2015 251 500					0.005	0.149		511.8685	
Tractors/Loaders/Backhoes 2015 501 750			1.823	4.1848	0.005	0.152	0.14	506.1469	
Tractors/Loaders/Backhoes 2016 16 25	5 1.488115	1.25	5.74113	5.21373	0.005	0.455	0.418	553.3996	
Tractors/Loaders/Backhoes 2016 26 50	1.488115	1.25	5.74113	5.21373	0.005	0.455	0.418	553.3996	0.167
Tractors/Loaders/Backhoes 2016 51 120			3.81146		0.005	0.396		511.3456	
Tractors/Loaders/Backhoes 2016 121 175			3.23229		0.005	0.222	0.204	502.6294	
Tractors/Loaders/Backhoes 2016 176 250			1.34719		0.005	0.145		504.4014	
Tractors/Loaders/Backhoes 2016 251 500			1.78642	3.7866	0.005	0.131		505.2698	
Tractors/Loaders/Backhoes 2016 501 750			1.67424		0.005	0.144	0.133	500.955	
Tractors/Loaders/Backhoes20171625Tractors/Loaders/Backhoes20172650			5.68921 5.68921		0.005	0.433		544.9286 544.9286	
Tractors/Loaders/Backhoes20172650Tractors/Loaders/Backhoes201751120			3.7818	4.8087	0.005	0.433	0.398		
Tractors/Loaders/Backhoes 2017 121 175			3.19961		0.005	0.362	0.333	493.912	
Tractors/Loaders/Backhoes 2017 176 256			1.30369		0.005	0.132	0.101	496.8449	
Tractors/Loaders/Backhoes 2017 251 500			1.73851		0.005	0.122	0.121		
Tractors/Loaders/Backhoes 2017 501 750			1.64567		0.005	0.139	0.128	492.9529	
Tractors/Loaders/Backhoes 2018 16 25			5.31043		0.005	0.363		536.1115	
Tractors/Loaders/Backhoes 2018 26 50			5.31043		0.005	0.363	0.334	536.1115	
Tractors/Loaders/Backhoes 2018 51 120			3.69155		0.005	0.294	0.271	494.1237	
Tractors/Loaders/Backhoes 2018 121 175			3.13727		0.005	0.16	0.147	485.7754	
Tractors/Loaders/Backhoes 2018 176 250			1.24197		0.005	0.112	0.103		
Tractors/Loaders/Backhoes 2018 251 500					0.005	0.092	0.085	486.2939	
Tractors/Loaders/Backhoes 2018 501 750		0.271	1.60068		0.005	0.124	0.114	485.0099	
Tractors/Loaders/Backhoes 2019 16 25			5.20327		0.005	0.33		527.6843	
Tractors/Loaders/Backhoes 2019 26 50	1.095082	0.92	5.20327	4.60928	0.005	0.33	0.304	527.6843	0.167

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Tractors/Loaders/Backhoes	2019	51	120	0.437701	0.368	3.63777	3.69257	0.005	0.247	0.227	485.8548	0.154
Tractors/Loaders/Backhoes	2019	121	175	0.321856	0.27	3.12158	2.78412	0.005	0.14	0.129	477.9151	0.151
Tractors/Loaders/Backhoes	2019	176	250	0.291458	0.245	1.22027	3.14683	0.005	0.102	0.094	481.4206	0.152
Tractors/Loaders/Backhoes	2019	251	500	0.245176	0.206	1.38918	2.34458	0.005	0.082	0.075	479.0826	0.152
Tractors/Loaders/Backhoes	2019	501	750	0.311873	0.262	1.6025	3.12046	0.005	0.117	0.107	478.9216	0.152
Tractors/Loaders/Backhoes	2020	16	25	0.987255	0.83	5.03491	4.39784	0.005	0.288	0.265	515.874	0.167
Tractors/Loaders/Backhoes	2020	26	50	0.987255	0.83	5.03491	4.39784	0.005	0.288	0.265	515.874	0.167
Tractors/Loaders/Backhoes	2020	51	120	0.393883	0.331	3.60147	3.32571	0.005	0.21	0.193	475.1543	0.154
Tractors/Loaders/Backhoes	2020	121	175	0.29217	0.246	3.10518		0.005	0.122	0.112	467.5132	0.151
Tractors/Loaders/Backhoes	2020	176	250	0.268036	0.225	1.19592		0.005	0.09	0.083	470.4998	0.152
Tractors/Loaders/Backhoes	2020	251	500	0.230511	0.194		2.07976	0.005	0.073	0.067	468.2447	0.151
Tractors/Loaders/Backhoes	2020	501	750	0.318709	0.268	1.60984		0.005	0.117	0.108	468.6602	0.152
Tractors/Loaders/Backhoes	2021	16	25	0.899672	0.756	4.90172	4.22643	0.005	0.254	0.234	515.1213	0.167
Tractors/Loaders/Backhoes	2021	26	50	0.899672	0.756	4.90172		0.005	0.254	0.234	515.1213	0.167
Tractors/Loaders/Backhoes	2021	51	120	0.35209	0.296	3.57072	2.995	0.005	0.177	0.162	475.3621	0.154
Tractors/Loaders/Backhoes	2021	121	175	0.263016	0.221	3.0907	2.06221	0.005	0.104	0.096	467.5285	0.151
Tractors/Loaders/Backhoes	2021	176	250	0.249239	0.209	1.18606	2.36922	0.005	0.08	0.074	470.5716	0.152
Tractors/Loaders/Backhoes	2021	251	500	0.213479	0.179	1.34147	1.776	0.005	0.064	0.059	469.3025	0.152
Tractors/Loaders/Backhoes	2021	501	750 25	0.294477	0.247	1.43254	2.75417	0.005	0.104	0.096	466.4564	0.151
Tractors/Loaders/Backhoes	2022	16 26	25 50	0.818675	0.688	4.75954	4.03024	0.005	0.218	0.2	514.4613 514.4613	0.166
Tractors/Loaders/Backhoes	2022 2022	51	120	0.818675 0.309669	0.688	4.75954 3.53551	4.03024 2.64718	0.005	0.218	0.2		0.166
Tractors/Loaders/Backhoes Tractors/Loaders/Backhoes	2022	121	175	0.309669	0.26	3.53551	1.75274	0.005	0.142	0.131	475.8975 467.8004	0.154
Tractors/Loaders/Backhoes	2022	176	250	0.222521	0.2	1.16248	1.75274	0.005	0.069	0.062	470.1236	0.151
Tractors/Loaders/Backhoes	2022	251	500	0.222521	0.16	1.16246	1.43694	0.005	0.067	0.062	469.2562	0.152
Tractors/Loaders/Backhoes	2022	501	750	0.190771	0.10	1.35272	2.4532	0.005	0.094	0.049	466.6327	0.152
Tractors/Loaders/Backhoes	2023	16	25	0.738634	0.621	4.62935	3.85698	0.005	0.185	0.007	513.7962	0.166
Tractors/Loaders/Backhoes	2023	26	50	0.738634	0.621	4.62935		0.005	0.185	0.17	513.7962	0.166
Tractors/Loaders/Backhoes	2023	51	120	0.284572	0.239	3.52504		0.005	0.12	0.11	476.4307	0.154
Tractors/Loaders/Backhoes	2023	121	175	0.219196	0.184	3.0777	1.52095	0.005	0.077	0.07	468.821	0.152
Tractors/Loaders/Backhoes	2023	176	250	0.201205	0.169	1.14809	1.58768	0.005	0.058	0.053	469.7518	0.152
Tractors/Loaders/Backhoes	2023	251	500	0.180818	0.152	1.27923	1.24708	0.005	0.047	0.043	469.4652	0.152
Tractors/Loaders/Backhoes	2023	501	750	0.278685	0.234	1.36081	2.41861	0.005	0.095	0.087	466.6756	0.151
Tractors/Loaders/Backhoes	2024	16	25	0.701609	0.59	4.60899		0.005	0.166	0.153	513.8517	0.166
Tractors/Loaders/Backhoes	2024	26	50	0.701609	0.59	4.60899	3.76811	0.005	0.166	0.153	513.8517	0.166
Tractors/Loaders/Backhoes	2024	51	120	0.270597	0.227	3.5318	2.28795	0.005	0.105	0.097	476.7313	0.154
Tractors/Loaders/Backhoes	2024	121	175	0.209421	0.176	3.08913	1.37643	0.005	0.068	0.063	469.4029	0.152
Tractors/Loaders/Backhoes	2024	176	250	0.199431	0.168	1.15125	1.49113	0.005	0.054	0.05	469.9143	0.152
Tractors/Loaders/Backhoes	2024	251	500	0.178929	0.15	1.277	1.16321	0.005	0.044	0.041	470.0841	0.152
Tractors/Loaders/Backhoes	2024	501	750	0.262816	0.221	1.31051	2.21548	0.005	0.085	0.079	466.6381	0.151
Tractors/Loaders/Backhoes	2025	16	25	0.654585	0.55	4.55974		0.005	0.145	0.133	513.8025	0.166
Tractors/Loaders/Backhoes	2025	26	50	0.654585	0.55	4.55974	3.66186	0.005	0.145	0.133	513.8025	0.166
Tractors/Loaders/Backhoes	2025	51	120	0.248412	0.209	-	2.10918	0.005	0.085	0.079	477.188	0.154
Tractors/Loaders/Backhoes	2025	121	175	0.192617				0.005			469.3289	
Tractors/Loaders/Backhoes	2025	176	250	0.183368	0.154		1.23458	0.005	0.047	0.044	470.5976	
Tractors/Loaders/Backhoes	2025	251	500	0.171862	0.144		1.04575	0.005	0.039	0.036	470.9102	
Tractors/Loaders/Backhoes	2025 2030	501 16	750 25	0.222943 1.765	0.187		1.64868 4.332	0.005	0.067	0.062	466.4517	0.151
Tractors/Loaders/Backhoes Tractors/Loaders/Backhoes	2030	26	50	2.657	0.685	2.339 4.966	3.299	0.007	0.161	0.101	568.299 568.299	0.048
Tractors/Loaders/Backhoes	2030	51	120	2.285	0.339	3.705	1.624	0.007	0.033	0.033	568.299	0.046
Tractors/Loaders/Backhoes	2030	121	175	3.178	0.193	3.273	0.485	0.006	0.03	0.03	568.299	0.024
Tractors/Loaders/Backhoes	2030	176	250	5.112	0.183	1.115	0.403	0.006	0.014	0.014	568.299	0.017
Tractors/Loaders/Backhoes	2030	251	500	10.236	0.182	1.066	0.403	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoes	2030	501	750	15.363	0.182	1.066	0.407	0.006	0.014	0.014	568.299	0.016
Tractors/Loaders/Backhoes	2035	16	25	1.765	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoes	2035	26	50	2.538	0.515	4.949	3.244	0.007	0.022	0.022	568.299	0.046
Tractors/Loaders/Backhoes	2035	51	120	2.17	0.258	3.703	1.521	0.006	0.02	0.02	568.299	0.023
Tractors/Loaders/Backhoes	2035	121	175	2.956	0.179	3.275	0.348	0.006	0.015	0.015	568.299	0.016
Tractors/Loaders/Backhoes	2035	176	250	4.945	0.177	1.115	0.331	0.006	0.012	0.012	568.299	0.016
Tractors/Loaders/Backhoes	2035	251	500	9.922	0.177	1.066	0.326	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoes	2035	501	750	14.886	0.177	1.066	0.327	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoes	2040	16	25	1.765	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Tractors/Loaders/Backhoes	2040	26	50	2.506	0.508	4.946	3.22	0.007	0.018	0.018	568.299	0.045
Tractors/Loaders/Backhoes	2040	51	120	2.135	0.254	3.703	1.485	0.006	0.016	0.016	568.299	0.022
Tractors/Loaders/Backhoes	2040	121	175	2.891	0.175	3.276	0.305	0.006	0.012	0.012	568.299	0.015
Tractors/Loaders/Backhoes	2040	176	250	4.877	0.174	1.116	0.297	0.006	0.011	0.011	568.3	0.015
Tractors/Loaders/Backhoes	2040	251	500	9.794	0.174	1.066	0.297	0.006	0.011	0.011	568.299	0.015
Tractors/Loaders/Backhoes	2040	501	750	14.69	0.174	1.066	0.297	0.006	0.011	0.011	568.299	0.015
Trenchers	1990	6	15	3.844	1.804	4.999	9.999	1.049	0.975	0.975	568.299	0.162
Trenchers	1990	16	25	18.341	2.213	4.999	6.919	0.855	0.741	0.741	568.3	0.199

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Trenchers	1990	26	50	37.589	4.535	9.232	7.849	0.871	1.215	1.215	568.3	0.409
Trenchers	1990	51	120	37.519	2.296	5.621	14.752	0.791	1.284	1.284	568.299	0.207
Trenchers	1990	121	175	63.364	1.748	5.014	14.125	0.758	0.96	0.96	568.299	0.157
Trenchers	1990	176	250	98.152	1.748	5.014	14.125	0.758	0.96	0.96	568.299	0.157
Trenchers	1990	251	500	121.775	1.553	10.572	13.45	0.662	0.827	0.827	568.299	0.14
Trenchers	1990	501	750	229.57	1.553	10.572	13.45	1.018	0.843	0.843	568.299	0.14
Trenchers	2000	6	15	2.824	1.325	4.257	7.675	0.079	0.61	0.61	568.299	0.119
Trenchers	2000	16	25	15.815	1.908	4.438	6.326	0.065	0.555	0.555	568.299	0.172
Trenchers	2000	26	50	34.945	4.216	8.713	7.029	0.066	0.89	0.89	568.299	0.38
Trenchers	2000	51	120	30.939	1.893	4.777	10.98	0.06	0.882	0.882	568.299	0.17
Trenchers	2000	121	175	46.959	1.296	3.969	10.057	0.057	0.541	0.541	568.299	0.116
Trenchers	2000	176	250	64.645	1.151	3.402	9.8	0.057	0.474	0.474	568.299	0.103
Trenchers	2000	251	500	81.678	1.042	6.221	9.354	0.05	0.416	0.416	568.299	0.094
Trenchers	2000	501	750	153.98	1.042	6.221	9.354	0.052	0.416	0.416	568.299	0.094
Trenchers	2005	6	15	1.582	0.742	3.469	4.981	0.079	0.35	0.35	568.299	0.066
Trenchers	2005	16	25	7.043	0.849	2.519	5.321	0.065	0.333	0.333	568.3	0.076
Trenchers	2005	26	50	32.497	3.921	8.33	6.674	0.066	0.849	0.849	568.299	0.353
Trenchers	2005 2005	51 121	120 175	27.751 40.799	1.698	4.526	9.727	0.06	0.839	0.839	568.299	0.153
Trenchers					1.126	3.695	8.861	0.057	0.487	0.487	568.299 568.299	0.101
Trenchers Trenchers	2005 2005	176 251	250 500	51.63 63.694	0.92 0.812	2.668 4.395	8.545 7.903	0.057	0.379	0.379	568.299	0.083
	2005	501	750	121.568	0.812	4.395	8.023	0.052	0.332	0.332	568.299	0.073
Trenchers Trenchers	2005	6	15	1.531711	1.287	5.11336		0.052	0.509	0.333	586.297	0.074
Trenchers	2010	16	25	1.531711	1.287	5.11336		0.005	0.509	0.468	586.297	0.171
Trenchers	2010	26	50	1.531711	1.287	5.11336		0.005	0.509	0.468	586.297	0.171
Trenchers	2010	51	120	1.099287	0.924	4.07421	7.99924	0.005	0.62	0.571	529.306	0.171
Trenchers	2010	121	175	0.922781	0.775	3.7406	8.65095	0.005	0.441	0.406	519.6876	
Trenchers	2010	176	250	0.705197	0.593	2.36576		0.005	0.314	0.288	527.3537	
Trenchers	2010	251	500	0.380701	0.32	2.10547		0.005	0.176	0.162	523.7828	0.152
Trenchers	2010	501	750	0.194919	0.164	1.33412	3.20501	0.005	0.113	0.104	525.788	0.153
Trenchers	2011	6	15	1.520162	1.277	5.14932	5.52336	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	16	25	1.520162	1.277	5.14932	5.52336	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	26	50	1.520162	1.277	5.14932	5.52336	0.005	0.507	0.467	585.033	0.171
Trenchers	2011	51	120	1.045215	0.878	4.02646	7.67483	0.005	0.598	0.55	527.7187	0.154
Trenchers	2011	121	175	0.916044	0.77	3.73004	8.56359	0.005	0.438	0.403	518.4008	0.151
Trenchers	2011	176	250	0.655301	0.551	2.19702	7.41222	0.005	0.29	0.267	525.9543	0.153
Trenchers	2011	251	500	0.372561	0.313	2.04569		0.005	0.171	0.158	522.8418	
Trenchers	2011	501	750	0.180473	0.152		2.67369	0.005	0.097	0.089	525.691	0.153
Trenchers	2012	6	15	1.545009	1.298	5.24421	5.53504	0.005	0.512	0.471	583.5639	0.171
Trenchers	2012	16	25	1.545009	1.298	5.24421	5.53504	0.005	0.512	0.471	583.5639	
Trenchers	2012	26	50	1.545009	1.298	5.24421	5.53504	0.005	0.512	0.471	583.5639	
Trenchers	2012	51	120	1.052636	0.885		7.69459	0.005	0.604	0.556	526.3562	
Trenchers	2012	121	175	0.907539	0.763		8.45762	0.005	0.436		517.1147	
Trenchers	2012 2012	176 251	250 500	0.662356 0.369046		2.20863	4.58546	0.005	0.293 0.168	0.27 0.155	524.572 521.6264	
Trenchers Transhors	2012	501	750	0.369046	0.31			0.005	0.166	0.155	524.8533	
Trenchers Trenchers	2012	6	15	1.53809	1.292		5.51013	0.005	0.509		580.7693	
Trenchers	2013	16	25	1.53809	1.292		5.51013	0.005	0.509		580.7693	
Trenchers	2013	26	50	1.53809	1.292		5.51013	0.005	0.509		580.7693	
Trenchers	2013	51	120	1.010936	0.849	4.02389		0.005	0.582	0.536		
Trenchers	2013	121	175	0.916392	0.77	3.73732		0.005	0.441	0.406	514.53	0.151
Trenchers	2013	176	250	0.626949	0.527	2.13383		0.005	0.276	0.254		
Trenchers	2013	251	500	0.376293	0.316	2.04997		0.005	0.17	0.156	519.043	0.153
Trenchers	2013	501	750	0.144323	0.121	0.96183		0.005	0.07	0.065	522.2778	0.154
Trenchers	2014	6	15	1.508934		5.29329		0.005	0.501	0.46	577.7275	
Trenchers	2014	16	25	1.508934		5.29329		0.005	0.501	0.46	577.7275	
Trenchers	2014	26	50	1.508934		5.29329		0.005	0.501	0.46	577.7275	
Trenchers	2014	51	120	0.973633		3.99876		0.005	0.563		520.7658	
Trenchers	2014	121	175	0.824366		3.66799		0.005	0.395		512.1475	
Trenchers	2014	176	250	0.591196		2.07009		0.005	0.258		517.7188	
Trenchers	2014	251	500	0.364023		2.03515		0.005	0.161		513.7439	
Trenchers	2014	501	750	0.140019		0.96403		0.005	0.061		519.6576	
Trenchers		6	15	1.498018		5.32346		0.005	0.493		571.6674	
	2015			1.498018	1.259	5.32346	5.40567	0.005	0.493	0.454	571.6674	
Trenchers	2015	16	25			E 666		0 0 0 -				
Trenchers Trenchers	2015 2015	26	50	1.498018	1.259	5.32346		0.005	0.493	0.454	571.6674	
Trenchers Trenchers Trenchers	2015 2015 2015	26 51	50 120	1.498018 0.972367	1.259 0.817	4.01434	7.17857	0.005	0.562	0.454 0.517	571.6674 515.3955	0.154
Trenchers Trenchers Trenchers Trenchers	2015 2015 2015 2015	26 51 121	50 120 175	1.498018 0.972367 0.829448	1.259 0.817 0.697	4.01434 3.68389	7.17857 7.67382	0.005 0.005	0.562 0.396	0.454 0.517 0.364	571.6674 515.3955 506.9434	0.154 0.151
Trenchers Trenchers Trenchers Trenchers Trenchers Trenchers	2015 2015 2015 2015 2015 2015	26 51 121 176	50 120 175 250	1.498018 0.972367 0.829448 0.597101	1.259 0.817 0.697 0.502	4.01434 3.68389 2.0797	7.17857 7.67382 6.50988	0.005 0.005 0.005	0.562 0.396 0.26	0.454 0.517 0.364 0.239	571.6674 515.3955 506.9434 512.4325	0.154 0.151 0.153
Trenchers Trenchers Trenchers Trenchers	2015 2015 2015 2015	26 51 121	50 120 175	1.498018 0.972367 0.829448	1.259 0.817 0.697 0.502 0.311	4.01434 3.68389 2.0797 2.05093	7.17857 7.67382	0.005 0.005	0.562 0.396	0.454 0.517 0.364 0.239 0.15	571.6674 515.3955 506.9434	0.154 0.151 0.153 0.152

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Trenchers	2016	6	15	1.450442	1.219	5.28497	5.29818	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	16	25	1.450442	1.219	5.28497	5.29818	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	26	50	1.450442	1.219	5.28497	5.29818	0.005	0.475	0.437	565.9942	0.171
Trenchers	2016	51	120	0.937737	0.788			0.005	0.541	0.498	509.9027	0.154
Trenchers	2016	121	175	0.693219	0.582	3.50717	6.50303	0.005	0.328	0.302	501.7809	0.151
Trenchers	2016	176	250	0.58008	0.487	2.03007		0.005	0.251	0.231	507.1448	0.153
Trenchers	2016	251	500	0.351818	0.296	1.96649	4.09912	0.005	0.15	0.138	504.4103	0.152
Trenchers	2016	501	750	0.142468	0.12	0.97148		0.005	0.054	0.05	509.1433	0.154
Trenchers	2017 2017	6 16	15 25	1.367315	1.149			0.005	0.449	0.413	557.4601 557.4601	0.171
Trenchers Trenchers	2017	26	50	1.367315 1.367315	1.149	5.19682 5.19682		0.005	0.449	0.413	557.4601	0.171
Trenchers	2017	51	120	0.906302	0.762	3.96827	6.67876	0.005	0.523	0.413	501.9916	0.171
Trenchers	2017	121	175	0.638299	0.536		5.92725	0.005	0.3	0.276	493.7642	0.151
Trenchers	2017	176	250	0.577948	0.486	2.03655		0.005	0.25	0.23	499.2281	0.153
Trenchers	2017	251	500	0.315778	0.265	1.96603		0.005	0.129	0.119	497.0197	0.152
Trenchers	2017	501	750	0.135465	0.114	0.97168		0.005	0.046	0.042	501.1831	0.154
Trenchers	2018	6	15	1.236195	1.039	5.01831		0.005	0.409	0.377	548.3607	0.171
Trenchers	2018	16	25	1.236195	1.039	5.01831	4.95997	0.005	0.409	0.377	548.3607	0.171
Trenchers	2018	26	50	1.236195	1.039	5.01831	4.95997	0.005	0.409	0.377	548.3607	0.171
Trenchers	2018	51	120	0.78315	0.658	3.85487	5.91527	0.005	0.45	0.414	493.715	0.154
Trenchers	2018	121	175	0.559787	0.47	3.33134		0.005	0.261	0.24	485.9254	0.151
Trenchers	2018	176	250	0.498602	0.419		5.29554	0.005	0.212	0.195	491.5649	0.153
Trenchers	2018	251	500	0.30464	0.256			0.005	0.121	0.112	489.6281	0.152
Trenchers	2018	501	750	0.111849	0.094	0.96632		0.005	0.029	0.026	494.6426	0.154
Trenchers	2019	6	15	1.136688	0.955	4.89183		0.005	0.377	0.347	539.1037	0.171
Trenchers Trenchers	2019 2019	16 26	25 50	1.136688 1.136688	0.955	4.89183	4.78464 4.78464	0.005	0.377	0.347	539.1037 539.1037	0.171
Trenchers	2019	51	120	0.751452	0.933	3.83677	5.69508	0.005	0.431	0.347	485.3635	0.171
Trenchers	2019	121	175	0.731432	0.46		4.95976	0.005	0.451	0.390	478.1294	0.154
Trenchers	2019	176	250	0.481784	0.405			0.005	0.203	0.187	484.1167	0.153
Trenchers	2019	251	500	0.302803	0.254	1.98689		0.005	0.118	0.109	482.1648	0.153
Trenchers	2019	501	750	0.09296	0.078	0.95644		0.005	0.015	0.014	484.5422	0.153
Trenchers	2020	6	15	1.076913	0.905	4.8331	4.67651	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	16	25	1.076913	0.905	4.8331	4.67651	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	26	50	1.076913	0.905	4.8331	4.67651	0.005	0.356	0.328	527.0962	0.17
Trenchers	2020	51	120	0.726229	0.61	3.83272	5.51952	0.005	0.413	0.38	475.1265	0.154
Trenchers	2020	121	175	0.500709	0.421	3.32968		0.005	0.228	0.21	467.7348	0.151
Trenchers	2020	176	250	0.466499	0.392	1.77405	4.8091	0.005	0.195	0.179	473.5951	0.153
Trenchers	2020	251	500	0.276702	0.233	1.85932	2.775	0.005	0.105	0.097	470.6367	0.152
Trenchers	2020	501	750	0.083454	0.07	0.95004		0.005	0.009	0.008	472.6556	0.153
Trenchers	2021	6	15	0.962829	0.809	4.66576		0.005	0.313	0.288	527.0165	0.17
Trenchers	2021 2021	16 26	25 50	0.962829	0.809	4.66576 4.66576		0.005	0.313	0.288	527.0165	0.17
Trenchers Trenchers			120	0.962829	0.809	3.78912			0.313		527.0165 475.287	
Trenchers	2021 2021	51 121	175	0.661739 0.483838	0.336	3.30363		0.005	0.371	0.341	467.7343	0.154
Trenchers	2021	176	250	0.42408	0.356		4.36036	0.005	0.172	0.158	473.8538	
Trenchers	2021	251	500	0.42400	0.221		2.49105	0.005	0.172	0.092	470.701	0.152
Trenchers	2021	501	750	0.078358	0.066	0.94677		0.005	0.009	0.008	472.5289	0.153
Trenchers	2022	6	15	0.859634	0.722		4.26873	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	16	25	0.859634	0.722		4.26873	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	26	50	0.859634	0.722		4.26873	0.005	0.275	0.253	527.0258	0.17
Trenchers	2022	51	120	0.629528	0.529	3.77843		0.005	0.348	0.32	475.3262	0.154
Trenchers	2022	121	175	0.470645	0.395	3.31289		0.005	0.211	0.195	467.7337	0.151
Trenchers	2022	176	250	0.398562	0.335		3.85292	0.005	0.16	0.148	473.8512	0.153
Trenchers	2022	251	500	0.252168	0.212		2.21226	0.005	0.094	0.086	470.5845	0.152
Trenchers	2022	501	750	0.067683	0.057	0.94489		0.005	0.009	0.008	474.2887	0.153
Trenchers	2023	6	15	0.763609	0.642	-	3.95873	0.005	0.22	0.202	527.0954	0.17
Trenchers	2023	16	25	0.763609	0.642		3.95873	0.005	0.22	0.202	527.0954	0.17
Trenchers Trenchers	2023 2023	26 51	50 120	0.763609 0.599816	0.642		3.95873 4.70045	0.005	0.22	0.202	527.0954 475.6903	0.17 0.154
Trenchers	2023	121	175	0.399616	0.359	3.29061		0.005	0.320	0.171	467.7332	0.154
Trenchers	2023	176	250	0.427469	0.328	1.6386	3.7365	0.005	0.155	0.171	473.8485	0.153
Trenchers		251	500	0.236268	0.199		2.00504	0.005	0.133	0.078	471.6125	0.153
	2023				0.06		0.30278	0.005	0.009	0.008	474.4705	
Trenchers	2023 2023	501	750	0.07 1000	0.00							
Trenchers Trenchers	2023 2023 2024	501 6	750 15	0.071688 0.714783	0.601			0.005	0.197	0.181		0.17
Trenchers	2023					4.23326	3.83415 3.83415				527.0216	0.17 0.17
	2023 2024	6	15	0.714783	0.601	4.23326 4.23326	3.83415	0.005	0.197	0.181		
Trenchers Trenchers	2023 2024 2024	6 16	15 25	0.714783 0.714783	0.601 0.601	4.23326 4.23326 4.23326	3.83415 3.83415	0.005 0.005	0.197 0.197	0.181 0.181	527.0216 527.0216	0.17 0.17
Trenchers Trenchers Trenchers	2023 2024 2024 2024	6 16 26	15 25 50	0.714783 0.714783 0.714783	0.601 0.601 0.601	4.23326 4.23326 4.23326 3.76854	3.83415 3.83415 3.83415	0.005 0.005 0.005	0.197 0.197 0.197	0.181 0.181 0.181	527.0216 527.0216 527.0216	0.17 0.17

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Trenchers	2024	251	500	0.228039	0.192	1.66789	1.85871	0.005	0.08	0.074	469.9942	0.152
Trenchers	2024	501	750	0.076605	0.064	0.95838		0.005	0.009	0.008	474.4782	0.153
Trenchers	2025	6	15	0.645012	0.542	4.11956	3.65681	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	16	25	0.645012	0.542	4.11956	3.65681	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	26	50	0.645012	0.542	4.11956	3.65681	0.005	0.163	0.15	527.1603	0.17
Trenchers	2025	51	120	0.5433	0.457	3.73437	4.279	0.005	0.285	0.262	475.9014	0.154
Trenchers	2025	121	175	0.426125	0.358	3.30907	3.54907	0.005	0.179	0.165	467.732	0.151
Trenchers	2025	176	250	0.365033	0.307	1.60076	3.31521	0.005	0.144	0.132	473.9168	0.153
Trenchers	2025	251	500	0.227307	0.191	1.67595	1.82613	0.005	0.079	0.072	470.4394	
Trenchers	2025	501	750	0.079299	0.067	0.96233	0.30526	0.005	0.009	0.008	474.4863	0.153
Trenchers	2030	6	15	1.409	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Trenchers	2030	16	25	5.681	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Trenchers	2030	26	50	7.055	0.851	5.208	3.835	0.007	0.144	0.144	568.299	0.076
Trenchers	2030	51	120	6.697	0.409	3.743	2.559	0.006	0.132	0.132	568.299	0.036
Trenchers	2030	121	175	10.904	0.3	3.273	1.529	0.006	0.08	0.08	568.3	0.027
Trenchers	2030	176	250	14.406	0.256	1.188	1.348	0.006	0.049	0.049	568.3	0.023
Trenchers	2030	251	500	19.534	0.249	1.209	1.231	0.005	0.046	0.046	568.299	0.022
Trenchers	2030	501	750	36.902	0.249	1.209	1.254	0.005	0.047	0.047	568.299	0.022
Trenchers	2035	6	15	1.409	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Trenchers	2035	16	25	5.681	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Trenchers	2035	26	50	5.645	0.681	5.055	3.548	0.007	0.084	0.084	568.299	0.061
Trenchers	2035	51	120	5.437	0.332	3.713	2.049	0.006	0.076	0.076	568.3	0.03
Trenchers	2035	121	175	8.756	0.241	3.264	0.966	0.006	0.048	0.048	568.299	0.021
Trenchers	2035	176	250	12.171	0.216	1.149	0.847	0.006	0.031	0.031	568.299	0.019
Trenchers	2035	251	500	16.707	0.213	1.126	0.79	0.005	0.029	0.029	568.299	0.019
Trenchers	2035	501	750	31.529	0.213	1.126	0.801	0.005	0.029	0.029	568.3	0.019
Trenchers	2040	6	15	1.409	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Trenchers	2040	16	25	5.681	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Trenchers	2040	26	50	4.961	0.598	4.98	3.374	0.007	0.052	0.052	568.299	0.054
Trenchers	2040	51	120	4.791	0.293	3.699	1.767	0.006	0.047	0.047	568.299	0.026
Trenchers	2040	121	175	7.533	0.207	3.26	0.639	0.006	0.03	0.03	568.3	0.018
Trenchers	2040	176	250	10.853	0.193	1.126	0.573	0.006	0.02	0.02	568.3	0.017
Trenchers	2040	251	500	15.011	0.191	1.081	0.542	0.005	0.02	0.02	568.3	0.017
Trenchers	2040	501	750	28.323	0.191	1.081	0.549	0.005	0.02	0.02	568.299	0.017
Welders	1990	6	15	4.525	1.804	4.999	9.999	1.018	0.974	0.974	568.299	0.162
Welders	1990	16	25	10.092	2.213	4.999	6.919	0.83	0.74	0.74	568.299	0.199
Welders	1990	26	50	40.899	3.899	8.078	7.611	0.846	1.085	1.085	568.3	0.351
Welders	1990	51	120	33.632	2.107	5.312	13.999	0.768	1.146	1.146	568.3	0.19
Welders	1990	121	175	57.219	1.442	4.703	12.598	0.736	0.761	0.761	568.299	0.13
Welders	1990	176	250	69.387	1.442	4.703	12.598	0.736	0.761	0.761	568.299	0.13
Welders	1990	251	500	88.323	1.304	8.704	12.141	0.642	0.672	0.672	568.3	0.117
Welders	2000	6	15	4.323	1.723	4.875	9.08	0.079	0.747	0.747	568.299	0.155
Welders	2000	16	25	9.556	2.095	4.783	6.405	0.065	0.569	0.569	568.299	0.189
Welders	2000	26	50	38.432	3.664	7.708	6.797	0.066	0.803	0.803	568.299	0.33
Welders	2000	51	120	27.201	1.704	4.433	10.046	0.06	0.791	0.791	568.3	0.153
Welders	2000	121	175	45.269	1.14	3.61	9.126	0.057	0.468	0.468	568.299	0.102
Welders	2000	176	250	45.901	0.954	2.869	8.783	0.057	0.384	0.384	568.299	0.086
Welders	2000	251	500	59.514	0.878	4.719	8.466	0.05	0.344	0.344	568.299	0.079
Welders	2005	6	15	3.497	1.394	4.38	7.817	0.079	0.621	0.621	568.299	0.125
Welders	2005	16	25	7.401	1.622	3.922	6.014	0.065	0.483	0.483	568.299	0.146
Welders	2005	26	50	34.243	3.264	7.144	6.342	0.066	0.746	0.746	568.299	0.294
Welders	2005	51	120	23.288	1.459	4.096	8.459	0.06	0.733	0.733	568.299	0.131
Welders	2005	121	175	37.837	0.953	3.26	7.736	0.057	0.405	0.405	568.299	0.086
Welders	2005	176	250	32.839	0.682	1.941	7.302	0.057	0.268	0.268	568.299	0.061
Welders	2005	251	500	41.097	0.606	2.566	6.755	0.05	0.241	0.241	568.299	0.054
Welders	2010	6	15	2.82	1.124	4.027	6.554	0.008	0.473	0.473	568.3	0.101
Welders	2010	16	25	5.78	1.267	3.309	5.477	0.007	0.384	0.384	568.299	0.114
Welders	2010	26	50	27.885	2.658	6.571	5.944	0.007	0.623	0.623	568.299	0.239
Welders	2010	51	120	18.341	1.149	3.928	6.999	0.006	0.61	0.61	568.299	0.103
Welders	2010	121	175	30.26	0.762	3.185	6.255	0.006	0.338	0.338	568.299	0.068
Welders	2010	176	250	23.908	0.496	1.433	5.857	0.006	0.189	0.189	568.299	0.044
Welders	2010	251	500	30.15	0.445	1.621	5.26	0.005	0.174	0.174	568.299	0.04
Welders	2011	6	15	2.677	1.067	3.952	6.283	0.008	0.441	0.441	568.299	0.096
Welders	2011	16	25	5.436	1.192	3.179	5.36	0.007	0.361	0.361	568.3	0.107
Welders	2011	26	50	26.104	2.488	6.392	5.85	0.007	0.593	0.593	568.299	0.224
Welders	2011	51	120	17.199	1.077	3.891	6.632	0.006	0.584	0.584	568.3	0.097
Welders	2011	121	175	28.559	0.719	3.173	5.91	0.006	0.325	0.325	568.299	0.064
Welders	2011	176	250	22.03	0.457	1.34	5.462	0.006	0.17	0.323	568.299	0.041
Welders	2011	251	500	27.869	0.437	1.473	4.886	0.005	0.17	0.17	568.299	0.041
Welders	2012	6	15	2.527	1.007	3.874	5.999	0.003	0.407	0.407	568.299	0.037
** 014013	40 I Z	U	١J	4.041	1.007	0.074	J.JJJ	0.000	0.407	0.407	JUU.Z33	0.08

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Welders 2012 16 25 5.076 1.113 3.043 5.239 0.007 0.377 0.387 0.882.99 0.Wrolders 2012 26 50 24.122 2.209 6.186 5.740 0.007 0.556 6.8299 0.Wrolders 2012 51 175 0.2656 0.007 0.3652 6.232 0.006 0.549 0	Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Welderins 2012 26 50 24.122 2.209 6.185 5.740 0.007 6.6 0.66 0.682 0.882.99 0.Walderins Walderins 2012 121 1175 26.736 0.673 3.161 5.643 0.006 0.549 0.008 0.882.99 0.Walderins Welderins 2012 2718 250 22.015 500 28.115 0.008 1.564 0.006 0.144 0.144 0.008 1.882 0.006 0.144 0.144 0.008 0.008 0.007													0.1
Weders		2012											0.207
Welders	Welders	2012		120	15.992	1.001		6.232	0.006	0.549		568.299	0.09
Welders 2012 251 500 26.151 0.386 1.389 4.532 0.005 0.144 0.144 568.299 0.1 Welders 2013 6 15 2.378 0.948 3.796 5.717 0.008 0.373 588.299 0.1 Welders 2013 16 25 4.718 1.034 2.997 5.117 0.008 0.373 588.299 0.1 Welders 2013 26 50 2.2037 2.101 5.987 5.568 0.007 0.511 0.314 588.299 0.1 Welders 2013 51 120 14.766 0.925 3.813 5.836 0.006 0.507 0.577 588.299 0.1 Welders 2013 51 120 14.766 0.925 3.813 5.836 0.006 0.507 0.577 588.299 0.1 Welders 2013 51 120 14.766 0.925 3.813 5.836 0.006 0.507 0.507 588.299 0.1 Welders 2013 778 250 18.36 0.042 1.293 3.151 5.195 0.006 0.257 0.279 588.298 0.0 Welders 2014 251 506 24.727 0.036 1.293 0.006 0.247 0.259	Welders	2012	121	175	26.736	0.673	3.161	5.543	0.006	0.303	0.303	568.299	0.06
Welders	Welders	2012	176	250	20.583	0.427	1.281	5.087	0.006	0.154	0.154	568.299	0.038
Walders						0.386							0.034
Welders													0.085
Welders 2013 51 120 14,766 0,925 3,813 5,856 0,006 0,507 0,507 5,683 0,006 0,507 0,507 0,507 0,508 0,506													0.093
Welders 2013													0.189
Welders 2013 176 250 19.36 0.402 1.241 4.723 0.006 0.141 0.141 568.299 0.146 0.146 0.156 0.24728 0.365 1.291 4.191 0.005 0.131 0.131 568.299 0.146 0.146 0.156 0.24728 0.008 0.341 0.341 568.299 0.146 0.146 0.156 0.008 0.341 0.341 568.299 0.146 0.146 0.156 0.008 0.341 0.341 568.299 0.146 0													0.083
Welders 2013 251 500 24.728 0.385 1.291 4.191 0.005 0.311 0.311 588.299 0.006 0.00													0.056
Welders 2014 6 15 2.237 0.891 3.722 5.485 0.008 0.341 2.341 568.299 0.008 Welders 2014 26 50 19.935 1.9 5.749 5.308 0.007 0.473 3.68.29 0.008 Welders 2014 25 6.008 0.874 5.481 10.00 441 4.176 2.3067 0.891 3.141 4.862 0.006 0.255 2.555 588.299 0.00 0.006 0.255 0.255 588.299 0.00 0.006 0.255 0.255 588.299 0.00 0.006 0.255 0.255 588.299 0.00 0.006 0.255 0.255 588.299 0.00 0.006 0.255 588.299 0.00 0.006 0.019 0.119 1.119 888.299 0.00 0.006 0.119 1.119 888.299 0.00 0.006 0.119 1.119 888.299 0.00 0.006 0.0119 1.119 888.299<													0.036
Welders													0.032
Welders				_									0.086
Welders													0.171
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Welders 2014 251 500 23-294 0.343 1.207 4.297 0.006 0.128 0.128 568.299 0.1 Welders 2015 6 15 0.203 40 0.343 1.227 3.788 0.009 0.191 0.119 568.299 0.1 Welders 2015 16 6 15 2.109 0.84 3.658 5.196 0.009 0.311 0.311 568.299 0.1 Welders 2015 16 25 4.078 0.894 1.2666 4.89 0.009 0.311 0.311 568.299 0.1 Welders 2015 26 50 17.994 1.715 5.662 5.113 0.007 0.27 0.27 568.299 0.1 Welders 2015 51 120 12.37 0.772 3.738 5.077 0.00 0.919 0.119 568.299 0.1 Welders 2015 176 2.26 50 17.994 1.715 5.662 5.113 0.007 0.43 0.43 568.3 0.1 Welders 2015 121 175 2.1139 0.532 3.133 4.08 0.006 0.21 0.21 568.299 0.1 Welders 2015 126 125 0.50 16.976 0.352 1.178 3.88 0.006 0.118 0.116 568.299 0.1 Welders 2015 126 250 16.976 0.352 1.178 3.88 0.006 0.116 0.116 588.299 0.1 Welders 2015 126 250 16.976 0.352 1.176 3.398 0.005 0.16 0.16 588.299 0.1 Welders 2016 6 16 25 3.903 0.809 3.622 5.023 568.299 0.1 Welders 2016 16 25 3.903 0.805 3.622 5.023 0.000 3.00 0.289 0.289 568.299 0.1 Welders 2016 16 25 3.903 0.805 3.622 5.023 0.000 3.00 0.289 0.289 568.299 0.1 Welders 2016 16 25 3.903 0.805 0.822 5.024 4.803 0.007 0.255 0.255 568.299 0.1 Welders 2016 51 120 11.165 0.699 3.703 4.882 0.006 0.375 0.375 588.3 0.1 Welders 2016 51 120 11.165 0.699 3.703 4.882 0.006 0.375 0.375 588.3 0.1 Welders 2016 776 250 15.991 0.33 1.135 3.481 0.007 0.389 0.388 568.299 0.1 Welders 2016 776 250 15.991 0.33 1.135 3.481 0.007 0.389 0.388 568.299 0.1 Welders 2016 776 250 15.991 0.33 1.134 3.032 0.006 0.206 0.206 568.299 0.1 Welders 2017 6 15 1.73 0.786 3.399 4.887 0.006 0.006 0.206 568.299 0.1 Welders 2017 7 6 55 1.4392 0.378 0.379 0.006 0.007 0.													0.052
Welders 2015 6 15 2.109 0.84 3.658 5.196 0.009 0.311 0.311 568.299 0.009 Welders 2015 16 25 4.078 0.894 2.666 4.89 0.007 0.277 2.072 568.299 0.009 Welders 2015 51 1.20 12.337 0.777 5.378 0.007 0.43 0.43 4.68 3.0 Welders 2015 516 1.20 12.337 0.772 3.338 0.007 0.00 0.43 0.43 5.68,299 0.00 Welders 2015 1.26 520 1.6976 0.352 1.118 3.80 0.00 0.00 0.23 5.23 5.8999 0.00 Welders 2.016 6 15 2.03 3.03 3.035 2.604 4.803 0.00 0.00 5.88,299 0.00 Welders 2.016 51 1.20 1.1165 0.893 3.705 <td>Welders</td> <td></td> <td></td> <td></td> <td>18.135</td> <td>0.376</td> <td>1.207</td> <td></td> <td>0.006</td> <td></td> <td></td> <td></td> <td>0.034</td>	Welders				18.135	0.376	1.207		0.006				0.034
Welders 2015 6 6 15 2.109 0.84 3.658 5.196 0.009 0.311 0.311 568.299 0.0 Welders 2015 16 6 25 4.078 0.894 2.666 4.89 0.007 0.27 0.27 568.299 0.0 Welders 2015 5 16 120 12.337 0.772 3.738 5.077 0.07 0.43 0.43 0.43 568.3 0.0 Welders 2015 5 1 120 12.337 0.772 3.738 5.077 0.007 0.43 0.43 568.3 0.0 Welders 2015 121 175 21.139 0.532 3.133 4.08 0.006 0.23 0.23 558.299 0.0 Welders 2015 126 15 250 16.97 0.352 1.178 3.88 0.006 0.19 0.419 568.299 0.0 Welders 2015 126 550 16.97 0.352 1.178 3.88 0.006 0.116 0.116 568.299 0.0 Welders 2015 251 500 21.953 0.324 1.176 3.89 0.006 0.23 0.23 558.299 0.0 Welders 2016 6 15 2.0 3.0 8.00 3.622 5.024 0.000 0.108 0.108 568.299 0.0 Welders 2016 6 15 2.0 3.0 8.00 3.622 5.025 0.000 0.000 5.68 0.289 568.299 0.0 Welders 2016 16 25 3.903 0.0 0.0 0.0 0.0 0.280 0.289 568.299 0.0 Welders 2016 5 26 50 16.155 1.55 5.355 1.55 5.335 0.000 0.0 0.0 0.0 5.68 0.289 568.299 0.0 Welders 2016 5 120 11.165 0.699 3.705 4.682 0.006 0.375 0.375 568.3 0.0 Welders 2016 5 120 11.165 0.699 3.705 4.682 0.006 0.375 0.375 568.3 0.0 Welders 2016 5 120 11.165 0.699 3.705 4.682 0.006 0.375 0.375 568.3 0.0 Welders 2016 5 120 11.165 0.699 3.705 4.682 0.006 0.375 0.375 568.3 0.0 Welders 2016 76 5.51 5.500 2.0 2.731 0.306 1.134 3.032 0.005 0.097 0.997 568.299 0.0 Welders 2017 6 15 1.973 0.766 3.599 4.887 0.005 0.097 0.097 568.299 0.0 Welders 2017 6 15 1.973 0.766 3.599 4.887 0.005 0.097 0.097 568.299 0.0 Welders 2017 26 50 14.392 1.372 5.239 4.788 0.005 0.097 0.097 568.299 0.0 Welders 2017 26 50 14.392 1.372 5.239 4.788 0.006 0.320 5.099 0.097 568.299 0.0 Welders 2017 26 50 14.392 0.375 0.359 4.889 0.005 0.097 0.097 568.299 0.0 Welders 2017 26 50 14.392 0.372 5.259 4.899 0.007 0.243 0.243 568.299 0.0 Welders 2018 6 5 1.923 0.766 3.59 4.892 0.006 0.320 5.032 568.299 0.0 Welders 2018 16 25 3.896 0.007 0.097 0.391 568.299 0.0 Welders 2018 16 25 3.896 0.007 0.097 0.097 568.299 0.0 Welders 2018 16 25 3.896 0.007 0.097 0.097 568.299 0.0 Welders 2018 176 50 0.006 0.006 0.006 0.006 568.299 0.0 Welders 2019 26 50 0.006 0.006 0.006 0.		2014	251	500	23.294	0.343			0.005			568.299	0.031
Welders 2015 26 50 17,994 1.715 5,562 5,113 0.007 0.43 0.43 5,683 90 Welders 2015 51 120 12,337 0.727 3,738 5,070 0.06 0.419 4,019 588,299 0.0 Welders 2015 176 250 16,976 0.352 1,178 3,80 0.006 0.16 0.11 0.01 0.01 0.01 1,116 0.11 6,8299 0.0 Welders 2016 6 15 2.03 0.803 3,824 1,176 3,398 0.005 0.18 8,68,299 0.0 Welders 2016 6 15 2.03 0.803 3,622 5,023 0.006 0.375 2,025 5,688,299 0.0 Welders 2016 26 50 16,155 1,54 5,395 4,936 0.007 0.39 0.389 5,889 6,0 Welders 2016	Welders		6			0.84			0.008			568.299	0.075
Welders													0.08
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Welders 2016 6 15 2.03 0.809 3.622 5.023 0.008 0.289 682.99 0.0 Welders 2016 26 25 3.903 0.855 2.604 3.00 0.007 0.255 0.255 5.682.99 0.0 Welders 2016 51 1.1565 1.645 3.593 4.936 0.007 0.389 0.375 568.33 0.0 Welders 2016 121 175 19.285 0.486 3.128 3.973 0.006 0.376 0.375 568.33 0.0 Welders 2016 251 500 20.731 0.331 1.153 3.481 0.006 0.104 0.104 568.299 0.0 Welders 2017 6 15 1.973 0.766 3.599 4.887 0.008 0.272 0.072 568.299 0.0 Welders 2017 16 25 3.785 0.83 2.564 4.729 0.007 <td></td> <td>0.031</td>													0.031
Welders													0.029
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Welders													0.077
Welders 2016 121 175 19.285 0.486 3.128 3.973 0.006 0.206 0.206 0.206 6.82.99 0.1 Welders 2016 251 500 20.731 0.33 1.153 3.481 0.006 0.104 0.104 568.299 0.1 Welders 2017 6 15 1.973 0.786 3.599 4.887 0.008 0.272 0.272 2.272 568.299 0.0 Welders 2017 16 25 3.785 0.83 2.564 4.729 0.007 0.243 2.243 568.299 0.0 Welders 2017 26 50 14.392 1.372 5.239 4.788 0.007 0.35 0.35 568.299 0.0 Welders 2017 51 120 10.06 0.63 3.675 4.828 0.006 0.034 3.035 568.299 0.0 Welders 2017 251 120 10.06 <td></td> <td>0.063</td>													0.063
Welders 2016 176 250 15.901 0.33 1.153 3.481 0.006 0.104 0.104 588.299 0.0 Welders 2017 6 15 1.973 0.786 3.599 4.887 0.008 0.272 0.272 0.272 568.299 0.0 Welders 2017 16 25 3.785 0.83 2.564 4.729 0.007 0.23 0.212 568.299 0.0 Welders 2017 26 50 14.392 1.372 5.239 4.768 0.007 0.35 0.35 568.299 0.0 Welders 2017 51 120 10.06 0.63 3.675 4.328 0.006 0.93 0.332 568.299 0.0 Welders 2017 176 250 14.942 0.31 1.133 3.105 0.06 0.94 0.94 568.299 0.0 Welders 2017 251 500 19.705 0.29													0.043
Welders 2016 251 500 20.731 0.306 1.134 3.032 0.005 0.097 0.097 568.299 0.0 Welders 2017 6 15 1.973 0.786 3.599 4.887 0.008 0.272 0.272 568.299 0.0 Welders 2017 16 25 3.785 0.83 2.564 4.729 0.007 0.243 0.243 568.299 0.0 Welders 2017 26 50 14.392 1.372 5.239 4.768 0.007 0.243 0.243 568.299 0.0 Welders 2017 121 175 17.561 0.442 3.31 3.562 0.006 0.33 3.588.299 0.0 Welders 2017 176 250 14.942 0.31 1.133 3.105 0.00 0.094 0.94 5.88.299 0.0 Welders 2018 6 15 1.923 0.766 3.58 4.762 <td></td> <td>0.029</td>													0.029
Welders													0.027
Welders													0.07
Welders 2017	Welders		16	25	3.785	0.83	2.564		0.007		0.243		0.074
Welders	Welders	2017	26	50	14.392	1.372	5.239	4.768	0.007		0.35	568.299	0.123
Welders 2017 176 250 14.942 0.31 1.133 3.105 0.006 0.94 0.094 568.299 0.1 Welders 2018 6 15 1.923 0.766 3.58 4.762 0.008 0.256 0.256 0.256 0.256 6.88.3 0.0 Welders 2018 16 25 3.684 0.807 2.531 4.661 0.007 0.232 0.232 568.299 0.0 Welders 2018 26 50 12.698 1.21 5.092 4.607 0.007 0.311 0.311 568.299 0.0 Welders 2018 51 120 9.016 0.564 3.648 3.98 0.006 0.029 0.29 568.299 0.0 Welders 2018 121 175 15.966 0.402 3.123 3.176 0.006 0.162 0.162 568.299 0.0 Welders 2018 121 175 15.966 <td>Welders</td> <td>2017</td> <td>51</td> <td>120</td> <td>10.06</td> <td>0.63</td> <td>3.675</td> <td>4.328</td> <td>0.006</td> <td>0.332</td> <td>0.332</td> <td>568.299</td> <td>0.056</td>	Welders	2017	51	120	10.06	0.63	3.675	4.328	0.006	0.332	0.332	568.299	0.056
Welders 2017 251 500 19,705 0.29 1,102 2,713 0.005 0.088 0.088 568,299 0.1 Welders 2018 6 15 1,923 0,766 3,58 4,672 0,008 0,256 0,256 568,39 0.0 Welders 2018 16 25 3,684 0,807 2,531 4,661 0,007 0,232 2,522 568,299 0.0 Welders 2018 26 50 12,698 1,21 5,092 4,607 0,007 0,311 0,311 568,299 0.0 Welders 2018 121 175 1,596 0,402 3,123 3,176 0,006 0,29 568,299 0.0 Welders 2018 121 175 1,596 0,402 3,123 3,176 0,006 0,084 0,082 568,299 0.0 Welders 2018 1251 550 18,804 0,277 1,08 2,43 <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.442</td> <td></td> <td></td> <td>0.006</td> <td></td> <td></td> <td></td> <td>0.039</td>						0.442			0.006				0.039
Welders 2018 6 15 1.923 0.766 3.58 4.762 0.008 0.256 0.256 568.3 0.1 Welders 2018 16 25 3.684 0.807 2.531 4.661 0.007 0.232 568.299 0.1 Welders 2018 26 50 12.698 4.601 0.007 0.323 0.232 568.299 0.1 Welders 2018 51 120 9.016 0.564 3.648 3.98 0.006 0.29 0.29 568.299 0.0 Welders 2018 121 175 15.966 0.402 3.123 3.176 0.006 0.162 0.162 568.299 0.0 Welders 2018 251 500 18.804 0.277 1.08 2.43 0.005 0.08 0.08 568.299 0.0 Welders 2019 6 15 1.877 0.748 3.562 4.647 0.008 0.241													0.028
Welders 2018 16 25 3.684 0.807 2.531 4.661 0.007 0.232 0.232 568.299 0.1 Welders 2018 26 50 12.698 1.21 5.092 4.607 0.007 0.311 0.311 568.299 0.0 Welders 2018 51 120 9.016 0.564 3.648 3.98 0.006 0.29 0.29 568.299 0.0 Welders 2018 121 175 15.966 0.402 3.123 3.176 0.006 0.162 0.162 568.299 0.0 Welders 2018 176 250 14.068 0.292 1.118 2.751 0.006 0.084 0.084 568.299 0.0 Welders 2018 251 500 18.804 0.277 1.08 2.43 0.005 0.08 0.08 568.299 0.0 Welders 2019 16 25 3.592 0.787 2.501 <td></td> <td>0.026</td>													0.026
Welders 2018 26 50 12.698 1.21 5.092 4.607 0.007 0.311 0.311 568.299 0. Welders 2018 51 120 9.016 0.564 3.648 3.98 0.006 0.29 0.29 568.299 0. Welders 2018 121 175 15.966 0.402 3.123 3.176 0.006 0.162 0.162 568.299 0. Welders 2018 176 250 14.068 0.292 1.118 2.751 0.006 0.084 0.084 568.299 0. Welders 2018 251 500 18.804 0.277 1.08 2.43 0.005 0.08 0.08 568.299 0. Welders 2019 6 15 1.877 0.748 3.562 4.647 0.008 0.241 0.241 568.299 0. Welders 2019 26 50 11.071 1.055 4.95													0.069
Welders 2018 51 120 9.016 0.564 3.648 3.98 0.006 0.29 0.29 568.299 0. Welders 2018 121 175 15.966 0.402 3.123 3.176 0.006 0.162 0.162 568.299 0. Welders 2018 176 250 14.068 0.292 1.118 2.751 0.006 0.084 0.084 568.299 0. Welders 2018 251 500 18.804 0.277 1.08 2.43 0.005 0.08 0.68 568.299 0. Welders 2019 6 15 1.877 0.748 3.562 4.647 0.008 0.241 0.241 568.299 0. Welders 2019 26 50 11.071 1.055 4.95 4.449 0.007 0.273 0.273 568.299 0. Welders 2019 121 175 14.693 0.37 3.122													0.072
Welders 2018 121 175 15.966 0.402 3.123 3.176 0.006 0.162 568.299 0.1 Welders 2018 176 250 14.068 0.292 1.118 2.751 0.006 0.084 0.084 568.299 0.1 Welders 2018 251 500 18.804 0.277 1.08 2.43 0.005 0.08 0.08 568.299 0.0 Welders 2019 6 15 1.877 0.748 3.562 4.647 0.008 0.241 0.241 568.299 0.0 Welders 2019 16 25 3.592 0.787 2.501 4.596 0.007 0.222 568.299 0.0 Welders 2019 26 50 11.071 1.055 4.95 4.449 0.007 0.273 0.273 568.299 0.0 Welders 2019 51 120 8.032 0.503 3.623 3.648 0.006 </td <td></td> <td>0.109</td>													0.109
Welders 2018 176 250 14.068 0.292 1.118 2.751 0.006 0.084 568.299 0.0 Welders 2018 251 500 18.804 0.277 1.08 2.43 0.005 0.08 568.299 0.0 Welders 2019 6 15 1.877 0.748 3.562 4.647 0.008 0.241 568.299 0.0 Welders 2019 16 25 3.592 0.787 2.501 4.596 0.007 0.222 568.299 0.0 Welders 2019 26 50 11.071 1.055 4.95 4.449 0.007 0.223 568.299 0.0 Welders 2019 51 120 8.032 0.503 3.623 3.648 0.006 0.25 0.25 568.299 0.0 Welders 2019 176 250 13.284 0.276 1.104 2.432 0.006 0.075 0.075 568.299<													0.05
Welders 2018 251 500 18.804 0.277 1.08 2.43 0.005 0.08 0.08 568.299 0.0 Welders 2019 6 15 1.877 0.748 3.562 4.647 0.008 0.241 0.241 568.299 0.0 Welders 2019 16 25 3.592 0.787 2.501 4.596 0.007 0.222 0.222 568.299 0.0 Welders 2019 26 50 11.071 1.055 4.95 4.449 0.007 0.273 0.273 568.299 0.0 Welders 2019 51 120 8.032 0.503 3.623 3.648 0.006 0.25 568.299 0.0 Welders 2019 176 250 13.284 0.276 1.104 2.432 0.006 0.075 0.075 568.299 0.0 Welders 2019 251 500 17.937 0.264 1.065 2.163 <td></td> <td>0.036</td>													0.036
Welders 2019 6 15 1.877 0.748 3.562 4.647 0.008 0.241 0.241 568.299 0.0 Welders 2019 16 25 3.592 0.787 2.501 4.596 0.007 0.222 0.222 568.299 0.0 Welders 2019 26 50 11.071 1.055 4.95 4.449 0.007 0.273 0.273 568.299 0.0 Welders 2019 51 120 8.032 0.503 3.623 3.648 0.006 0.25 0.25 568.299 0.0 Welders 2019 121 175 14.693 0.37 3.122 2.832 0.006 0.143 0.143 568.3 0.0 Welders 2019 1251 500 17.937 0.264 1.065 2.163 0.006 0.075 568.299 0.0 Welders 2020 6 15 1.835 0.731 3.546 4.542													0.025
Welders 2019 16 25 3.592 0.787 2.501 4.596 0.007 0.222 0.222 568.299 0.0 Welders 2019 26 50 11.071 1.055 4.95 4.449 0.007 0.273 568.299 0.0 Welders 2019 51 120 8.032 0.503 3.623 3.648 0.006 0.25 0.25 568.299 0.0 Welders 2019 121 175 14.693 0.37 3.122 2.832 0.006 0.143 0.143 568.3 0.0 Welders 2019 176 250 13.284 0.276 1.104 2.432 0.006 0.075 0.075 568.299 0.0 Welders 2019 251 500 17.937 0.264 1.065 2.163 0.005 0.072 568.299 0.0 Welders 2020 6 15 1.835 0.731 3.546 4.542 0.008 <td></td> <td>0.023</td>													0.023
Welders 2019 26 50 11.071 1.055 4.95 4.449 0.007 0.273 0.273 568.299 0.0 Welders 2019 51 120 8.032 0.503 3.623 3.648 0.006 0.25 0.25 568.299 0.0 Welders 2019 121 175 14.693 0.37 3.122 2.832 0.006 0.143 0.143 568.3 0.0 Welders 2019 176 250 13.284 0.276 1.104 2.432 0.006 0.075 0.075 568.299 0.0 Welders 2019 251 500 17.937 0.264 1.065 2.163 0.005 0.072 0.072 568.3 0.0 Welders 2020 6 15 1.835 0.731 3.546 4.542 0.008 0.227 0.227 568.299 0.0 Welders 2020 26 50 9.83 0.937 4.84													0.071
Welders 2019 51 120 8.032 0.503 3.623 3.648 0.006 0.25 568.299 0.0 Welders 2019 121 175 14.693 0.37 3.122 2.832 0.006 0.143 0.143 568.3 0.0 Welders 2019 176 250 13.284 0.276 1.104 2.432 0.006 0.075 0.075 568.299 0.0 Welders 2019 251 500 17.937 0.264 1.065 2.163 0.005 0.072 0.072 568.399 0.0 Welders 2020 6 15 1.835 0.731 3.546 4.542 0.008 0.227 0.227 568.299 0.0 Welders 2020 16 25 3.507 0.769 2.473 4.538 0.007 0.212 0.221 568.299 0.0 Welders 2020 26 50 9.83 0.937 4.84 4.304 <td></td> <td>0.095</td>													0.095
Welders 2019 121 175 14.693 0.37 3.122 2.832 0.006 0.143 0.143 568.3 0.0 Welders 2019 176 250 13.284 0.276 1.104 2.432 0.006 0.075 0.075 568.299 0.0 Welders 2019 251 500 17.937 0.264 1.065 2.163 0.005 0.072 0.072 568.3 0.0 Welders 2020 6 15 1.835 0.731 3.546 4.542 0.008 0.227 0.227 568.299 0.0 Welders 2020 16 25 3.507 0.769 2.473 4.538 0.007 0.212 568.299 0.0 Welders 2020 26 50 9.83 0.937 4.84 4.304 0.007 0.238 0.238 568.299 0.0 Welders 2020 51 120 7.278 0.455 3.605 3.351													0.045
Welders 2019 251 500 17.937 0.264 1.065 2.163 0.005 0.072 0.072 568.3 0.0 Welders 2020 6 15 1.835 0.731 3.546 4.542 0.008 0.227 0.227 568.299 0.0 Welders 2020 16 25 3.507 0.769 2.473 4.538 0.007 0.212 0.212 568.299 0.0 Welders 2020 26 50 9.83 0.937 4.84 4.304 0.007 0.238 0.238 568.299 0.0 Welders 2020 51 120 7.278 0.455 3.605 3.351 0.006 0.216 0.216 568.299 0.0 Welders 2020 121 175 13.663 0.344 3.122 2.523 0.006 0.216 568.299 0.0 Welders 2020 176 250 12.577 0.261 1.093 2.143 </td <td>Welders</td> <td>2019</td> <td>121</td> <td></td> <td>14.693</td> <td>0.37</td> <td>3.122</td> <td></td> <td>0.006</td> <td></td> <td>0.143</td> <td>568.3</td> <td>0.033</td>	Welders	2019	121		14.693	0.37	3.122		0.006		0.143	568.3	0.033
Welders 2020 6 15 1.835 0.731 3.546 4.542 0.008 0.227 0.227 568.299 0.0 Welders 2020 16 25 3.507 0.769 2.473 4.538 0.007 0.212 0.212 568.299 0.0 Welders 2020 26 50 9.83 0.937 4.84 4.304 0.007 0.238 0.238 568.299 0.0 Welders 2020 51 120 7.278 0.455 3.605 3.351 0.006 0.216 0.216 568.299 0.0 Welders 2020 121 175 13.663 0.344 3.122 2.523 0.006 0.216 0.216 568.299 0.0 Welders 2020 176 250 12.577 0.261 1.093 2.143 0.006 0.066 0.066 568.299 0.0 Welders 2021 6 15 1.8 0.717 3.531	Welders												0.024
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Welders 2020 26 50 9.83 0.937 4.84 4.304 0.007 0.238 0.238 568.299 0.0 Welders 2020 51 120 7.278 0.455 3.605 3.351 0.006 0.216 0.216 568.299 0.0 Welders 2020 121 175 13.663 0.344 3.122 2.523 0.006 0.127 0.127 568.299 0.0 Welders 2020 176 250 12.577 0.261 1.093 2.143 0.006 0.066 0.066 568.299 0.0 Welders 2020 251 500 17.094 0.252 1.055 1.91 0.005 0.064 0.064 568.299 0.0 Welders 2021 6 15 1.8 0.717 3.531 4.462 0.008 0.214 0.214 568.299 0.0 Welders 2021 16 25 3.431 0.752 2.446 <td></td> <td>0.066</td>													0.066
Welders 2020 51 120 7.278 0.455 3.605 3.351 0.006 0.216 0.216 568.299 0.0 Welders 2020 121 175 13.663 0.344 3.122 2.523 0.006 0.127 0.127 568.299 0.0 Welders 2020 176 250 12.577 0.261 1.093 2.143 0.006 0.066 0.066 568.299 0.0 Welders 2020 251 500 17.094 0.252 1.055 1.91 0.005 0.064 0.064 568.299 0.0 Welders 2021 6 15 1.8 0.717 3.531 4.462 0.008 0.214 0.214 568.299 0.0 Welders 2021 16 25 3.431 0.752 2.446 4.497 0.007 0.201 568.299 0.0 Welders 2021 26 50 8.704 0.829 4.708 4.133<													0.069
Welders 2020 121 175 13.663 0.344 3.122 2.523 0.006 0.127 0.127 568.299 0.0 Welders 2020 176 250 12.577 0.261 1.093 2.143 0.006 0.066 0.066 568.299 0.0 Welders 2020 251 500 17.094 0.252 1.055 1.91 0.005 0.064 0.064 568.299 0.0 Welders 2021 6 15 1.8 0.717 3.531 4.462 0.008 0.214 0.214 568.299 0.0 Welders 2021 16 25 3.431 0.752 2.446 4.497 0.007 0.201 568.299 0.0 Welders 2021 26 50 8.704 0.829 4.708 4.133 0.007 0.203 0.203 568.299 0.0 Welders 2021 51 120 6.572 0.411 3.579 3.042<													0.084
Welders 2020 176 250 12.577 0.261 1.093 2.143 0.006 0.066 0.066 568.299 0.0 Welders 2020 251 500 17.094 0.252 1.055 1.91 0.005 0.064 0.064 568.299 0.0 Welders 2021 6 15 1.8 0.717 3.531 4.462 0.008 0.214 0.214 568.299 0.0 Welders 2021 16 25 3.431 0.752 2.446 4.497 0.007 0.201 0.201 568.299 0.0 Welders 2021 26 50 8.704 0.829 4.708 4.133 0.007 0.203 0.203 568.299 0.0 Welders 2021 51 120 6.572 0.411 3.579 3.042 0.006 0.184 0.184 568.299 0.0													0.041
Welders 2020 251 500 17.094 0.252 1.055 1.91 0.005 0.064 0.064 568.299 0.0 Welders 2021 6 15 1.8 0.717 3.531 4.462 0.008 0.214 0.214 568.299 0.0 Welders 2021 16 25 3.431 0.752 2.446 4.497 0.007 0.201 0.201 568.299 0.0 Welders 2021 26 50 8.704 0.829 4.708 4.133 0.007 0.203 0.203 568.299 0.0 Welders 2021 51 120 6.572 0.411 3.579 3.042 0.006 0.184 0.184 568.299 0.0													0.031
Welders 2021 6 15 1.8 0.717 3.531 4.462 0.008 0.214 0.214 568.299 0.0 Welders 2021 16 25 3.431 0.752 2.446 4.497 0.007 0.201 0.201 568.299 0.0 Welders 2021 26 50 8.704 0.829 4.708 4.133 0.007 0.203 0.203 568.299 0.0 Welders 2021 51 120 6.572 0.411 3.579 3.042 0.006 0.184 0.184 568.299 0.0													0.023
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Welders 2021 51 120 6.572 0.411 3.579 3.042 0.006 0.184 0.184 568.299 0.0													0.007
													0.074
### OND TO THE PROPERTY OF THE	Welders	2021	121	175	12.512	0.315	3.112	2.189	0.006	0.11	0.11	568.299	0.028
													0.021
													0.021
													0.063

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Table 3.4 OFFROAD Equipment Emission Factors (g/bhp-hr)

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
Welders	2022	16	25	3.374	0.739	2.426	4.47	0.007	0.193	0.193	568.299	0.066
Welders	2022	26	50	7.959	0.758	4.645	4.007	0.007	0.175	0.175	568.299	0.068
Welders	2022	51	120	6.112	0.382	3.57	2.808	0.006	0.16	0.16	568.299	0.034
Welders	2022	121	175	11.714	0.295	3.113	1.935	0.006	0.097	0.097	568.3	0.026
Welders	2022	176	250	11.128	0.231	1.074	1.598	0.006	0.05	0.05	568.299	0.02
Welders	2022	251	500	15.267	0.225	1.038	1.454	0.005	0.049	0.049	568.3	0.02
Welders	2023	6	15	1.751	0.698	3.508	4.359	0.008	0.194	0.194	568.3	0.063
Welders	2023	16	25	3.322	0.728	2.407	4.447	0.007	0.186	0.186	568.299	0.065
Welders	2023	26	50	7.318	0.697	4.596	3.891	0.007	0.151	0.151	568.299	0.062
Welders	2023	51	120	5.713	0.357	3.564	2.599	0.006	0.139	0.139	568.299	0.032
Welders	2023	121	175	11.013	0.277	3.115	1.726	0.006	0.085	0.085	568.299	0.025
Welders	2023	176	250	10.606	0.22	1.071	1.404	0.006	0.044	0.044	568.299	0.019
Welders	2023	251	500	14.602	0.215	1.034	1.289	0.005	0.042	0.042	568.299	0.019
Welders	2024	6	15	1.731	0.69	3.499	4.316	0.008	0.188	0.188	568.299	0.062
Welders	2024	16	25	3.276	0.718	2.39	4.426	0.007	0.181	0.181	568.299	0.064
Welders	2024	26	50	6.78	0.646	4.557	3.782	0.007	0.13	0.13	568.299	0.058
Welders	2024	51	120	5.366	0.336	3.56	2.43	0.006	0.12	0.12	568.299	0.03
Welders	2024	121	175	10.369	0.261	3.118	1.541	0.006	0.074	0.074	568.299	0.023
Welders	2024	176	250	10.107	0.21	1.068	1.234	0.006	0.038	0.038	568.299	0.018
Welders	2024	251	500	13.957	0.206	1.032	1.135	0.005	0.037	0.037	568.299	0.018
Welders	2025	6	15	1.713	0.683	3.491	4.278	0.008	0.183	0.183	568.3	0.061
Welders	2025	16	25	3.237	0.709	2.376	4.407	0.007	0.177	0.177	568.299	0.064
Welders	2025	26	50	6.315	0.602	4.524	3.676	0.007	0.112	0.112	568.299	0.054
Welders	2025	51	120	5.055	0.316	3.557	2.283	0.006	0.102	0.102	568.299	0.028
Welders	2025	121	175	9.743	0.245	3.121	1.365	0.006	0.063	0.063	568.299	0.022
Welders	2025	176	250	9.621	0.199	1.065	1.075	0.006	0.032	0.032	568.299	0.018
Welders	2025	251	500	13.325	0.196	1.029	0.99	0.005	0.031	0.031	568.299	0.017
Welders	2030	6	15	1.665	0.663	3.47	4.164	0.008	0.166	0.166	568.299	0.059
Welders	2030	16	25	3.133	0.687	2.34	4.347	0.007	0.165	0.165	568.299	0.061
Welders	2030	26	50	4.719	0.449	4.387	3.273	0.007	0.045	0.045	568.299	0.04
Welders	2030	51	120	3.827	0.239	3.535	1.707	0.006	0.04	0.04	568.299	0.021
Welders	2030	121	175	7.011	0.176	3.121	0.628	0.006	0.027	0.027	568.299	0.015
Welders	2030	176	250	7.829	0.162	1.063	0.525	0.006	0.017	0.017	568.299	0.014
Welders	2030	251	500	10.967	0.161	1.027	0.495	0.005	0.017	0.017	568.299	0.014
Welders	2035	6	15	1.659	0.661	3.469	4.143	0.008	0.162	0.162	568.299	0.059
Welders	2035	16	25	3.126	0.685	2.339	4.332	0.007	0.162	0.162	568.299	0.061
Welders	2035	26	50	4.262	0.406	4.349	3.147	0.007	0.022	0.022	568.299	0.036
Welders	2035	51	120	3.418	0.214	3.528	1.509	0.006	0.019	0.019	568.299	0.019
Welders	2035	121	175	6.087	0.153	3.121	0.387	0.006	0.015	0.015	568.299	0.013
Welders	2035	176	250	7.189	0.149	1.063	0.343	0.006	0.012	0.012	568.299	0.013
Welders	2035	251	500	10.118	0.149	1.027	0.339	0.005	0.012	0.012	568.299	0.013
Welders	2040	6	15	1.659	0.661	3.469	4.142	0.008	0.161	0.161	568.299	0.059
Welders	2040	16	25	3.126	0.685	2.339	4.332	0.007	0.161	0.161	568.299	0.061
Welders	2040	26	50	4.218	0.402	4.336	3.093	0.007	0.015	0.015	568.3	0.036
Welders	2040	51	120	3.322	0.208	3.524	1.447	0.006	0.014	0.014	568.299	0.018
Welders	2040	121	175	5.753	0.145	3.118	0.303	0.006	0.011	0.011	568.299	0.013
Welders	2040	176	250	6.911	0.143	1.062	0.287	0.006	0.01	0.01	568.3	0.012
Welders	2040	251	500	9.728	0.143	1.026	0.287	0.005	0.01	0.01	568.299	0.012

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Table 3.5 OFFROAD Emission Factor Based on Engine Tier

Tier	Low HP	High HP	CO, g/bhp-hr	NOx, g/bhp-hr	PM10, g/bhp-hr	PM2.5, g/bhp-hr	ROG, g/bhp-hr
	25	49	4.1	5.26	0.48	0.48	1.74
	50	74	6.9	6.54	0.552	0.552	1.19
	75	119	6.9	6.54	0.552	0.552	1.19
Tier 1	120	174	6.9	6.54	0.274	0.274	0.82
i iei i	175	299	6.9	5.93	0.108	0.108	0.38
	300	599	6.9	5.93	0.108	0.108	0.38
	600	750	6.9	5.93	0.108	0.108	0.38
	751	2000	6.9	5.93	0.108	0.108	0.38
	25	49	4.1	4.63	0.28	0.28	0.29
	50	74	3.7	4.75	0.192	0.192	0.23
	75	119	3.7	4.75	0.192	0.192	0.23
Tior O	120	174	3.7	4.17	0.128	0.128	0.19
Tier 2	175	299	2.6	4.15	0.088	0.088	0.12
	300	599	2.6	3.79	0.088	0.088	0.12
	600	750	2.6	3.79	0.088	0.088	0.12
	751	2000	2.6	3.79	0.088	0.088	0.12
	25	49	4.1	4.63	0.28	0.28	0.29
	50	74	3.7	2.74	0.192	0.192	0.12
	75	119	3.7	2.74	0.192	0.192	0.12
Tion O	120	174	3.7	2.32	0.112	0.112	0.12
Tier 3	175	299	2.6	2.32	0.088	0.088	0.12
	300	599	2.6	2.32	0.088	0.088	0.12
	600	750	2.6	2.32	0.088	0.088	0.12
	751	2000	2.6	2.32	0.088	0.088	0.12
	25	49	4.1	4.55	0.128	0.128	0.12
	50	74	3.7	2.74	0.112	0.112	0.12
	75	119	3.7	2.14	0.008	0.008	0.11
Tier 4 Interim	120	174	3.7	2.15	0.008	0.008	0.06
Her 4 mileinn	175	299	2.6	1.29	0.008	0.008	0.08
	300	599	2.6	1.29	0.008	0.008	0.08
	600	750	2.6	1.29	0.008	0.008	0.08
	751	2000	2.6	2.24	0.048	0.048	0.12
	25	49	4.1	2.75	0.008	0.008	0.12
	50	74	3.7	2.74	0.008	0.008	0.12
	75	119	3.7	0.26	0.008	0.008	0.06
Tion 4 Cinal	120	174	3.7	0.26	0.008	0.008	0.06
Tier 4 Final	175	299	2.2	0.26	0.008	0.008	0.06
	300	599	2.2	0.26	0.008	0.008	0.06
	600	750	2.2	0.26	0.008	0.008	0.06
	751	2000	2.6	2.24	0.016	0.016	0.06

Source:

ARB. 2011. The Carl Moyer Program Guidelines. Available at:

http://www.arb.ca.gov/msprog/moyer/guidelines/2011gl/2011cmpgl 3 27 13.pdf

Table 3.6 Percent Reduction in Diesel Emission Factors For Compressed Natural Gas Equipment Based on Data Available in OFFROAD2011

Equipment Type	MinYear	MaxYear	Low HP	High HP	СО	CO2E	NOX	PM10	PM2.5	ROG	SO2	TOG
Aerial Lifts	1990	2009	0	15	-27.49	-0.27	0.55	0.36	0.36	0.73	1	0.73
Aerial Lifts	1990	2009	16	25	-29.12	-0.31	0.46	0.26	0.26	0.74	1	0.74
Air Conditioner	1990	2009	0	175	-4.51	-0.21	-0.3	0.84	0.84	0.87	1	0.87
Baggage Tug	1990	2009	0	120	-5.07	-0.24	0.1	0.94	0.94	0.88	1	0.88
Belt Loader	1990	2009	0	120	-4.69	-0.23	0.06	0.93	0.93	0.89	1	0.89
Bobtail	1990	2009	0	120	-4.41	-0.22	0.23	0.93	0.93	0.91	1	0.91
Cargo Loader	1990	2009	0	120	-6.25	-0.25	-0.04	0.93	0.93	0.84	1	0.84
Catering Truck	1990	2009	0	250	-11.52	-0.22	-0.44	0.7	0.7	0.78	1	0.78
Forklifts	1990	2009	0	50	-0.21	-0.23	-0.51	0.93	0.93	0.95	1	0.95
Forklifts	1990	2009	51	120	-5.94	-0.25	0.05	0.93	0.93	0.87	1	0.87
Forklifts	1990	2009	121	175	-5.81	-0.22	-0.02	0.88	0.88	0.89	1	0.89
Generator Sets	1990	2009	0	120	-3.97	-0.12	-0.02	0.92	0.92	0.91	1	0.91
Generator Sets	1990	2009	121	175	-4.15	-0.12	-0.11	0.85	0.85	0.89	1	0.89
Lav Truck	1990	2009	0	175	-4.57	-0.22	-0.11	0.88	0.88	0.89	1	0.89
Lift	1990	2009	0	120	-4.65	-0.23	-0.05	0.92	0.92	0.89	1	0.89
Aerial Lifts	2010	2014	0	15	-30.37	-0.27	0.31	-0.29	-0.29	0.59	1	0.59
Aerial Lifts	2010	2014	16	25	-37.55	-0.32	0.4	-0.03	-0.03	0.6	1	0.6
Air Conditioner	2010	2014	0	175	-4.5	-0.2	-0.36	0.73	0.73	0.85	1	0.85
Baggage Tug	2010	2014	0	120	-5.56	-0.22	0.22	0.92	0.92	0.88	1	0.88
Belt Loader	2010	2014	0	120	-5.13	-0.22	0.21	0.92	0.92	0.9	1	0.9
Bobtail	2010	2014	0	120	-4.8	-0.19	0.64	0.91	0.91	0.96	1	0.96
Cargo Loader	2010	2014	0	120	-6.78	-0.24	0.06	0.91	0.91	0.84	1	0.84
Catering Truck	2010	2014	0	250	-17.32	-0.21	-0.38	0.53	0.53	0.73	1	0.73
Forklifts	2010	2014	0	50	-0.421	-0.18053	0.3063	0.91412	0.9066507	0.9572	1	0.9118
Forklifts	2010	2014	51	120	-6.412	-0.32006	0.4354	0.90105	0.8924417	0.8764	1	0.4569
Forklifts	2010	2014	121	175	-5.588	-0.30615	0.5219	0.84295	0.8292897	0.8844	1	0.0884
Generator Sets	2010	2014	0	120	-4.3	-0.11	0.11	0.89	0.89	0.91	1	0.91
Generator Sets	2010	2014	121	175	-4.36	-0.11	0	0.81	0.81	0.89	1	0.89
Lav Truck	2010	2014	0	175	-4.77	-0.21	0.01	0.84	0.84	0.9	1	0.9
Lift	2010	2014	0	120	-5.03	-0.22	0.09	0.9	0.9	0.89	1	0.89
Aerial Lifts	2015	2019	0	15	-30.4	-0.27	0.28	-0.86	-0.86	0.57	1	0.57
Aerial Lifts	2015	2019	16	25	-44.65	-0.32	0.32	-0.48	-0.48	0.46	1	0.46
Air Conditioner	2015	2019	0	175	-4.5	-0.19	-0.41	0.47	0.47	0.85	1	0.85
Baggage Tug	2015	2019	0	120	-5.9	-0.21	0.3	0.91	0.91	0.89	1	0.89
Belt Loader	2015	2019	0	120	-5.41	-0.21	0.31	0.9	0.9	0.91	1	0.91
Bobtail	2015	2019	0	120	-5.05	-0.19	0.65	0.89	0.89	0.96	1	0.96
Cargo Loader	2015	2019	0	120	-7.2	-0.22	0.04	0.88	0.88	0.83	1	0.83
Catering Truck	2015	2019	0	250	-18.99	-0.2	-0.54	0.16	0.16	0.72	1	0.72

Table 3.6 Percent Reduction in Diesel Emission Factors For Compressed Natural Gas Equipment

Based on Data Available in OFFROAD2011

Equipment Type	MinYear	MaxYear	Low HP	High HP	СО	CO2E	NOX	PM10	PM2.5	ROG	SO2	TOG
Forklifts	2015	2019	0	50	-0.486	-0.16566		0.90744	0.899394	0.9643	1	0.9263
Forklifts	2015	2019	51	120	-6.492	-0.30722	0.5103	0.89309	0.8837969	0.9112	1	0.6099
Forklifts	2015	2019	121	175	-5.638	-0.29426	0.6395	0.82031	0.8046898	0.9225	1	0.3883
Generator Sets	2015	2019	0	120	-4.56	-0.11	0.22	0.84	0.84	0.91	1	0.91
Generator Sets	2015	2019	121	175	-4.44	-0.1	0.12	0.71	0.71	0.9	1	0.9
Lav Truck	2015	2019	0	175	-4.83	-0.2	0.1	0.76	0.76	0.91	1	0.91
Lift	2015	2019	0	120	-5.31	-0.21	0.17	0.85	0.85	0.89	1	0.89
Aerial Lifts	2020	2024	0	15	-30.4	-0.27	0.28	-0.91	-0.91	0.57	1	0.57
Aerial Lifts	2020	2024	16	25	-47.22	-0.32	0.29	-0.91	-0.91	0.39	1	0.39
Air Conditioner	2020	2024	0	175	-4.49	-0.19	-1.04	-0.81	-0.81	0.88	1	0.88
Baggage Tug	2020	2024	0	120	-6.21	-0.2	0.31	0.87	0.87	0.9	1	0.9
Belt Loader	2020	2024	0	120	-5.69	-0.2	0.31	0.85	0.85	0.91	1	0.91
Bobtail	2020	2024	0	120	-5.26	-0.19	0.53	0.84	0.84	0.95	1	0.95
Cargo Loader	2020	2024	0	120	-7.57	-0.21	-0.09	0.78	0.78	0.81	1	0.81
Catering Truck	2020	2024	0	250	-19.46	-0.2	-1.2	-0.75	-0.75	0.73	1	0.73
Forklifts	2020	2024	0	50	-0.898	-0.16373		0.83451	0.8201159	0.9414	1	0.8791
Forklifts	2020	2024	51	120	-7.096	-0.30625		0.80708	0.7903095	0.858	1	0.3757
Forklifts	2020	2024	121	175	-6.198	-0.29359	0.3988	0.66593	0.63688	0.89	1	0.1317
Generator Sets	2020	2024	0	120	-4.76	-0.1	0.25	0.69	0.69	0.91	1	0.91
Generator Sets	2020	2024	121	175	-4.46	-0.1	0.05	0.48	0.48	0.9	1	0.9
Lav Truck	2020	2024	0	175	-4.85	-0.19	-0.03	0.56	0.56	0.91	1	0.91
Lift	2020	2024	0	120	-5.53	-0.2	0.13	0.72	0.72	0.89	1	0.89
Aerial Lifts	2025	2040	0	15	-30.4	-0.27	0.28	-0.91	-0.91	0.57	1	0.57
Aerial Lifts	2025	2040	16	25	-48.03	-0.32	0.27	-1.09	-1.09	0.37	1	0.37
Air Conditioner	2025	2040	0	175	-4.5	-0.19	-3.46	-3.31	-3.31	0.88	1	0.88
Baggage Tug	2025	2040	0	120	-6.4	-0.19	0.17	0.79	0.79	0.89	1	0.89
Belt Loader	2025	2040	0	120	-5.87	-0.2	0.16	0.72	0.72	0.9	1	0.9
Bobtail	2025	2040	0	120	-5.48	-0.19	0.32	0.72	0.72	0.93	1	0.93
Cargo Loader	2025	2040	0	120	-7.63	-0.2	-0.4	0.56	0.56	0.78	1	0.78
Catering Truck	2025	2040	0	250	-19.36	-0.2	-3.3	-2.94	-2.94	0.72	1	0.72
Forklifts	2025	2040	0	50	-1.152	-0.16313	0.2811	0.6679	0.6390223	0.9001	1	0.7938
Forklifts	2025	2040	51	120	-7.432	-0.30582	-0.17	0.57587	0.5389851	0.7693	1	-0.014
Forklifts	2025	2040	121	175	-6.368	-0.29311	-0.205	0.30273	0.2420976	0.8135	1	-0.476
Generator Sets	2025	2040	0	120	-4.83	-0.1	0.13	0.37	0.37	0.9	1	0.9
Generator Sets	2025	2040	121	175	-4.46	-0.1	-0.37	-0.03	-0.03	0.9	1	0.9
Lav Truck	2025	2040	0	175	-4.86	-0.19	-0.57	0.05	0.05	0.9	1	0.9
Lift	2025	2040	0	120	-5.6	-0.2	-0.08	0.37	0.37	0.87	1	0.87

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Table 3.7 Grading Equipment Acres Per Day

Equipment Type	Acres per 8-hour Day
Crawler Tractors	0.5
Graders	0.5
Rubber Tired Dozers	0
Scrapers	1

Notes:

1. Based on Walker's Building Estimator's Reference Book and determinations by SCAQMD.

Table 4.1 Road Characteristics

		Average		Percent of P	aved Roads	
Location Type	Name	Vehicle Weight	Construction Worker	Construction Hauling	Construction Vendor	Operational Mobile
	San Francisco Bay Area	2.4	100	100	100	100
	San Joaquin Valley	2.4	100	100	100	100
	South Central Coast	2.4	100	100	100	100
	South Coast	2.4	100	100	100	100
	Amador County APCD	2.4	100	100	100	100
	Antelope Valley APCD	2.4	100	100	100	100
	Bay Area AQMD	2.4	100	100	100	100
Air Basin	Butte County AQMD	2.4	100	100	100	100
	Calaveras County AQMD	2.4	100	100	100	100
	Colusa County APCD	2.4	100	100	100	100
	El Dorado County AQMD	2.4	100	100	100	100
	Feather River AQMD	2.4	100	100	100	100
	Glenn County APCD	2.4	100	100	100	100
	Great Basin UAPCD	2.4	100	100	100	100
	Imperial County APCD	2.4	50	50	50	50
	Kern County APCD	2.4	100	100	100	100
	Lake County AQMD	2.4	100	100	100	100
	Lassen County APCD	2.4	100	100	100	100
	Mariposa County APCD	2.4	100	100	100	100
	Mendocino County AQMD	2.4	55	55	55	55
	Modoc County APCD	2.4	100	100	100	100
	Mojave Desert AQMD	2.4	100	100	100	100
	Monterey Bay Unified APCD	2.4	100	100	100	100
	North Coast Unified APCD	2.4	100	100	100	100
	Northern Sierra AQMD	2.4	100	100	100	100
	Northern Sonoma County APCD	2.4	100	100	100	100
	Placer County APCD	2.4	100	100	100	100
	Sacramento Metropolitan AQMD	2.4	100	100	100	100
	San Diego County APCD	2.4	100	100	100	100
	San Joaquin Valley Unified APCD	2.4	100	100	100	100
	San Luis Obispo County APCD	2.4	100	100	100	100
	Santa Barbara County APCD	2.4	100	100	100	100
Air District	Shasta County AQMD	2.4	100	100	100	100
	Siskiyou County APCD	2.4	100	100	100	100
	South Coast AQMD	2.4	100	100	100	100
	Tehama County APCD	2.4	100	100	100	100
	Tuolumne County APCD	2.4	100	100	100	100
	Ventura County APCD	2.4	100	100	100	100
	Yolo/Solano AQMD	2.4	94	94	94	94
	Alameda	2.4	100	100	100	100
	Alpine	2.4	100	100	100	100
	Amador	2.4	100	100	100	100
	Butte	2.4	100	100	100	100
	Calaveras	2.4	100	100	100	100
	Colusa	2.4	100	100	100	100
	Contra Costa	2.4	100	100	100	100
	Del Norte	2.4	100	100	100	100
	El Dorado-Lake Tahoe	2.4	100	100	100	100
	El Dorado-Mountain County	2.4	100	100	100	100
	Fresno	2.4	100	100	100	100

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Table 4.1 Road Characteristics

		Average		Percent of P	aved Roads	
Location Type	Name	Vehicle Weight	Construction Worker	Construction Hauling	Construction Vendor	Operational Mobile
	Glenn	2.4	100	100	100	100
	Humboldt	2.4	100	100	100	100
	Imperial	2.4	50	50	50	50
	Inyo	2.4	100	100	100	100
	Kern-Mojave Desert	2.4	100	100	100	100
	Kern-San Joaquin	2.4	100	100	100	100
	Kings	2.4	100	100	100	100
	Lake	2.4	100	100	100	100
	Lassen	2.4	100	100	100	100
	Los Angeles-Mojave Desert	2.4	100	100	100	100
	Los Angeles-South Coast	2.4	100	100	100	100
	Madera	2.4	100	100	100	100
	Marin	2.4	100	100	100	100
	Mariposa	2.4	100	100	100	100
	Mendocino-Coastal	2.4	70	70	70	70
	Mendocino-Inland	2.4	80	80	80	80
	Mendocino-Rural Inland North	2.4	30	30	30	30
	Mendocino-Rural Inland South	2.4	40	40	40	40
	Merced	2.4	100	100	100	100
	Modoc	2.4	100	100	100	100
	Mono	2.4	100	100	100	100
	Monterey	2.4	100	100	100	100
	Napa	2.4	100	100	100	100
	Nevada	2.4	100	100	100	100
	Orange	2.4	100	100	100	100
	Placer-Lake Tahoe	2.4	100	100	100	100
	Placer-Mountain Counties	2.4	100	100	100	100
	Placer-Sacramento	2.4	100	100	100	100
	Plumas	2.4	100	100	100	100
	Riverside-Mojave Desert MDAQMD	2.4	100	100	100	100
	Riverside-Mojave Desert SCAQMD	2.4	100	100	100	100
	Riverside-Salton Sea	2.4	100	100	100	100
	Riverside-South Coast	2.4	100	100	100	100
	Sacramento	2.4	100	100	100	100
	San Benito	2.4	100	100	100	100
Counties	San Bernardino-Mojave Desert	2.4	100	100	100	100
Counties	San Bernardino-South Coast	2.4	100	100	100	100 100
	San Diego	2.4	100	100 100	100 100	100
	San Francisco San Joaquin	2.4	100 100	100	100	100
	San Luis Obispo	2.4	100	100	100	100
	San Mateo	2.4	100	100	100	100
	Santa Barbara-North of Santa Ynez	2.4	100	100	100	100
	Santa Barbara-North of Santa Thez Santa Barbara-South of Santa Ynez Range	2.4	100	100	100	100
	Santa Clara	2.4	100	100	100	100
	Santa Cruz	2.4	100	100	100	100
	Shasta	2.4	100	100	100	100
	Sierra	2.4	100	100	100	100
	Siskiyou	2.4	100	100	100	100
	Solano-Sacramento	2.4	94	94	94	94
	Solano-Sacramento Solano-San Francisco	2.4	100	100	100	100
	Sonoma-North Coast	2.4	100	100	100	100
	Sonoma-San Francisco	2.4	100	100	100	100
	Stanislaus	2.4	100	100	100	100
	Sutter	2.4	100	100	100	100
	Tehama	2.4	100	100	100	100

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Table 4.1 Road Characteristics

		Average		Percent of P	aved Roads	
Location Type	Name	Vehicle Weight	Construction Worker	Construction Hauling	Construction Vendor	Operational Mobile
	Trinity	2.4	100	100	100	100
	Tulare	2.4	100	100	100	100
	Tuolumne	2.4	100	100	100	100
	Ventura	2.4	100	100	100	100
	Yolo	2.4	94	94	94	94
	Yuba	2.4	100	100	100	100
	Statewide	2.4	100	100	100	100
	Sonoma-San Francisco	2.4	100	100	100	100
	Stanislaus	2.4	100	100	100	100
	Sutter	2.4	100	100	100	100
	Tehama	2.4	100	100	100	100
	Trinity	2.4	100	100	100	100
	Tulare	2.4	100	100	100	100
	Tuolumne	2.4	100	100	100	100
	Ventura	2.4	100	100	100	100
	Yolo	2.4	94	94	94	94
	Yuba	2.4	100	100	100	100
Statewide	Statewide	2.4	100	100	100	100

Notes:

- 1. Average Vehicle Weight is based on average for vehicles in California on all Roads.
- 2. Percent paved roads was set to 100% by default unless the district supplied a different

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Table 4.2 Mobile Trip Characteristics Dependent on Location

														R	esident	iai
	Name													T	rip Typ	е
Location Type	Name		Rural		ngth (n	niles)			Urba	n Trip Le	ength (m	iles)		Pe	ercenta	ge
		C-C	C-NW	C-W	H-O	H-S	H-W	C-C	C-NW	C-W	H-O	H-S	H-W	H-W	H-S	H-O
	Great Basin Valleys	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Lake County	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Lake Tahoe	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Mojave Desert	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	40.2	19.2	40.6
	Mountain Counties	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	37.3	20.7	42
	North Central Coast	6.6	6.6	14.7	13.6	9.8	17.1	7.3	7.3	9.5	7.2	6.2	12.3	23	15	62
	North Coast	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.
Air Basin	Northeast Plateau	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.
	Sacramento Valley	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	32.9	18	49.1
	Salton Sea	6.2	6.2	13.8	8.1	6.9	14.6	4.2	5.4	12.5	4.5	3.5	11	40.2	19.2	40.6
	San Diego	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	41.6	18.8	39.6
	San Francisco Bay Area	6.6	6.6	14.7	5.7	4.8	10.8	7.3	7.3	9.5	5.7	4.8	10.8	31	15	54
	San Joaquin Valley	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	45.6	19	35.4
	South Central Coast	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	37.5	15	47.5
	South Coast	10.1	7.9	18.5	12.9	9.6	19.8	8.4	6.9	16.6	8.7	5.9	14.7	40.2	19.2	40.6
	Amador County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	37.3	20.7	42
	Antelope Valley APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	40.2	19.2	40.6
	Bay Area AQMD	6.6	6.6	14.7	5.7	4.8	10.8	7.3	7.3	9.5	5.7	4.8	10.8	31	15	54
	Butte County AQMD	10.52	10.52	10.5	7.22	7.22	12.54	10.5	10.52	10.52	7.22	7.22	12.54	35	17	48
	Calaveras County AQMD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	37.3	20.7	42
	Colusa County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	El Dorado County AQMD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.6	21	36.4
	Feather River AQMD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.6	21	36.4
	Glenn County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.′
	Great Basin UAPCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.
	Imperial County APCD	9.5	11.9	16.4	8.1	11.7	10.2	5	8.9	6.7	3.7	3.9	7.3	40.2	19.2	40.6
	Kern County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	46.4	16.4	37.2
	Lake County AQMD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.′
	Lassen County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.
	Mariposa County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	37.3	20.7	42
	Mendocino County AQMD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.
	Modoc County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.
Air District	Mojave Desert AQMD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	40.2	19.2	40.6
	Monterey Bay Unified APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	44	18.8	37.2
	North Coast Unified APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.
	Northern Sierra AQMD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	37.3	20.7	42
	Northern Sonoma County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.9	19.5	37.0
	Placer County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.6	21	36.4
	Sacramento Metropolitan AQMD	7.5	8.5	15	8.5	7.5	15	5	6.5	10	6.5	5	10	46.5	12.5	41
	San Diego County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	41.6	18.8	39.0
	San Joaquin Valley Unified APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	45.6	19	35.4
	San Luis Obispo County APCD	13	13	13	13	13	13	5	5	13	5	5	13	35.8	21	43.2
	Santa Barbara County APCD	5.5	6.4	6.6	4.9	4.5	8.3	5.5	6.4	6.6	4.9	4.5	8.3	25.6	9.9	64.5
	Shasta County AQMD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42	21.2	37.8

Table 4.2 Mobile Trip Characteristics Dependent on Location

Location Type	Name		Rural 7	Γrip Le	ngth (n	niles)			Urba	n Trip Le	ength (m	niles)		7	esident Trip Typ ercenta	е
		C-C	C-NW	C-W	H-O	H-S	H-W	C-C	C-NW	C-W	H-O	H-S	H-W	H-W	H-S	H-O
	Siskiyou County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	South Coast AQMD	10.1	7.9	18.5	12.9	9.6	19.8	8.4	6.9	16.6	8.7	5.9	14.7	40.2	19.2	40.6
	Tehama County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	41	21.2	37.8
	Tuolumne County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	37.3	20.7	42
	Ventura County APCD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	32.9	18	49.1
	Yolo/Solano AQMD	8	9	15	9	8	15	5	7	10	7	5	10	46	13	41
	Alameda	6.6	6.6	14.7	5.7	4.8	10.8	7.3	7.3	9.5	5.7	4.8	10.8	31	15	54
	Alpine	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Amador	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	37.3	20.7	42
	Butte	10.52	10.52	10.5	7.22	7.22	12.54	10.5	10.52	10.52	7.22	7.22	12.54	35	17	48
1	Calaveras	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	37.3	20.7	42
1	Colusa	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Contra Costa	6.6	6.6	14.7	5.7	4.8	10.8	7.3	7.3	9.5	5.7	4.8	10.8	31	15	54
	Del Norte	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	El Dorado-Lake Tahoe	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.6	21	36.4
	El Dorado-Mountain County	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.6	21	36.4
	Fresno	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	48.4	15.9	35.7
	Glenn	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Humboldt	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Imperial	9.5	11.9	16.4	8.1	11.7	10.2	5	8.9	6.7	3.7	3.9	7.3	40.2	19.2	40.6
	Inyo	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Kern-Mojave Desert	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	46.4	16.4	37.2
	Kern-San Joaquin	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	46.4	16.4	37.2
	Kings	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Lake	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Lassen	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Los Angeles-Mojave Desert	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	40.2	19.2	40.6
	Los Angeles-South Coast	10.1	7.9	18.5	12.9	9.6	19.8	8.4	6.9	16.6	8.7	5.9	14.7	40.2	19.2	40.6
	Madera	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Marin	6.6	6.6	14.7	5.7	4.8	10.8	7.3	7.3	9.5	5.7	4.8	10.8	31	15	54
	Mariposa	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	37.3	20.7	42
	Mendocino-Coastal	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Mendocino-Inland	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Mendocino-Rural Inland North	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Mendocino-Rural Inland South	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Merced	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	46.9	17.4	35.7
	Modoc	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Mono	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Monterey	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	44	18.8	37.2
	Napa	6.6	6.6	14.7	5.7	4.8	10.8	7.3	7.3	9.5	5.7	4.8	10.8	31	15	54
	Nevada	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Orange	10.1	7.9	18.5	12.9	9.6	19.8	8.4	6.9	16.6	8.7	5.9	14.7	40.2	19.2	40.6
Counties	Placer-Lake Tahoe	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.6	21	36.4
	Placer-Mountain Counties	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8		21	36.4

Table 4.2 Mobile Trip Characteristics Dependent on Location

Location Type	Name		D 1 -	F' 1		- '' \			I I all a c					Т	rip Typ	е
		C-C	C-NW	C-W	ngth (n H-O	H-S	H-W	C-C	C-NW	n Trip Le	engtn (m H-O	H-S	H-W	H-W	ercentaç H-S	ge H-O
	Placer-Sacramento	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.6	21	36.4
	Plumas	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Riverside-Mojave Desert MDAQMD	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	40.2	19.2	40.6
	Riverside-Mojave Desert SCAQMD	10.1	7.9	18.5	12.9	9.6	19.8	8.4	6.9	16.6	8.7	5.9	14.7	40.2	19.2	40.6
	Riverside-Salton Sea	6.2	6.2	13.8	8.1	6.9	14.6	4.2	5.4	12.5	4.5	3.5	11	40.2	19.2	40.6
	Riverside-South Coast	10.1	7.9	18.5	12.9	9.6	19.8	8.4	6.9	16.6	8.7	5.9	14.7	40.2	19.2	40.6
	Sacramento	7.5	8.5	15	8.5	7.5	15	5	6.5	10	6.5	5	10	46.5	12.5	41
	San Benito	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	44	18.8	37.2
	San Bernardino-Mojave Desert	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	40.2	19.2	40.6
	San Bernardino-South Coast	10.1	7.9	18.5	12.9	9.6	19.8	8.4	6.9	16.6	8.7	5.9	14.7	40.2	19.2	40.6
	San Diego	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	41.6	18.8	39.6
	San Francisco	6.6	6.6	14.7	5.7	4.8	10.8	7.3	7.3	9.5	5.7	4.8	10.8	31	15	54
	San Joaquin	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	45.6	19	35.4
	San Luis Obispo	13	13	13	13	13	13	5	5	13	5	5	13	35.8	21	43.2
	San Mateo	6.6	6.6	14.7	5.7	4.8	10.8	7.3	7.3	9.5	5.7	4.8	10.8	31	15	54
	Santa Barbara-North of Santa Ynez	5.5	6.4	6.6	4.9	4.5	8.3	5.5	6.4	6.6	4.9	4.5	8.3	25.6	9.9	64.5
	Santa Barbara-South of Santa Ynez Range	5.5	6.4	6.6	4.9	4.5	8.3	5.5	6.4	6.6	4.9	4.5	8.3	25.6	9.9	64.5
	Santa Clara	6.6	6.6	14.7	5.7	4.8	10.8	7.3	7.3	9.5	5.7	4.8	10.8	31	15	54
	Santa Cruz	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	44	18.8	37.2
	Shasta	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	41	21.2	37.8
	Sierra	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Siskiyou	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Solano-Sacramento	8	9	15	9	8	15	5	7	10	7	5	10	46	13	41
	Solano-San Francisco	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	31	15	54
	Sonoma-North Coast	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.9	19.5	37.6
	Sonoma-San Francisco	6.6	6.6	14.7	5.7	4.8	10.8	7.3	7.3	9.5	5.7	4.8	10.8	31	15	54
	Stanislaus	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	48.4	13.9	37.7
	Sutter	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.6	21	36.4
	Tehama	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	41	21.2	37.8
	Trinity	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.3	19.6	38.1
	Tulare	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	38.4	22.6	39
	Tuolumne	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	37.3	20.7	42
	Ventura	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	32.9	18	49.1
	Yolo	8	9	15	9	8	15	5	7	10	7	5	10	46	13	41
	Yuba	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	42.6	21	36.4
Statewide	Statewide	6.6	6.6	14.7	7.9	7.1	16.8	7.3	7.3	9.5	7.5	7.3	10.8	41.4	19.3	39.3

–		0		Trip Rate		<u> </u>		_		Trip Typ	е
Land Use Type	Land Use Sub Type	Size Metric	Week day	Saturday	Sunday	Primary %	Diverted %	PassBy %	C-C %		C-NW %
Residential	Single Family Housing	Dwelling Unit	9.52	9.91	8.62	86	11	3	0	0	0
Residential	Apartments Low Rise	Dwelling Unit	6.59	7.16	6.07	86	11	3	0	0	0
Residential Residential	Apartments Mid Rise Apartments High Rise	Dwelling Unit Dwelling Unit	6.65 4.2	6.39 4.98	5.86 3.65	86 86	11 11	3	0	0	0
Residential	Condo/Townhouse	Dwelling Unit	5.81	5.67	4.84	86	11	3	0	0	0
Residential	Condo/Townhouse High Rise	Dwelling Unit	4.18	4.31	3.43	86	11	3	0	0	0
	Mobile Home Park	Dwelling Unit	4.99	5	4.36	86	11	3	0	0	0
Residential	Retirement Community	Dwelling Unit	2.4	2.03	1.95	86	11	3	0	0	0
Residential Educational	Congregate Care (Assisted Living) Day-Care Center	Dwelling Unit Student	2.74 4.38	2.2 0.39	2.44 0.37	86 28	11 58	3 14	0 82.3	0 12.7	0 5
Educational	Day-Care Center	1000sqft	74.06	6.21	5.83	28	58	14	82.3	12.7	5
Educational	Day-Care Center	Employee	26.73	2.61	2.45	28	58	14	82.3	12.7	5
Educational	Elementary School	Student	1.29			63	25	12	30	65	5
Educational	Elementary School	1000sqft	15.43 15.71			63 63	25 25	12 12	30 30	65 65	5 5
Educational Educational	Elementary School Junior High School	Employee Student	1.62			63	25	12	22.2	72.8	5
Educational	Junior High School	1000sqft	13.78			63	25	12	22.2	72.8	5
Educational	Junior High School	Employee	16.39			63	25	12	22.2	72.8	5
Educational	High School	Student	1.71	0.61	0.25	75	19	6	17.2	77.8	5
Educational Educational	High School High School	1000sqft Employee	12.89 19.74	4.37 6.57	1.79 2.68	75 75	19 19	6 6	17.2 17.2	77.8 77.8	5 5
Educational	Junior College (2yr)	Student	1.23	0.42	0.04	92	7	1	88.6	6.4	5
Educational	Junior College (2yr)	1000sqft	27.49	11.23	1.21	92	7	1	88.6	6.4	5
Educational	Junior College (2yr)	Employee	15.55	6.16	0.66	92	7	1	88.6	6.4	5
Educational	University/College (4yr)	Student	1.71	1.3		91	9	0	88.6	6.4	5
Educational Educational	University/College (4yr) Library	Employee Employee	8.96 52.52	3.12 47.68	23.54	91 44	9 44	0 12	88.6 43	6.4 52	5 5
Educational	Library	1000sqft	56.24	46.55	25.49	44	44	12	43	52	5
Educational	Place of Worship	Seat	0.61	0.9	1.85	64	25	11	95	0	5
Educational	Place of Worship	1000sqft	9.11	10.37	36.63	64	25	11	95	0	5
	City Park	Acre	1.89 5.04	22.75	16.74	66 52	28	6 9	48 48	33 33	19 19
Recreational Recreational	Golf Course Golf Course	Acre Hole	35.74	5.82 40.63	5.88 39.53	52 52	39 39	9	48	33	19
Recreational	Recreational Swimming Pool	1000sqft	33.82	9.1	13.6	52	39	9	48	33	19
Recreational	Racquet Club	1000sqft	14.03	21.35	17.4	52	39	9	69.5	11.5	19
Recreational	Health Club	1000sqft	32.93	20.87	26.73	52	39	9	64.1	16.9	19
Recreational Recreational	Movie Theater (No Matinee) Movie Theater (No Matinee)	Screen Seat	220 1.76	376 2.24	314 1.85	66 66	17 17	17 17	79.2 79.2	1.8 1.8	19 19
	Movie Theater (No Matinee)	1000sqft	78.06	99.28	81.9	66	17	17	79.2	1.8	19
Recreational	Arena	Acre	33.33	00.20	01.0	66	28	6	81	0	19
Recreational	Arena	1000sqft	10.713214		10.71321	66	28	6	81	0	19
	Quality Restaurant	1000sqft	89.95	94.36	72.16	38	18	44	69	12	19
	High Turnover (Sit Down Restaurant) Fast Food Restaurant with Drive Thru	1000sqft 1000sqft	127.15 496.12	158.37 722.03	131.84 542.72	37 29	20 21	43 50	72.5 78.8	8.5 2.2	19 19
Recreational	Fast Food Restaurant w/o Drive Thru	1000sqft	716	696	500	51	37	12	79.5	1.5	19
Recreational	Hotel	Room	8.17	8.19	5.95	58	38	4	61.6	19.4	19
	Motel	Room	5.63	5.63	5.63	58	38	4	62	19	19
Parking	Parking Lot	Space	0	0	0	0	0	0	0	0	0
Parking Parking	Parking Lot Parking Lot	Acre 1000sqft	0	0	0	0	0	0	0	0	0
Parking	Unenclosed Parking Structure	Space	0	0	0	0	0	0	0	0	0
Parking	Unenclosed Parking Structure	Acre	0	0	0	0	0	0	0	0	0
Parking	Unenclosed Parking Structure	1000sqft	0	0	0	0	0	0	0	0	0
Parking Parking	Enclosed Parking Structure Enclosed Parking Structure	Space Acre	0	0	0	0	0	0	0	0	0
Parking Parking	Enclosed Parking Structure Enclosed Parking Structure	1000sqft	0	0	0	0	0	0	0	0	0
Parking	Unenclosed Parking with Elevator	Space	0	0	0	0	0	0	0	0	0
Parking	Unenclosed Parking with Elevator	Acre	0	0	0	0	0	0	0	0	0
Parking	Unenclosed Parking with Elevator	1000sqft	0	0	0	0	0	0	0	0	0
Parking Parking	Enclosed Parking with Elevator Enclosed Parking with Elevator	Space Acre	0	0	0	0	0	0	0	0	0
Parking	Enclosed Parking with Elevator	1000sqft	0	0	0	0	0	0	0	0	0
Parking	Other Non-Asphalt Surfaces	Acre	0	0	0	0	0	0	0	0	0
Parking	Other Asphalt Surfaces	1000sqft	0	0	0	0	0	0	0	0	0
Parking	Other Non-Asphalt Surfaces	1000sqft	0	0	0	0	0	0	0	0	0
Parking Retail	Other Asphalt Surfaces Free-Standing Discount store	Acre 1000sqft	0 57.24	0 71.07	0 56.36	0 47.5	0 35.5	0 17	0 68.8	0 12.2	0 19
Retail	Free-Standing Discount Superstore	1000sqft	50.75	64.07	56.12	47.5	35.5	17	67.8	13.2	19
Retail	Discount Club	1000sqft	41.8	53.75	33.67	45	40	15	64.3	16.7	19
Retail	Regional Shopping Center	1000sqft	42.7	49.97	25.24	54	35	11	64.7	16.3	19
Retail Potail	Electronic Superstore	1000sqft	45.04	45.04 56.72	45.04	27	33	40	65.5	15.5	19
Retail Retail	Home Improvement Superstore Strip Mall	1000sqft 1000sqft	30.74 44.32	56.72 42.04	55.8 20.43	32 45	20 40	48 15	57.6 64.4	23.4 16.6	19 19
Retail	Hardware/Paint Store	1000sqft	51.29	82.52	68.65	45 45	29	26	67.4	13.6	19
Retail	Supermarket	1000sqft	102.24	177.59	166.44	34	30	36	74.5	6.5	19
Retail	Convenience Market (24 hour)	1000sqft	737.99	863.1	758.45	24	15	61	80.1	0.9	19
Retail	Convenience Market with Gas Pumps	1000sqft	845.6	1448.33	1182.08	14	21	65 65	80.2	0.8	19
Retail Retail	Convenience Market with Gas Pumps Automobile Care Center	Pump 1000sqft	542.6 23.72	204.47 23.72	166.88 11.88	14 21	21 51	65 28	80.2 48	0.8 33	19 19
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D-87 September 2016

Table 4.3 Mobile Trip Rates, Trip Purpose, Trip Type by Land Use $\,$

Land Use Type	Land Use Sub Type	Size Metric		Trip Rate		Primary %	Diverted %	PassBy %		Trip Typ	е
Land Ose Type	Land Ose Sub Type	Size Metric	Week day	Saturday	Sunday	Filliary 76	Diverted //	Fassby /6	C-C %	C-W %	C-NW %
Retail	Gasoline/Service Station	Pump	168.56	168.56	168.56	14	27	59	79	2	19
Commercial	Bank (with Drive-Through)	1000sqft	148.15	86.32	31.9	27	26	47	74.4	6.6	19
Commercial	General Office Building	1000sqft	11.03	2.46	1.05	77	19	4	48	33	19
Commercial	Office Park	1000sqft	11.42	1.64	0.76	82	15	3	48	33	19
Commercial	Research & Development	1000sqft	8.11	1.9	1.11	82	15	3	48	33	19
Commercial	Government Office Building	1000sqft	68.93			50	34	16	62	33	5
Commercial	Government (Civic Center)	1000sqft	27.92			50	34	16	20	75	5
Commercial	Pharmacy/Drugstore with Drive Thru	1000sqft	96.91	96.91	96.91	38	13	49	73.5	7.5	19
Commercial	Pharmacy/Drugstore w/o Drive Thru	1000sqft	90.06	90.06	90.06	41	6	53	73.6	7.4	19
Commercial	Medical Office Building	1000sqft	36.13	8.96	1.55	60	30	10	51.4	29.6	19
Commercial	Hospital	1000sqft	13.22	10.18	8.91	73	25	2	16.1	64.9	19
Commercial	Hospital	Bed	12.94	8.14	7.19	73	25	2	16.1	64.9	19
Industrial	Unrefrigerated Warehouse-No Rail	1000sqft	1.68	1.68	1.68	92	5	3	0	59	41
Industrial	Unrefrigerated Warehouse-Rail	1000sqft	1.68	1.68	1.68	92	5	3	0	59	41
Industrial	Refrigerated Warehouse-No Rail	1000sqft	1.68	1.68	1.68	92	5	3	0	59	41
Industrial	Refrigerated Warehouse-Rail	1000sqft	1.68	1.68	1.68	92	5	3	0	59	41
Industrial	General Light Industry	1000sqft	6.97	1.32	0.68	92	5	3	28	59	13
Industrial	General Heavy Industry	1000sqft	1.5	1.5	1.5	92	5	3	28	59	13
Industrial	Industrial Park	1000sqft	6.83	2.49	0.73	79	19	2	28	59	13
Industrial	Manufacturing	1000sqft	3.82	1.49	0.62	92	5	3	28	59	13

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Star	tina (a/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AB	Great Basin Valleys Air Basin	Annual	2010	351.71	410.12	479.62	598.88	74.54	91.99	101.41	124.88
AB	Great Basin Valleys Air Basin	Annual	2011	351.58	409.65	479.10	599.56	74.30	90.81	101.24	125.01
AB	Great Basin Valleys Air Basin	Annual	2012	351.55	409.23	478.69	600.33	74.12	89.78	101.13	125.19
AB	Great Basin Valleys Air Basin	Annual	2013	351.50	408.84	478.36	601.12	73.86	88.90	101.03	125.40
AB	Great Basin Valleys Air Basin	Annual	2014	351.45	408.49	478.12	601.90	73.59	88.09	100.88	125.62
AB	Great Basin Valleys Air Basin	Annual	2015	351.50	408.21	477.92	602.74	73.49	87.37	100.88	125.86
AB	Great Basin Valleys Air Basin	Annual	2016	351.62	407.99	477.76	603.56	73.49	86.82	100.85	126.11
AB	Great Basin Valleys Air Basin	Annual	2017	351.64	407.78	477.63	604.31	73.40	86.29	100.83	126.37
AB	Great Basin Valleys Air Basin	Annual	2018	351.66	407.60	477.52	604.96	73.33	85.85	100.80	126.61
AB	Great Basin Valleys Air Basin	Annual	2019	351.69	407.52	477.42	605.53	73.29	85.59	100.75	126.84
AB	Great Basin Valleys Air Basin	Annual	2020	351.72	407.45	477.34	606.03	73.36	85.50	100.79	127.06
AB	Great Basin Valleys Air Basin	Annual	2021	351.66	407.35	477.26	606.36	73.36	85.50	100.84	127.21
AB	Great Basin Valleys Air Basin	Annual	2022	351.57	407.28	477.17	606.67	73.35	85.52	100.88	127.36
AB	Great Basin Valleys Air Basin	Annual	2023	351.48	407.18	477.10	606.89	73.33	85.53	100.90	127.53
AB	Great Basin Valleys Air Basin	Annual	2024	351.41	407.09	477.03	607.04	73.32	85.55	100.92	127.69
AB	Great Basin Valleys Air Basin	Annual	2025	351.37	407.16	477.00	607.21	73.31	85.62	100.95	127.84
AB	Great Basin Valleys Air Basin	Annual	2026	351.39	407.29	476.94	607.42	73.33	85.71	100.97	127.99
AB	Great Basin Valleys Air Basin	Annual	2027	351.40	407.43	476.89	607.63	73.34	85.79	100.99	128.14
AB	Great Basin Valleys Air Basin	Annual	2028	351.40	407.56	476.84	607.84	73.35	85.87	101.00	128.27
AB	Great Basin Valleys Air Basin	Annual	2029	351.39	407.69	476.77	608.06	73.36	85.94	101.00	128.39
AB	Great Basin Valleys Air Basin	Annual	2030	351.38	407.82	476.71	608.27	73.36	86.00		128.51
AB	Great Basin Valleys Air Basin	Annual	2031	351.38	407.96	476.68	608.50	73.36	86.07	101.01	128.63
AB	Great Basin Valleys Air Basin	Annual	2032	351.38	408.09	476.65	608.73	73.37	86.13	101.01	128.74
AB	Great Basin Valleys Air Basin	Annual	2033	351.38	408.21	476.62	608.94	73.37	86.18	101.01	128.84
AB	Great Basin Valleys Air Basin	Annual	2034	351.37	408.32	476.60	609.12	73.38	86.23	101.02	128.94
AB	Great Basin Valleys Air Basin	Annual	2035	351.37	408.41	476.58	609.28	73.38	86.28	101.02	129.02
AB	Great Basin Valleys Air Basin	Summer	2010	368.80	426.31	499.33	622.32	74.54	91.99	101.41	124.88
AB	Great Basin Valleys Air Basin	Summer	2011	368.81	426.47	498.98	623.07	74.30	90.81	101.24	125.01
AB	Great Basin Valleys Air Basin	Summer	2012	368.86	426.56	498.74	623.95	74.12	89.78	101.13	125.19
AB	Great Basin Valleys Air Basin	Summer	2013	368.89	426.59	498.57	624.87	73.86	88.90	101.03	125.40
AB	Great Basin Valleys Air Basin	Summer	2014	368.92	426.59	498.50	625.78	73.59	88.09	100.88	125.62
AB	Great Basin Valleys Air Basin	Summer	2015	369.01	426.63	498.39	626.79	73.49	87.37	100.88	125.86
AB	Great Basin Valleys Air Basin	Summer	2016	369.15	426.65	498.34	627.79	73.49	86.82	100.85	126.11
AB	Great Basin Valleys Air Basin	Summer	2017	369.19	426.65	498.29	628.71	73.40	86.29	100.83	126.37
AB	Great Basin Valleys Air Basin	Summer	2018	369.21	426.63	498.22	629.47	73.33	85.85	100.80	126.61
AB	Great Basin Valleys Air Basin	Summer	2019	369.25	426.71	498.16	630.15	73.29	85.59	100.75	126.84
AB	Great Basin Valleys Air Basin	Summer	2020	369.30	426.76	498.11	630.75	73.36	85.50	100.79	127.06
AB	Great Basin Valleys Air Basin	Summer	2021	369.22	426.73	498.07	631.17	73.36	85.50	100.84	127.21
AB	Great Basin Valleys Air Basin	Summer	2022	369.14	426.72	498.03	631.56	73.35	85.52	100.88	127.36
AB	Great Basin Valleys Air Basin	Summer	2023	369.04	426.67	498.01	631.85	73.33	85.53	100.90	127.53
AB	Great Basin Valleys Air Basin	Summer	2024	368.98	426.64	498.01	632.03	73.32	85.55	100.92	127.69
AB	Great Basin Valleys Air Basin	Summer	2025	368.96	426.73	498.02	632.24	73.31	85.62	100.95	127.84
AB	Great Basin Valleys Air Basin	Summer	2026	368.99	426.89	497.97	632.46	73.33	85.71	100.97	127.99
AB	Great Basin Valleys Air Basin	Summer	2027	369.03	427.08	497.94	632.69	73.34	85.79	100.99	128.14
AB	Great Basin Valleys Air Basin	Summer	2028	369.05	427.25	497.90	632.94	73.35	85.87	101.00	128.27
AB	Great Basin Valleys Air Basin	Summer	2029	369.06	427.42	497.85	633.19	73.36	85.94	101.00	128.39
AB	Great Basin Valleys Air Basin	Summer	2030	369.07	427.57	497.80	633.43	73.36	86.00	101.00	128.51
AB	Great Basin Valleys Air Basin	Summer	2031	369.06	427.77	497.77	633.69	73.36	86.07	101.01	128.63
AB	Great Basin Valleys Air Basin	Summer	2032	369.06	427.93	497.74	633.93	73.37	86.13	101.01	128.74
AB	Great Basin Valleys Air Basin	Summer	2033	369.06	428.08	497.72	634.18	73.37	86.18	101.01	128.84
AB	Great Basin Valleys Air Basin	Summer	2034	369.05	428.21	497.70	634.38	73.38	86.23	101.02	128.94
AB	Great Basin Valleys Air Basin	Summer	2035	369.04	428.32	497.68	634.56	73.38	86.28	101.02	129.02
AB	Great Basin Valleys Air Basin	Winter	2010	367.72	425.30	498.12	620.89	74.54	91.99	101.41	124.88
AB	Great Basin Valleys Air Basin	Winter	2011	367.73	425.41	497.76	621.64	74.30	90.81	101.24	125.01

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				°∩2 Punni	ng (g/VMT	7		in)		
	Location	Socon	Year	LDA	LDT1	LDT2	MDV	LDA	CO2 Star LDT1	LDT2	MDV
AB	Great Basin Valleys Air Basin	Season Winter	2012	367.77	425.48	497.51	622.51	74.12	89.78	101.13	125.19
AB	Great Basin Valleys Air Basin	Winter	2012	367.80	425.47	497.33	623.43	73.86	88.90	101.03	125.19
AB	Great Basin Valleys Air Basin	Winter	2013	367.82	425.45	497.25	624.33	73.59	88.09	100.88	125.40
AB	Great Basin Valleys Air Basin	Winter	2014	367.92	425.48	497.13	625.32	73.49	87.37	100.88	125.86
AB	Great Basin Valleys Air Basin	Winter	2016	368.05	425.48	497.13	626.32	73.49	86.82	100.85	126.11
AB	Great Basin Valleys Air Basin	Winter	2017	368.09	425.46	497.03	627.23	73.40	86.29	100.83	126.11
AB	Great Basin Valleys Air Basin	Winter	2017	368.11	425.44	496.95	627.98	73.33	85.85	100.80	126.61
AB	Great Basin Valleys Air Basin	Winter	2019	368.14	425.50	496.89	628.66	73.29	85.59	100.75	126.84
AB	Great Basin Valleys Air Basin	Winter	2020	368.19	425.55	496.84	629.25	73.29	85.50	100.73	127.06
AB		Winter	2020	368.12	425.51	496.80	629.66	73.36	85.50	100.79	127.00
AB	Great Basin Valleys Air Basin	Winter	2021	368.04	425.50	496.75	630.05	73.35	85.52	100.88	127.21
AB	Great Basin Valleys Air Basin	Winter	2022	367.94	425.45	496.73	630.33	73.33	85.53	100.88	127.53
AB	Great Basin Valleys Air Basin	Winter	2023	367.88	425.43	496.73	630.51	73.32	85.55	100.90	127.53
AB AB	Great Basin Valleys Air Basin		2024		425.41			73.32	85.62		
-	Great Basin Valleys Air Basin	Winter		367.85		496.73	630.71			100.95	127.84
AB AB	Great Basin Valleys Air Basin	Winter	2026	367.89	425.66	496.68	630.94	73.33 73.34	85.71 85.70	100.97	127.99
l —	Great Basin Valleys Air Basin	Winter	2027	367.93	425.85	496.65	631.16		85.79	100.99	128.14
AB AB	Great Basin Valleys Air Basin	Winter	2028 2029	367.95	426.02	496.61	631.41	73.35	85.87 85.04	101.00	128.27
	Great Basin Valleys Air Basin	Winter		367.95	426.19	496.56	631.66	73.36	85.94	101.00	128.39
AB	Great Basin Valleys Air Basin	Winter	2030	367.96	426.33	496.51	631.90	73.36	86.00	101.00	128.51
AB	Great Basin Valleys Air Basin	Winter	2031	367.95	426.53	496.47	632.15	73.36	86.07	101.01	128.63
AB	Great Basin Valleys Air Basin	Winter	2032	367.95	426.69	496.45	632.40	73.37	86.13	101.01	128.74
AB	Great Basin Valleys Air Basin	Winter	2033	367.95	426.84	496.42	632.64	73.37	86.18	101.01	128.84
AB	Great Basin Valleys Air Basin	Winter	2034	367.94	426.96	496.41	632.84	73.38	86.23	101.02	128.94
AB	Great Basin Valleys Air Basin	Winter	2035	367.94	427.07	496.38	633.02	73.38	86.28	101.02	129.02
AB	Lake County Air Basin	Annual	2010	342.07	393.50	467.77	584.22	74.77	89.34	101.91	124.46
AB	Lake County Air Basin	Annual	2011	342.02	394.05	467.30	584.79	74.52	88.47	101.71	124.54
AB	Lake County Air Basin	Annual	2012	342.06	394.51	466.93	585.54	74.36	87.81	101.56	124.69
AB	Lake County Air Basin	Annual	2013	342.12	394.89	466.63	586.41	74.20	87.25	101.40	124.90
AB	Lake County Air Basin	Annual	2014	342.14	395.21	466.41	587.25	73.98	86.77	101.22	125.12
AB	Lake County Air Basin	Annual	2015	342.23	395.51	466.24	588.17	73.90	86.33	101.09	125.37
AB	Lake County Air Basin	Annual	2016	342.33	395.78	466.10	589.06	73.88	85.99	101.00	125.66
AB	Lake County Air Basin	Annual	2017	342.36	396.00	465.97	589.89	73.79	85.60	100.88	125.95
AB	Lake County Air Basin	Annual	2018	342.39	396.17	465.87	590.62	73.73	85.27	100.83	126.22
AB	Lake County Air Basin	Annual	2019	342.41	396.35	465.79	591.26	73.69		100.79	126.48
AB	Lake County Air Basin	Annual	2020	342.44	396.52	465.72	591.82	73.77	85.14		126.73
AB	Lake County Air Basin	Annual	2021	342.39	396.64	465.65	592.21	73.79	85.21	100.84	126.90
AB	Lake County Air Basin	Annual	2022	342.31	396.75	465.57	592.55	73.78	85.27	100.85	127.07
AB	Lake County Air Basin	Annual	2023	342.19	396.83	465.51	592.77	73.76	85.32	100.87	127.26
AB	Lake County Air Basin	Annual	2024	342.07	396.89	465.44	592.97	73.71	85.36	100.88	127.45
AB	Lake County Air Basin	Annual	2025	342.01	396.99	465.40	593.14	73.71	85.45	100.91	127.61
AB	Lake County Air Basin	Annual	2026	342.02	397.10	465.36	593.32	73.73	85.55	100.93	127.78
AB	Lake County Air Basin	Annual	2027	342.03	397.21	465.31	593.53	73.74	85.64		127.94
AB	Lake County Air Basin	Annual	2028	342.03	397.32	465.27	593.73	73.75	85.72	100.95	128.09
AB	Lake County Air Basin	Annual	2029	342.02	397.43	465.24	593.93	73.75	85.80		128.22
AB	Lake County Air Basin	Annual	2030	342.00	397.54	465.21	594.14	73.75	85.88		128.35
AB	Lake County Air Basin	Annual	2031	342.00	397.66	465.19	594.38	73.76	85.96		128.48
AB	Lake County Air Basin	Annual	2032	341.99	397.76	465.18	594.62	73.76	86.03	100.96	128.61
AB	Lake County Air Basin	Annual	2033	341.99	397.84	465.18	594.84	73.77	86.09	100.96	128.72
AB	Lake County Air Basin	Annual	2034	341.98	397.92	465.17	595.03	73.77	86.15	100.97	128.82
AB	Lake County Air Basin	Annual	2035	341.97	397.97	465.16	595.21	73.78	86.20	100.97	128.92
AB	Lake County Air Basin	Summer	2010	365.54	417.38	498.77	621.97	74.77	89.34		124.46
AB	Lake County Air Basin	Summer	2011	365.78	418.72	498.60	622.61	74.52	88.47	101.71	124.54
AB	Lake County Air Basin	Summer	2012	366.03	419.77	498.49	623.54	74.36	87.81		124.69
AB	Lake County Air Basin	Summer	2013	366.25	420.60	498.41	624.68	74.20	87.25	101.40	124.90

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1		(CO2 Runni	na (a/\/MT)	CO2 Starting (g/tr LDA LDT1 LDT2 73.98 86.77 101.22 73.90 86.33 101.09 73.88 85.99 101.00 73.79 85.60 100.88 73.73 85.27 100.83 73.69 85.13 100.79 73.77 85.14 100.79 73.79 85.21 100.84			n)
	Location	Saasan	Voor	LDA	LDT1	LDT2	MDV				MDV
AB	Lake County Air Pagin	Season Summer	Year 2014	366.39			625.78				125.12
	Lake County Air Basin		1		421.26	498.37 498.36					
AB	Lake County Air Basin	Summer	2015	366.55 366.69	421.85		627.02 628.23				125.37
AB AB	Lake County Air Basin	Summer	2016		422.33 422.72	498.33	629.33				125.66
AB AB	Lake County Air Basin	Summer Summer	2017 2018	366.75 366.77	423.03	498.28	630.31				125.95 126.22
AB AB	Lake County Air Basin		2019		423.03	498.21 498.14	631.16				126.48
	Lake County Air Basin	Summer		366.79							
AB	Lake County Air Basin	Summer	2020	366.81	423.55	498.08	631.89 632.43				126.73
AB	Lake County Air Basin	Summer	2021	366.76	423.74	498.00					126.90
AB	Lake County Air Basin	Summer	2022	366.67	423.91	497.93	632.88	73.78	85.27	100.85	127.07
AB	Lake County Air Basin	Summer	2023	366.57	424.04	497.87	633.19	73.76	85.32	100.87	127.26
AB	Lake County Air Basin	Summer	2024	366.46	424.16	497.81	633.47	73.71	85.36	100.88	127.45
AB	Lake County Air Basin	Summer	2025	366.41	424.28	497.76	633.69	73.71	85.45	100.91	127.61
AB	Lake County Air Basin	Summer	2026	366.43	424.42	497.70	633.89	73.73	85.55	100.93	127.78
AB	Lake County Air Basin	Summer	2027	366.46	424.56	497.65	634.10	73.74	85.64	100.94	127.94
AB	Lake County Air Basin	Summer	2028	366.47	424.70	497.62	634.32	73.75	85.72	100.95	128.09
AB	Lake County Air Basin	Summer	2029	366.48	424.86	497.59	634.55	73.75	85.80	100.96	128.22
AB	Lake County Air Basin	Summer	2030	366.48	425.00	497.56	634.80	73.75	85.88	100.95	128.35
AB	Lake County Air Basin	Summer	2031	366.48	425.18	497.58	635.06	73.76	85.96	100.95	128.48
AB	Lake County Air Basin	Summer	2032	366.47	425.33	497.59	635.34	73.76	86.03	100.96	128.61
AB	Lake County Air Basin	Summer	2033	366.46	425.44	497.60	635.60	73.77	86.09	100.96	128.72
AB	Lake County Air Basin	Summer	2034	366.45	425.54	497.60	635.84	73.77	86.15	100.97	128.82
AB	Lake County Air Basin	Summer	2035	366.44	425.60	497.60	636.06	73.78	86.20	100.97	128.92
AB	Lake County Air Basin	Winter	2010	355.28	406.94	485.21	605.47	74.77	89.34	101.91	124.46
AB	Lake County Air Basin	Winter	2011	355.39	407.93	484.91	606.07	74.52	88.47	101.71	124.54
AB	Lake County Air Basin	Winter	2012	355.55	408.73	484.69	606.93	74.36	87.81	101.56	124.69
AB	Lake County Air Basin	Winter	2013	355.70	409.36	484.52	607.95	74.20	87.25	101.40	124.90
AB	Lake County Air Basin	Winter	2014	355.79	409.87	484.39	608.93	73.98	86.77	101.22	125.12
AB	Lake County Air Basin	Winter	2015	355.91	410.33	484.31	610.03	73.90	86.33	101.09	125.37
AB	Lake County Air Basin	Winter	2016	356.04	410.72	484.24	611.10	73.88	85.99	101.00	125.66
AB	Lake County Air Basin	Winter	2017	356.08	411.04	484.15	612.08	73.79	85.60	100.88	125.95
AB	Lake County Air Basin	Winter	2018	356.11	411.29	484.07	612.96	73.73	85.27	100.83	126.22
AB	Lake County Air Basin	Winter	2019	356.13	411.52	484.00	613.71	73.69	85.13	100.79	126.48
AB	Lake County Air Basin	Winter	2020	356.15	411.73	483.93	614.36	73.77	85.14	100.79	126.73
AB	Lake County Air Basin	Winter	2021	356.11	411.89	483.85	614.84	73.79		100.84	126.90
AB	Lake County Air Basin	Winter	2022	356.02	412.03	483.78	615.25	73.78	85.27	100.85	127.07
AB	Lake County Air Basin	Winter	2023	355.91	412.15	483.72	615.52	73.76	85.32	100.87	127.26
AB	Lake County Air Basin	Winter	2024	355.79	412.24	483.66	615.76	73.71	85.36		127.45
AB	Lake County Air Basin	Winter	2025	355.74	412.35	483.61	615.96	73.71	85.45	100.91	127.61
AB	Lake County Air Basin	Winter	2026	355.76	412.47	483.56	616.15	73.73	85.55	100.93	127.78
AB	Lake County Air Basin	Winter	2027	355.78	412.60	483.51	616.36	73.74	85.64	100.94	127.94
AB	Lake County Air Basin	Winter	2028	355.78	412.73	483.47	616.58	73.75	85.72	100.95	128.09
AB	Lake County Air Basin	Winter	2029	355.78	412.87	483.44	616.79	73.75	85.80	100.96	128.22
AB	Lake County Air Basin	Winter	2030	355.78	412.99	483.41	617.02	73.75	85.88	100.95	128.35
AB	Lake County Air Basin	Winter	2031	355.77	413.15	483.42	617.27	73.76	85.96	100.95	128.48
AB	Lake County Air Basin	Winter	2032	355.77	413.27	483.42	617.53	73.76	86.03	100.96	128.61
AB	Lake County Air Basin	Winter	2033	355.76	413.37	483.42	617.77	73.77	86.09	100.96	128.72
AB	Lake County Air Basin	Winter	2034	355.75	413.46	483.42	618.00	73.77	86.15	100.97	128.82
AB	Lake County Air Basin	Winter	2035	355.74	413.52	483.42	618.20	73.78	86.20	100.97	128.92
AB	Lake Tahoe Air Basin	Annual	2010	356.47	412.59	488.71	604.93	74.34	87.24	99.87	123.01
AB	Lake Tahoe Air Basin	Annual	2011	356.51	412.59	488.19	605.81	74.16	86.67	99.91	123.23
AB	Lake Tahoe Air Basin	Annual	2012	356.56	412.72	487.78	606.86	73.99	86.30	99.99	123.52
AB	Lake Tahoe Air Basin	Annual	2013	356.68	412.85	487.47	608.00	73.92	86.00	100.07	123.86
AB	Lake Tahoe Air Basin	Annual	2014	356.72	412.95	487.22	609.08	73.71	85.68	100.13	124.20
AB	Lake Tahoe Air Basin	Annual	2015	356.81	413.11	487.02	610.25	73.64	85.47	100.21	124.57

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Lacation	I			CO2 Bunni	na (a/\/NAT	`		COO Ctor	tina (altri	n\
	Location	0	V		O2 Runni		,			ting (g/tri	
AB	Lake Tahoe Air Basin	Season Annual	Year 2016	LDA 356.94	LDT1 413.27	LDT2 486.89	MDV 611.36	1DA 73.65	LDT1 85.26	LDT2 100.29	MDV 124.95
AB	Lake Tahoe Air Basin	Annual	2017	356.99	413.40	486.78	612.39	73.62	85.07	100.29	125.32
AB	Lake Tahoe Air Basin	Annual	2018	357.02	413.53	486.70	613.30	73.52	84.96	100.42	125.67
AB	Lake Tahoe Air Basin	Annual	2019	357.02	413.71	486.65	614.10	73.44	84.95	100.50	126.01
AB	Lake Tahoe Air Basin	Annual	2020	357.04	413.87	486.61	614.78	73.51	85.01	100.60	126.32
AB	Lake Tahoe Air Basin	Annual	2021	356.98	413.98	486.59	615.36	73.53	85.12	100.68	126.59
AB	Lake Tahoe Air Basin	Annual	2022	356.93	414.08	486.56	615.86	73.53	85.21	100.75	126.83
AB	Lake Tahoe Air Basin	Annual	2023	356.85	414.11	486.52	616.25	73.53	85.29	100.80	127.07
AB	Lake Tahoe Air Basin	Annual	2024	356.72	414.14	486.45	616.56	73.48	85.36	100.85	127.28
AB	Lake Tahoe Air Basin	Annual	2025	356.68	414.26	486.40	616.85	73.48	85.46	100.89	127.48
AB	Lake Tahoe Air Basin	Annual	2026	356.67	414.44	486.37	617.11	73.50	85.57	100.93	127.67
AB	Lake Tahoe Air Basin	Annual	2027	356.66	414.59	486.34	617.37	73.52	85.66	100.95	127.84
AB	Lake Tahoe Air Basin	Annual	2028	356.66	414.75	486.32	617.64	73.52	85.75	100.97	128.00
AB	Lake Tahoe Air Basin	Annual	2029	356.64	414.90	486.29	617.91	73.53	85.84	100.98	128.15
AB	Lake Tahoe Air Basin	Annual	2030	356.63	415.05	486.24	618.17	73.53	85.92	100.99	128.30
AB	Lake Tahoe Air Basin	Annual	2031	356.65	415.20	486.20	618.44	73.54	85.99	100.99	128.44
AB	Lake Tahoe Air Basin	Annual	2032	356.65	415.33	486.17	618.72	73.54	86.06	101.00	128.57
AB	Lake Tahoe Air Basin	Annual	2033	356.66	415.45	486.15	618.96	73.55	86.13	101.00	128.69
AB	Lake Tahoe Air Basin	Annual	2034	356.66	415.57	486.12	619.18	73.55	86.19	101.01	128.81
AB	Lake Tahoe Air Basin	Annual	2035	356.66	415.65	486.10	619.37	73.56	86.24	101.01	128.91
AB	Lake Tahoe Air Basin	Summer	2010	355.60	411.74	487.57	603.46	74.34	87.24	99.87	123.01
AB	Lake Tahoe Air Basin	Summer	2011	355.64	411.71	487.04	604.33	74.16	86.67	99.91	123.23
AB	Lake Tahoe Air Basin	Summer	2012	355.68	411.82	486.63	605.37	73.99	86.30	99.99	123.52
AB	Lake Tahoe Air Basin	Summer	2013	355.79	411.94	486.31	606.50	73.92	86.00	100.07	123.86
AB	Lake Tahoe Air Basin	Summer	2014	355.83	412.02	486.05	607.58	73.71	85.68	100.13	124.20
AB	Lake Tahoe Air Basin	Summer	2015	355.92	412.17	485.85	608.73	73.64	85.47	100.21	124.57
AB	Lake Tahoe Air Basin	Summer	2016	356.05	412.33	485.71	609.83	73.65	85.26	100.29	124.95
AB	Lake Tahoe Air Basin	Summer	2017	356.10	412.44	485.60	610.85	73.62	85.07	100.35	125.32
AB	Lake Tahoe Air Basin	Summer	2018	356.13	412.57	485.52	611.75	73.52	84.96	100.42	125.67
AB	Lake Tahoe Air Basin	Summer	2019	356.13	412.74	485.46	612.55	73.44	84.95	100.50	126.01
AB	Lake Tahoe Air Basin	Summer	2020	356.15	412.89	485.43	613.23	73.51	85.01	100.60	126.32
AB	Lake Tahoe Air Basin	Summer	2021	356.09	413.00	485.41	613.80	73.53	85.12	100.68	126.59
AB	Lake Tahoe Air Basin	Summer	2022	356.03	413.09	485.38	614.30	73.53	85.21	100.75	126.83
AB	Lake Tahoe Air Basin	Summer	2023	355.96	413.13	485.34	614.69	73.53		100.80	127.07
AB	Lake Tahoe Air Basin	Summer	2024	355.83	413.15	485.27	615.00	73.48	85.36	100.85	127.28
AB	Lake Tahoe Air Basin	Summer	2025	355.78	413.27	485.22	615.29	73.48	85.46	100.89	127.48
AB	Lake Tahoe Air Basin	Summer	2026	355.77	413.44	485.19	615.55	73.50	85.57	100.93	127.67
AB AB	Lake Tahoe Air Basin	Summer	2027	355.77	413.59 413.76	485.16	615.81	73.52	85.66	100.95 100.97	127.84
AB AB	Lake Tahoe Air Basin Lake Tahoe Air Basin	Summer Summer	2028 2029	355.76 355.74	413.76	485.14 485.10	616.07 616.34	73.52 73.53	85.75 85.84	100.97	128.00 128.15
AB	Lake Tahoe Air Basin	Summer	2029	355.74	414.05	485.06	616.61	73.53	85.92	100.99	128.30
AB	Lake Tahoe Air Basin	Summer	2030	355.75	414.03	485.02	616.87	73.54	85.99	100.99	128.44
AB	Lake Tahoe Air Basin				414.20	484.99					128.57
AB AB	Lake Tahoe Air Basin	Summer Summer	2032 2033	355.76 355.76	414.33	484.96	617.14 617.39	73.54 73.55	86.06 86.13	101.00	128.69
AB AB	Lake Tahoe Air Basin	Summer	2033	355.76	414.45	484.94	617.61	73.55	86.19	101.00	128.81
AB	Lake Tahoe Air Basin	Summer	2034	355.76	414.64	484.92	617.79	73.56	86.24	101.01	128.91
AB	Lake Tahoe Air Basin	Winter	2010	355.55	411.69	487.51	603.37	74.34	87.24	99.87	123.01
AB	Lake Tahoe Air Basin	Winter	2010	355.59	411.66	486.98	604.24	74.16	86.67	99.91	123.23
AB	Lake Tahoe Air Basin	Winter	2012	355.64	411.77	486.56	605.28	73.99	86.30	99.99	123.52
AB	Lake Tahoe Air Basin	Winter	2013	355.74	411.89	486.25	606.41	73.92	86.00	100.07	123.86
AB	Lake Tahoe Air Basin	Winter	2014	355.78	411.97	485.98	607.48	73.71	85.68	100.13	124.20
AB	Lake Tahoe Air Basin	Winter	2015	355.87	412.11	485.78	608.63	73.64	85.47	100.10	124.57
AB	Lake Tahoe Air Basin	Winter	2016	356.00	412.27	485.65	609.74	73.65	85.26	100.29	124.95
AB	Lake Tahoe Air Basin	Winter	2017	356.05	412.39	485.53	610.76	73.62	85.07	100.35	125.32

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	I	1		CO2 Runni	ng (g/\/MT	١,		in)		
-	Location	Casasa	V						CO2 Star		
AB	Lake Tahoe Air Basin	Season Winter	Year 2018	LDA 356.08	LDT1 412.52	LDT2 485.45	MDV 611.66	LDA 73.52	LDT1 84.96	LDT2 100.42	MDV 125.67
AB	Lake Tahoe Air Basin	Winter	2019	356.08	412.69	485.40	612.46	73.44	84.95	100.50	126.01
AB	Lake Tahoe Air Basin	Winter	2020	356.10	412.84	485.37	613.13	73.51	85.01	100.60	126.32
AB	Lake Tahoe Air Basin	Winter	2021	356.04	412.95	485.35	613.70	73.53	85.12	100.68	126.59
AB	Lake Tahoe Air Basin	Winter	2022	355.98	413.04	485.31	614.20	73.53	85.21	100.75	126.83
AB	Lake Tahoe Air Basin	Winter	2023	355.91	413.07	485.28	614.59	73.53	85.29	100.80	127.07
AB	Lake Tahoe Air Basin	Winter	2024	355.78	413.10	485.21	614.90	73.48	85.36	100.85	127.28
AB	Lake Tahoe Air Basin	Winter	2025	355.73	413.22	485.16	615.19	73.48	85.46	100.89	127.48
AB	Lake Tahoe Air Basin	Winter	2026	355.72	413.39	485.13	615.45	73.50	85.57	100.93	127.67
AB	Lake Tahoe Air Basin	Winter	2027	355.72	413.54	485.10	615.71	73.52	85.66	100.95	127.84
AB	Lake Tahoe Air Basin	Winter	2028	355.71	413.70	485.07	615.98	73.52	85.75	100.97	128.00
AB	Lake Tahoe Air Basin	Winter	2029	355.70	413.85	485.04	616.24	73.53	85.84	100.98	128.15
AB	Lake Tahoe Air Basin	Winter	2030	355.69	414.00	484.99	616.51	73.53	85.92	100.99	128.30
AB	Lake Tahoe Air Basin	Winter	2031	355.70	414.15	484.96	616.78	73.54	85.99	100.99	128.44
AB	Lake Tahoe Air Basin	Winter	2032	355.71	414.28	484.93	617.05	73.54	86.06	101.00	128.57
AB	Lake Tahoe Air Basin	Winter	2033	355.71	414.39	484.90	617.29	73.55	86.13	101.00	128.69
AB	Lake Tahoe Air Basin	Winter	2034	355.71	414.51	484.88	617.51	73.55	86.19	101.01	128.81
AB	Lake Tahoe Air Basin	Winter	2035	355.71	414.59	484.85	617.70	73.56	86.24	101.01	128.91
AB	Mojave Desert Air Basin	Annual	2010	343.11	394.68	468.99	590.86	73.72	86.74	100.30	125.32
AB	Mojave Desert Air Basin	Annual	2011	343.64	395.54	469.03	592.03	73.66	86.21	100.29	125.53
AB	Mojave Desert Air Basin	Annual	2012	343.83	396.10	468.85	592.82	73.64	85.86	100.31	125.76
AB	Mojave Desert Air Basin	Annual	2013	343.61	395.96	468.10	592.75	73.63	85.55	100.34	126.01
AB	Mojave Desert Air Basin	Annual	2014	343.79	396.35	468.03	593.54	73.61	85.26	100.36	126.25
AB	Mojave Desert Air Basin	Annual	2015	343.46	395.74	466.94	593.04	73.61	85.08	100.41	126.51
AB	Mojave Desert Air Basin	Annual	2016	343.59	396.07	466.87	593.71	73.64	84.97	100.46	126.76
AB	Mojave Desert Air Basin	Annual	2017	343.70	396.36	466.83	594.35	73.64	84.82	100.48	127.01
AB	Mojave Desert Air Basin	Annual	2018	343.78	396.61	466.78	594.88	73.65	84.74	100.50	127.24
AB	Mojave Desert Air Basin	Annual	2019	343.84	396.80	466.60	595.24	73.67	84.82	100.55	127.46
AB	Mojave Desert Air Basin	Annual	2020	343.89	397.05	466.55	595.62	73.75	84.94	100.63	127.66
AB	Mojave Desert Air Basin	Annual	2021	344.44	397.74	467.03	596.67	73.81	85.09	100.70	127.82
AB	Mojave Desert Air Basin	Annual	2022	344.45	397.97	467.01	596.93	73.85	85.23	100.76	127.94
AB	Mojave Desert Air Basin	Annual	2023	344.44	398.17	466.98	597.13	73.88	85.35	100.81	128.10
AB	Mojave Desert Air Basin	Annual	2024	344.17	397.99	466.53	596.83	73.89	85.45	100.85	128.24
AB	Mojave Desert Air Basin	Annual	2025	344.18	398.15	466.52	597.01	73.91	85.55	100.89	128.37
AB	Mojave Desert Air Basin	Annual	2026	344.19	398.32	466.50	597.17	73.93	85.65	100.91	128.50
AB	Mojave Desert Air Basin	Annual	2027	344.20	398.48	466.48	597.33	73.94	85.73	100.93	128.62
AB	Mojave Desert Air Basin	Annual	2028	344.20	398.63	466.46	597.49	73.95	85.81	100.95	128.72
AB	Mojave Desert Air Basin	Annual	2029	344.20	398.78	466.44	597.64	73.96	85.88	100.96	128.81
AB	Mojave Desert Air Basin	Annual	2030	344.19	398.92	466.41	597.78	73.96	85.94	100.96	128.90
AB	Mojave Desert Air Basin	Annual	2031	345.29	400.17	467.56	599.64	73.96	86.01	100.97	128.98
AB	Mojave Desert Air Basin	Annual	2032	345.26	400.28	467.53	599.70	73.97	86.07	100.98	129.06
AB	Mojave Desert Air Basin	Annual	2033	345.23	400.38	467.50	599.76	73.97	86.12	100.98	129.12
AB	Mojave Desert Air Basin	Annual	2034	345.20	400.47	467.47	599.81	73.97		100.99	129.19
AB	Mojave Desert Air Basin	Annual	2035	345.17	400.54	467.45	599.85	73.98	86.20	100.99	129.24
AB	Mojave Desert Air Basin	Summer	2010	378.64	430.09	514.82	649.00	73.72	86.74	100.30	125.32
AB	Mojave Desert Air Basin	Summer	2011	379.34	431.77	515.20	650.27	73.66	86.21	100.29	125.53
AB	Mojave Desert Air Basin	Summer	2012	379.64	432.95	515.24	651.14	73.64	85.86	100.31	125.76
AB	Mojave Desert Air Basin	Summer	2013	379.46	433.16	514.62	651.13	73.63	85.55	100.34	126.01
AB	Mojave Desert Air Basin	Summer	2014	379.68	433.88	514.72	652.08	73.61	85.26	100.36	126.25
AB	Mojave Desert Air Basin	Summer	2015	379.34	433.42	513.70	651.66	73.61	85.08	100.41	126.51
AB	Mojave Desert Air Basin	Summer	2016	379.52	433.92	513.75	652.50	73.64	84.97	100.46	126.76
AB	Mojave Desert Air Basin	Summer	2017	379.64	434.35	513.78	653.28	73.64	84.82	100.48	127.01
AB	Mojave Desert Air Basin	Summer	2018	379.71	434.69	513.76	653.91	73.65	84.74	100.50	127.24
AB	Mojave Desert Air Basin	Summer	2019	379.77	434.97	513.59	654.37	73.67	84.82	100.55	127.46

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1	1		CO2 Runni	na (a/\/MT	`		in)		
	Location	0							CO2 Star		
AB	Mojave Desert Air Basin	Season Summer	Year 2020	LDA 379.81	LDT1 435.29	LDT2 513.53	MDV 654.85	LDA 73.75	LDT1 84.94	LDT2 100.63	MDV 127.66
AB	Mojave Desert Air Basin	Summer	2020	380.43	436.16	514.08	656.10	73.73	85.09	100.03	127.82
AB	Mojave Desert Air Basin	Summer	2022	380.46	436.52	514.06	656.46	73.85	85.23	100.76	127.94
AB	Mojave Desert Air Basin	Summer	2023	380.45	436.83	514.04	656.72	73.88	85.35	100.81	128.10
AB	Mojave Desert Air Basin	Summer	2024	380.12	436.68	513.52	656.37	73.89	85.45	100.85	128.24
AB	Mojave Desert Air Basin	Summer	2025	380.13	436.95	513.52	656.58	73.91	85.55	100.89	128.37
AB	Mojave Desert Air Basin	Summer	2026	380.14	437.20	513.50	656.78	73.93	85.65	100.91	128.50
AB	Mojave Desert Air Basin	Summer	2027	380.15	437.43	513.49	656.96	73.94	85.73	100.93	128.62
AB	Mojave Desert Air Basin	Summer	2028	380.15	437.66	513.48	657.14	73.95	85.81	100.95	128.72
AB	Mojave Desert Air Basin	Summer	2029	380.14	437.88	513.47	657.31	73.96	85.88	100.96	128.81
AB	Mojave Desert Air Basin	Summer	2030	380.14	438.08	513.46	657.48	73.96	85.94	100.96	128.90
AB	Mojave Desert Air Basin	Summer	2031	381.35	439.55	514.76	659.57	73.96	86.01	100.97	128.98
AB	Mojave Desert Air Basin	Summer	2032	381.29	439.73	514.74	659.65	73.97	86.07	100.98	129.06
AB	Mojave Desert Air Basin	Summer	2033	381.25	439.88	514.72	659.74	73.97	86.12	100.98	129.12
AB	Mojave Desert Air Basin	Summer	2034	381.20	440.01	514.71	659.82	73.97	86.16	100.99	129.19
AB	Mojave Desert Air Basin	Summer	2035	381.17	440.11	514.69	659.90	73.98	86.20	100.99	129.24
AB	Mojave Desert Air Basin	Winter	2010	332.64	384.30	455.49	573.78	73.72	86.74	100.30	125.32
AB	Mojave Desert Air Basin	Winter	2011	333.12	384.93	455.44	574.92	73.66	86.21	100.29	125.53
AB	Mojave Desert Air Basin	Winter	2012	333.27	385.32	455.20	575.69	73.64	85.86	100.31	125.76
AB	Mojave Desert Air Basin	Winter	2013	333.05	385.06	454.41	575.60	73.63	85.55	100.34	126.01
AB	Mojave Desert Air Basin	Winter	2014	333.21	385.37	454.28	576.35	73.61	85.26	100.36	126.25
AB	Mojave Desert Air Basin	Winter	2015	332.88	384.72	453.17	575.82	73.61	85.08	100.41	126.51
AB	Mojave Desert Air Basin	Winter	2016	333.01	385.01	453.07	576.45	73.64	84.97	100.46	126.76
AB	Mojave Desert Air Basin	Winter	2017	333.11	385.25	453.01	577.05	73.64	84.82	100.48	127.01
AB	Mojave Desert Air Basin	Winter	2018	333.19	385.48	452.95	577.56	73.65	84.74	100.50	127.24
AB	Mojave Desert Air Basin	Winter	2019	333.26	385.66	452.78	577.90	73.67	84.82	100.55	127.46
AB	Mojave Desert Air Basin	Winter	2020	333.31	385.88	452.72	578.26	73.75	84.94	100.63	127.66
AB	Mojave Desert Air Basin	Winter	2021	333.84	386.51	453.18	579.23	73.81 73.85	85.09	100.70	127.82
AB AB	Mojave Desert Air Basin Mojave Desert Air Basin	Winter Winter	2022	333.85 333.84	386.71 386.88	453.16 453.13	579.47 579.65	73.88	85.23 85.35	100.76 100.81	127.94 128.10
AB AB	Mojave Desert Air Basin	Winter	2023	333.58	386.69	453.13	579.03	73.89	85.45	100.81	128.24
AB	Mojave Desert Air Basin	Winter	2024	333.59	386.82	452.71	579.54	73.91	85.55	100.89	128.37
AB	Mojave Desert Air Basin	Winter	2026	333.61	386.97	452.67	579.69	73.93	85.65	100.03	128.50
AB	Mojave Desert Air Basin	Winter	2027	333.62	387.10	452.64	579.84	73.94		100.93	128.62
AB	Mojave Desert Air Basin	Winter	2028	333.62	387.24	452.62	579.99	73.95	85.81	100.95	128.72
AB	Mojave Desert Air Basin	Winter	2029	333.62	387.37	452.60	580.13	73.96	85.88	100.96	128.81
AB	Mojave Desert Air Basin	Winter	2030	333.61	387.49	452.57	580.27	73.96	85.94	100.96	128.90
AB	Mojave Desert Air Basin	Winter	2031	334.68	388.66	453.66	582.05	73.96	86.01	100.97	128.98
AB	Mojave Desert Air Basin	Winter	2032	334.65	388.75	453.62	582.10	73.97	86.07	100.98	129.06
AB	Mojave Desert Air Basin	Winter	2033	334.62	388.83	453.59	582.15	73.97	86.12	100.98	129.12
AB	Mojave Desert Air Basin	Winter	2034	334.59	388.91	453.56	582.18	73.97	86.16	100.99	129.19
AB	Mojave Desert Air Basin	Winter	2035	334.57	388.97	453.53	582.21	73.98	86.20	100.99	129.24
AB	Mountain Counties Air Basin	Annual	2010	337.73	394.74	462.55	581.26	74.08	90.29	100.75	125.10
AB	Mountain Counties Air Basin	Annual	2011	337.82	394.79	462.03	581.86	73.91	89.26	100.66	125.21
AB	Mountain Counties Air Basin	Annual	2012	337.95	394.82	461.63	582.55	73.76	88.44	100.64	125.36
AB	Mountain Counties Air Basin	Annual	2013	338.09	394.86	461.34	583.31	73.65	87.72	100.62	125.55
AB	Mountain Counties Air Basin	Annual	2014	338.21	394.89	461.12	584.05	73.52	87.09	100.58	125.75
AB	Mountain Counties Air Basin	Annual	2015	338.36	394.93	460.94	584.84	73.48	86.55	100.58	125.97
AB	Mountain Counties Air Basin	Annual	2016	338.51	394.99	460.82	585.57	73.47	86.12	100.59	126.21
AB	Mountain Counties Air Basin	Annual	2017	338.61	395.01	460.71	586.27	73.44	85.65	100.57	126.46
AB	Mountain Counties Air Basin	Annual	2018	338.67	395.04	460.64	586.87	73.40	85.31	100.58	126.69
AB	Mountain Counties Air Basin	Annual	2019	337.56	394.13	459.45	585.79	73.39	85.18	100.60	126.91
AB	Mountain Counties Air Basin	Annual	2020	337.62	394.23	459.40	586.24	73.48	85.19	100.67	127.12
AB	Mountain Counties Air Basin	Annual	2021	337.66	394.34	459.35	586.55	73.54	85.26	100.73	127.25

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Starting (g/tr LDA LDT1 LDT2 73.58 85.34 100.79 73.60 85.39 100.83 73.61 85.45 100.87 73.62 85.53 100.90 73.64 85.62 100.93 73.66 85.70 100.95 73.67 85.78 100.96 73.67 85.85 100.96 73.68 85.92 100.96 73.68 85.92 100.97 73.69 86.04 100.97 73.69 86.10 100.98 73.70 86.20 100.98 73.70 86.20 100.98 74.08 90.29 100.75		
		Season	Year	LDA	LDT1	LDT2	MDV				MDV
AB	Mountain Counties Air Basin	Annual	2022	337.68	394.44	459.30	586.78				127.34
AB	Mountain Counties Air Basin	Annual	2023	337.66	394.51	459.24	586.97				127.51
AB	Mountain Counties Air Basin	Annual	2024	337.62	394.56	459.21	587.12				127.66
AB	Mountain Counties Air Basin	Annual	2025	337.61	394.61	459.18	587.29				127.82
AB	Mountain Counties Air Basin	Annual	2026	337.62	394.78	459.14	587.48				127.97
AB	Mountain Counties Air Basin	Annual	2027	337.63	394.92	459.10	587.67	73.66	85.70	100.95	128.11
AB	Mountain Counties Air Basin	Annual	2028	337.63	395.07	459.06	587.86	73.67	85.78	100.96	128.23
AB	Mountain Counties Air Basin	Annual	2029	337.63	395.23	459.02	588.06	73.67	85.85	100.96	128.35
AB	Mountain Counties Air Basin	Annual	2030	337.62	395.37	458.97	588.27	73.68	85.92	100.96	128.47
AB	Mountain Counties Air Basin	Annual	2031	337.63	395.50	458.95	588.48	73.68	85.98	100.97	128.58
AB	Mountain Counties Air Basin	Annual	2032	337.64	395.62	458.93	588.71	73.69	86.04	100.97	128.70
AB	Mountain Counties Air Basin	Annual	2033	337.64	395.72	458.92	588.91	73.69	86.10	100.98	128.80
AB	Mountain Counties Air Basin	Annual	2034	337.64	395.82	458.90	589.08	73.70	86.15	100.98	128.89
AB	Mountain Counties Air Basin	Annual	2035	337.64	395.90	458.89	589.24	73.70	86.20	100.98	128.98
AB	Mountain Counties Air Basin	Summer	2010	367.32	424.29	500.18	628.91	74.08	90.29	100.75	125.10
AB	Mountain Counties Air Basin	Summer	2011	367.66	425.17	499.91	629.58	73.91	89.26	100.66	125.21
AB	Mountain Counties Air Basin	Summer	2012	367.99	425.86	499.73	630.44	73.76	88.44	100.64	125.36
AB	Mountain Counties Air Basin	Summer	2013	368.29	426.43	499.63	631.41	73.65	87.72	100.62	125.55
AB	Mountain Counties Air Basin	Summer	2014	368.54	426.87	499.60	632.42	73.52	87.09	100.58	125.75
AB	Mountain Counties Air Basin	Summer	2015	368.78	427.27	499.58	633.49	73.48	86.55	100.58	125.97
AB	Mountain Counties Air Basin	Summer	2016	368.99	427.61	499.58	634.51	73.47	86.12	100.59	126.21
AB	Mountain Counties Air Basin	Summer	2017	369.12	427.89	499.57	635.47	73.44	85.65	100.57	126.46
AB	Mountain Counties Air Basin	Summer	2018	369.20	428.10	499.54	636.29	73.40	85.31	100.58	126.69
AB	Mountain Counties Air Basin	Summer	2019	367.97	427.24	498.26	635.21	73.39	85.18	100.60	126.91
AB	Mountain Counties Air Basin	Summer	2020	368.01	427.48	498.21	635.80	73.48	85.19	100.67	127.12
AB	Mountain Counties Air Basin	Summer	2021	368.06	427.68	498.13	636.19	73.54	85.26	100.73	127.25
AB	Mountain Counties Air Basin	Summer	2022	368.08	427.87	498.06	636.51	73.58	85.34	100.79	127.34
AB	Mountain Counties Air Basin	Summer	2023	368.06	428.03	497.99	636.75	73.60	85.39	100.83	127.51
AB	Mountain Counties Air Basin	Summer	2024	368.04	428.16	497.96	636.93	73.61	85.45	100.87	127.66
AB	Mountain Counties Air Basin	Summer	2025	368.03	428.28	497.93	637.11	73.62	85.53	100.90	127.82
AB	Mountain Counties Air Basin	Summer	2026	368.04	428.50	497.91	637.31	73.64	85.62	100.93	127.97
AB	Mountain Counties Air Basin	Summer	2027	368.05	428.70	497.89	637.51	73.66	85.70	100.95	128.11
AB	Mountain Counties Air Basin	Summer	2028	368.06	428.91	497.87	637.72	73.67	85.78	100.96	128.23
AB	Mountain Counties Air Basin	Summer	2029	368.07	429.12	497.85	637.95	73.67	85.85	100.96	128.35
AB	Mountain Counties Air Basin	Summer	2030	368.07	429.33	497.82	638.18	73.68	85.92	100.96	128.47
AB	Mountain Counties Air Basin	Summer	2031	368.08	429.52	497.80	638.46	73.68	85.98	100.97	128.58
AB	Mountain Counties Air Basin	Summer	2032	368.09	429.68	497.78	638.73	73.69	86.04	100.97	128.70
AB	Mountain Counties Air Basin	Summer	2033	368.10	429.81	497.77	638.99	73.69	86.10	100.98	128.80
AB	Mountain Counties Air Basin	Summer	2034	368.10	429.93	497.75	639.22	73.70	86.15	100.98	128.89
AB	Mountain Counties Air Basin	Summer	2035	368.10	430.02	497.74	639.43	73.70	86.20	100.98	128.98
AB	Mountain Counties Air Basin	Winter	2010	330.51	387.48	453.53	569.65	74.08	90.29	100.75	125.10
AB	Mountain Counties Air Basin	Winter	2011	330.54	387.32	452.95	570.23	73.91	89.26	100.66	125.21
AB	Mountain Counties Air Basin	Winter	2012	330.61	387.20	452.50	570.89	73.76	88.44		125.36
AB	Mountain Counties Air Basin	Winter	2013	330.72	387.10	452.16	571.58	73.65	87.72	100.62	125.55
AB	Mountain Counties Air Basin	Winter	2014	330.81	387.02	451.90	572.27	73.52	87.09	100.58	125.75
AB	Mountain Counties Air Basin	Winter	2015	330.94	386.98	451.69	572.98	73.48	86.55	100.58	125.97
AB	Mountain Counties Air Basin	Winter	2016	331.07	386.97	451.53	573.65	73.47	86.12	100.59	126.21
AB	Mountain Counties Air Basin	Winter	2017	331.16	386.93	451.40	574.28	73.44	85.65	100.57	126.46
AB	Mountain Counties Air Basin	Winter	2018	331.22	386.91	451.31	574.83	73.40	85.31	100.58	126.69
AB	Mountain Counties Air Basin	Winter	2019	330.14	385.98	450.15	573.74	73.39	85.18		126.91
AB	Mountain Counties Air Basin	Winter	2020	330.19	386.05	450.10	574.16	73.48	85.19		127.12
AB	Mountain Counties Air Basin	Winter	2021	330.24	386.14	450.05	574.44	73.54	85.26		127.25
AB	Mountain Counties Air Basin	Winter	2022	330.25	386.21	450.00	574.66	73.58	85.34		127.34
AB	Mountain Counties Air Basin	Winter	2023	330.22	386.26	449.94	574.82	73.60	85.39	100.83	127.51

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1		(`∩2 Runni	ng (g/VMT)	CO2 Starting (g/tr LDA LDT1 LDT2 73.61 85.45 100.87			in)
	Location	Season	Year	LDA	LDT1	LDT2	MDV				MDV
AB	Mountain Counties Air Basin	Winter	2024	330.18	386.28	449.90	574.97				127.66
AB	Mountain Counties Air Basin	Winter	2025	330.17	386.33	449.87	575.13	73.62	85.53	100.90	127.82
AB	Mountain Counties Air Basin	Winter	2026	330.18	386.48	449.82	575.31	73.64	85.62	100.93	127.97
AB	Mountain Counties Air Basin	Winter	2027	330.19	386.60	449.78	575.50	73.66	85.70	100.95	128.11
AB	Mountain Counties Air Basin	Winter	2028	330.19	386.74	449.74	575.69	73.67	85.78	100.96	128.23
AB	Mountain Counties Air Basin	Winter	2029	330.18	386.88	449.69	575.87	73.67	85.85	100.96	128.35
AB	Mountain Counties Air Basin	Winter	2030	330.17	387.00	449.63	576.07	73.68	85.92	100.96	128.47
AB	Mountain Counties Air Basin	Winter	2031	330.18	387.12	449.61	576.27	73.68	85.98	100.97	128.58
AB	Mountain Counties Air Basin	Winter	2032	330.18	387.23	449.59	576.48	73.69	86.04	100.97	128.70
AB	Mountain Counties Air Basin	Winter	2033	330.18	387.32	449.58	576.66	73.69	86.10	100.98	128.80
AB	Mountain Counties Air Basin	Winter	2034	330.18	387.41	449.56	576.82	73.70	86.15	100.98	128.89
AB	Mountain Counties Air Basin	Winter	2035	330.18	387.48	449.55	576.96	73.70	86.20	100.98	128.98
AB	North Central Coast Air Basin	Annual	2010	352.08	409.85	484.60	606.53	72.96	88.37	99.87	123.92
AB	North Central Coast Air Basin	Annual	2011	352.06	409.40	483.84	606.61	72.93	87.57	99.90	124.13
AB	North Central Coast Air Basin	Annual	2012	352.19	409.24	483.32	607.40	72.89	86.90	99.95	124.37
AB	North Central Coast Air Basin	Annual	2013	352.37	409.19	482.92	608.27	72.92	86.40	100.03	124.65
AB	North Central Coast Air Basin	Annual	2014	352.53	409.12	482.60	609.12	72.92	85.94	100.10	124.93
AB	North Central Coast Air Basin	Annual	2015	352.73	409.11	482.36	609.99	72.98	85.55	100.18	125.24
AB	North Central Coast Air Basin	Annual	2016	352.92	409.09	482.18	610.81	73.05	85.20	100.28	125.55
AB	North Central Coast Air Basin	Annual	2017	353.06	409.10	482.04	611.59	73.09	84.93	100.35	125.86
AB	North Central Coast Air Basin	Annual	2018	353.17	409.13	481.94	612.28	73.12	84.71	100.43	126.15
AB	North Central Coast Air Basin	Annual	2019	353.27	409.25	481.87	612.89	73.16	84.66	100.51	126.43
AB	North Central Coast Air Basin	Annual	2020	353.37	409.39	481.83	613.44	73.25	84.73	100.59	126.69
AB	North Central Coast Air Basin	Annual	2021	354.32	410.59	483.10	615.32	73.33	84.87	100.68	126.92
AB	North Central Coast Air Basin	Annual	2022	354.37	410.77	483.07	615.74	73.38	84.99	100.74	127.10
AB	North Central Coast Air Basin	Annual	2023	354.37	410.92	483.04	616.07	73.42	85.10	100.80	127.31
AB	North Central Coast Air Basin	Annual	2024	354.34	411.03	483.02	616.34	73.43	85.19	100.84	127.49
AB	North Central Coast Air Basin	Annual	2025	354.34	411.14	483.01	616.61	73.45	85.28	100.88	127.66
AB	North Central Coast Air Basin	Annual	2026	353.30	409.99	481.54	614.89	73.47	85.37	100.91	127.83
AB	North Central Coast Air Basin	Annual	2027	353.33	410.12	481.49	615.18	73.49	85.45	100.93	127.98
AB	North Central Coast Air Basin	Annual	2028	353.35	410.27	481.44	615.46	73.50	85.52	100.94	128.12
AB	North Central Coast Air Basin	Annual	2029	353.36	410.41	481.37	615.73	73.51	85.58	100.94	128.25
AB	North Central Coast Air Basin	Annual	2030	353.37	410.56	481.31	616.01	73.51	85.65		128.38
AB	North Central Coast Air Basin	Annual	2031	353.39	410.72	481.27	616.28	73.52	85.71	100.95	128.50
AB	North Central Coast Air Basin	Annual	2032	353.41	410.88	481.25	616.56	73.52	85.77	100.96	128.62
AB	North Central Coast Air Basin	Annual	2033	353.43	411.02	481.23	616.82	73.53	85.83	100.96	128.73
AB	North Central Coast Air Basin	Annual	2034	353.45	411.15	481.21	617.05	73.53	85.88	100.96	128.83
AB	North Central Coast Air Basin	Annual	2035	353.47	411.25	481.20	617.25	73.54	85.93	100.97	128.92
AB	North Central Coast Air Basin	Summer	2010	372.98	431.76	511.84	642.11	72.96	88.37	99.87	123.92
AB	North Central Coast Air Basin	Summer	2011	373.14	431.60	511.31	642.11	72.93	87.57	99.90	124.13
AB	North Central Coast Air Basin	Summer	2012	373.41	431.71	511.01	642.95	72.89	86.90		124.37
AB	North Central Coast Air Basin	Summer	2013	373.71	431.90	510.79	643.91	72.92	86.40		124.65
AB	North Central Coast Air Basin	Summer	2014	373.96	432.06	510.63	644.90	72.92	85.94		
AB	North Central Coast Air Basin	Summer	2015	374.21	432.22	510.51	645.93	72.98	85.55		
AB	North Central Coast Air Basin	Summer	2016	374.44	432.38	510.41	646.92	73.05	85.20		125.55
AB	North Central Coast Air Basin	Summer	2017	374.60	432.55	510.33	647.86	73.09		100.35	125.86
	North Central Coast Air Basin	Summer	2018	374.71	432.72	510.25	648.67	73.12	84.71		126.15
AB	North Central Coast Air Basin	Summer	2019	374.81	432.96	510.19	649.38	73.16			126.43
AB	North Central Coast Air Basin	Summer	2020	374.91	433.20	510.15	650.02	73.25	84.73		126.69
AB	North Central Coast Air Basin	Summer	2021	375.91	434.52	511.49	652.05	73.33	84.87		126.92
AB	North Central Coast Air Basin	Summer	2022	375.97	434.78	511.48	652.54	73.38	84.99		127.10
AB	North Central Coast Air Basin	Summer	2023	375.98	434.99	511.46	652.91	73.42		100.80	
AB	North Central Coast Air Basin	Summer	2024	375.97	435.16	511.45	653.21	73.43		100.84	127.49
AB	North Central Coast Air Basin	Summer	2025	375.98	435.32	511.45	653.50	73.45	85.28	100.88	127.66

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1	1		CO2 Bunni	na (a/\/MT	`		n)		
-		Casasa	V		CO2 Runni				CO2 Star		
AB	North Central Coast Air Basin	Season Summer	Year 2026	LDA 374.88	LDT1 434.13	LDT2 509.90	MDV 651.66	LDA 73.47	LDT1 85.37	LDT2 100.91	MDV 127.83
AB AB	North Central Coast Air Basin	Summer	2020	374.88	434.30	509.87	651.96	73.49	85.45	100.91	127.83
AB	North Central Coast Air Basin	Summer	2028	374.94	434.48	509.85	652.26	73.50	85.52	100.94	128.12
AB	North Central Coast Air Basin	Summer	2029	374.97	434.67	509.80	652.55	73.51	85.58	100.94	128.25
AB	North Central Coast Air Basin	Summer	2030	374.99	434.87	509.76	652.86	73.51	85.65	100.94	128.38
AB	North Central Coast Air Basin	Summer	2031	375.02	435.07	509.74	653.15	73.52	85.71	100.95	128.50
AB	North Central Coast Air Basin	Summer	2032	375.05	435.26	509.73	653.46	73.52	85.77	100.96	128.62
AB	North Central Coast Air Basin	Summer	2033	375.08	435.43	509.73	653.75	73.53	85.83	100.96	128.73
AB	North Central Coast Air Basin	Summer	2034	375.11	435.58	509.72	654.02	73.53	85.88	100.96	128.83
AB	North Central Coast Air Basin	Summer	2035	375.13	435.71	509.72	654.27	73.54	85.93	100.97	128.92
AB	North Central Coast Air Basin	Winter	2010	350.54	408.22	482.61	603.75	72.96	88.37	99.87	123.92
AB	North Central Coast Air Basin	Winter	2011	350.51	407.75	481.84	603.84	72.93	87.57	99.90	124.13
AB	North Central Coast Air Basin	Winter	2012	350.63	407.55	481.30	604.63	72.89	86.90	99.95	124.37
AB	North Central Coast Air Basin	Winter	2013	350.80	407.48	480.89	605.48	72.92	86.40	100.03	124.65
AB	North Central Coast Air Basin	Winter	2014	350.96	407.39	480.56	606.32	72.92	85.94	100.10	124.93
AB	North Central Coast Air Basin	Winter	2015	351.15	407.36	480.31	607.18	72.98	85.55	100.18	125.24
AB	North Central Coast Air Basin	Winter	2016	351.33	407.32	480.12	607.99	73.05	85.20	100.28	125.55
AB	North Central Coast Air Basin	Winter	2017	351.48	407.33	479.98	608.75	73.09	84.93	100.35	125.86
AB	North Central Coast Air Basin	Winter	2018	351.58	407.34	479.88	609.43	73.12	84.71	100.43	126.15
AB	North Central Coast Air Basin	Winter	2019	351.68	407.44	479.81	610.03	73.16	84.66	100.51	126.43
AB	North Central Coast Air Basin	Winter	2020	351.78	407.58	479.76	610.57	73.25	84.73	100.59	126.69
AB	North Central Coast Air Basin	Winter	2021	352.73	408.76	481.03	612.44	73.33	84.87	100.68	126.92
AB	North Central Coast Air Basin	Winter	2022	352.78	408.94	481.00	612.85	73.38	84.99	100.74	127.10
AB	North Central Coast Air Basin	Winter	2023	352.78	409.08	480.97	613.18	73.42	85.10	100.80	127.31
AB	North Central Coast Air Basin	Winter	2024	352.74	409.19	480.94	613.44	73.43	85.19	100.84	127.49
AB	North Central Coast Air Basin	Winter	2025	352.74	409.30	480.93	613.72	73.45	85.28	100.88	127.66
AB	North Central Coast Air Basin	Winter	2026	351.70	408.15	479.46	612.01	73.47	85.37	100.91	127.83
AB	North Central Coast Air Basin	Winter	2027	351.73	408.27	479.41	612.29	73.49	85.45	100.93	127.98
AB	North Central Coast Air Basin	Winter	2028	351.74	408.41	479.36	612.56	73.50	85.52	100.94	128.12
AB	North Central Coast Air Basin	Winter	2029	351.75	408.56	479.28	612.84	73.51	85.58	100.94	128.25
AB	North Central Coast Air Basin	Winter	2030	351.76	408.70	479.22	613.11	73.51	85.65	100.94	128.38
AB	North Central Coast Air Basin	Winter	2031	351.78	408.85	479.18	613.38	73.52	85.71	100.95	128.50
AB	North Central Coast Air Basin	Winter	2032	351.80	409.00	479.15	613.65	73.52	85.77	100.96	128.62
AB	North Central Coast Air Basin	Winter	2033	351.82	409.14	479.13	613.90	73.53		100.96	128.73
AB AB	North Central Coast Air Basin North Central Coast Air Basin	Winter	2034	351.84	409.26 409.37	479.11 479.10	614.13	73.53	85.88	100.96	128.83
AB AB	North Coast Air Basin	Winter Annual	2035 2010	351.85 346.03	409.57	475.10	614.33 596.35	73.54 73.12	85.93 86.55	100.97 100.74	128.92 124.00
AB AB	North Coast Air Basin	Annual	2010	345.93	400.52	474.62	597.04	73.12	86.04	100.74	124.00
AB	North Coast Air Basin	Annual	2011	345.88	400.89	474.02	597.81	73.00	85.72	100.63	124.13
AB	North Coast Air Basin	Annual	2012	345.91	401.05	473.63	598.65	72.98	85.44	100.63	124.70
AB	North Coast Air Basin	Annual	2014	345.92	401.20	473.28	599.46	72.94	85.23	100.60	124.98
AB	North Coast Air Basin	Annual	2015	345.95	401.33	472.95	600.24	72.94	85.05	100.58	125.28
AB	North Coast Air Basin	Annual	2016	345.81	401.21	472.40	600.55	72.98	84.93	100.60	125.59
AB	North Coast Air Basin	Annual	2017	345.82	401.32	472.15	601.21	72.98	84.80		125.90
AB	North Coast Air Basin	Annual	2018	345.82	401.41	471.93	601.76	72.98	84.71	100.61	126.20
AB	North Coast Air Basin	Annual	2019	345.82	401.53	471.77	602.23	72.99	84.74	100.64	126.48
AB	North Coast Air Basin	Annual	2020	345.82	401.63	471.60	602.62	73.08	84.82	100.70	126.74
AB	North Coast Air Basin	Annual	2021	345.79	401.71	471.46	602.93	73.14	84.94	100.77	126.95
AB	North Coast Air Basin	Annual	2022	345.72	401.75	471.32	603.19	73.17	85.04		127.14
AB	North Coast Air Basin	Annual	2023	345.59	401.76	471.18	603.35	73.18	85.12	100.85	127.34
AB	North Coast Air Basin	Annual	2024	345.43	401.81	471.02	603.47	73.17	85.21	100.88	127.52
AB	North Coast Air Basin	Annual	2025	345.31	401.90	470.89	603.58	73.18	85.30	100.91	127.68
AB	North Coast Air Basin	Annual	2026	345.13	401.82	470.57	603.35	73.20	85.41	100.93	127.84
AB	North Coast Air Basin	Annual	2027	345.10	401.94	470.44	603.43	73.21	85.52	100.95	127.99

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT	-)	(CO2 Star	ting (g/tr	ip)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AB	North Coast Air Basin	Annual	2028	345.05	402.06	470.32	603.52	73.22	85.61	100.96	128.14
AB	North Coast Air Basin	Annual	2029	345.00	402.17	470.19	603.61	73.23	85.70	100.96	128.27
AB	North Coast Air Basin	Annual	2030	344.94	402.27	470.04	603.71	73.23	85.78	100.96	128.39
AB	North Coast Air Basin	Annual	2031	344.89	402.39	469.96	603.89	73.24	85.87	100.96	128.52
AB	North Coast Air Basin	Annual	2032	344.84	402.47	469.89	604.06	73.24	85.94	100.97	128.64
AB	North Coast Air Basin	Annual	2033	344.80	402.54	469.82	604.20	73.25	86.01	100.97	128.75
AB	North Coast Air Basin	Annual	2034	344.75	402.59	469.75	604.33	73.25	86.07	100.97	128.85
AB	North Coast Air Basin	Annual	2035	344.70	402.62	469.68	604.43	73.26	86.13	100.98	128.94
AB	North Coast Air Basin	Summer	2010	351.51	406.21	482.43	606.18	73.12	86.55	100.74	124.00
AB	North Coast Air Basin	Summer	2011	351.45	406.55	481.82	606.87	73.06	86.04	100.65	124.19
AB	North Coast Air Basin	Summer	2012	351.44	406.87	481.30	607.68	73.00	85.72	100.63	124.43
AB	North Coast Air Basin	Summer	2013	351.49	407.13	480.89	608.55	72.98	85.44	100.63	124.70
AB	North Coast Air Basin	Summer	2014	351.51	407.36	480.57	609.42	72.94	85.23	100.60	124.98
AB	North Coast Air Basin	Summer	2015	351.54	407.54	480.27	610.23	72.94	85.05	100.58	125.28
AB	North Coast Air Basin	Summer	2016	351.38	407.46	479.71	610.56	72.98	84.93	100.60	125.59
AB	North Coast Air Basin	Summer	2017	351.39	407.61	479.45	611.26	72.98	84.80	100.61	125.90
AB	North Coast Air Basin	Summer	2018	351.37	407.72	479.23	611.82	72.98	84.71	100.61	126.20
AB	North Coast Air Basin	Summer	2019	351.35	407.87	479.06	612.30	72.99	84.74	100.64	126.48
AB	North Coast Air Basin	Summer	2020	351.34	407.98	478.88	612.71	73.08	84.82	100.70	126.74
AB	North Coast Air Basin	Summer	2021	351.30	408.08	478.72	613.02	73.14	84.94	100.77	126.95
AB	North Coast Air Basin	Summer	2022	351.22	408.14	478.58	613.27	73.17	85.04	100.81	127.14
AB	North Coast Air Basin	Summer	2023	351.08	408.16	478.43	613.43	73.18	85.12	100.85	127.34
AB	North Coast Air Basin	Summer	2024	350.90	408.23	478.27	613.55	73.17	85.21	100.88	127.52
AB	North Coast Air Basin	Summer	2025	350.77	408.33	478.13	613.64	73.18	85.30	100.91	127.68
AB	North Coast Air Basin	Summer	2026	350.58	408.26	477.79	613.38	73.20	85.41	100.93	127.84
AB	North Coast Air Basin	Summer	2027	350.54	408.38	477.65	613.43	73.21	85.52	100.95	127.99
AB	North Coast Air Basin	Summer	2028	350.49	408.51	477.52	613.51	73.22	85.61	100.96	128.14
AB	North Coast Air Basin	Summer	2029	350.43	408.63	477.38	613.58	73.23	85.70	100.96	128.27
AB	North Coast Air Basin	Summer	2030	350.36	408.73	477.22	613.66	73.23	85.78	100.96	128.39
AB	North Coast Air Basin	Summer	2031	350.30	408.86	477.13	613.84	73.24	85.87	100.96	128.52
AB	North Coast Air Basin	Summer	2032	350.25	408.94	477.05	614.01	73.24	85.94	100.97	128.64
AB	North Coast Air Basin	Summer	2033	350.19	409.01	476.97	614.15	73.25	86.01	100.97	128.75
AB	North Coast Air Basin	Summer	2034	350.13	409.05	476.89	614.28	73.25	86.07	100.97	128.85
AB	North Coast Air Basin	Summer	2035	350.07	409.06	476.81	614.38	73.26	86.13	100.98	128.94
AB	North Coast Air Basin	Winter	2010	342.74	397.09	470.93	590.57	73.12	86.55	100.74	124.00
AB	North Coast Air Basin	Winter	2011	342.60	397.17	470.23	591.24	73.06	86.04	100.65	124.19
AB	North Coast Air Basin	Winter	2012	342.54	397.29	469.66	592.00	73.00	85.72	100.63	124.43
AB	North Coast Air Basin	Winter	2013	342.55	397.39	469.20	592.80	72.98	85.44	100.63	124.70
AB	North Coast Air Basin	Winter	2014	342.55	397.49	468.83	593.59	72.94	85.23	100.60	124.98
AB	North Coast Air Basin	Winter	2015	342.58	397.57	468.49	594.34	72.94	85.05	100.58	125.28
AB	North Coast Air Basin	Winter	2016	342.44	397.43	467.93	594.63	72.98	84.93	100.60	125.59
AB	North Coast Air Basin	Winter	2017	342.46	397.52	467.68	595.27	72.98	84.80	100.61	125.90
AB	North Coast Air Basin	Winter	2018	342.46	397.59	467.46	595.80	72.98	84.71	100.61	126.20
AB	North Coast Air Basin	Winter	2019	342.46	397.69	467.30	596.26	72.99	84.74	100.64	126.48
AB	North Coast Air Basin	Winter	2020	342.47	397.78	467.14	596.65	73.08	84.82	100.70	126.74
AB	North Coast Air Basin	Winter	2021	342.45	397.84	467.00	596.95	73.14	84.94	100.77	126.95
AB	North Coast Air Basin	Winter	2022	342.38	397.87	466.87	597.20	73.17	85.04	100.81	127.14
AB	North Coast Air Basin	Winter	2023	342.26	397.88	466.74	597.36	73.18	85.12	100.85	127.34
AB	North Coast Air Basin	Winter	2024	342.10	397.91	466.57	597.49	73.17	85.21	100.88	127.52
AB	North Coast Air Basin	Winter	2025	341.99	397.99	466.45	597.60	73.18	85.30	100.91	127.68
AB	North Coast Air Basin	Winter	2026	341.81	397.91	466.13	597.38	73.20	85.41	100.93	127.84
AB	North Coast Air Basin	Winter	2027	341.78	398.02	466.02	597.47	73.21	85.52	100.95	127.99
AB	North Coast Air Basin	Winter	2028	341.74	398.13	465.90	597.57	73.22	85.61	100.96	128.14
AB	North Coast Air Basin	Winter	2029	341.69	398.24	465.77	597.67	73.23	85.70	100.96	128.27

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	1		CO2 Star	ting (a/tr	in)
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AB	North Coast Air Basin	Winter	2030	341.63	398.33	465.62	597.77	73.23	85.78	100.96	128.39
AB	North Coast Air Basin	Winter	2031	341.59	398.44	465.55	597.95	73.24	85.87	100.96	128.52
AB	North Coast Air Basin	Winter	2032	341.55	398.52	465.48	598.12	73.24	85.94	100.97	128.64
AB	North Coast Air Basin	Winter	2032	341.50	398.60	465.41	598.26	73.25	86.01	100.97	128.75
AB	North Coast Air Basin	Winter	2034	341.46	398.65	465.35	598.38	73.25	86.07	100.97	128.85
AB	North Coast Air Basin	Winter	2035	341.41	398.68	465.29	598.48	73.26	86.13	100.98	128.94
AB	Northeast Plateau Air Basin	Annual	2010	377.75	443.26	517.72	646.50	74.51	94.16	102.11	125.01
AB	Northeast Plateau Air Basin	Annual	2011	377.64	442.37	517.72	647.16	74.33	92.57	101.85	125.11
AB	Northeast Plateau Air Basin	Annual	2012	377.60	441.62	516.49	647.18	74.16	91.28	101.68	125.11
AB	Northeast Plateau Air Basin	Annual	2012	377.56	441.00	516.04	648.87	73.94	90.24	101.46	125.42
AB	Northeast Plateau Air Basin	Annual	2014	377.59	440.43	515.70	649.73	73.82	89.19	101.27	125.61
AB	Northeast Plateau Air Basin	Annual	2015	377.66	439.94	515.40	650.62	73.75	88.24	101.11	125.83
AB	Northeast Plateau Air Basin	Annual	2016	377.76	439.50	515.18	651.48	73.75	87.42	101.02	126.07
AB	Northeast Plateau Air Basin	Annual	2017	377.77	439.13	514.99	652.27	73.65	86.65	100.88	126.32
AB	Northeast Plateau Air Basin	Annual	2017	377.76	438.85	514.83	652.95	73.55	86.12	100.80	126.56
AB AB	Northeast Plateau Air Basin	Annual	2019	377.78	438.67	514.63	653.55	73.52	85.77	100.80	126.36
AB AB	Northeast Plateau Air Basin	Annual	2019	377.81	438.53	514.70	654.05	73.60	85.62	100.76	120.76
AB AB	Northeast Plateau Air Basin	Annual	2020	377.76	438.41	514.36	654.40	73.63	85.60	100.85	127.00
AB AB	Northeast Plateau Air Basin	Annual	2021	377.67	438.26	514.47	654.67	73.63	85.57	100.87	127.16
AB	Northeast Plateau Air Basin	Annual	2022	377.54	438.15	514.25	654.84	73.62	85.55	100.90	127.20
AB	Northeast Plateau Air Basin	Annual	2023	377.40	438.13	514.25	654.98	73.59	85.56	100.90	127.43
AB	Northeast Plateau Air Basin	Annual	2025	377.34	438.12	514.13	655.10	73.60	85.62	100.94	127.74
AB	Northeast Plateau Air Basin	Annual	2023	377.35	438.23	513.97	655.34	73.62	85.71	100.94	127.74
AB	Northeast Plateau Air Basin	Annual	2027	377.35	438.35	513.87	655.58	73.63	85.79	100.98	128.04
AB	Northeast Plateau Air Basin	Annual	2028	377.34	438.46	513.78	655.82	73.64	85.87	100.99	128.18
AB	Northeast Plateau Air Basin	Annual	2029	377.32	438.58	513.68	656.05	73.64	85.94	100.99	128.31
AB	Northeast Plateau Air Basin	Annual	2030	377.31	438.68	513.58	656.29	73.65	86.00	100.99	128.43
AB	Northeast Plateau Air Basin	Annual	2031	377.30	438.81	513.55	656.54	73.65	86.06	100.99	128.55
AB	Northeast Plateau Air Basin	Annual	2032	377.30	438.90	513.52	656.81	73.66	86.12	100.99	128.68
AB	Northeast Plateau Air Basin	Annual	2033	377.29	438.99	513.49	657.04	73.66	86.18	101.00	128.78
AB	Northeast Plateau Air Basin	Annual	2034	377.28	439.07	513.47	657.24	73.67	86.22	101.00	128.89
AB	Northeast Plateau Air Basin	Annual	2035	377.27	439.12	513.45	657.42	73.67	86.26		128.98
AB	Northeast Plateau Air Basin	Summer	2010	394.23	458.88	539.40	673.34	74.51		102.11	125.01
	Northeast Plateau Air Basin	Summer	2011	394.34		538.93	674.13	74.33		101.85	
AB	Northeast Plateau Air Basin	Summer	2012	394.46	458.48	538.57	675.13	74.16		101.68	
AB	Northeast Plateau Air Basin	Summer	2013	394.54	458.28	538.29	676.23	73.94	90.24		125.42
AB	Northeast Plateau Air Basin	Summer	2014	394.66	458.04	538.09	677.30	73.82		101.27	125.61
	Northeast Plateau Air Basin	Summer	2015	394.79	457.86	537.92	678.42	73.75	88.24		125.83
AB	Northeast Plateau Air Basin	Summer	2016	394.92	457.67	537.80	679.49	73.75	87.42		126.07
AB	Northeast Plateau Air Basin	Summer	2017	394.95	457.50	537.69	680.48	73.65	86.65		126.32
AB	Northeast Plateau Air Basin	Summer	2018	394.94	457.37	537.57	681.33	73.55	86.12		126.56
AB	Northeast Plateau Air Basin	Summer	2019	394.96	457.30	537.48	682.08	73.52	85.77	100.76	126.78
AB	Northeast Plateau Air Basin	Summer	2020	394.99	457.28	537.38	682.70	73.60	85.62		
AB	Northeast Plateau Air Basin	Summer	2021	394.94	457.25	537.27	683.15	73.63		100.85	127.16
AB	Northeast Plateau Air Basin	Summer	2022	394.85	457.20	537.18	683.51	73.63	85.57	100.87	127.26
AB	Northeast Plateau Air Basin	Summer	2023	394.73	457.17	537.08	683.76	73.62	85.55		
AB	Northeast Plateau Air Basin	Summer	2024	394.60	457.16	537.01	683.96	73.59		100.92	127.59
AB	Northeast Plateau Air Basin	Summer	2025	394.55	457.25	536.94	684.14	73.60		100.94	127.74
AB	Northeast Plateau Air Basin	Summer	2026	394.57	457.40	536.85	684.40	73.62	85.71		127.89
AB	Northeast Plateau Air Basin	Summer	2027	394.58	457.55	536.76	684.67	73.63		100.98	128.04
AB	Northeast Plateau Air Basin	Summer	2028	394.60	457.70	536.68	684.95	73.64	85.87		128.18
AB	Northeast Plateau Air Basin	Summer	2029	394.59	457.87	536.60	685.23	73.64	85.94		128.31
AB	Northeast Plateau Air Basin	Summer	2030	394.59	458.00	536.52	685.51	73.65	86.00		128.43
	Northeast Plateau Air Basin	Summer	2031	394.59	458.17	536.50	685.81	73.65	86.06		128.55
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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		I		CO2 Buss:	na (a/\/N/T	1		CO2 Starting (g/tri LDA LDT1 LDT2 73.66 86.12 100.99 73.66 86.18 101.00 73.67 86.22 101.00 74.51 94.16 102.11		
	Location		.,		CO2 Runni						
4 D	Neglis and Distance Air Danie	Season	Year	LDA	LDT1	LDT2	MDV				MDV
AB	Northeast Plateau Air Basin	Summer	2032	394.59	458.30	536.49	686.12			-	128.68
AB	Northeast Plateau Air Basin	Summer	2033	394.59	458.41	536.47	686.39				128.78
AB	Northeast Plateau Air Basin	Summer	2034	394.58	458.50	536.45	686.63				128.89
AB AB	Northeast Plateau Air Basin	Summer	2035	394.57	458.57	536.44	686.85				128.98
AB AB	Northeast Plateau Air Basin	Winter	2010	372.12	437.93 436.79	510.31	637.33	74.33	94.16	102.11	125.01
AB AB	Northeast Plateau Air Basin	Winter	2011	371.94	435.86	509.55	637.95	74.33	91.28		125.11 125.24
AB AB	Northeast Plateau Air Basin Northeast Plateau Air Basin	Winter	2012 2013	371.85		508.94 508.44	638.70	73.94	90.24	101.68	
AB AB	Northeast Plateau Air Basin	Winter Winter	2013	371.76 371.76	435.10 434.41	508.44	639.52 640.31	73.82	89.19	101.46 101.27	125.42 125.61
AB	Northeast Plateau Air Basin	Winter	2014	371.82	434.41	507.71	641.12	73.75	88.24	101.27	125.83
AB	Northeast Plateau Air Basin	Winter	2016	371.90	433.30	507.45	641.90	73.75	87.42	101.11	126.07
AB	Northeast Plateau Air Basin	Winter	2017	371.90	432.86	507.43	642.63	73.65	86.65	100.88	126.32
AB	Northeast Plateau Air Basin	Winter	2017	371.89	432.53	507.06	643.25	73.55	86.12	100.80	126.56
AB	Northeast Plateau Air Basin	Winter	2019	371.91	432.30	506.92	643.80	73.52	85.77	100.76	126.78
AB	Northeast Plateau Air Basin	Winter	2020	371.94	432.13	506.80	644.25	73.60	85.62	100.80	127.00
AB	Northeast Plateau Air Basin	Winter	2021	371.90	431.97	506.68	644.58	73.63	85.60	100.85	127.16
AB	Northeast Plateau Air Basin	Winter	2022	371.79	431.80	506.56	644.81	73.63	85.57	100.87	127.26
AB	Northeast Plateau Air Basin	Winter	2023	371.66	431.66	506.44	644.96	73.62	85.55	100.90	127.43
AB	Northeast Plateau Air Basin	Winter	2024	371.52	431.55	506.34	645.08	73.59	85.56	100.92	127.59
AB	Northeast Plateau Air Basin	Winter	2025	371.46	431.58	506.27	645.18	73.60	85.62	100.94	127.74
AB	Northeast Plateau Air Basin	Winter	2026	371.46	431.69	506.16	645.40	73.62	85.71	100.97	127.89
AB	Northeast Plateau Air Basin	Winter	2027	371.46	431.79	506.05	645.63	73.63	85.79	100.98	128.04
AB	Northeast Plateau Air Basin	Winter	2028	371.45	431.88	505.95	645.86	73.64	85.87	100.99	128.18
AB	Northeast Plateau Air Basin	Winter	2029	371.43	431.99	505.85	646.08	73.64	85.94	100.99	128.31
AB	Northeast Plateau Air Basin	Winter	2030	371.40	432.08	505.74	646.30	73.65	86.00	100.99	128.43
AB	Northeast Plateau Air Basin	Winter	2031	371.39	432.19	505.70	646.54	73.65	86.06	100.99	128.55
AB	Northeast Plateau Air Basin	Winter	2032	371.39	432.28	505.67	646.80	73.66	86.12	100.99	128.68
AB	Northeast Plateau Air Basin	Winter	2033	371.38	432.35	505.64	647.01	73.66	86.18	101.00	128.78
AB	Northeast Plateau Air Basin	Winter	2034	371.37	432.42	505.61	647.20	73.67	86.22	101.00	128.89
AB	Northeast Plateau Air Basin	Winter	2035	371.36	432.48	505.59	647.37	73.67	86.26	101.00	128.98
AB	Sacramento Valley Air Basin	Annual	2010	339.47	391.58	465.54	585.89	73.13	87.05	100.12	125.04
AB	Sacramento Valley Air Basin	Annual	2011	339.70	392.07	465.28	586.41	73.13	86.45	100.12	125.22
AB	Sacramento Valley Air Basin	Annual	2012	339.92	392.53	465.05	586.98	73.14	86.02	100.16	125.43
AB	Sacramento Valley Air Basin	Annual	2013	340.13	392.91	464.86	587.61	73.18	85.67	100.21	125.66
AB	Sacramento Valley Air Basin	Annual	2014	340.32	393.25	464.72	588.24	73.20	85.38	100.25	125.90
AB	Sacramento Valley Air Basin	Annual	2015	340.50	393.55	464.61	588.90	73.26	85.16	100.28	126.15
AB	Sacramento Valley Air Basin	Annual	2016	341.42	394.73	465.46	590.86	73.34	84.98	100.34	126.41
AB	Sacramento Valley Air Basin	Annual	2017	341.54	394.94	465.36	591.43	73.39	84.78	100.38	126.66
AB	Sacramento Valley Air Basin	Annual	2018	341.62	395.12	465.27	591.91	73.42	84.66	100.43	126.91
AB	Sacramento Valley Air Basin	Annual	2019	340.51	393.97	463.69	590.45	73.48	84.72	100.49	127.12
AB	Sacramento Valley Air Basin	Annual	2020	340.58	394.18	463.62	590.84	73.58	84.83	100.57	127.33
AB	Sacramento Valley Air Basin	Annual	2021	340.67	394.43	463.65	591.21	73.65	84.97	100.65	127.48
AB	Sacramento Valley Air Basin	Annual	2022	340.69	394.59	463.59	591.44	73.71	85.11	100.72	127.61
AB	Sacramento Valley Air Basin	Annual	2023	340.68	394.72	463.54	591.60	73.75	85.22	100.77	127.77
AB	Sacramento Valley Air Basin	Annual	2024	340.67	394.84	463.48	591.71	73.77	85.32	100.82	127.92
AB	Sacramento Valley Air Basin	Annual	2025	340.66	394.94	463.43	591.82	73.79	85.41	100.86	128.06
AB	Sacramento Valley Air Basin	Annual	2026	340.83	395.25	463.58	592.22	73.81	85.50	100.89	128.20
AB	Sacramento Valley Air Basin	Annual	2027	340.82	395.35	463.54	592.33	73.83	85.58	100.91	128.33
AB	Sacramento Valley Air Basin	Annual	2028	340.82	395.45	463.50	592.44	73.84	85.66	100.93	128.44
AB	Sacramento Valley Air Basin	Annual	2029	340.81	395.55	463.45	592.55	73.84	85.73	100.94	128.55
AB	Sacramento Valley Air Basin	Annual	2030	340.79	395.65	463.41	592.66	73.85	85.80	100.95	128.65
AB	Sacramento Valley Air Basin	Annual	2031	340.77	395.75	463.38	592.83	73.85	85.86	100.96	128.75
AB	Sacramento Valley Air Basin	Annual	2032	340.75	395.84	463.35	592.99	73.86	85.92	100.96	128.84
AB	Sacramento Valley Air Basin	Annual	2033	340.73	395.91	463.32	593.13	73.86	85.97	100.97	128.92

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	ng (a/VMT)	(CO2 Star	ting (g/tri	(q
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AB	Sacramento Valley Air Basin	Annual	2034	340.71	395.98	463.29	593.27	73.87	86.02	100.97	129.00
AB	Sacramento Valley Air Basin	Annual	2035	340.69	396.02	463.26	593.38	73.87	86.07	100.98	129.07
AB	Sacramento Valley Air Basin	Summer	2010	376.00	429.82	513.57	646.23	73.13	87.05	100.12	125.04
AB	Sacramento Valley Air Basin	Summer	2011	376.48	431.05	513.58	646.73	73.13	86.45	100.12	125.22
AB	Sacramento Valley Air Basin	Summer	2012	376.91	432.08	513.58	647.38	73.14	86.02	100.16	125.43
AB	Sacramento Valley Air Basin	Summer	2013	377.28	432.92	513.60	648.19	73.18	85.67	100.21	125.66
AB	Sacramento Valley Air Basin	Summer	2014	377.59	433.62	513.66	649.04	73.20	85.38	100.25	125.90
AB	Sacramento Valley Air Basin	Summer	2015	377.87	434.22	513.73	649.95	73.26	85.16	100.28	126.15
AB	Sacramento Valley Air Basin	Summer	2016	378.93	435.71	514.80	652.32	73.34	84.98	100.34	126.41
AB	Sacramento Valley Air Basin	Summer	2017	379.08	436.13	514.80	653.13	73.39	84.78	100.38	126.66
AB	Sacramento Valley Air Basin	Summer	2018	379.17	436.45	514.75	653.82	73.42	84.66	100.43	126.91
AB	Sacramento Valley Air Basin	Summer	2019	377.91	435.23	513.00	652.30	73.48	84.72	100.49	127.12
AB	Sacramento Valley Air Basin	Summer	2020	377.97	435.53	512.92	652.83	73.58	84.83	100.57	127.33
AB	Sacramento Valley Air Basin	Summer	2021	378.06	435.87	512.93	653.31	73.65	84.97	100.65	127.48
AB	Sacramento Valley Air Basin	Summer	2022	378.08	436.12	512.86	653.62	73.71	85.11	100.72	127.61
AB	Sacramento Valley Air Basin	Summer	2023	378.08	436.32	512.79	653.85	73.75	85.22	100.77	127.77
AB	Sacramento Valley Air Basin	Summer	2024	378.07	436.51	512.72	653.98	73.77	85.32	100.82	127.92
AB	Sacramento Valley Air Basin	Summer	2025	378.07	436.68	512.67	654.11	73.79	85.41	100.86	128.06
AB	Sacramento Valley Air Basin	Summer	2026	378.25	437.06	512.85	654.54	73.81	85.50	100.89	128.20
AB	Sacramento Valley Air Basin	Summer	2027	378.25	437.21	512.82	654.66	73.83	85.58	100.91	128.33
AB	Sacramento Valley Air Basin	Summer	2028	378.26	437.36	512.81	654.79	73.84	85.66	100.93	128.44
AB	Sacramento Valley Air Basin	Summer	2029	378.26	437.53	512.79	654.92	73.84	85.73	100.94	128.55
AB	Sacramento Valley Air Basin	Summer	2030	378.25	437.69	512.77	655.06	73.85	85.80	100.95	128.65
AB	Sacramento Valley Air Basin	Summer	2031	378.24	437.85	512.75	655.24	73.85	85.86	100.96	128.75
AB	Sacramento Valley Air Basin	Summer	2032	378.23	437.99	512.73	655.43	73.86	85.92	100.96	128.84
AB	Sacramento Valley Air Basin	Summer	2033	378.22	438.09	512.71	655.61	73.86	85.97	100.97	128.92
AB	Sacramento Valley Air Basin	Summer	2034	378.21	438.19	512.69	655.79	73.87	86.02	100.97	129.00
AB	Sacramento Valley Air Basin	Summer	2035	378.19	438.26	512.67	655.95	73.87	86.07	100.98	129.07
AB	Sacramento Valley Air Basin	Winter	2010	329.45	381.14	452.22	569.20	73.13	87.05	100.12	125.04
AB	Sacramento Valley Air Basin	Winter	2011	329.60	381.43	451.86	569.72	73.13	86.45	100.12	125.22
AB	Sacramento Valley Air Basin	Winter	2012	329.76	381.73	451.56	570.27	73.14	86.02	100.16	125.43
AB	Sacramento Valley Air Basin	Winter	2013	329.93	381.98	451.31	570.86	73.18	85.67	100.21	125.66
AB	Sacramento Valley Air Basin	Winter	2014	330.08	382.22	451.11	571.43	73.20	85.38	100.25	125.90
AB	Sacramento Valley Air Basin	Winter	2015	330.24	382.45	450.95	572.00	73.26	85.16	100.28	126.15
AB	Sacramento Valley Air Basin	Winter	2016	331.12	383.54	451.74	573.86	73.34	84.98	100.34	126.41
AB	Sacramento Valley Air Basin	Winter	2017	331.23	383.69	451.61	574.36	73.39	84.78	100.38	126.66
AB	Sacramento Valley Air Basin	Winter	2018	331.30	383.82	451.51	574.78	73.42	84.66	100.43	126.91
AB	Sacramento Valley Air Basin	Winter	2019	330.23	382.69	449.98	573.34	73.48	84.72	100.49	127.12
AB	Sacramento Valley Air Basin	Winter	2020	330.31	382.88	449.92	573.69	73.58	84.83	100.57	127.33
AB	Sacramento Valley Air Basin	Winter	2021	330.40	383.10	449.95	574.02	73.65	84.97	100.65	127.48
AB	Sacramento Valley Air Basin	Winter	2022	330.42	383.25	449.90	574.22	73.71	85.11	100.72	127.61
AB	Sacramento Valley Air Basin	Winter	2023	330.41	383.35	449.84	574.36	73.75	85.22	100.77	127.77
AB	Sacramento Valley Air Basin	Winter	2024	330.40	383.45	449.79	574.46	73.77	85.32	100.82	127.92
AB	Sacramento Valley Air Basin	Winter	2025	330.38	383.54	449.74	574.57	73.79	85.41	100.86	128.06
AB	Sacramento Valley Air Basin	Winter	2026	330.55	383.83	449.88	574.96	73.81	85.50	100.89	128.20
AB	Sacramento Valley Air Basin	Winter	2027	330.54	383.91	449.84	575.06	73.83	85.58	100.91	128.33
AB	Sacramento Valley Air Basin	Winter	2028	330.53	383.99	449.79	575.17	73.84	85.66	100.93	128.44
AB	Sacramento Valley Air Basin	Winter	2029	330.52	384.08	449.74	575.27	73.84	85.73	100.94	128.55
AB	Sacramento Valley Air Basin	Winter	2030	330.50	384.16	449.69	575.37	73.85	85.80	100.95	128.65
AB	Sacramento Valley Air Basin	Winter	2031	330.48	384.24	449.65	575.53	73.85	85.86	100.96	128.75
AB	Sacramento Valley Air Basin	Winter	2032	330.45	384.32	449.62	575.68	73.86	85.92	100.96	128.84
AB	Sacramento Valley Air Basin	Winter	2033	330.43	384.39	449.58	575.82	73.86	85.97	100.97	128.92
AB	Sacramento Valley Air Basin	Winter	2034	330.41	384.44	449.55	575.94	73.87	86.02	100.97	129.00
AB	Sacramento Valley Air Basin	Winter	2035	330.39	384.48	449.51	576.04	73.87	86.07	100.98	129.07

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	l andino	1			200 D	(\) (NAT	1					
	Location		.,			ng (g/VMT						
4 D	Caltan Can Ain Basin	Season	Year	LDA	LDT1	LDT2	MDV				MDV	
AB AB	Salton Sea Air Basin Salton Sea Air Basin	Annual	2010 2011	341.46 340.83	391.26 391.09	466.98 465.62	588.92 588.09				125.12 125.40	
AB AB	Salton Sea Air Basin	Annual Annual	2011	341.10	391.81	465.53	588.82	73.00	84.44	100.03	125.40	
AB	Salton Sea Air Basin	Annual	2012	339.89	390.79	463.45	587.06	73.20	84.46	100.03	126.01	
AB	Salton Sea Air Basin	Annual	2013	340.06	391.30	463.35	587.74	73.28	84.51	100.12	126.32	
AB	Salton Sea Air Basin	Annual	2014	337.14	388.08	459.06	582.96	73.36	84.58	100.21	126.63	
AB	Salton Sea Air Basin	Annual	2016	337.23	388.43	458.97	583.49	73.43	84.66	100.39	126.92	
AB	Salton Sea Air Basin	Annual	2017	337.28	388.72	458.87	583.97	73.48	84.73	100.33	127.20	
AB	Salton Sea Air Basin	Annual	2017	337.30	388.94	458.77	584.35	73.51	84.81	100.40	127.46	
AB	Salton Sea Air Basin	Annual	2019	337.18	389.02	458.52	584.48	73.55	84.95	100.51	127.40	
AB	Salton Sea Air Basin	Annual	2020	337.18	389.22	458.46	584.79	73.61	85.11	100.66	127.91	
AB	Salton Sea Air Basin	Annual	2021	337.69	390.02	459.17	585.99	73.66	85.25	100.73	128.08	
AB	Salton Sea Air Basin	Annual	2022	337.68	390.23	459.20	586.30	73.68	85.37	100.78	128.23	
AB	Salton Sea Air Basin	Annual	2023	337.64	390.41	459.22	586.55	73.68	85.48	100.70	128.38	
AB	Salton Sea Air Basin	Annual	2024	341.70	395.19	464.82	593.82	73.69	85.57	100.86	128.50	
AB	Salton Sea Air Basin	Annual	2025	341.66	395.34	464.85	594.02	73.69	85.66	100.90	128.62	
AB	Salton Sea Air Basin	Annual	2026	341.65	395.52	464.87	594.24	73.69	85.74	100.92	128.73	
AB	Salton Sea Air Basin	Annual	2027	341.63	395.69	464.90	594.45	73.69	85.81	100.94	128.82	
AB	Salton Sea Air Basin	Annual	2028	341.62	395.85	464.93	594.65	73.69	85.88	100.95	128.91	
AB	Salton Sea Air Basin	Annual	2029	341.61	396.01	464.96	594.85	73.69	85.94	100.96	128.98	
AB	Salton Sea Air Basin	Annual	2030	341.59	396.17	464.99	595.05	73.69	86.00	100.97	129.05	
AB	Salton Sea Air Basin	Annual	2031	346.94	402.31	472.49	604.70	73.69	86.05	100.98	129.12	
AB	Salton Sea Air Basin	Annual	2032	346.94	402.50	472.58	605.00	73.69	86.10	100.98	129.18	
AB	Salton Sea Air Basin	Annual	2033	346.94	402.68	472.66	605.29	73.69	86.15	100.99	129.23	
AB	Salton Sea Air Basin	Annual	2034	346.96	402.84	472.74	605.57	73.69	86.19	100.99	129.28	
AB	Salton Sea Air Basin	Annual	2035	346.97	402.99	472.83	605.83	73.70	86.22	100.99	129.33	
AB	Salton Sea Air Basin	Summer	2010	347.94	398.06	475.64	600.02	72.93	84.54	99.89	125.12	
AB	Salton Sea Air Basin	Summer	2011	347.40	398.07	474.36	599.23	73.00	84.47	99.94	125.40	
AB	Salton Sea Air Basin	Summer	2012	347.71	398.93	474.30	599.96	73.09	84.44	100.03	125.69	
AB	Salton Sea Air Basin	Summer	2013	346.51	397.99	472.23	598.20	73.20	84.46	100.12	126.01	
AB	Salton Sea Air Basin	Summer	2014	346.72	398.61	472.18	598.94	73.28	84.51	100.21	126.32	
AB	Salton Sea Air Basin	Summer	2015	343.80	395.45	467.91	594.18	73.36	84.58	100.30	126.63	
AB	Salton Sea Air Basin	Summer	2016	343.92	395.87	467.86	594.79	73.43	84.66	100.39	126.92	
AB	Salton Sea Air Basin	Summer	2017	343.99	396.22	467.80	595.33	73.48	84.73	100.46	127.20	
AB	Salton Sea Air Basin	Summer	2018	344.01	396.49	467.72	595.75	73.51	84.81	100.51	127.46	
AB	Salton Sea Air Basin	Summer	2019	343.91	396.62	467.49	595.93	73.55	84.95	100.58	127.69	
AB	Salton Sea Air Basin	Summer	2020	343.92	396.85	467.43	596.26	73.61	85.11	100.66	127.91	
AB	Salton Sea Air Basin	Summer	2021	344.42	397.64	468.12	597.44	73.66	85.25	100.73	128.08	
AB	Salton Sea Air Basin	Summer	2022	344.40	397.86	468.13	597.74	73.68	85.37	100.78	128.23	
AB	Salton Sea Air Basin	Summer	2023	344.36	398.04	468.14	597.97	73.68	85.48	100.83	128.38	
AB	Salton Sea Air Basin	Summer	2024	348.46	402.88	473.79	605.31	73.69	85.57	100.86	128.50	
AB	Salton Sea Air Basin	Summer	2025	348.42	403.03	473.81	605.50	73.69	85.66	100.90	128.62	
AB	Salton Sea Air Basin	Summer	2026	348.41	403.21	473.82	605.69	73.69	85.74	100.92	128.73	
AB	Salton Sea Air Basin	Summer	2027	348.39	403.37	473.84	605.88	73.69	85.81	100.94	128.82	
AB	Salton Sea Air Basin	Summer	2028	348.38	403.54	473.86	606.07	73.69	85.88	100.95	128.91	
AB	Salton Sea Air Basin	Summer	2029	348.37	403.70	473.88	606.25	73.69	85.94	100.96	128.98	
AB	Salton Sea Air Basin	Summer	2030	348.36	403.86	473.90	606.44	73.69	86.00	100.97	129.05	
AB	Salton Sea Air Basin	Summer	2031	353.82	410.13	481.56	616.27	73.69	86.05	100.98	129.12	
AB	Salton Sea Air Basin	Summer	2032	353.82	410.32	481.63	616.55	73.69	86.10	100.98	129.18	
AB	Salton Sea Air Basin	Summer	2033	353.83	410.49	481.71	616.83	73.69	86.15	100.99	129.23	
AB	Salton Sea Air Basin	Summer	2034	353.84	410.65	481.79	617.09	73.69	86.19	100.99	129.28	
AB	Salton Sea Air Basin	Summer	2035	353.84	410.79	481.87	617.33	73.70	86.22	100.99	129.33	
AB	Salton Sea Air Basin	Winter	2010	322.01	371.13	441.23	556.43	72.93	84.54	99.89	125.12	
AB	Salton Sea Air Basin	Winter	2011	321.32	370.64	439.87	555.70	73.00	84.47	99.94	125.40	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	<u> </u>	1	(CO2 Runni	na (a/\/MT)	-	CO2 Star	tina (a/tri	n)
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AB	Salton Sea Air Basin	Winter	2012	321.51	371.06	439.70	556.40	73.09	84.44	100.03	125.69
AB	Salton Sea Air Basin	Winter	2012	320.31	369.85	437.64	554.68	73.20	84.46	100.03	126.01
AB	Salton Sea Air Basin	Winter	2013	320.43	370.15	437.46	555.24	73.28	84.51	100.12	126.32
AB	Salton Sea Air Basin	Winter	2014	317.65	366.97	433.34	550.64	73.36	84.58	100.21	126.63
AB	Salton Sea Air Basin	Winter	2016	317.72	367.19	433.19	551.06	73.43	84.66	100.39	126.92
AB	Salton Sea Air Basin	Winter	2017	317.76	367.13	433.05	551.44	73.48	84.73	100.46	127.20
AB	Salton Sea Air Basin	Winter	2018	317.77	367.53	432.94	551.76	73.51	84.81	100.51	127.46
AB	Salton Sea Air Basin	Winter	2019	317.66	367.56	432.69	551.84	73.55	84.95	100.58	127.69
AB	Salton Sea Air Basin	Winter	2020	317.66	367.71	432.63	552.09	73.61	85.11	100.66	127.91
AB	Salton Sea Air Basin	Winter	2021	318.16	368.43	433.31	553.22	73.66	85.25	100.73	128.08
AB	Salton Sea Air Basin	Winter	2022	318.16	368.61	433.35	553.51	73.68	85.37	100.78	128.23
AB	Salton Sea Air Basin	Winter	2023	318.13	368.75	433.38	553.75	73.68	85.48	100.83	128.38
AB	Salton Sea Air Basin	Winter	2024	321.95	373.25	438.66	560.61	73.69	85.57	100.86	128.50
AB	Salton Sea Air Basin	Winter	2025	321.92	373.37	438.70	560.81	73.69	85.66	100.90	128.62
AB	Salton Sea Air Basin	Winter	2026	321.91	373.53	438.74	561.04	73.69	85.74	100.92	128.73
AB	Salton Sea Air Basin	Winter	2027	321.90	373.68	438.78	561.26	73.69	85.81	100.94	128.82
AB	Salton Sea Air Basin	Winter	2028	321.88	373.82	438.82	561.46	73.69	85.88	100.95	128.91
AB	Salton Sea Air Basin	Winter	2029	321.86	373.96	438.84	561.66	73.69	85.94	100.96	128.98
AB	Salton Sea Air Basin	Winter	2030	321.84	374.09	438.87	561.85	73.69	86.00	100.97	129.05
AB	Salton Sea Air Basin	Winter	2031	326.88	379.86	445.94	570.95	73.69	86.05	100.98	129.12
AB	Salton Sea Air Basin	Winter	2032	326.88	380.03	446.02	571.24	73.69	86.10	100.98	129.18
AB	Salton Sea Air Basin	Winter	2033	326.89	380.18	446.09	571.52	73.69	86.15	100.99	129.23
AB	Salton Sea Air Basin	Winter	2034	326.90	380.33	446.17	571.77	73.69	86.19	100.99	129.28
AB	Salton Sea Air Basin	Winter	2035	326.91	380.46	446.25	572.01	73.70	86.22	100.99	129.33
AB	San Diego Air Basin	Annual	2010	352.52	405.15	482.46	610.22	72.99	83.92	99.34	125.27
AB	San Diego Air Basin	Annual	2011	353.81	407.05	483.85	612.57	73.01	83.88	99.44	125.44
AB	San Diego Air Basin	Annual	2012	354.03	407.67	483.80	613.09	73.05	83.89	99.57	125.64
AB	San Diego Air Basin	Annual	2013	354.28	408.23	483.77	613.65	73.12	83.94	99.70	125.85
AB	San Diego Air Basin	Annual	2014	354.50	408.76	483.75	614.21	73.17	83.99	99.82	126.06
AB	San Diego Air Basin	Annual	2015	354.72	409.25	483.74	614.79	73.24	84.07	99.93	126.29
AB	San Diego Air Basin	Annual	2016	354.92	409.69	483.74	615.32	73.32	84.16	100.05	126.52
AB	San Diego Air Basin	Annual	2017	355.08	410.10	483.73	615.84	73.37	84.25	100.15	126.74
AB	San Diego Air Basin	Annual	2018	355.21	410.47	483.74	616.29	73.41	84.35	100.25	126.96
AB	San Diego Air Basin	Annual	2019	355.33	410.82	483.74	616.69	73.46	84.52	100.35	127.15
AB	San Diego Air Basin	Annual	2020	355.43	411.15	483.75	617.07	73.55	84.69	100.45	127.34
AB	San Diego Air Basin	Annual	2021	356.07	412.11	484.56	618.41	73.62	84.87	100.55	127.52
AB	San Diego Air Basin	Annual	2022	356.11	412.36	484.56	618.69	73.67	85.02	100.63	127.67
AB	San Diego Air Basin	Annual	2023	356.12	412.55	484.56	618.89	73.71	85.15	100.70	127.83
AB	San Diego Air Basin	Annual	2024	356.12	412.71	484.55	619.06	73.72	85.27	100.76	127.98
AB	San Diego Air Basin	Annual	2025	356.11	412.86	484.55	619.23	73.74	85.38	100.81	128.12
AB	San Diego Air Basin	Annual	2026	356.13	413.01	484.54	619.39	73.76	85.48	100.85	128.26
AB	San Diego Air Basin	Annual	2027	356.14	413.16	484.53	619.54	73.77	85.57	100.88	128.38
AB	San Diego Air Basin	Annual	2028	356.15	413.30	484.51	619.69	73.78	85.66	100.90	128.48
AB	San Diego Air Basin	Annual	2029	356.15	413.45	484.50	619.84	73.79	85.74	100.92	128.58
AB	San Diego Air Basin	Annual	2030	356.14	413.59	484.49	619.98	73.79	85.81	100.93	128.68
AB	San Diego Air Basin	Annual	2031	356.14	413.74	484.48	620.13	73.80	85.89	100.94	128.77
AB	San Diego Air Basin	Annual	2032	356.14	413.87	484.48	620.29	73.80	85.96	100.95	128.86
AB	San Diego Air Basin	Annual	2033	356.14	414.00	484.47	620.43	73.80	86.02	100.96	128.93
AB	San Diego Air Basin	Annual	2034	356.13	414.10	484.46	620.55	73.80	86.08	100.97	129.01
AB	San Diego Air Basin	Annual	2035	356.13	414.20	484.46	620.67	73.81	86.13	100.97	129.08
AB	San Diego Air Basin	Summer	2010	372.46	426.19	509.00	643.64	72.99	83.92	99.34	125.27
AB	San Diego Air Basin	Summer	2011	373.89	428.41	510.48	645.96	73.01	83.88	99.44	125.44
AB	San Diego Air Basin	Summer	2012	374.19	429.26	510.46	646.43	73.05	83.89	99.57	125.64
AB	San Diego Air Basin	Summer	2013	374.48	430.00	510.47	646.99	73.12	83.94	99.70	125.85

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	<u> </u>	<u> </u>	(CO2 Runni	na (a/\/MT	7		CO2 Star	ting (g/tri	n)
	Location	Cassan	Voor	LDA		LDT2	MDV	LDA	LDT1		MDV
AB	Son Diogo Air Booin	Season	Year 2014	374.75	LDT1 430.67		647.60		83.99	LDT2 99.82	126.06
AB AB	San Diego Air Basin	Summer				510.51	648.26	73.17 73.24		99.93	
	San Diego Air Basin	Summer	2015	375.00	431.27	510.56			84.07		126.29
AB	San Diego Air Basin	Summer	2016	375.24	431.81	510.61	648.90	73.32	84.16	100.05	126.52
AB	San Diego Air Basin	Summer	2017	375.42	432.30	510.65	649.52	73.37	84.25	100.15	126.74
AB	San Diego Air Basin	Summer	2018	375.55	432.74	510.67	650.05	73.41	84.35	100.25	126.96
AB	San Diego Air Basin	Summer	2019	375.68	433.15	510.68	650.53	73.46	84.52	100.35	127.15
AB	San Diego Air Basin	Summer	2020	375.78	433.52	510.68	650.97	73.55	84.69	100.45	127.34
AB	San Diego Air Basin	Summer	2021	376.47	434.60	511.57	652.47	73.62	84.87	100.55	127.52
AB	San Diego Air Basin	Summer	2022	376.52	434.90	511.57	652.82	73.67	85.02	100.63	127.67
AB	San Diego Air Basin	Summer	2023	376.54	435.14	511.57	653.07	73.71	85.15	100.70	127.83
AB	San Diego Air Basin	Summer	2024	376.54	435.34	511.56	653.27	73.72	85.27	100.76	127.98
AB	San Diego Air Basin	Summer	2025	376.54	435.52	511.56	653.45	73.74	85.38	100.81	128.12
AB	San Diego Air Basin	Summer	2026	376.55	435.72	511.54	653.62	73.76	85.48	100.85	128.26
AB	San Diego Air Basin	Summer	2027	376.56	435.90	511.53	653.77	73.77	85.57	100.88	128.38
AB	San Diego Air Basin	Summer	2028	376.57	436.07	511.51	653.92	73.78	85.66	100.90	128.48
AB	San Diego Air Basin	Summer	2029	376.58	436.25	511.49	654.06	73.79	85.74	100.92	128.58
AB	San Diego Air Basin	Summer	2030	376.58	436.43	511.48	654.21	73.79	85.81	100.93	128.68
AB	San Diego Air Basin	Summer	2031	376.57	436.61	511.47	654.35	73.80	85.89	100.94	128.77
AB	San Diego Air Basin	Summer	2032	376.57	436.77	511.46	654.51	73.80	85.96	100.95	128.86
AB	San Diego Air Basin	Summer	2033	376.57	436.92	511.45	654.65	73.80	86.02	100.96	128.93
AB	San Diego Air Basin	Summer	2034	376.57	437.04	511.45	654.79	73.80	86.08	100.97	129.01
AB	San Diego Air Basin	Summer	2035	376.57	437.14	511.44	654.92	73.81	86.13	100.97	129.08
AB	San Diego Air Basin	Winter	2010	348.91	401.34	477.65	604.17	72.99	83.92	99.34	125.27
AB	San Diego Air Basin	Winter	2011	350.18	403.18	479.04	606.53	73.01	83.88	99.44	125.44
AB	San Diego Air Basin	Winter	2012	350.39	403.76	478.98	607.06	73.05	83.89	99.57	125.64
AB	San Diego Air Basin	Winter	2013	350.62	404.30	478.94	607.62	73.12	83.94	99.70	125.85
AB	San Diego Air Basin	Winter	2014	350.83	404.79	478.91	608.17	73.17	83.99	99.82	126.06
AB	San Diego Air Basin	Winter	2015	351.05	405.26	478.89	608.73	73.24	84.07	99.93	126.29
AB	San Diego Air Basin	Winter	2016	351.25	405.69	478.88	609.25	73.32	84.16	100.05	126.52
AB	San Diego Air Basin	Winter	2017	351.40	406.08	478.87	609.75	73.37	84.25	100.15	126.74
AB	San Diego Air Basin	Winter	2018	351.53	406.44	478.86	610.18	73.41	84.35	100.25	126.96
AB	San Diego Air Basin	Winter	2019	351.65	406.78	478.87	610.57	73.46	84.52	100.35	127.15
AB	San Diego Air Basin	Winter	2020	351.75	407.10	478.87	610.94	73.55	84.69	100.45	127.34
AB	San Diego Air Basin	Winter	2021	352.38	408.04	479.67	612.25	73.62		100.55	127.52
AB	San Diego Air Basin	Winter	2022	352.42	408.28	479.67	612.51	73.67	85.02	100.63	127.67
AB	San Diego Air Basin	Winter	2023	352.43	408.47	479.67	612.71	73.71	85.15		127.83
AB	San Diego Air Basin	Winter	2024	352.42	408.62	479.66	612.87	73.72	85.27	100.76	127.98
AB	San Diego Air Basin	Winter	2025	352.42	408.75	479.66	613.03	73.74	85.38	100.81	128.12
AB	San Diego Air Basin	Winter	2026	352.43	408.90	479.65	613.20	73.76	85.48	100.85	128.26
AB	San Diego Air Basin	Winter	2027	352.44	409.04	479.64	613.35	73.77	85.57	100.88	128.38
AB	San Diego Air Basin	Winter	2028	352.45	409.18	479.63	613.50	73.78	85.66	100.90	128.48
AB	San Diego Air Basin	Winter	2029	352.45	409.32	479.62	613.64	73.79	85.74	100.92	128.58
AB	San Diego Air Basin	Winter	2030	352.45	409.46	479.60	613.79	73.79	85.81	100.93	128.68
AB	San Diego Air Basin	Winter	2030	352.44	409.40	479.60	613.79	73.80	85.89	100.93	128.77
					409.60						
AB ^B	San Diego Air Basin	Winter	2032	352.44		479.59	614.10	73.80	85.96	100.95	128.86
AB	San Diego Air Basin	Winter	2033	352.44	409.85	479.59	614.23	73.80	86.02	100.96	128.93
AB	San Diego Air Basin	Winter	2034	352.44	409.95	479.58	614.36	73.80	86.08	100.97	129.01
AB	San Diego Air Basin	Winter	2035	352.43	410.04	479.57	614.47	73.81	86.13	100.97	129.08
AB	San Francisco Air Basin	Annual	2010	338.39	388.50	461.86	581.62	72.94	84.37	99.40	124.69
AB	San Francisco Air Basin	Annual	2011	338.52	388.90	461.72	582.11	72.98	84.25	99.50	124.89
AB	San Francisco Air Basin	Annual	2012	338.67	389.32	461.62	582.66	73.02	84.19	99.62	125.11
AB	San Francisco Air Basin	Annual	2013	338.86	389.72	461.54	583.26	73.09	84.17	99.74	125.34
AB	San Francisco Air Basin	Annual	2014	339.03	390.09	461.49	583.86	73.15	84.17	99.85	125.59
AB	San Francisco Air Basin	Annual	2015	339.22	390.46	461.45	584.47	73.23	84.19	99.96	125.85

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1			CO2 Runni	na (a/\/MT	`		CO2 Star	tina (a/tri	in)
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AB	San Francisco Air Basin	Annual	2016	339.41	390.83	461.42	585.05	73.32	84.24	100.07	126.10
AB	San Francisco Air Basin	Annual	2017	339.54	391.17	461.39	585.61	73.38	84.29	100.07	126.36
AB	San Francisco Air Basin	Annual	2018	339.67	391.45	461.36	586.09	73.44	84.35	100.17	126.61
AB	San Francisco Air Basin	Annual	2019	339.78	391.75	461.34	586.50	73.50	84.48	100.35	126.84
AB	San Francisco Air Basin	Annual	2020	339.88	392.02	461.33	586.89	73.60	84.63	100.45	127.06
AB	San Francisco Air Basin	Annual	2021	339.96	392.27	461.33	587.20	73.68	84.79	100.54	127.24
AB	San Francisco Air Basin	Annual	2022	339.99	392.48	461.33	587.46	73.74	84.93	100.62	127.39
AB	San Francisco Air Basin	Annual	2023	339.99	392.64	461.32	587.66	73.78	85.06	100.69	127.56
AB	San Francisco Air Basin	Annual	2024	339.97	392.77	461.30	587.83	73.80	85.17	100.75	127.71
AB	San Francisco Air Basin	Annual	2025	339.96	392.89	461.29	588.00	73.82	85.27	100.80	127.87
AB	San Francisco Air Basin	Annual	2026	339.97	393.04	461.27	588.18	73.85	85.38	100.84	128.01
AB	San Francisco Air Basin	Annual	2027	339.98	393.18	461.25	588.35	73.86	85.47	100.87	128.15
AB	San Francisco Air Basin	Annual	2028	339.97	393.32	461.22	588.52	73.87	85.55	100.89	128.26
AB	San Francisco Air Basin	Annual	2029	339.96	393.47	461.20	588.68	73.88	85.63	100.91	128.38
AB	San Francisco Air Basin	Annual	2030	339.95	393.63	461.17	588.85	73.89	85.71	100.92	128.49
AB	San Francisco Air Basin	Annual	2031	339.94	393.79	461.16	589.02	73.89	85.79	100.93	128.59
AB	San Francisco Air Basin	Annual	2032	339.94	393.94	461.14	589.20	73.90	85.86	100.94	128.69
AB	San Francisco Air Basin	Annual	2033	339.93	394.08	461.13	589.36	73.90	85.92	100.95	128.79
AB	San Francisco Air Basin	Annual	2034	339.92	394.20	461.11	589.50	73.90	85.98	100.95	128.87
AB	San Francisco Air Basin	Annual	2035	339.91	394.31	461.10	589.63	73.91	86.04	100.96	128.96
AB	San Francisco Air Basin	Summer	2010	364.35	415.41	496.51	625.57	72.94	84.37	99.40	124.69
AB	San Francisco Air Basin	Summer	2011	364.64	416.20	496.43	625.96	72.98	84.25	99.50	124.89
AB	San Francisco Air Basin	Summer	2012	364.93	416.94	496.39	626.48	73.02	84.19	99.62	125.11
AB	San Francisco Air Basin	Summer	2013	365.22	417.62	496.38	627.12	73.09	84.17	99.74	125.34
AB	San Francisco Air Basin	Summer	2014	365.47	418.22	496.42	627.81	73.15	84.17	99.85	125.59
AB	San Francisco Air Basin	Summer	2015	365.72	418.79	496.47	628.57	73.23	84.19	99.96	125.85
AB	San Francisco Air Basin	Summer	2016	365.95	419.33	496.52	629.31	73.32	84.24	100.07	126.10
AB	San Francisco Air Basin	Summer	2017	366.11	419.82	496.57	630.02	73.38	84.29	100.17	126.36
AB	San Francisco Air Basin	Summer	2018	366.24	420.25	496.57	630.62	73.44	84.35	100.26	126.61
AB	San Francisco Air Basin	Summer	2019	366.36	420.66	496.58	631.14	73.50	84.48	100.35	126.84
AB	San Francisco Air Basin	Summer	2020	366.46	421.03	496.57	631.62	73.60	84.63	100.45	127.06
AB	San Francisco Air Basin	Summer	2021	366.53	421.37	496.57	632.00	73.68	84.79	100.54	127.24
AB	San Francisco Air Basin	Summer	2022	366.57	421.66	496.56	632.33	73.74	84.93	100.62	127.39
AB AB	San Francisco Air Basin	Summer	2023	366.57	421.90 422.10		632.57	73.78 73.80		100.69 100.75	127.56
AB AB	San Francisco Air Basin San Francisco Air Basin	Summer Summer	2024 2025	366.55 366.54	422.10	496.51 496.49	632.76 632.95	73.82	85.17 85.27	100.75	127.71 127.87
AB AB	San Francisco Air Basin	Summer	2025	366.55	422.28	496.46	633.14	73.85	85.38	100.84	128.01
AB	San Francisco Air Basin	Summer	2027	366.56	422.48	496.44	633.31	73.86	85.47	100.87	128.15
AB	San Francisco Air Basin	Summer	2028	366.57	422.88	496.41	633.48	73.87	85.55	100.89	128.26
AB	San Francisco Air Basin	Summer	2029	366.56	423.10	496.39	633.66	73.88	85.63	100.91	128.38
AB	San Francisco Air Basin	Summer	2030	366.56	423.32	496.37	633.84	73.89	85.71	100.92	128.49
AB	San Francisco Air Basin	Summer	2031	366.56	423.55	496.35	634.03	73.89	85.79	100.93	128.59
AB	San Francisco Air Basin	Summer	2032	366.55	423.75	496.34	634.22	73.90	85.86		128.69
AB	San Francisco Air Basin	Summer	2033	366.55	423.93	496.32	634.41	73.90	85.92	100.95	128.79
AB	San Francisco Air Basin	Summer	2034	366.54	424.09	496.31	634.58	73.90	85.98	100.95	128.87
AB	San Francisco Air Basin	Summer	2035	366.54	424.21	496.30	634.74	73.91	86.04	100.96	128.96
AB	San Francisco Air Basin	Winter	2010	335.32	385.28	457.66	576.18	72.94	84.37	99.40	124.69
AB	San Francisco Air Basin	Winter	2011	335.43	385.63	457.52	576.68	72.98	84.25	99.50	124.89
AB	San Francisco Air Basin	Winter	2012	335.56	386.01	457.41	577.23	73.02	84.19	99.62	125.11
AB	San Francisco Air Basin	Winter	2013	335.74	386.37	457.32	577.82	73.09	84.17	99.74	125.34
AB	San Francisco Air Basin	Winter	2014	335.90	386.72	457.25	578.40	73.15	84.17	99.85	125.59
AB	San Francisco Air Basin	Winter	2015	336.08	387.07	457.20	579.00	73.23	84.19	99.96	125.85
AB	San Francisco Air Basin	Winter	2016	336.26	387.41	457.16	579.56	73.32	84.24	100.07	126.10
AB	San Francisco Air Basin	Winter	2017	336.39	387.73	457.12	580.10	73.38	84.29	100.17	126.36

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		I	(CO2 Runni	na (a/\/MT)		CO2 Starting (g/trip LDA LDT1 LDT2 73.44 84.35 100.26 73.50 84.48 100.35 73.60 84.63 100.45			
	Location	Season	Year	LDA	LDT1	LDT2	MDV				MDV	
AB	San Francisco Air Basin	Winter	2018	336.52	388.00	457.08	580.55				126.61	
AB	San Francisco Air Basin	Winter	2019	336.63	388.27	457.06	580.95				126.84	
AB	San Francisco Air Basin	Winter	2020	336.73	388.53	457.05	581.32				127.06	
AB	San Francisco Air Basin	Winter	2020	336.80	388.77	457.05	581.62	73.68	84.79	100.43	127.00	
AB	San Francisco Air Basin	Winter	2021	336.84	388.97	457.05	581.88	73.74	84.93	100.54	127.24	
AB	San Francisco Air Basin	Winter	2023	336.84	389.12	457.04	582.08	73.78	85.06	100.69	127.56	
AB	San Francisco Air Basin	Winter	2024	336.82	389.24	457.02	582.24	73.80	85.17	100.75	127.71	
AB	San Francisco Air Basin	Winter	2025	336.81	389.35	457.00	582.41	73.82	85.27	100.80	127.87	
AB	San Francisco Air Basin	Winter	2026	336.82	389.49	456.98	582.60	73.85	85.38	100.84	128.01	
AB	San Francisco Air Basin	Winter	2027	336.82	389.62	456.96	582.77	73.86	85.47	100.87	128.15	
AB	San Francisco Air Basin	Winter	2028	336.82	389.76	456.94	582.93	73.87	85.55	100.89	128.26	
AB	San Francisco Air Basin	Winter	2029	336.80	389.90	456.91	583.10	73.88	85.63	100.91	128.38	
AB	San Francisco Air Basin	Winter	2030	336.79	390.05	456.89	583.27	73.89	85.71	100.92	128.49	
AB	San Francisco Air Basin	Winter	2031	336.78	390.20	456.87	583.44	73.89	85.79	100.93	128.59	
AB	San Francisco Air Basin	Winter	2032	336.77	390.35	456.86	583.61	73.90	85.86	100.94	128.69	
AB	San Francisco Air Basin	Winter	2033	336.76	390.48	456.84	583.76	73.90	85.92	100.95	128.79	
AB	San Francisco Air Basin	Winter	2034	336.76	390.60	456.82	583.90	73.90	85.98	100.95	128.87	
AB	San Francisco Air Basin	Winter	2035	336.74	390.70	456.80	584.02	73.91	86.04	100.96	128.96	
AB	San Joaquin Valley Air Basin	Annual	2010	344.53	395.23	472.07	594.91	73.37	85.32	100.36	124.58	
AB	San Joaquin Valley Air Basin	Annual	2011	344.79	396.17	471.84	595.64	73.37	85.05	100.34	124.82	
AB	San Joaquin Valley Air Basin	Annual	2012	344.82	396.68	471.40	596.04	73.39	84.87	100.35	125.07	
AB	San Joaquin Valley Air Basin	Annual	2013	345.18	397.48	471.50	597.02	73.43	84.73	100.37	125.34	
AB	San Joaquin Valley Air Basin	Annual	2014	345.41	398.05	471.41	597.81	73.45	84.65	100.38	125.62	
AB	San Joaquin Valley Air Basin	Annual	2015	346.20	399.25	472.24	599.62	73.50	84.60	100.40	125.92	
AB	San Joaquin Valley Air Basin	Annual	2016	346.40	399.70	472.19	600.39	73.57	84.57	100.44	126.22	
AB	San Joaquin Valley Air Basin	Annual	2017	346.53	400.08	472.14	601.11	73.60	84.54	100.44	126.51	
AB	San Joaquin Valley Air Basin	Annual	2018	347.36	401.34	473.27	602.98	73.63	84.56	100.47	126.79	
AB	San Joaquin Valley Air Basin	Annual	2019	347.49	401.71	473.29	603.59	73.68	84.67	100.51	127.05	
AB	San Joaquin Valley Air Basin	Annual	2020	347.59	402.04	473.30	604.13	73.77	84.83	100.58	127.28	
AB	San Joaquin Valley Air Basin	Annual	2021	347.55	402.06	472.98	604.31	73.84	84.99	100.66	127.48	
AB	San Joaquin Valley Air Basin	Annual	2022	347.60	402.27	472.95	604.67	73.89	85.13	100.73	127.64	
AB	San Joaquin Valley Air Basin	Annual	2023	347.63	402.44	472.93	604.96	73.92	85.25	100.78	127.82	
AB	San Joaquin Valley Air Basin	Annual	2024	347.85	403.02	473.49	605.81	73.94	85.37	100.83	127.98	
AB	San Joaquin Valley Air Basin	Annual	2025	347.86	403.16	473.48	606.02	73.96	85.47	100.86	128.14	
AB	San Joaquin Valley Air Basin	Annual	2026	348.71	404.36	474.80	607.63	73.98	85.57	100.89	128.28	
AB	San Joaquin Valley Air Basin	Annual	2027	348.72	404.49	474.74	607.80	73.99	85.65	100.92	128.41	
AB	San Joaquin Valley Air Basin	Annual	2028	348.73	404.62	474.69	607.97	74.00	85.74	100.93	128.53	
AB	San Joaquin Valley Air Basin	Annual	2029	348.73	404.75	474.65	608.15	74.01	85.81	100.94	128.63	
AB	San Joaquin Valley Air Basin	Annual	2030	348.73	404.88	474.61	608.33	74.01	85.88	100.95	128.74	
AB	San Joaquin Valley Air Basin	Annual	2031	348.73	405.01	474.57	608.48	74.02	85.95	100.96	128.83	
AB	San Joaquin Valley Air Basin	Annual	2032	348.73	405.13	474.53	608.63	74.02	86.02	100.96	128.92	
AB	San Joaquin Valley Air Basin	Annual	2033	348.73	405.23	474.50	608.78	74.02	86.07	100.97	129.00	
AB	San Joaquin Valley Air Basin	Annual	2034	348.73	405.32	474.47	608.91	74.03	86.12	100.97	129.08	
AB	San Joaquin Valley Air Basin	Annual	2035	348.74	405.39	474.45	609.03	74.03	86.17	100.98	129.15	
AB	San Joaquin Valley Air Basin	Summer	2010	378.79	430.24	517.12	652.23	73.37	85.32	100.36	124.58	
AB	San Joaquin Valley Air Basin	Summer	2011	379.32	432.07	517.21	652.97	73.37	85.05	100.34	124.82	
AB	San Joaquin Valley Air Basin	Summer	2012	379.51	433.17	516.96	653.39	73.39	84.87	100.35	125.07	
AB	San Joaquin Valley Air Basin	Summer	2013	380.02	434.48	517.27	654.53	73.43	84.73	100.37	125.34	
AB	San Joaquin Valley Air Basin	Summer	2014	380.35	435.44	517.38	655.51	73.45	84.65	100.38	125.62	
AB	San Joaquin Valley Air Basin	Summer	2015	381.29	437.04	518.48	657.68	73.50	84.60	100.40	125.92	
AB	San Joaquin Valley Air Basin	Summer	2016	381.55	437.73	518.55	658.71	73.57	84.57	100.44	126.22	
AB	San Joaquin Valley Air Basin	Summer	2017	381.72	438.33	518.60	659.66	73.60	84.54	100.44	126.51	
AB	San Joaquin Valley Air Basin	Summer	2018	382.62	439.83	519.89	661.84	73.63	84.56	100.47	126.79	
AB	San Joaquin Valley Air Basin	Summer	2019	382.75	440.33	519.93	662.62	73.68	84.67	100.51	127.05	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(O2 Runni	na (a/VMT)	(CO2 Starting (g/tr LDA LDT1 LDT2 73.77 84.83 100.58 73.84 84.99 100.66 73.89 85.13 100.73 73.92 85.25 100.78 73.94 85.37 100.83 73.96 85.47 100.86		
		Season	Year	LDA	LDT1	LDT2	MDV				MDV
AB	San Joaquin Valley Air Basin	Summer	2020	382.86	440.77	519.95	663.30				127.28
AB	San Joaquin Valley Air Basin	Summer	2021	382.80	440.85	519.59	663.56				127.48
AB	San Joaquin Valley Air Basin	Summer	2022	382.85	441.14	519.54	664.00				127.64
AB	San Joaquin Valley Air Basin	Summer	2023	382.88	441.39	519.49	664.34				127.82
AB	San Joaquin Valley Air Basin	Summer	2024	383.14	442.10	520.11	665.29				127.98
AB	San Joaquin Valley Air Basin	Summer	2025	383.16	442.31	520.10	665.52				128.14
AB	San Joaquin Valley Air Basin	Summer	2026	384.09	443.68	521.54	667.23	73.98	85.57	100.89	128.28
AB	San Joaquin Valley Air Basin	Summer	2027	384.11	443.88	521.48	667.40	73.99	85.65	100.92	128.41
AB	San Joaquin Valley Air Basin	Summer	2028	384.12	444.07	521.44	667.58	74.00	85.74	100.93	128.53
AB	San Joaquin Valley Air Basin	Summer	2029	384.14	444.28	521.41	667.76	74.01	85.81	100.94	128.63
AB	San Joaquin Valley Air Basin	Summer	2030	384.15	444.48	521.38	667.96	74.01	85.88	100.95	128.74
AB	San Joaquin Valley Air Basin	Summer	2031	384.15	444.67	521.34	668.13	74.02	85.95	100.96	128.83
AB	San Joaquin Valley Air Basin	Summer	2032	384.15	444.83	521.31	668.31	74.02	86.02	100.96	128.92
AB	San Joaquin Valley Air Basin	Summer	2033	384.15	444.97	521.29	668.48	74.02	86.07	100.97	129.00
AB	San Joaquin Valley Air Basin	Summer	2034	384.16	445.10	521.27	668.66	74.03	86.12	100.97	129.08
AB	San Joaquin Valley Air Basin	Summer	2035	384.17	445.18	521.25	668.82	74.03	86.17	100.98	129.15
AB	San Joaquin Valley Air Basin	Winter	2010	331.71	382.09	455.17	573.36	73.37	85.32	100.36	124.58
AB	San Joaquin Valley Air Basin	Winter	2011	331.86	382.70	454.81	574.06	73.37	85.05	100.34	124.82
AB	San Joaquin Valley Air Basin	Winter	2012	331.84	382.98	454.30	574.45	73.39	84.87	100.35	125.07
AB	San Joaquin Valley Air Basin	Winter	2013	332.15	383.59	454.32	575.38	73.43	84.73	100.37	125.34
AB	San Joaquin Valley Air Basin	Winter	2014	332.34	384.02	454.16	576.11	73.45	84.65	100.38	125.62
AB	San Joaquin Valley Air Basin	Winter	2015	333.08	385.08	454.89	577.78	73.50	84.60	100.40	125.92
AB	San Joaquin Valley Air Basin	Winter	2016	333.25	385.43	454.79	578.46	73.57	84.57	100.44	126.22
AB	San Joaquin Valley Air Basin	Winter	2017	333.38	385.74	454.71	579.09	73.60	84.54	100.44	126.51
AB	San Joaquin Valley Air Basin	Winter	2018	334.17	386.90	455.78	580.83	73.63	84.56	100.47	126.79
AB	San Joaquin Valley Air Basin	Winter	2019	334.29	387.21	455.78	581.37	73.68	84.67	100.51	127.05
AB	San Joaquin Valley Air Basin	Winter	2020	334.40	387.49	455.79	581.86	73.77	84.83	100.58	127.28
AB	San Joaquin Valley Air Basin	Winter	2021	334.35	387.50	455.49	582.01	73.84	84.99	100.66	127.48
AB	San Joaquin Valley Air Basin	Winter	2022	334.40	387.67	455.46	582.34	73.89	85.13	100.73	127.64
AB	San Joaquin Valley Air Basin	Winter	2023	334.42	387.81	455.44	582.61	73.92	85.25	100.78	127.82
AB	San Joaquin Valley Air Basin	Winter	2024	334.63	388.34	455.98	583.42	73.94	85.37	100.83	127.98
AB	San Joaquin Valley Air Basin	Winter	2025	334.64	388.44	455.97	583.62	73.96	85.47	100.86	128.14
AB	San Joaquin Valley Air Basin	Winter	2026	335.45	389.58	457.23	585.17	73.98	85.57	100.89	128.28
AB	San Joaquin Valley Air Basin	Winter	2027	335.46	389.68	457.17	585.33	73.99	85.65	100.92	128.41
AB	San Joaquin Valley Air Basin	Winter	2028	335.46	389.78	457.12	585.50	74.00	85.74	100.93	128.53
AB	San Joaquin Valley Air Basin	Winter	2029	335.46	389.88	457.06	585.66	74.01	85.81	100.94	128.63
AB	San Joaquin Valley Air Basin	Winter	2030	335.45	389.98	457.02	585.83	74.01	85.88	100.95	128.74
AB	San Joaquin Valley Air Basin	Winter	2031	335.45	390.08	456.97	585.97	74.02	85.95	100.96	128.83
AB	San Joaquin Valley Air Basin	Winter	2032	335.44	390.18	456.93	586.11	74.02	86.02	100.96	128.92
AB	San Joaquin Valley Air Basin	Winter	2033	335.44	390.27	456.89	586.24	74.02	86.07	100.97	129.00
AB	San Joaquin Valley Air Basin	Winter	2034	335.44	390.34	456.86	586.35	74.03	86.12	100.97	129.08
AB	San Joaquin Valley Air Basin	Winter	2035	335.44	390.41	456.83	586.45	74.03	86.17	100.98	129.15
AB	South Central Coast Air Basin	Annual	2010	324.53	377.77	444.25	560.00	73.41	85.83	99.73	124.93
AB	South Central Coast Air Basin	Annual	2011	324.89	378.44	444.27	561.13	73.37	85.48	99.79	125.12
AB	South Central Coast Air Basin	Annual	2012	324.92	378.63	443.93	561.68	73.33	85.24	99.87	125.34
AB	South Central Coast Air Basin	Annual	2013	325.01	378.79	443.66	562.26	73.34	85.04	99.96	125.57
AB	South Central Coast Air Basin	Annual	2014	325.07	378.92	443.44	562.79	73.32	84.87	100.05	125.81
AB	South Central Coast Air Basin	Annual	2015	326.78	381.05	445.42	566.18	73.34	84.73	100.13	126.06
AB	South Central Coast Air Basin	Annual	2016	326.90	381.17	445.27	566.68	73.38	84.63	100.22	126.32
AB	South Central Coast Air Basin	Annual	2017	326.98	381.27	445.14	567.15	73.40	84.54	100.30	126.57
AB	South Central Coast Air Basin	Annual	2018	327.04	381.38	445.03	567.56	73.42	84.52	100.38	126.81
AB	South Central Coast Air Basin	Annual	2019	327.63	382.30	445.61	568.85	73.45	84.60	100.46	127.04
AB	South Central Coast Air Basin	Annual	2020	327.67	382.43	445.52	569.15	73.55	84.73	100.55	127.25
AB	South Central Coast Air Basin	Annual	2021	328.64	383.97	446.70	571.13	73.62	84.87	100.64	127.42

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/\/MT)	(CO2 Starting (g/tri LDA LDT1 LDT2 73.67 85.01 100.77 73.70 85.12 100.77 73.72 85.23 100.81 73.74 85.32 100.85 73.76 85.42 100.88 73.77 85.50 100.91 73.78 85.58 100.92 73.79 85.65 100.93 73.79 85.72 100.94		
		Season	Year	LDA	LDT1	LDT2	MDV				MDV
AB	South Central Coast Air Basin	Annual	2022	328.67	384.16	446.72	571.43				127.55
AB	South Central Coast Air Basin	Annual	2023	328.66	384.31	446.73	571.67				127.71
AB	South Central Coast Air Basin	Annual	2024	329.35	385.50	447.67	573.19				127.86
AB	South Central Coast Air Basin	Annual	2025	329.34	385.64	447.71	573.44				128.01
AB	South Central Coast Air Basin	Annual	2026	328.64	385.23	446.70	572.50				128.15
AB	South Central Coast Air Basin	Annual	2027	328.66	385.40	446.71	572.75				128.27
AB	South Central Coast Air Basin	Annual	2028	328.66	385.57	446.73	573.00				128.39
AB	South Central Coast Air Basin	Annual	2029	328.65	385.74	446.73	573.24			100.93	128.50
AB	South Central Coast Air Basin	Annual	2030	328.64	385.91	446.73	573.47	73.79	85.72	100.94	128.60
AB	South Central Coast Air Basin	Annual	2031	329.38	387.27	447.77	575.16	73.80	85.79	100.95	128.70
AB	South Central Coast Air Basin	Annual	2032	329.33	387.45	447.79	575.40	73.80	85.85	100.95	128.79
AB	South Central Coast Air Basin	Annual	2033	329.30	387.60	447.82	575.61	73.81	85.91	100.96	128.88
AB	South Central Coast Air Basin	Annual	2034	329.26	387.75	447.85	575.81	73.81	85.97	100.97	128.96
AB	South Central Coast Air Basin	Annual	2035	329.23	387.87	447.88	576.00	73.81	86.02	100.97	129.03
AB	South Central Coast Air Basin	Summer	2010	336.60	390.99	459.84	580.17	73.41	85.83	99.73	124.93
AB	South Central Coast Air Basin	Summer	2011	337.01	391.88	459.94	581.29	73.37	85.48	99.79	125.12
AB	South Central Coast Air Basin	Summer	2012	337.08	392.23	459.65	581.83	73.33	85.24	99.87	125.34
AB	South Central Coast Air Basin	Summer	2013	337.19	392.52	459.44	582.43	73.34	85.04	99.96	125.57
AB	South Central Coast Air Basin	Summer	2014	337.26	392.75	459.26	582.99	73.32	84.87	100.05	125.81
AB	South Central Coast Air Basin	Summer	2015	339.04	395.04	461.36	586.53	73.34	84.73	100.13	126.06
AB	South Central Coast Air Basin	Summer	2016	339.17	395.24	461.23	587.08	73.38	84.63	100.22	126.32
AB	South Central Coast Air Basin	Summer	2017	339.26	395.40	461.12	587.60	73.40	84.54	100.30	126.57
AB	South Central Coast Air Basin	Summer	2018	339.31	395.56	461.01	588.05	73.42	84.52	100.38	126.81
AB	South Central Coast Air Basin	Summer	2019	339.92	396.55	461.61	589.41	73.45	84.60	100.46	127.04
AB	South Central Coast Air Basin	Summer	2020	339.95	396.69	461.51	589.72	73.55	84.73	100.55	127.25
AB	South Central Coast Air Basin	Summer	2021	340.97	398.35	462.76	591.83	73.62	84.87	100.64	127.42
AB	South Central Coast Air Basin	Summer	2022	340.99	398.58	462.80	592.18	73.67	85.01	100.71	127.55
AB	South Central Coast Air Basin	Summer	2023	340.98	398.77	462.82	592.45	73.70	85.12	100.77	127.71
AB	South Central Coast Air Basin	Summer	2024	341.72	400.07	463.83	594.09	73.72	85.23	100.81	127.86
AB	South Central Coast Air Basin	Summer	2025	341.71	400.25	463.89	594.37	73.74	85.32	100.85	128.01
AB	South Central Coast Air Basin	Summer	2026	341.01	399.87	462.89	593.44	73.76	85.42	100.88	128.15
AB	South Central Coast Air Basin	Summer	2027	341.03	400.07	462.92	593.72	73.77	85.50	100.91	128.27
AB	South Central Coast Air Basin	Summer	2028	341.04	400.28	462.96	594.00	73.78	85.58	100.92	128.39
AB	South Central Coast Air Basin	Summer	2029	341.04	400.49	462.98	594.26	73.79	85.65	100.93	128.50
AB	South Central Coast Air Basin	Summer	2030	341.03	400.70	463.00	594.53	73.79	85.72	100.94	128.60
AB	South Central Coast Air Basin	Summer	2031	341.80	402.15	464.10	596.30	73.80	85.79	100.95	128.70
AB	South Central Coast Air Basin	Summer	2032	341.75	402.36	464.14	596.56	73.80	85.85	100.95	128.79
AB	South Central Coast Air Basin	Summer	2033	341.71	402.55	464.19	596.80	73.81	85.91	100.96	128.88
AB	South Central Coast Air Basin	Summer	2034	341.67	402.72	464.23	597.03	73.81	85.97	100.97	128.96
AB	South Central Coast Air Basin	Summer	2035	341.63	402.86	464.29	597.25	73.81	86.02	100.97	129.03
AB	South Central Coast Air Basin	Winter	2010	322.51	375.46	441.66	556.61	73.41	85.83	99.73	124.93
AB	South Central Coast Air Basin	Winter	2011	322.86	376.09	441.67	557.75	73.37	85.48	99.79	125.12
AB	South Central Coast Air Basin	Winter	2012	322.89	376.25	441.32	558.31	73.33	85.24	99.87	125.34
AB	South Central Coast Air Basin	Winter	2013	322.98	376.39	441.05	558.88	73.34	85.04	99.96	125.57
AB	South Central Coast Air Basin	Winter	2014	323.04	376.50	440.82	559.41	73.32	84.87	100.05	125.81
AB	South Central Coast Air Basin	Winter	2015	324.74	378.60	442.79	562.78	73.34	84.73	100.13	126.06
AB	South Central Coast Air Basin	Winter	2016	324.86	378.71	442.63	563.27	73.38	84.63	100.22	126.32
AB	South Central Coast Air Basin	Winter	2017	324.94	378.80	442.50	563.74	73.40	84.54	100.30	126.57
AB	South Central Coast Air Basin	Winter	2018	325.00	378.91	442.39	564.14	73.42	84.52	100.38	126.81
AB	South Central Coast Air Basin	Winter	2019	325.59	379.82	442.98	565.43	73.45	84.60	100.46	127.04
AB	South Central Coast Air Basin	Winter	2020	325.64	379.94	442.89	565.73	73.55	84.73	100.55	127.25
AB	South Central Coast Air Basin	Winter	2021	326.60	381.46	444.05	567.67	73.62	84.87	100.64	127.42
AB	South Central Coast Air Basin	Winter	2022	326.62	381.64	444.06	567.96	73.67	85.01	100.71	127.55
AB	South Central Coast Air Basin	Winter	2023	326.61	381.78	444.07	568.19	73.70	85.12	100.77	127.71

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1	1		CO2 Runni	na (a/\/MT	7		in)		
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	ting (g/tr LDT2	MDV
AB	South Central Coast Air Basin	Winter	2024	327.29	382.96	444.99	569.69	73.72	85.23	100.81	127.86
AB	South Central Coast Air Basin	Winter	2025	327.28	383.09	445.02	569.93	73.74	85.32	100.85	128.01
AB	South Central Coast Air Basin	Winter	2026	326.58	382.67	444.01	568.98	73.76	85.42	100.88	128.15
AB	South Central Coast Air Basin	Winter	2027	326.60	382.83	444.02	569.23	73.77	85.50	100.91	128.27
AB	South Central Coast Air Basin	Winter	2028	326.60	382.99	444.03	569.47	73.78	85.58	100.91	128.39
AB	South Central Coast Air Basin	Winter	2029	326.59	383.15	444.03	569.70	73.79	85.65	100.93	128.50
AB	South Central Coast Air Basin	Winter	2030	326.57	383.32	444.02	569.92	73.79	85.72	100.94	128.60
AB	South Central Coast Air Basin	Winter	2030	327.31	384.66	445.05	571.59	73.80	85.79	100.95	128.70
AB	South Central Coast Air Basin	Winter	2032	327.27	384.82	445.06	571.82	73.80	85.85	100.95	128.79
AB	South Central Coast Air Basin	Winter	2032	327.23	384.97	445.09	571.02	73.81	85.91	100.96	128.88
AB	South Central Coast Air Basin	Winter	2034	327.19	385.12	445.11	572.22	73.81	85.97	100.97	128.96
AB	South Central Coast Air Basin	Winter	2035	327.16	385.23	445.14	572.40	73.81	86.02	100.97	129.03
AB	South Coast Air Basin	Annual	2010	358.01	409.57	488.94	615.29	73.21	84.03	99.45	125.25
AB	South Coast Air Basin	Annual	2010	358.53	410.51	489.32	616.38	73.23	83.98	99.55	125.25
AB AB	South Coast Air Basin	Annual	2011	358.66	410.89	489.10	616.67	73.23	83.98	99.55	125.45
AB AB	South Coast Air Basin	Annual	2012	358.86	411.36	488.94	617.04	73.33	83.99	99.79	125.87
AB AB	South Coast Air Basin	Annual	2013	359.00	411.69	488.76	617.38	73.38	84.02	99.90	126.09
AB AB	South Coast Air Basin	Annual	2014	359.50	411.09	489.04	618.24	73.44	84.07	100.01	126.09
AB	South Coast Air Basin	Annual	2016	359.61	412.71	488.91	618.65	73.51	84.14	100.01	126.56
AB	South Coast Air Basin	Annual	2017	359.68	413.00	488.78	619.05	73.56	84.22	100.12	126.80
AB	South Coast Air Basin	Annual	2018	359.73	413.24	488.67	619.35	73.60	84.30	100.30	127.02
AB	South Coast Air Basin	Annual	2019	359.08	412.70	487.70	618.60	73.64	84.46	100.39	127.22
AB	South Coast Air Basin	Annual	2020	359.10	412.90	487.57	618.80	73.73	84.62	100.49	127.42
AB	South Coast Air Basin	Annual	2021	359.91	414.09	488.60	620.48	73.80	84.79	100.58	127.58
AB	South Coast Air Basin	Annual	2022	359.87	414.26	488.52	620.66	73.85	84.93	100.66	127.72
AB	South Coast Air Basin	Annual	2023	359.81	414.38	488.43	620.76	73.88	85.06	100.72	127.88
AB	South Coast Air Basin	Annual	2024	361.76	416.80	491.03	624.19	73.90	85.17	100.77	128.02
AB	South Coast Air Basin	Annual	2025	361.68	416.85	490.94	624.25	73.92	85.28	100.82	128.15
AB	South Coast Air Basin	Annual	2026	361.64	416.95	490.83	624.31	73.94	85.38	100.85	128.29
AB	South Coast Air Basin	Annual	2027	361.59	417.03	490.72	624.36	73.95	85.47	100.88	128.40
AB	South Coast Air Basin	Annual	2028	361.53	417.11	490.61	624.40	73.96	85.56	100.90	128.50
AB	South Coast Air Basin	Annual	2029	361.47	417.20	490.50	624.44	73.97	85.64	100.92	128.60
AB	South Coast Air Basin	Annual	2030	361.40	417.29	490.39	624.48	73.97	85.72	100.93	128.70
AB	South Coast Air Basin	Annual	2031	361.77	417.91	490.85	625.21	73.98	85.79	100.94	128.79
AB	South Coast Air Basin	Annual	2032	361.71	418.00	490.76	625.26	73.98	85.87	100.95	128.87
AB	South Coast Air Basin	Annual	2033	361.64	418.06	490.66	625.29	73.99	85.93	100.96	128.95
AB	South Coast Air Basin	Annual	2034	361.58	418.11	490.56	625.31	73.99	85.99	100.96	129.02
AB	South Coast Air Basin	Annual	2035	361.51	418.13	490.47	625.31	73.99	86.05	100.97	129.09
AB	South Coast Air Basin	Summer	2010	376.35	428.81	513.13	646.60	73.21	84.03	99.45	125.25
AB	South Coast Air Basin	Summer	2011	376.98	430.14	513.64	647.75	73.23	83.98	99.55	125.45
AB	South Coast Air Basin	Summer	2012	377.17	430.80	513.51	648.09	73.27	83.98	99.67	125.65
AB	South Coast Air Basin	Summer	2013	377.43	431.52	513.45	648.57	73.33	83.99	99.79	125.87
AB	South Coast Air Basin	Summer	2014	377.60	432.03	513.36	649.01	73.38	84.02	99.90	126.09
AB	South Coast Air Basin	Summer	2015	378.16	432.94	513.77	650.06	73.44	84.07	100.01	126.32
AB	South Coast Air Basin	Summer	2016	378.32	433.38	513.73	650.64	73.51	84.14		126.56
AB	South Coast Air Basin	Summer	2017	378.43	433.80	513.68	651.19	73.56			126.80
AB	South Coast Air Basin	Summer	2018	378.50	434.15	513.63	651.64	73.60		100.30	127.02
AB	South Coast Air Basin	Summer	2019	377.87	433.68	512.68	651.00	73.64	84.46		127.22
AB	South Coast Air Basin	Summer	2020	377.93	434.00	512.61	651.36	73.73	84.62	100.49	127.42
AB	South Coast Air Basin	Summer	2021	378.82	435.34	513.74	653.23	73.80			127.58
AB	South Coast Air Basin	Summer	2022	378.81	435.60	513.67	653.48	73.85	84.93		127.72
AB	South Coast Air Basin	Summer	2023	378.77	435.80	513.60	653.65	73.88	85.06		127.88
AB	South Coast Air Basin	Summer	2024	380.89	438.46	516.40	657.36	73.90	i e	100.77	128.02
AB	South Coast Air Basin	Summer	2025	380.84	438.60	516.33	657.46	73.92	85.28	100.82	128.15

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	I I		(CO2 Runni	na (a/\/MT	7		in)		
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	CO2 Star LDT1	LDT2	MDV
AB	South Coast Air Basin	Summer	2026	380.82	438.77	516.25	657.54	73.94	85.38	100.85	128.29
AB	South Coast Air Basin	Summer	2027	380.79	438.92	516.17	657.62	73.95	85.47	100.88	128.40
AB	South Coast Air Basin	Summer	2028	380.76	439.07	516.09	657.69	73.96	85.56	100.90	128.50
AB	South Coast Air Basin	Summer	2029	380.72	439.23	516.01	657.76	73.97	85.64	100.92	128.60
AB	South Coast Air Basin	Summer	2030	380.68	439.39	515.93	657.84	73.97	85.72	100.92	128.70
AB	South Coast Air Basin	Summer	2031	381.11	440.14	516.48	658.70	73.98	85.79	100.94	128.79
AB	South Coast Air Basin	Summer	2031	381.07	440.14	516.43	658.81	73.98	85.87	100.95	128.87
AB	South Coast Air Basin	Summer	2032	381.03	440.42	516.37	658.90	73.99	85.93	100.96	128.95
AB	South Coast Air Basin	Summer	2034	380.99	440.52	516.30	658.98	73.99	85.99	100.96	129.02
AB	South Coast Air Basin	Summer	2035	380.95	440.59	516.24	659.05	73.99	86.05	100.97	129.09
AB	South Coast Air Basin	Winter	2010	352.27	403.73	481.40	605.84	73.21	84.03	99.45	125.05
AB	South Coast Air Basin	Winter	2011	352.77	404.58	481.76	606.95	73.23	83.98	99.55	125.25
AB	South Coast Air Basin	Winter	2012	352.88	404.90	481.53	607.26	73.27	83.98	99.67	125.45
AB	South Coast Air Basin	Winter	2013	353.07	405.31	481.36	607.63	73.33	83.99	99.79	125.87
AB	South Coast Air Basin	Winter	2013	353.20	405.60	481.16	607.96	73.38	84.02	99.90	126.09
AB	South Coast Air Basin	Winter	2014	353.69	406.27	481.43	608.80	73.44	84.07	100.01	126.32
AB	South Coast Air Basin	Winter	2016	353.79	406.55	481.28	609.19	73.51	84.14	100.01	126.56
AB	South Coast Air Basin	Winter	2017	353.86	406.81	481.14	609.56	73.56	84.22	100.22	126.80
AB	South Coast Air Basin	Winter	2018	353.91	407.02	481.03	609.84	73.60	84.30	100.30	127.02
AB	South Coast Air Basin	Winter	2019	353.27	406.48	480.07	609.09	73.64	84.46	100.39	127.22
AB	South Coast Air Basin	Winter	2020	353.29	406.67	479.94	609.28	73.73	84.62	100.49	127.42
AB	South Coast Air Basin	Winter	2021	354.09	407.82	480.96	610.92	73.80	84.79	100.58	127.58
AB	South Coast Air Basin	Winter	2022	354.06	407.97	480.88	611.08	73.85	84.93	100.66	127.72
AB	South Coast Air Basin	Winter	2023	354.00	408.08	480.79	611.18	73.88	85.06	100.72	127.88
AB	South Coast Air Basin	Winter	2024	355.90	410.43	483.35	614.53	73.90	85.17	100.77	128.02
AB	South Coast Air Basin	Winter	2025	355.83	410.47	483.26	614.59	73.92	85.28	100.82	128.15
AB	South Coast Air Basin	Winter	2026	355.79	410.55	483.16	614.66	73.94	85.38	100.85	128.29
AB	South Coast Air Basin	Winter	2027	355.74	410.63	483.05	614.71	73.95	85.47	100.88	128.40
AB	South Coast Air Basin	Winter	2028	355.68	410.70	482.94	614.76	73.96	85.56	100.90	128.50
AB	South Coast Air Basin	Winter	2029	355.62	410.78	482.83	614.80	73.97	85.64	100.92	128.60
AB	South Coast Air Basin	Winter	2030	355.55	410.85	482.72	614.84	73.97	85.72	100.93	128.70
AB	South Coast Air Basin	Winter	2031	355.91	411.44	483.17	615.55	73.98	85.79	100.94	128.79
AB	South Coast Air Basin	Winter	2032	355.85	411.52	483.08	615.60	73.98	85.87	100.95	128.87
AB	South Coast Air Basin	Winter	2033	355.79	411.58	482.99	615.63	73.99	85.93	100.96	128.95
AB	South Coast Air Basin	Winter	2034	355.73	411.62	482.89	615.65	73.99	85.99	100.96	129.02
AB	South Coast Air Basin	Winter	2035	355.66	411.64	482.80	615.65	73.99	86.05	100.97	129.09
AD	Amador County APCD	Annual	2010	304.65	351.36	416.56	520.77	74.42	88.71	101.28	124.30
AD	Amador County APCD	Annual	2011	304.66	351.60	416.18	521.37	74.22	87.90	101.12	124.48
AD	Amador County APCD	Annual	2012	304.71	351.83	415.89	522.08	74.04	87.30	101.03	124.70
AD	Amador County APCD	Annual	2013	304.79	351.99	415.66	522.86	73.92	86.76	100.95	124.94
AD	Amador County APCD	Annual	2014	304.86	352.15	415.48	523.60	73.78	86.37	100.90	125.21
AD	Amador County APCD	Annual	2015	304.98	352.29	415.35	524.39	73.76	85.97	100.78	125.49
AD	Amador County APCD	Annual	2016	305.08	352.44	415.24	525.15	73.74		100.76	125.78
AD	Amador County APCD	Annual	2017	305.13	352.54	415.14	525.85	73.67	85.39		126.08
AD	Amador County APCD	Annual	2018	305.17	352.64	415.05	526.46	73.63	85.21		126.36
AD	Amador County APCD	Annual	2019	305.20	352.73	414.99	526.98	73.61	85.07		126.62
AD	Amador County APCD	Annual	2020	305.25	352.84	414.93	527.43	73.70	85.10		126.87
AD	Amador County APCD	Annual	2021	305.27	352.92	414.87	527.78	73.76	85.17	100.76	127.07
AD	Amador County APCD	Annual	2022	305.25	352.98	414.81	528.07	73.79	85.24	100.80	127.21
AD	Amador County APCD	Annual	2023	305.17	353.01	414.75	528.29	73.79	85.29	100.83	127.40
AD	Amador County APCD	Annual	2024	305.08	353.05	414.70	528.47	73.77	85.35		127.58
AD	Amador County APCD	Annual	2025	305.03	353.13	414.66	528.63	73.78	85.43		127.75
AD	Amador County APCD	Annual	2026	305.04	353.24	414.62	528.79	73.80	85.53	100.92	127.91
AD	Amador County APCD	Annual	2027	305.05	353.36	414.57	528.95	73.81	85.62	100.94	128.05

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	l		(CO2 Runni	na (a/VMT)	(CO2 Star	tina (a/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Amador County APCD	Annual	2028	305.05	353.48	414.54	529.12	73.82	85.70	100.96	128.19
AD	Amador County APCD	Annual	2029	305.04	353.60	414.51	529.29	73.83	85.78	100.96	128.32
AD	Amador County APCD	Annual	2030	305.03	353.72	414.47	529.46	73.83	85.85	100.96	128.44
AD	Amador County APCD	Annual	2031	305.02	353.84	414.44	529.67	73.83	85.93	100.97	128.56
AD	Amador County APCD	Annual	2032	305.02	353.95	414.42	529.88	73.84	85.99	100.97	128.68
AD	Amador County APCD	Annual	2033	305.01	354.05	414.40	530.07	73.84	86.06	100.98	128.78
AD	Amador County APCD	Annual	2034	305.01	354.14	414.39	530.24	73.85	86.11	100.98	128.88
AD	Amador County APCD	Annual	2035	305.01	354.21	414.37	530.39	73.85	86.16	100.98	128.97
AD	Amador County APCD	Summer	2010	335.39	381.81	456.97	570.78	74.42	88.71	101.28	124.30
AD	Amador County APCD	Summer	2011	335.69	383.05	456.90	571.49	74.22	87.90	101.12	124.48
AD	Amador County APCD	Summer	2012	335.97	384.03	456.85	572.39	74.04	87.30	101.03	124.70
AD	Amador County APCD	Summer	2013	336.23	384.81	456.85	573.45	73.92	86.76	100.95	124.94
AD	Amador County APCD	Summer	2014	336.43	385.43	456.87	574.47	73.78	86.37	100.90	125.21
AD	Amador County APCD	Summer	2015	336.65	385.97	456.94	575.58	73.76	85.97	100.78	125.49
AD	Amador County APCD	Summer	2016	336.82	386.42	456.98	576.67	73.74	85.71	100.76	125.78
AD	Amador County APCD	Summer	2017	336.90	386.79	457.00	577.65	73.67	85.39	100.76	126.08
AD	Amador County APCD	Summer	2018	336.95	387.08	456.98	578.50	73.63	85.21	100.62	126.36
AD	Amador County APCD	Summer	2019	336.99	387.35	456.95	579.23	73.61	85.07	100.64	126.62
AD	Amador County APCD Amador County APCD	Summer	2020	337.02	387.58	456.90	579.85	73.70	85.10	100.04	126.87
AD	Amador County APCD			337.02	387.78		580.34	73.76		100.76	120.07
AD	,	Summer Summer	2021 2022	337.03	387.96	456.85 456.79	580.75	73.76	85.17 85.24	100.76	127.07
AD	Amador County APCD Amador County APCD	Summer	2022	336.93	388.10	456.79	581.05	73.79	85.29	100.83	127.40
AD	,	Summer	2023		388.24			73.79	85.35		127.40
	Amador County APCD			336.85		456.69	581.30			100.86	
AD	Amador County APCD	Summer	2025	336.80	388.38	456.65	581.51	73.78 73.80	85.43	100.90	127.75
AD	Amador County APCD	Summer	2026	336.83	388.54	456.62	581.67		85.53	100.92	127.91
AD	Amador County APCD	Summer	2027	336.85	388.70	456.59	581.84	73.81	85.62	100.94	128.05
AD AD	Amador County APCD	Summer Summer	2028	336.86 336.87	388.88 389.06	456.57 456.55	582.04 582.24	73.82 73.83	85.70	100.96 100.96	128.19
AD	Amador County APCD Amador County APCD	Summer	2029 2030	336.87	389.25	456.52	582.44	73.83	85.78 85.85	100.96	128.32 128.44
AD	Amador County APCD	Summer	2030	336.87	389.46	456.50	582.71	73.83	85.93	100.97	128.56
AD	Amador County APCD	Summer	2031	336.87	389.62	456.48	582.98	73.84	85.99	100.97	128.68
AD	Amador County APCD Amador County APCD	Summer	2032	336.86	389.77	456.47	583.23	73.84	86.06	100.97	128.78
AD	Amador County APCD	Summer	2033	336.85	389.90	456.45	583.45	73.85	86.11	100.98	128.88
	Amador County APCD			336.85						100.98	128.97
AD AD	Amador County APCD	Summer Winter	2035	295.29	389.98 342.08	456.44 404.24	583.66 505.53	73.85 74.42	88.71	100.98	124.30
AD	Amador County APCD	Winter	2010	295.29	342.08	404.24	506.10	74.42	87.90		
AD	·	Winter	2011	295.21	342.02	403.76	506.75		87.30	101.12 101.03	124.48 124.70
AD AD	Amador County APCD Amador County APCD	Winter	2012 2013	295.16	341.99	403.41	507.45	74.04 73.92	86.76	100.95	124.70
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AD	Amador County APCD	Winter	2014	295.24	342.01	402.87	508.11	73.78	86.37	100.90	125.21
AD	Amador County APCD	Winter	2015	295.33	342.02	402.67	508.79	73.76	85.97	100.78	125.49
AD	Amador County APCD	Winter	2016	295.41	342.08	402.52	509.45	73.74	85.71	100.76	125.78
AD AD	Amador County APCD	Winter	2017	295.45	342.10	402.38	510.06	73.67	85.39	100.65	126.08
AD	Amador County APCD	Winter	2018	295.49	342.14	402.28	510.60	73.63	85.21	100.62	126.36
AD	Amador County APCD	Winter	2019	295.52	342.18	402.21	511.06	73.61	85.07	100.64	126.62
AD	Amador County APCD	Winter	2020	295.57	342.25	402.15	511.46	73.70	85.10	100.70	126.87
AD	Amador County APCD	Winter	2021	295.59	342.29	402.08	511.77	73.76	85.17	100.76	127.07
AD	Amador County APCD	Winter	2022	295.58	342.32	402.02	512.02	73.79	85.24	100.80	127.21
AD	Amador County APCD	Winter	2023	295.49	342.32	401.95	512.21	73.79	85.29	100.83	127.40
AD	Amador County APCD	Winter	2024	295.40	342.33	401.90	512.37	73.77	85.35	100.86	127.58
AD	Amador County APCD	Winter	2025	295.35	342.39	401.87	512.52	73.78	85.43	100.90	127.75
AD	Amador County APCD	Winter	2026	295.36	342.49	401.82	512.68	73.80	85.53	100.92	127.91
AD	Amador County APCD	Winter	2027	295.36	342.59	401.77	512.84	73.81	85.62	100.94	128.05
AD	Amador County APCD	Winter	2028	295.35	342.69	401.74	513.00	73.82	85.70	100.96	128.19
AD	Amador County APCD	Winter	2029	295.34	342.79	401.70	513.16	73.83	85.78	100.96	128.32

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	7		CO2 Star	tina (a/tri	in)
	Location	Cassan	Voor	LDA	LDT1		MDV	LDA	LDT1		MDV
AD	Amador County APCD	Season Winter	Year 2030	295.32	342.89	LDT2 401.65	513.32	73.83	85.85	LDT2 100.96	128.44
AD	Amador County APCD	Winter	2030	295.32	342.99	401.63	513.51	73.83	85.93	100.97	128.56
AD	Amador County APCD	Winter	2032	295.32	343.09	401.61	513.70	73.84	85.99	100.97	128.68
AD	Amador County APCD	Winter	2033	295.31	343.17	401.59	513.88	73.84	86.06	100.98	128.78
AD	Amador County APCD	Winter	2034	295.31	343.24	401.57	514.03	73.85	86.11	100.98	128.88
AD	Amador County APCD	Winter	2035	295.30	343.31	401.56	514.17	73.85	86.16	100.98	128.97
AD	Antelope Valley APCD	Annual	2010	345.89	395.46	472.51	595.78	73.36	84.38	99.72	125.11
AD	Antelope Valley APCD	Annual	2011	348.87	399.45	476.26	601.40	73.38	84.28	99.78	125.35
AD	Antelope Valley APCD	Annual	2012	349.04	400.17	476.18	602.17	73.40	84.27	99.87	125.60
AD	Antelope Valley APCD	Annual	2013	350.49	402.29	477.89	605.21	73.42	84.25	99.97	125.87
AD	Antelope Valley APCD	Annual	2014	350.66	402.85	477.86	605.99	73.46	84.24	100.05	126.14
AD	Antelope Valley APCD	Annual	2015	355.63	408.92	484.44	615.13	73.50	84.26	100.16	126.42
AD	Antelope Valley APCD	Annual	2016	355.79	409.41	484.43	615.82	73.56	84.33	100.25	126.69
AD	Antelope Valley APCD	Annual	2017	355.91	409.84	484.42	616.46	73.60	84.36	100.32	126.95
AD	Antelope Valley APCD	Annual	2018	356.00	410.20	484.40	617.00	73.63	84.42	100.38	127.20
AD	Antelope Valley APCD	Annual	2019	357.84	412.61	486.79	620.54	73.67	84.58	100.46	127.42
AD	Antelope Valley APCD	Annual	2020	357.92	412.97	486.78	620.97	73.75	84.76	100.55	127.62
AD	Antelope Valley APCD	Annual	2021	360.97	416.79	490.85	626.51	73.82	84.94	100.64	127.79
AD	Antelope Valley APCD	Annual	2022	361.00	417.09	490.84	626.80	73.87	85.10	100.71	127.92
AD	Antelope Valley APCD	Annual	2023	361.00	417.34	490.82	627.02	73.90	85.24	100.77	128.08
AD	Antelope Valley APCD	Annual	2024	361.28	417.87	491.15	627.65	73.91	85.37	100.81	128.23
AD	Antelope Valley APCD	Annual	2025	361.29	418.06	491.14	627.84	73.93	85.48	100.86	128.37
AD	Antelope Valley APCD	Annual	2026	361.30	418.26	491.12	628.01	73.95	85.58	100.89	128.50
AD	Antelope Valley APCD	Annual	2027	361.31	418.44	491.10	628.17	73.97	85.67	100.91	128.62
AD	Antelope Valley APCD	Annual	2028	361.32	418.63	491.09	628.32	73.97	85.76	100.93	128.72
AD	Antelope Valley APCD	Annual	2029	361.32	418.81	491.07	628.47	73.98	85.84	100.94	128.81
AD	Antelope Valley APCD	Annual	2030	361.31	418.99	491.06	628.62	73.98	85.91	100.95	128.90
AD	Antelope Valley APCD	Annual	2031	366.94	425.72	498.73	638.58	73.99	85.98	100.96	128.98
AD	Antelope Valley APCD	Annual	2032	366.93	425.88	498.72	638.71	73.99	86.05	100.97	129.05
AD	Antelope Valley APCD	Annual	2033	366.93	426.03	498.71	638.83	74.00	86.10	100.98	129.12
AD	Antelope Valley APCD	Annual	2034	366.92	426.15	498.70	638.94	74.00	86.15	100.98	129.18
AD	Antelope Valley APCD	Annual	2035	366.92	426.26	498.69	639.04	74.00	86.20	100.99	129.24
AD	Antelope Valley APCD	Summer	2010	381.87	431.89	519.76	655.58	73.36	84.38	99.72	125.11
AD	Antelope Valley APCD	Summer	2011	385.34	436.89	524.09	661.69	73.38	84.28	99.78	125.35
AD	Antelope Valley APCD	Summer	2012	385.66	438.19	524.18	662.56	73.40	84.27	99.87	125.60
AD	Antelope Valley APCD	Summer	2013	387.37	440.97	526.26	666.03	73.42	84.25	99.97	125.87
AD	Antelope Valley APCD	Summer	2014	387.63	441.94	526.42	667.04	73.46	84.24	100.05	126.14
AD	Antelope Valley APCD	Summer	2015	393.20	448.92	533.87	677.32	73.50	84.26	100.16	126.42
AD	Antelope Valley APCD	Summer	2016	393.41	449.67	534.00	678.24	73.56	84.33	100.25	126.69
AD	Antelope Valley APCD	Summer	2017	393.56	450.33	534.08	679.07	73.60	84.36	100.32	126.95
AD	Antelope Valley APCD	Summer	2018	393.65	450.86	534.11	679.75	73.63	84.42	100.38	127.20
AD	Antelope Valley APCD	Summer	2019	395.68	453.61	536.75	683.71	73.67	84.58	100.46	127.42
AD	Antelope Valley APCD	Summer	2020	395.75	454.07	536.73	684.25	73.75	84.76	100.55	127.62
AD	Antelope Valley APCD	Summer	2021	399.16	458.42	541.24	690.46	73.82	84.94	100.64	127.79
AD	Antelope Valley APCD	Summer	2022	399.20	458.86	541.22	690.83	73.87	85.10	100.71	127.92
AD AD	Antelope Valley APCD Antelope Valley APCD	Summer Summer	2023 2024	399.21 399.46	459.24 459.85	541.20 541.48	691.10 691.72	73.90 73.91	85.24 85.37	100.77 100.81	128.08 128.23
AD AD	Antelope Valley APCD	Summer	2024	399.48	460.16	541.47	691.72	73.91	85.48	100.81	128.37
AD AD	Antelope Valley APCD	Summer	2025	399.46	460.16	541.44	692.11	73.95	85.58	100.89	128.50
AD	Antelope Valley APCD	Summer	2020	399.52	460.43	541.42	692.11	73.95	85.67	100.89	128.62
AD	Antelope Valley APCD	Summer	2027	399.53	461.00	541.41	692.44	73.97	85.76	100.91	128.72
AD	Antelope Valley APCD	Summer	2029	399.53	461.26	541.39	692.59	73.98	85.84	100.93	128.81
AD	Antelope Valley APCD	Summer	2029	399.53	461.50	541.38	692.75	73.98	85.91	100.94	128.90
AD	Antelope Valley APCD	Summer	2031	405.74	468.99	549.84	703.69	73.99	85.98	100.96	128.98
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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	ng (g/VMT)	(CO2 Sta	rting (g/tr	ip)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Antelope Valley APCD	Summer	2032	405.72	469.23	549.82	703.80	73.99	86.05	100.97	129.05
AD	Antelope Valley APCD	Summer	2033	405.71	469.41	549.81	703.92	74.00	86.10	100.98	129.12
AD	Antelope Valley APCD	Summer	2034	405.70	469.58	549.80	704.05	74.00	86.15	100.98	129.18
AD	Antelope Valley APCD	Summer	2035	405.69	469.70	549.79	704.16	74.00	86.20	100.99	129.24
AD	Antelope Valley APCD	Winter	2010	335.14	384.58	458.40	577.92	73.36	84.38	99.72	125.11
AD	Antelope Valley APCD	Winter	2011	337.98	388.27	461.98	583.39	73.38	84.28	99.78	125.35
AD	Antelope Valley APCD	Winter	2012	338.10	388.82	461.84	584.13	73.40	84.27	99.87	125.60
AD	Antelope Valley APCD	Winter	2013	339.47	390.73	463.43	587.03	73.42	84.25	99.97	125.87
AD	Antelope Valley APCD	Winter	2014	339.61	391.17	463.35	587.75	73.46	84.24	100.05	126.14
AD	Antelope Valley APCD	Winter	2015	344.39	396.95	469.65	596.52	73.50	84.26	100.16	126.42
AD	Antelope Valley APCD	Winter	2016	344.53	397.37	469.60	597.15	73.56	84.33	100.25	126.69
AD	Antelope Valley APCD	Winter	2017	344.65	397.72	469.56	597.73	73.60	84.36	100.32	126.95
AD	Antelope Valley APCD	Winter	2018	344.74	398.03	469.53	598.23	73.63	84.42	100.38	127.20
AD	Antelope Valley APCD	Winter	2019	346.52	400.35	471.84	601.64	73.67	84.58	100.46	127.42
AD	Antelope Valley APCD	Winter	2020	346.60	400.67	471.84	602.04	73.75	84.76	100.55	127.62
AD	Antelope Valley APCD	Winter	2021	349.54	404.32	475.76	607.37	73.82	84.94	100.64	127.79
AD	Antelope Valley APCD	Winter	2022	349.57	404.59	475.75	607.63	73.87	85.10	100.71	127.92
AD	Antelope Valley APCD	Winter	2023	349.56	404.80	475.74	607.83	73.90	85.24	100.77	128.08
AD	Antelope Valley APCD	Winter	2024	349.86	405.31	476.10	608.49	73.91	85.37	100.81	128.23
AD	Antelope Valley APCD	Winter	2025	349.87	405.47	476.09	608.67	73.93	85.48	100.86	128.37
AD	Antelope Valley APCD	Winter	2026	349.88	405.64	476.07	608.84	73.95	85.58	100.89	128.50
AD	Antelope Valley APCD	Winter	2027	349.89	405.80	476.06	609.00	73.97	85.67	100.91	128.62
AD	Antelope Valley APCD	Winter	2028	349.89	405.96	476.04	609.15	73.97	85.76	100.93	128.72
AD	Antelope Valley APCD	Winter	2029	349.89	406.12	476.02	609.30	73.98	85.84	100.94	128.81
AD	Antelope Valley APCD	Winter	2030	349.88	406.27	476.01	609.44	73.98	85.91	100.95	128.90
AD	Antelope Valley APCD	Winter	2031	355.33	412.77	483.44	619.10	73.99	85.98	100.96	128.98
AD	Antelope Valley APCD	Winter	2032	355.33	412.92	483.43	619.24	73.99	86.05	100.97	129.05
AD	Antelope Valley APCD	Winter	2033	355.33	413.05	483.42	619.36	74.00	86.10	100.98	129.12
AD	Antelope Valley APCD	Winter	2034	355.32	413.16	483.41	619.46	74.00	86.15	100.98	129.18
AD	Antelope Valley APCD	Winter	2035	355.32	413.26	483.40	619.56	74.00	86.20	100.99	129.24
AD	Bay Area AQMD	Annual	2010	338.39	388.50	461.86	581.62	72.94	84.37	99.40	124.69
AD	Bay Area AQMD	Annual	2011	338.52	388.90	461.72	582.11	72.98	84.25	99.50	124.89
AD	Bay Area AQMD	Annual	2012	338.67	389.32	461.62	582.66	73.02	84.19	99.62	125.11
AD	Bay Area AQMD	Annual	2013	338.86		461.54		73.09	84.17		
AD	Bay Area AQMD	Annual	2014	339.03	390.09	461.49	583.86	73.15	84.17	99.85	125.59
AD	Bay Area AQMD	Annual	2015	339.22	390.46	461.45	584.47	73.23	84.19		125.85
AD	Bay Area AQMD	Annual	2016	339.41	390.83	461.42	585.05	73.32	84.24		126.10
AD	Bay Area AQMD	Annual	2017	339.54	391.17	461.39	585.61	73.38	84.29	100.17	126.36
AD	Bay Area AQMD	Annual	2018	339.67	391.45	461.36	586.09	73.44	84.35		126.61
AD	Bay Area AQMD	Annual	2019	339.78	391.75	461.34	586.50	73.50	84.48		126.84
AD	Bay Area AQMD	Annual	2020	339.88	392.02	461.33		73.60	84.63		127.06
AD	Bay Area AQMD	Annual	2021	339.96	392.27	461.33	587.20	73.68	84.79		127.24
AD	Bay Area AQMD	Annual	2022	339.99	392.48	461.33	587.46	73.74	84.93		127.39
AD	Bay Area AQMD	Annual	2023	339.99	392.64	461.32	587.66	73.78	85.06		127.56
AD	Bay Area AQMD	Annual	2024	339.97	392.77	461.30	587.83	73.80	85.17		127.71
AD	Bay Area AQMD	Annual	2025	339.96	392.89	461.29	588.00	73.82	85.27	100.80	127.87
AD	Bay Area AQMD	Annual	2026	339.97	393.04	461.27	588.18	73.85	85.38		128.01
AD	Bay Area AQMD	Annual	2027	339.98	393.18	461.25	588.35	73.86	85.47	100.87	128.15
AD	Bay Area AQMD	Annual	2028	339.97	393.32	461.22	588.52	73.87	85.55	100.89	128.26
AD	Bay Area AQMD	Annual	2029	339.96	393.47	461.20	588.68	73.88	85.63	100.91	128.38
AD	Bay Area AQMD	Annual	2030	339.95	393.63	461.17	588.85	73.89	85.71	100.92	128.49
AD	Bay Area AQMD	Annual	2031	339.94	393.79	461.16	589.02	73.89	85.79	100.93	128.59
AD	Bay Area AQMD	Annual	2032	339.94	393.94	461.14	589.20	73.90	85.86		128.69
AD	Bay Area AQMD	Annual	2033	339.93	394.08	461.13	589.36	73.90	85.92	100.95	128.79

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		CO2 Running (g/VMT) C						CO2 Starting (g/trip)			
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV	
AD	Bay Area AQMD	Annual	2034	339.92	394.20	461.11	589.50	73.90	85.98	100.95	128.87	
AD	Bay Area AQMD	Annual	2035	339.91	394.31	461.11	589.63	73.91	86.04	100.96	128.96	
AD	Bay Area AQMD	Summer	2010	364.35	415.41	496.51	625.57	72.94	84.37	99.40	124.69	
AD	Bay Area AQMD	Summer	2011	364.64	416.20	496.43	625.96	72.98	84.25	99.50	124.89	
AD	Bay Area AQMD	Summer	2012	364.93	416.94	496.39	626.48	73.02	84.19	99.62	125.11	
AD	Bay Area AQMD	Summer	2013	365.22	417.62	496.38	627.12	73.09	84.17	99.74	125.34	
AD	Bay Area AQMD	Summer	2014	365.47	418.22	496.42	627.81	73.15	84.17	99.85	125.59	
AD	Bay Area AQMD	Summer	2015	365.72	418.79	496.47	628.57	73.23	84.19	99.96	125.85	
AD	Bay Area AQMD	Summer	2016	365.95	419.33	496.52	629.31	73.32	84.24	100.07	126.10	
AD	Bay Area AQMD	Summer	2017	366.11	419.82	496.57	630.02	73.38	84.29	100.17	126.36	
AD	Bay Area AQMD	Summer	2018	366.24	420.25	496.57	630.62	73.44	84.35	100.26	126.61	
AD	Bay Area AQMD	Summer	2019	366.36	420.66	496.58	631.14	73.50	84.48	100.35	126.84	
AD	Bay Area AQMD	Summer	2020	366.46	421.03	496.57	631.62	73.60	84.63	100.45	127.06	
AD	Bay Area AQMD	Summer	2021	366.53	421.37	496.57	632.00	73.68	84.79	100.54	127.24	
AD	Bay Area AQMD	Summer	2022	366.57	421.66	496.56	632.33	73.74	84.93	100.62	127.39	
AD	Bay Area AQMD	Summer	2023	366.57	421.90	496.54	632.57	73.78	85.06	100.69	127.56	
AD	Bay Area AQMD	Summer	2024	366.55	422.10	496.51	632.76	73.80	85.17	100.75	127.71	
AD	Bay Area AQMD	Summer	2025	366.54	422.28	496.49	632.95	73.82	85.27	100.80	127.87	
AD	Bay Area AQMD	Summer	2026	366.55	422.48	496.46	633.14	73.85	85.38	100.84	128.01	
AD	Bay Area AQMD	Summer	2027	366.56	422.68	496.44	633.31	73.86	85.47	100.87	128.15	
AD	Bay Area AQMD	Summer	2028	366.57	422.88	496.41	633.48	73.87	85.55	100.89	128.26	
AD	Bay Area AQMD	Summer	2029	366.56	423.10	496.39	633.66	73.88	85.63	100.91	128.38	
AD	Bay Area AQMD	Summer	2030	366.56	423.32	496.37	633.84	73.89	85.71	100.92	128.49	
AD	Bay Area AQMD	Summer	2031	366.56	423.55	496.35	634.03	73.89	85.79	100.93	128.59	
AD	Bay Area AQMD	Summer	2032	366.55	423.75	496.34	634.22	73.90	85.86	100.94	128.69	
AD	Bay Area AQMD	Summer	2033	366.55	423.93	496.32	634.41	73.90	85.92	100.95	128.79	
AD	Bay Area AQMD	Summer	2034	366.54	424.09	496.31	634.58	73.90	85.98	100.95	128.87	
AD	Bay Area AQMD	Summer	2035	366.54	424.21	496.30	634.74	73.91	86.04	100.96	128.96	
AD	Bay Area AQMD	Winter	2010	335.32	385.28	457.66	576.18	72.94	84.37	99.40	124.69	
AD	Bay Area AQMD	Winter	2011	335.43	385.63	457.52	576.68	72.98	84.25	99.50	124.89	
AD	Bay Area AOMD	Winter	2012	335.56	386.01	457.41	577.23	73.02	84.19	99.62	125.11	
AD AD	Bay Area AQMD Bay Area AQMD	Winter	2013	335.74 335.90	386.37 386.72	457.32 457.25	577.82 578.40	73.09 73.15	84.17 84.17	99.74 99.85	125.34 125.59	
AD	Bay Area AQMD	Winter Winter	2014 2015	336.08	387.07	457.20	579.00	73.13	84.19		125.85	
AD	Bay Area AQMD	Winter	2016	336.26	387.41	457.20	579.56	73.32	84.24	100.07	126.10	
AD	Bay Area AQMD	Winter	2017	336.39	387.73	457.10	580.10	73.38	84.29	100.07	126.36	
AD	Bay Area AQMD	Winter	2018	336.52	388.00	457.08	580.55	73.44	84.35	100.17	126.61	
AD	Bay Area AQMD	Winter	2019	336.63	388.27	457.06	580.95	73.50	84.48	100.25	126.84	
AD	Bay Area AQMD	Winter	2020	336.73	388.53	457.05	581.32	73.60	84.63	100.45	127.06	
AD	Bay Area AQMD	Winter	2021	336.80	388.77	457.05	581.62	73.68	84.79	100.54	127.24	
AD	Bay Area AQMD	Winter	2022	336.84	388.97	457.05	581.88	73.74	84.93	100.62	127.39	
AD	Bay Area AQMD	Winter	2023	336.84	389.12	457.04	582.08	73.78	85.06	100.69	127.56	
AD	Bay Area AQMD	Winter	2024	336.82	389.24	457.02	582.24	73.80	85.17	100.75	127.71	
AD	Bay Area AQMD	Winter	2025	336.81	389.35	457.00	582.41	73.82	85.27	100.80	127.87	
AD	Bay Area AQMD	Winter	2026	336.82	389.49	456.98	582.60	73.85	85.38	100.84	128.01	
AD	Bay Area AQMD	Winter	2027	336.82	389.62	456.96	582.77	73.86	85.47	100.87	128.15	
AD	Bay Area AQMD	Winter	2028	336.82	389.76	456.94	582.93	73.87	85.55	100.89	128.26	
AD	Bay Area AQMD	Winter	2029	336.80	389.90	456.91	583.10	73.88	85.63	100.91	128.38	
AD	Bay Area AQMD	Winter	2030	336.79	390.05	456.89	583.27	73.89	85.71	100.92	128.49	
AD	Bay Area AQMD	Winter	2031	336.78	390.20	456.87	583.44	73.89	85.79	100.93	128.59	
AD	Bay Area AQMD	Winter	2032	336.77	390.35	456.86	583.61	73.90	85.86	100.94	128.69	
AD	Bay Area AQMD	Winter	2033	336.76	390.48	456.84	583.76	73.90	85.92	100.95	128.79	
AD	Bay Area AQMD	Winter	2034	336.76	390.60	456.82	583.90	73.90	85.98	100.95	128.87	
AD	Bay Area AQMD	Winter	2035	336.74	390.70	456.80	584.02	73.91	86.04	100.96	128.96	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

Sesson Year LDA LDT		Location			(CO2 Runni	na (a/\/MT)	CO2 Starting (g/trip)				
No. Description APCD		Location	Sooson	Voor									
Annual 2011 340.16 396.11 466.41 688.32 73.64 91.64 10.022 125.65 Annual 2012 340.27 395.85 465.90 584.74 73.88 90.38 10.087 125.65 Annual 2013 340.37 395.85 465.90 584.74 73.88 90.38 10.087 125.65 Annual 2014 340.47 395.22 465.50 586.77 73.58 98.28 10.087 125.65 Annual 2014 340.47 395.22 465.50 586.77 73.58 98.28 10.077 125.05 Annual 2014 340.47 395.22 465.50 586.72 73.48 88.98 10.077 125.05 Annual 2016 340.60 395.41 468.68 687.52 73.48 88.98 10.077 125.05 Annual 2016 342.35 396.27 468.88 591.87 73.49 88.64 100.74 125.65 Annual 2016 342.35 396.27 468.88 591.87 73.49 88.64 100.74 125.65 Annual 2016 342.24 396.86 466.89 591.13 73.49 88.64 100.74 125.65 Annual 2018 342.24 396.86 466.86 592.50 73.44 88.89 100.76 127.07 Annual 2018 342.24 396.86 466.86 592.50 73.44 88.89 100.76 127.07 Annual 2018 342.24 396.87 466.44 593.51 73.49 88.64 100.76 127.48 Annual 2020 342.53 396.78 466.44 593.51 73.54 88.39 100.76 127.48 Annual 2021 343.10 397.67 467.30 596.77 73.67 88.53 100.07 127.07 Annual 2021 343.10 397.67 467.30 596.77 73.67 88.58 100.87 127.54 Annual 2022 343.03 397.67 467.30 596.77 73.67 88.58 100.87 127.54 Annual 2023 343.08 397.75 466.89 595.27 73.67 88.58 100.87 127.54 Annual 2024 343.03 397.67 467.30 596.77 73.77 88.88 100.87 127.54 Annual 2024 343.03 397.67 467.50 598.57 73.77 88.88 100.88 127.88 Annual 2024 343.03 398.72 466.88 595.27 73.67 88.58 100.89 127.88 Annual 2025 343.01 397.67 467.50 598.57 73.77 88.88 100.89 127.88 Annual 2026 343.02 398.02 466.89 596.87 73.78 88.88 100.88 127.88 Annual 2026 343.	۸۵	Rutto County APCD											
ADD Dutic County APCD		·											
No. Description Annual 2015 340.39 395.77 465.50 585.71 73.53 80.20 100.81 125.85 340.85 340.87 385.30 385.71 465.50 585.71 73.53 80.20 100.81 125.85 340.85 340.87 385.30 385.71 385.30 385.71 385.30 385.71 385.30 385.71 385.7		·											
AD Butte County APCD Annual 2014 344,47 395,32 465,20 586,62 73,46 88,16 100,77 125,00 AD Butte County APCD Annual 2015 340,60 395,14 466,36 587,52 73,45 87,30 100,75 126,33 AD Butte County APCD Annual 2016 342,35 386,92 466,90 591,13 73,46 86,64 100,77 126,00 AD Butte County APCD Annual 2018 342,42 396,86 466,61 595,67 73,46 88,16 100,77 127,00 AD Butte County APCD Annual 2018 342,48 396,86 466,66 592,67 73,46 88,16 100,70 127,0 AD Butte County APCD Annual 2018 342,48 396,86 466,66 592,67 73,46 88,16 100,70 127,0 AD Butte County APCD Annual 2020 343,10 397,55 467,11 594,81 73,60 85,11 100,82 127,5 AD Butte County APCD Annual 2021 343,10 397,67 467,10 595,07 73,46 85,50 100,87 127,4 AD Butte County APCD Annual 2022 343,10 397,67 467,10 595,07 73,46 85,50 100,87 127,4 AD Butte County APCD Annual 2023 343,10 397,67 467,10 595,07 73,46 85,50 100,87 127,5 AD Butte County APCD Annual 2023 343,10 397,67 467,10 595,07 73,46 85,50 100,87 127,5 AD Butte County APCD Annual 2023 343,10 397,67 467,00 595,07 73,46 85,50 100,87 127,5 AD Butte County APCD Annual 2023 343,02 398,30 466,75 595,77 73,76 85,66 100,30 127,8 AD Butte County APCD Annual 2025 343,02 398,30 466,75 595,77 73,72 85,80 100,99 128,5 AD Butte County APCD Annual 2025 343,02 398,30 466,66 595,54 73,73 85,86 100,99 128,5 AD Butte County APCD Annual 2028 343,02 398,31 466,66 596,77 73,72 85,80 100,99 128,5 AD Butte County APCD Annual 2028 343,02 398,31 466,65 596,78 73,75 86,01 00,99 128,5 AD Butte County APCD Annual 2034 343,02 398,31 466,65 596,78 73,76 86,10 00,99 128,5 AD Butte County APCD Annual 2034 343,02 398,40 466,		,		1									
AD Butte County APCD Annual 2015 348,080 395,14 469,96 587,52 73,45 87,30 100,75 125, 20, 34, 34, 34, 34, 34, 34, 34, 34, 34, 34		,											
No. Butte County APCD	_	•		-									
No. Butte County APCD Annual 2017 342-42 396.78 466.81 591.87 73.48 85.98 00.71 126.88	_	,		 									
ADD Butte County APCD Annual 2018 342.44 396.68 496.66 592.50 73.44 85.49 100.70 127.0		,		-									
No. Butte County APCD Annual 2019 342.48 396.71 466.54 593.04 73.45 85.31 100.70 127.2		,		-									
ADD Butte County APCD Annual 2020 342.53 398.76 466.44 583.51 73.54 85.90 100.76 127.4 AD Butte County APCD Annual 2021 343.10 397.55 466.45 596.27 73.64 85.50 100.87 127.5 AD Butte County APCD Annual 2023 343.10 397.67 467.03 199.50 7 35.64 85.50 100.87 127.6 AD Butte County APCD Annual 2023 343.03 397.75 466.85 595.27 73.67 85.58 100.90 127.8 AD Butte County APCD Annual 2023 343.03 397.75 466.85 595.27 73.67 85.58 100.90 127.8 AD Butte County APCD Annual 2025 343.01 397.84 466.85 595.67 73.67 85.58 100.90 127.8 AD Butte County APCD Annual 2025 343.01 397.82 466.82 596.60 73.70 85.73 100.96 122.1 AD Butte County APCD Annual 2026 343.02 398.03 466.75 595.77 73.72 85.80 100.97 128.2 AD Butte County APCD Annual 2026 343.02 398.20 466.89 599.60 73.70 85.73 100.96 122.1 AD Butte County APCD Annual 2028 343.02 398.21 466.89 599.67 73.72 85.80 100.97 128.2 AD Butte County APCD Annual 2028 343.02 398.23 466.89 599.4 73.73 85.90 100.98 128.5 AD Butte County APCD Annual 2028 343.02 398.23 466.89 599.4 73.73 85.90 100.98 128.5 AD Butte County APCD Annual 2028 343.02 398.23 466.81 596.11 73.74 85.97 100.99 128.5 AD Butte County APCD Annual 2028 343.02 398.31 466.62 596.62 73.75 86.07 100.98 128.5 AD Butte County APCD Annual 2031 343.01 398.49 466.45 596.62 73.75 86.07 100.98 128.9 AD Butte County APCD Annual 2033 343.01 398.49 466.45 596.62 73.75 86.07 100.98 128.9 AD Butte County APCD Annual 2033 343.01 398.67 466.42 596.79 73.76 86.17 100.99 128.9 AD Butte County APCD Annual 2035 343.01 398.67 466.42 596.79 73.76 86.17 100.99 128.9 AD Butte County APCD Annual 2035 343.01 398.67 466.42 596.79 73.76 86.17 100.99 128.9 AD Butte County APCD Annual 2035 343.01 398.67 466.42 596.79 73.76 86.17 100.99 128.9 AD Butte County APCD Summer 2010 378.85 435.25 516.75 646.70 73.74 93.40 101.05 125.3 AD Butte County APCD Summer 2010 378.85 440.67 519.59 646.57 73.56 86.19 100.99 129.0 AD Butte County APCD Summer 2010 378.85 440.67 519.39 660.27 73.66 86.19 100.99 129.0 AD Butte County APCD Summer 2031 383.24 440.	_	, , , , , , , , , , , , , , , , , , ,		-									
ADD Butte County APCD Annual 2021 343.10 397.55 467.11 594.81 73.60 85.41 100.82 127.5 ADD Butte County APCD Annual 2022 343.01 397.67 467.03 595.07 73.64 85.50 100.93 127.8 ADD Butte County APCD Annual 2024 343.02 397.84 466.85 595.27 73.67 85.58 100.90 127.8 ADD Butte County APCD Annual 2024 343.02 397.84 466.85 595.27 73.76 85.58 100.90 127.8 ADD Butte County APCD Annual 2025 343.01 397.92 466.82 595.60 73.70 85.75 100.96 128.1 ADD Butte County APCD Annual 2026 343.02 398.03 466.75 595.77 73.72 85.80 100.98 128.3 ADD Butte County APCD Annual 2027 343.02 398.03 466.75 595.77 73.72 85.80 100.98 128.3 ADD Butte County APCD Annual 2027 343.02 398.12 466.89 595.94 73.73 85.86 100.98 128.3 ADD Butte County APCD Annual 2029 343.02 398.31 466.55 596.28 73.74 85.97 100.99 128.6 ADD Butte County APCD Annual 2030 343.01 398.40 466.45 596.45 73.75 86.07 100.98 128.3 ADD Butte County APCD Annual 2030 343.01 398.40 466.45 596.62 73.76 86.07 100.98 128.3 ADD Butte County APCD Annual 2031 343.01 398.40 466.45 596.62 73.76 86.17 100.98 128.3 ADD Butte County APCD Annual 2033 343.01 398.57 466.42 596.79 73.76 86.12 100.99 128.9 ADD Butte County APCD Annual 2033 343.00 398.64 466.40 596.45 73.78 86.07 100.98 128.9 ADD Butte County APCD Annual 2035 342.09 398.74 466.36 596.02 73.76 86.12 100.99 128.9 ADD Butte County APCD Annual 2035 342.09 398.74 466.36 597.09 73.76 86.12 100.99 128.9 ADD Butte County APCD Annual 2035 342.09 398.74 466.36 596.05 73.76 86.19 100.99 128.9 ADD Butte County APCD Summer 2010 378.85 435.25 516.75 645.70 73.74 93.00 91.20 100.00 1	_	•		-									
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AD Butte County APCD	AD	·										128.99	
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AD Butte County APCD	AD	·	1									125.50	
AD Butte County APCD	AD	·										125.67	
AD Butte County APCD	AD	,		1								125.88	
AD Butte County APCD	AD	,		2014					73.46	88.16		126.08	
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AD Butte County APCD	AD	Butte County APCD		2017		440.50	519.76		73.48	85.98	100.71	126.82	
AD Butte County APCD	AD	·	Summer	2018	382.56			658.88	73.44			127.05	
AD Butte County APCD Summer 2020 382.63 441.06 519.39 660.26 73.54 85.30 100.76 127.4 AD Butte County APCD Summer 2021 383.24 442.01 520.14 661.82 73.60 85.41 100.82 127.5 AD Butte County APCD Summer 2022 383.23 442.21 520.05 662.21 73.64 85.50 100.87 127.6 AD Butte County APCD Summer 2023 383.21 442.39 519.98 662.50 73.67 85.58 100.90 127.8 AD Butte County APCD Summer 2024 383.15 442.57 519.92 662.70 73.68 85.66 100.93 127.9 AD Butte County APCD Summer 2025 383.13 442.89 519.81 663.05 73.70 85.73 100.96 128.1 AD Butte County APCD Summer 2026 383.15 442.89 519.81 663.05 73.72 85.80 100.97 128.2 AD Butte County APCD Summer 2027 383.17 443.04 519.76 663.21 73.73 85.86 100.98 128.3 AD Butte County APCD Summer 2028 383.19 443.19 519.72 663.40 73.74 85.92 100.99 128.5 AD Butte County APCD Summer 2029 383.21 443.35 519.67 663.59 73.74 85.97 100.99 128.6 AD Butte County APCD Summer 2030 383.22 443.50 519.63 663.79 73.75 86.02 100.98 128.7 AD Butte County APCD Summer 2031 383.22 443.50 519.63 663.79 73.75 86.02 100.98 128.7 AD Butte County APCD Summer 2031 383.22 443.50 519.63 663.79 73.75 86.07 100.98 128.8 AD Butte County APCD Summer 2031 383.22 443.64 519.62 663.97 73.75 86.07 100.98 128.8 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.83 519.60 664.35 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.83 519.60 664.35 73.76 86.19 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD	AD	Butte County APCD	-	2019	382.59	440.87		659.62	73.45	85.31	100.70	127.27	
AD Butte County APCD Summer 2021 383.24 442.01 520.14 661.82 73.60 85.41 100.82 127.5 AD Butte County APCD Summer 2022 383.23 442.21 520.05 662.21 73.64 85.50 100.87 127.6 AD Butte County APCD Summer 2023 383.21 442.39 519.98 662.50 73.67 85.58 100.90 127.8 AD Butte County APCD Summer 2024 383.15 442.57 519.92 662.70 73.68 85.66 100.93 127.9 AD Butte County APCD Summer 2025 383.13 442.73 519.88 662.89 73.70 85.73 100.96 128.1 AD Butte County APCD Summer 2026 383.15 442.89 519.81 663.05 73.72 85.80 100.97 128.2 AD Butte County APCD Summer 2027 383.17 443.04 519.76 663.21 73.73 85.86 100.98 128.3 AD Butte County APCD Summer 2028 383.19 443.19 519.72 663.40 73.74 85.92 100.99 128.5 AD Butte County APCD Summer 2029 383.21 443.35 519.67 663.59 73.74 85.97 100.99 128.6 AD Butte County APCD Summer 2030 383.22 443.50 519.63 663.79 73.75 86.02 100.98 128.7 AD Butte County APCD Summer 2031 383.22 443.64 519.62 663.97 73.75 86.07 100.98 128.8 AD Butte County APCD Summer 2032 383.22 443.50 519.61 664.16 73.76 86.12 100.99 128.6 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.83 519.60 664.35 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.83 519.60 664.35 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.83 519.60 664.35 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD	AD	Butte County APCD		2020	382.63	441.06		660.26	73.54	85.30		127.47	
AD Butte County APCD Summer 2023 383.21 442.39 519.98 662.50 73.67 85.58 100.90 127.8 AD Butte County APCD Summer 2024 383.15 442.57 519.92 662.70 73.68 85.66 100.93 127.9 AD Butte County APCD Summer 2025 383.13 442.73 519.88 662.89 73.70 85.73 100.96 128.1 AD Butte County APCD Summer 2026 383.15 442.89 519.81 663.05 73.72 85.80 100.97 128.2 AD Butte County APCD Summer 2027 383.17 443.04 519.76 663.21 73.73 85.86 100.98 128.3 AD Butte County APCD Summer 2028 383.19 443.19 519.72 663.40 73.74 85.92 100.99 128.5 AD Butte County APCD Summer 2029 383.21 443.35 519.67 663.59 73.74 85.97 100.99 128.6 AD Butte County APCD Summer 2030 383.22 443.50 519.63 663.79 73.75 86.02 100.98 128.7 AD Butte County APCD Summer 2031 383.22 443.64 519.62 663.97 73.75 86.07 100.98 128.8 AD Butte County APCD Summer 2032 383.22 443.64 519.62 663.97 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.15 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.81 519.59 664.54 73.76 86.19 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.98 452.21 564.18 73.74 93.40 101.05 125.3 AD Butte County APCD Summer 2030 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3 AD Butte County APCD	AD	Butte County APCD	Summer	2021	383.24		520.14	661.82	73.60	85.41	100.82	127.57	
AD Butte County APCD Summer 2023 383.21 442.39 519.98 662.50 73.67 85.58 100.90 127.8 AD Butte County APCD Summer 2024 383.15 442.57 519.92 662.70 73.68 85.66 100.93 127.9 AD Butte County APCD Summer 2025 383.13 442.73 519.88 662.89 73.70 85.73 100.96 128.1 AD Butte County APCD Summer 2026 383.15 442.89 519.81 663.05 73.72 85.80 100.97 128.2 AD Butte County APCD Summer 2027 383.17 443.04 519.76 663.21 73.73 85.86 100.98 128.3 AD Butte County APCD Summer 2028 383.19 443.19 519.72 663.40 73.74 85.92 100.99 128.5 AD Butte County APCD Summer 2029 383.21 443.35 519.67 663.59 73.74 85.97 100.99 128.6 AD Butte County APCD Summer 2030 383.22 443.50 519.63 663.79 73.75 86.02 100.98 128.7 AD Butte County APCD Summer 2031 383.22 443.64 519.62 663.97 73.75 86.07 100.98 128.8 AD Butte County APCD Summer 2032 383.22 443.64 519.62 663.97 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.15 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.81 519.59 664.54 73.76 86.19 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.98 452.21 564.18 73.74 93.40 101.05 125.3 AD Butte County APCD Summer 2030 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3 AD Butte County APCD	AD	Butte County APCD	Summer	2022	383.23	442.21	520.05	662.21	73.64	85.50	100.87	127.65	
AD Butte County APCD Summer 2024 383.15 442.57 519.92 662.70 73.68 85.66 100.93 127.94 AD Butte County APCD Summer 2025 383.13 442.73 519.88 662.89 73.70 85.73 100.96 128.1 AD Butte County APCD Summer 2026 383.15 442.89 519.81 663.05 73.72 85.80 100.97 128.2 AD Butte County APCD Summer 2027 383.17 443.04 519.76 663.21 73.73 85.86 100.98 128.3 AD Butte County APCD Summer 2028 383.19 443.19 519.72 663.40 73.74 85.92 100.99 128.5 AD Butte County APCD Summer 2029 383.21 443.35 519.67 663.59 73.74 85.97 100.99 128.6 AD Butte County APCD Summer 2030 383.22 443.50 519.63 663.79 73.75 86.02 100.98 128.7 AD Butte County APCD Summer 2031 383.22 443.64 519.62 663.97 73.75 86.07 100.98 128.8 AD Butte County APCD Summer 2032 383.22 443.74 519.61 664.16 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.83 519.60 664.35 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.83 519.60 664.35 73.76 86.19 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3	AD	Butte County APCD		2023	383.21	442.39	519.98	662.50	73.67	85.58	100.90	127.82	
AD Butte County APCD Summer 2025 383.13 442.73 519.88 662.89 73.70 85.73 100.96 128.1 AD Butte County APCD Summer 2026 383.15 442.89 519.81 663.05 73.72 85.80 100.97 128.2 AD Butte County APCD Summer 2027 383.17 443.04 519.76 663.21 73.73 85.86 100.98 128.3 AD Butte County APCD Summer 2028 383.19 443.19 519.72 663.40 73.74 85.92 100.99 128.5 AD Butte County APCD Summer 2029 383.21 443.35 519.67 663.59 73.74 85.97 100.99 128.6 AD Butte County APCD Summer 2030 383.22 443.50 519.63 663.79 73.75 86.02 100.98 128.7 AD Butte County APCD Summer 2031 383.22 443.64 519.62 663.97 73.75 86.02 100.98 128.8 AD Butte County APCD Summer 2032 383.22 443.74 519.61 664.16 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.15 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3	AD	Butte County APCD	1	2024	383.15	442.57		662.70	73.68	85.66	100.93	127.97	
AD Butte County APCD Summer 2026 383.15 442.89 519.81 663.05 73.72 85.80 100.97 128.2 AD Butte County APCD Summer 2027 383.17 443.04 519.76 663.21 73.73 85.86 100.98 128.3 AD Butte County APCD Summer 2028 383.19 443.19 519.72 663.40 73.74 85.92 100.99 128.5 AD Butte County APCD Summer 2029 383.21 443.35 519.67 663.59 73.74 85.97 100.99 128.6 AD Butte County APCD Summer 2030 383.22 443.50 519.63 663.79 73.75 86.02 100.98 128.7 AD Butte County APCD Summer 2031 383.22 443.64 519.62 663.97 73.75 86.07 100.98 128.8 AD Butte County APCD Summer 2032 383.22 443.74 519.61 664.16 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.15 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3	AD	Butte County APCD	1	2025		442.73			73.70	85.73		128.12	
AD Butte County APCD Summer 2027 383.17 443.04 519.76 663.21 73.73 85.86 100.98 128.3 AD Butte County APCD Summer 2028 383.19 443.19 519.72 663.40 73.74 85.92 100.99 128.5 AD Butte County APCD Summer 2029 383.21 443.35 519.67 663.59 73.74 85.97 100.99 128.6 AD Butte County APCD Summer 2030 383.22 443.50 519.63 663.79 73.75 86.02 100.98 128.7 AD Butte County APCD Summer 2031 383.22 443.64 519.62 663.97 73.75 86.07 100.98 128.8 AD Butte County APCD Summer 2032 383.22 443.74 519.61 664.16 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.15 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3	AD	Butte County APCD		2026	383.15	442.89	519.81	663.05	73.72	85.80	100.97	128.26	
AD Butte County APCD Summer 2028 383.19 443.19 519.72 663.40 73.74 85.92 100.99 128.54 AD Butte County APCD Summer 2029 383.21 443.35 519.67 663.59 73.74 85.97 100.99 128.65 AD Butte County APCD Summer 2030 383.22 443.50 519.63 663.79 73.75 86.02 100.98 128.75 AD Butte County APCD Summer 2031 383.22 443.64 519.62 663.97 73.75 86.07 100.98 128.87 AD Butte County APCD Summer 2032 383.22 443.74 519.61 664.16 73.76 86.12 100.99 128.99 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.15 100.99 128.99 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.09 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.10 AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.38	AD	Butte County APCD		2027	383.17	443.04	519.76	663.21	73.73	85.86	100.98	128.39	
AD Butte County APCD Summer 2029 383.21 443.35 519.67 663.59 73.74 85.97 100.99 128.6 AD Butte County APCD Summer 2030 383.22 443.50 519.63 663.79 73.75 86.02 100.98 128.7 AD Butte County APCD Summer 2031 383.22 443.64 519.62 663.97 73.75 86.07 100.98 128.8 AD Butte County APCD Summer 2032 383.22 443.74 519.61 664.16 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.15 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3	AD	Butte County APCD		2028			519.72		73.74	85.92		128.51	
AD Butte County APCD Summer 2031 383.22 443.64 519.62 663.97 73.75 86.07 100.98 128.8 AD Butte County APCD Summer 2032 383.22 443.74 519.61 664.16 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.15 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3	AD	Butte County APCD	Summer	2029	383.21	443.35	519.67		73.74	85.97	100.99	128.62	
AD Butte County APCD Summer 2031 383.22 443.64 519.62 663.97 73.75 86.07 100.98 128.8 AD Butte County APCD Summer 2032 383.22 443.74 519.61 664.16 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.15 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.81 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3	AD	Butte County APCD	Summer	2030	383.22	443.50	519.63	663.79	73.75	86.02	100.98	128.72	
AD Butte County APCD Summer 2032 383.22 443.74 519.61 664.16 73.76 86.12 100.99 128.9 AD Butte County APCD Summer 2033 383.22 443.83 519.60 664.35 73.76 86.15 100.99 128.9 AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3	AD	·	Summer	2031	383.22	443.64		663.97	73.75	86.07	100.98	128.82	
AD Butte County APCD Summer 2034 383.22 443.91 519.59 664.54 73.76 86.19 100.99 129.0 AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3	AD	Butte County APCD	1	2032	383.22	443.74	519.61	664.16	73.76	86.12	100.99	128.91	
AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3	AD	Butte County APCD	Summer	2033	383.22	443.83	519.60	664.35	73.76	86.15	100.99	128.99	
AD Butte County APCD Summer 2035 383.21 443.96 519.58 664.71 73.77 86.22 100.99 129.1 AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3	AD	·	1	2034	383.22			664.54	73.76	86.19	100.99	129.06	
AD Butte County APCD Winter 2010 328.68 384.98 452.21 564.18 73.74 93.40 101.05 125.3	AD	Butte County APCD	1	2035	383.21	443.96	519.58	664.71	73.77	86.22	100.99	129.13	
AD Butte County APCD Winter 2011 328.82 384.41 451.61 565.32 73.64 91.64 100.92 125.5	AD	·		2010			452.21		73.74	93.40		125.37	
	AD	Butte County APCD	Winter	2011	328.82	384.41	451.61	565.32	73.64	91.64	100.92	125.50	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	ng (g/VMT)	CO2 Starting (g/trip)				
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV	
AD	Butte County APCD	Winter	2012	328.84	383.90	450.92	566.13	73.58	90.38	100.87	125.67	
AD	Butte County APCD	Winter	2013	328.87	383.41	450.39	566.96	73.53	89.20	100.81	125.88	
AD	Butte County APCD	Winter	2014	328.90	382.99	449.98	567.75	73.46	88.16	100.77	126.08	
AD	Butte County APCD	Winter	2015	328.99	382.67	449.66	568.52	73.45	87.30	100.75	126.32	
AD	Butte County APCD	Winter	2016	330.67	384.27	451.57	571.94	73.49	86.64	100.74	126.57	
AD	Butte County APCD	Winter	2017	330.72	384.03	451.37	572.58	73.48	85.98	100.71	126.82	
AD	Butte County APCD	Winter	2018	330.74	383.86	451.21	573.14	73.44	85.49	100.70	127.05	
AD	Butte County APCD	Winter	2019	330.78	383.84	451.09	573.62	73.45	85.31	100.70	127.27	
AD	Butte County APCD	Winter	2020	330.84	383.86	450.99	574.04	73.54	85.30	100.76	127.47	
AD	Butte County APCD	Winter	2021	331.40	384.59	451.65	575.26	73.60	85.41	100.82	127.57	
AD	Butte County APCD	Winter	2022	331.39	384.68	451.56	575.49	73.64	85.50	100.87	127.65	
AD	Butte County APCD	Winter	2023	331.38	384.73	451.48	575.67	73.67	85.58	100.90	127.82	
AD	Butte County APCD	Winter	2024	331.32	384.80	451.41	575.80	73.68	85.66	100.93	127.97	
AD	Butte County APCD	Winter	2025	331.30	384.86	451.35	575.97	73.70	85.73	100.96	128.12	
AD	Butte County APCD	Winter	2026	331.31	384.94	451.28	576.14	73.72	85.80	100.97	128.26	
AD	Butte County APCD	Winter	2027	331.31	385.02	451.21	576.32	73.73	85.86	100.98	128.39	
AD	Butte County APCD	Winter	2028	331.31	385.10	451.14	576.48	73.74	85.92	100.99	128.51	
AD	Butte County APCD	Winter	2029	331.30	385.18	451.06	576.65	73.74	85.97	100.99	128.62	
AD	Butte County APCD	Winter	2030	331.28	385.25	450.98	576.81	73.75	86.02	100.98	128.72	
AD	Butte County APCD	Winter	2031	331.28	385.33	450.94	576.98	73.75	86.07	100.98	128.82	
AD	Butte County APCD	Winter	2032	331.28	385.40	450.91	577.14	73.76	86.12	100.99	128.91	
AD	Butte County APCD	Winter	2033	331.27	385.45	450.88	577.29	73.76	86.15	100.99	128.99	
AD	Butte County APCD	Winter	2034	331.27	385.51	450.86	577.42	73.76	86.19	100.99	129.06	
AD	Butte County APCD	Winter	2035	331.26	385.55	450.84	577.54	73.77	86.22	100.99	129.13	
AD	Calaveras County APCD	Annual	2010	339.15	393.21	464.59	580.79	74.52	89.63	101.49	124.52	
AD	Calaveras County APCD	Annual	2011	339.17	393.31	464.13	581.44	74.31	88.76	101.30	124.68	
AD	Calaveras County APCD	Annual	2012	339.22	393.39	463.78	582.21	74.10	88.01	101.21	124.87	
AD	Calaveras County APCD	Annual	2013	339.30	393.43	463.49	583.06	73.93	87.36	101.13	125.10	
AD	Calaveras County APCD	Annual	2014	339.36	393.46	463.27	583.88	73.74	86.82	101.00	125.34	
AD	Calaveras County APCD	Annual	2015	339.48	393.52	463.10	584.75	73.70	86.38	100.93	125.59	
AD	Calaveras County APCD	Annual	2016	339.59	393.59	462.96	585.57	73.69	86.07	100.88	125.88	
AD	Calaveras County APCD	Annual	2017	339.64	393.63	462.83	586.35	73.61	85.70	100.81	126.15	
AD	Calaveras County APCD	Annual	2018	339.66	393.65	462.73	587.01	73.51	85.38	100.75	126.42	
AD	Calaveras County APCD	Annual	2019	339.69	393.73	462.65	587.57	73.48	85.28	100.71	126.69	
AD	Calaveras County APCD	Annual	2020	339.72	393.81	462.58	588.07	73.55	85.28	100.76	126.92	
AD	Calaveras County APCD	Annual	2021	339.70	393.86	462.51	588.43	73.59	85.33	100.81	127.08	
AD	Calaveras County APCD	Annual	2022	339.67	393.90	462.43	588.75	73.61	85.38	100.85	127.26	
AD	Calaveras County APCD	Annual	2023	339.61	393.93	462.36	588.97	73.61	85.43	100.87	127.44	
AD	Calaveras County APCD	Annual	2024	339.52	393.92	462.29	589.14	73.58	85.45	100.89	127.61	
AD	Calaveras County APCD	Annual	2025	339.50	393.98	462.24	589.30	73.59	85.52	100.92	127.77	
AD	Calaveras County APCD	Annual	2026	339.51	394.11	462.19	589.48	73.61	85.62	100.94	127.93	
AD	Calaveras County APCD	Annual	2027	339.51	394.23	462.13	589.67	73.62	85.70	100.96	128.08	
AD	Calaveras County APCD	Annual	2028	339.51	394.36	462.10	589.86	73.63	85.78		128.21	
AD	Calaveras County APCD	Annual	2029	339.50	394.48	462.05	590.05	73.64	85.86		128.34	
AD	Calaveras County APCD	Annual	2030	339.49	394.60	462.00	590.25	73.64	85.93	100.97	128.46	
AD	Calaveras County APCD	Annual	2031	339.49	394.71	461.98	590.48	73.65	86.00	100.98	128.58	
AD	Calaveras County APCD	Annual	2032	339.49	394.82	461.96	590.71	73.65	86.06	100.98	128.70	
AD	Calaveras County APCD	Annual	2033	339.49	394.90	461.94	590.91	73.65	86.12	100.98	128.81	
AD	Calaveras County APCD	Annual	2034	339.48	394.98	461.92	591.10	73.66	86.17	100.99	128.90	
AD	Calaveras County APCD	Annual	2035	339.48	395.05	461.91	591.26	73.66	86.21	100.99	128.99	
AD	Calaveras County APCD	Summer	2010	371.79	425.53	507.37	633.67	74.52	89.63		124.52	
AD	Calaveras County APCD	Summer	2011	372.10	426.67	507.24	634.43	74.31	88.76		124.68	
AD	Calaveras County APCD	Summer	2012	372.38	427.56	507.15	635.42	74.10	88.01		124.87	
AD	Calaveras County APCD	Summer	2013	372.63	428.25	507.10	636.56	73.93	87.36	101.13	125.10	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Star	tina (a/tri	(q
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Calaveras County APCD	Summer	2014	372.82	428.79	507.12	637.70	73.74	86.82	101.00	125.34
AD	Calaveras County APCD	Summer	2015	373.03	429.26	507.15	638.94	73.70	86.38	100.93	125.59
AD	Calaveras County APCD	Summer	2016	373.20	429.64	507.18	640.12	73.69	86.07	100.88	125.88
AD	Calaveras County APCD	Summer	2017	373.29	429.96	507.18	641.21	73.61	85.70	100.81	126.15
AD	Calaveras County APCD	Summer	2018	373.31	430.20	507.15	642.13	73.51	85.38	100.75	126.42
AD	Calaveras County APCD	Summer	2019	373.34	430.44	507.12	642.91	73.48	85.28	100.71	126.69
AD	Calaveras County APCD	Summer	2020	373.36	430.67	507.07	643.60	73.55	85.28	100.76	126.92
AD	Calaveras County APCD	Summer	2021	373.33	430.84	507.00	644.13	73.59	85.33	100.70	127.08
AD	Calaveras County APCD	Summer	2022	373.30	431.01	506.94	644.57	73.61	85.38	100.85	127.26
AD	Calaveras County APCD	Summer	2023	373.24	431.15	506.88	644.89	73.61	85.43	100.87	127.44
AD	Calaveras County APCD	Summer	2024	373.18	431.27	506.81	645.12	73.58	85.45	100.89	127.61
AD	Calaveras County APCD	Summer	2025	373.16	431.40	506.76	645.32	73.59	85.52	100.92	127.77
AD	Calaveras County APCD	Summer	2026	373.18	431.61	506.71	645.52	73.61	85.62	100.94	127.93
AD	Calaveras County APCD	Summer	2027	373.19	431.81	506.66	645.72	73.62	85.70	100.96	128.08
AD	Calaveras County APCD	Summer	2028	373.20	432.01	506.63	645.94	73.63	85.78	100.97	128.21
AD	Calaveras County APCD	Summer	2029	373.21	432.20	506.60	646.17	73.64	85.86	100.97	128.34
AD	Calaveras County APCD	Summer	2030	373.22	432.39	506.57	646.41	73.64	85.93	100.97	128.46
AD	Calaveras County APCD	Summer	2031	373.22	432.56	506.56	646.71	73.65	86.00	100.98	128.58
AD	Calaveras County APCD	Summer	2032	373.21	432.71	506.56	646.99	73.65	86.06	100.98	128.70
AD	Calaveras County APCD	Summer	2033	373.21	432.83	506.55	647.26	73.65	86.12	100.98	128.81
AD	Calaveras County APCD	Summer	2034	373.20	432.93	506.54	647.51	73.66	86.17	100.99	128.90
AD	Calaveras County APCD	Summer	2035	373.19	433.00	506.53	647.73	73.66	86.21	100.99	128.99
AD	Calaveras County APCD	Winter	2010	329.78	383.93	452.30	565.59	74.52	89.63	101.49	124.52
AD	Calaveras County APCD	Winter	2011	329.72	383.73	451.75	566.21	74.31	88.76	101.30	124.68
AD	Calaveras County APCD	Winter	2012	329.69	383.57	451.31	566.92	74.10	88.01	101.21	124.87
AD	Calaveras County APCD	Winter	2013	329.72	383.42	450.96	567.68	73.93	87.36	101.13	125.10
AD	Calaveras County APCD	Winter	2014	329.75	383.31	450.67	568.42	73.74	86.82	101.00	125.34
AD	Calaveras County APCD	Winter	2015	329.84	383.25	450.44	569.19	73.70	86.38	100.93	125.59
AD	Calaveras County APCD	Winter	2016	329.93	383.24	450.25	569.90	73.69	86.07	100.88	125.88
AD	Calaveras County APCD	Winter	2017	329.98	383.20	450.09	570.59	73.61	85.70	100.81	126.15
AD	Calaveras County APCD	Winter	2018	329.99	383.15	449.97	571.17	73.51	85.38	100.75	126.42
AD	Calaveras County APCD	Winter	2019	330.02	383.18	449.87	571.67	73.48	85.28	100.71	126.69
AD	Calaveras County APCD	Winter	2020	330.05	383.22	449.80	572.12	73.55	85.28	100.76	126.92
AD	Calaveras County APCD	Winter	2021	330.04	383.24	449.72	572.43	73.59		100.81	127.08
AD	Calaveras County APCD	Winter	2022	330.01	383.24	449.64	572.72	73.61	85.38	100.85	127.26
AD	Calaveras County APCD	Winter	2023	329.94	383.24	449.56	572.90	73.61	85.43	100.87	127.44
AD	Calaveras County APCD	Winter	2024	329.85	383.19	449.49	573.05	73.58	85.45		127.61
AD	Calaveras County APCD	Winter	2025	329.83	383.23	449.45	573.20	73.59	85.52	100.92	127.77
AD	Calaveras County APCD	Winter	2026	329.84	383.34	449.40	573.38	73.61	85.62	100.94	127.93
AD	Calaveras County APCD	Winter	2027	329.84	383.44	449.34	573.56	73.62	85.70	100.96	128.08
AD	Calaveras County APCD	Winter	2028	329.83	383.54	449.30	573.75	73.63	85.78	100.97	128.21
AD	Calaveras County APCD	Winter	2029	329.82	383.64	449.25	573.93	73.64	85.86	100.97	128.34
AD	Calaveras County APCD	Winter	2030	329.81	383.74	449.19	574.11	73.64	85.93	100.97	128.46
AD	Calaveras County APCD	Winter	2031	329.80	383.84	449.17	574.32	73.65	86.00	100.98	128.58
AD	Calaveras County APCD	Winter	2032	329.80	383.93	449.14	574.54	73.65	86.06	100.98	128.70
AD	Calaveras County APCD	Winter	2033	329.80	384.01	449.12	574.73	73.65	86.12	100.98	128.81
AD	Calaveras County APCD	Winter	2034	329.80	384.08	449.11	574.89	73.66	86.17	100.99	128.90
AD	Calaveras County APCD	Winter	2035	329.79	384.14	449.09	575.04	73.66	86.21	100.99	128.99
AD	Colusa County APCD	Annual	2010	336.15	393.71	462.59	577.05	73.02	94.44	100.85	124.61
AD	Colusa County APCD	Annual	2011	336.30	393.20	461.94	577.64	73.01	92.76	100.79	124.78
AD	Colusa County APCD	Annual	2012	336.46	392.86	461.43	578.32	73.01	91.49	100.76	124.99
AD	Colusa County APCD	Annual	2013	336.61	392.53	461.04	579.07	73.01	90.33	100.78	125.24
AD	Colusa County APCD	Annual	2014	336.76	392.14	460.74	579.85	73.01	89.10	100.78	125.48
AD	Colusa County APCD	Annual	2015	336.94	391.90	460.48	580.66	73.07	88.20	100.70	125.75

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		I	(CO2 Runni	na (a/VMT)	(CO2 Star	tina (a/tri	(q
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Colusa County APCD	Annual	2016	337.08	391.55	460.28	581.44	73.11	87.13	100.69	126.03
AD	Colusa County APCD	Annual	2017	337.18	391.40	460.11	582.19	73.11	86.50	100.69	126.31
AD	Colusa County APCD	Annual	2018	337.27	391.20	459.97	582.84	73.14	85.83	100.67	126.58
AD	Colusa County APCD	Annual	2019	337.32	391.11	459.85	583.42	73.14	85.43	100.69	126.82
AD	Colusa County APCD	Annual	2020	337.37	391.06	459.75	583.92	73.23	85.29	100.77	127.05
AD	Colusa County APCD	Annual	2021	337.43	391.13	459.66	584.31	73.30	85.37	100.83	127.21
AD	Colusa County APCD	Annual	2022	337.40	391.19	459.57	584.63	73.33	85.43	100.88	127.34
AD	Colusa County APCD	Annual	2023	337.39	391.29	459.49	584.89	73.36	85.52	100.91	127.52
AD	Colusa County APCD	Annual	2024	337.37	391.34	459.41	585.10	73.37	85.59	100.94	127.69
AD	Colusa County APCD	Annual	2025	337.36	391.40	459.36	585.31	73.39	85.65	100.97	127.86
AD	Colusa County APCD	Annual	2026	337.37	391.51	459.27	585.53	73.41	85.73	100.99	128.02
AD	Colusa County APCD	Annual	2027	337.38	391.61	459.21	585.75	73.42	85.79	101.00	128.16
AD	Colusa County APCD	Annual	2028	337.39	391.73	459.15	585.97	73.43	85.86	101.01	128.30
AD	Colusa County APCD	Annual	2029	337.40	391.84	459.07	586.18	73.44	85.92	101.01	128.42
AD	Colusa County APCD	Annual	2030	337.38	391.95	458.99	586.40	73.44	85.97	101.00	128.54
AD	Colusa County APCD	Annual	2031	337.38	392.05	458.95	586.61	73.45	86.03	101.00	128.66
AD	Colusa County APCD	Annual	2032	337.38	392.15	458.92	586.83	73.45	86.08	101.00	128.77
AD	Colusa County APCD	Annual	2033	337.38	392.24	458.89	587.03	73.46	86.13	101.01	128.87
AD	Colusa County APCD	Annual	2034	337.37	392.31	458.85	587.21	73.46	86.17	101.01	128.96
AD	Colusa County APCD	Annual	2035	337.36	392.37	458.83	587.37	73.47	86.21	101.01	129.05
AD	Colusa County APCD	Summer	2010	369.11	427.03	505.43	632.25	73.02	94.44	100.85	124.61
AD	Colusa County APCD	Summer	2011	369.53	427.36	505.34	632.77	73.01	92.76	100.79	124.78
AD	Colusa County APCD	Summer	2012	369.90	427.67	505.27	633.46	73.01	91.49	100.76	124.99
AD	Colusa County APCD	Summer	2013	370.21	427.88	505.20	634.32	73.01	90.33	100.78	125.24
AD	Colusa County APCD	Summer	2014	370.47	427.99	505.17	635.26	73.01	89.10	100.78	125.48
AD	Colusa County APCD	Summer	2015	370.74	428.12	505.15	636.30	73.07	88.20	100.70	125.75
AD	Colusa County APCD	Summer	2016	370.94	428.19	505.10	637.33	73.11	87.13	100.69	126.03
AD	Colusa County APCD	Summer	2017	371.07	428.29	505.00	638.32	73.11	86.50	100.69	126.31
AD	Colusa County APCD	Summer	2018	371.17	428.34	504.89	639.18	73.14	85.83	100.67	126.58
AD	Colusa County APCD	Summer	2019	371.22	428.46	504.77	639.93	73.14	85.43	100.69	126.82
AD	Colusa County APCD	Summer	2020	371.26	428.58	504.65	640.57	73.23	85.29	100.77	127.05
AD	Colusa County APCD	Summer	2021	371.31	428.73	504.55	641.07	73.30	85.37	100.83	127.21
AD	Colusa County APCD	Summer	2022	371.28	428.87	504.46	641.49	73.33	85.43	100.88	127.34
AD	Colusa County APCD	Summer	2023	371.27	429.02	504.39	641.81	73.36	85.52	100.91	127.52
AD	Colusa County APCD	Summer	2024	371.27	429.15	504.32	642.06	73.37	85.59	100.94	127.69
AD	Colusa County APCD	Summer	2025	371.27	429.27	504.27	642.28	73.39	85.65	100.97	127.86
AD	Colusa County APCD	Summer	2026	371.29	429.45	504.21	642.53	73.41	85.73	100.99	128.02
AD	Colusa County APCD	Summer	2027	371.32	429.59	504.17	642.78	73.42	85.79	101.00	128.16
AD	Colusa County APCD	Summer	2028	371.34	429.79	504.14	643.02	73.43	85.86	101.01	128.30
AD	Colusa County APCD	Summer	2029	371.35	429.96	504.09	643.27	73.44	85.92	101.01	128.42
AD	Colusa County APCD	Summer	2030	371.36	430.13	504.04	643.51	73.44	85.97	101.00	128.54
AD	Colusa County APCD	Summer	2031	371.36	430.29	504.05	643.74	73.45	86.03	101.00	128.66
AD	Colusa County APCD	Summer	2032	371.36	430.43	504.04	643.98	73.45	86.08	101.00	128.77
AD	Colusa County APCD	Summer	2033	371.36	430.55	504.04	644.21	73.46	86.13	101.01	128.87
AD	Colusa County APCD	Summer	2034	371.36	430.64	504.02	644.42	73.46	86.17	101.01	128.96
AD	Colusa County APCD	Summer	2035	371.35	430.71	504.00	644.62	73.47	86.21	101.01	129.05
AD	Colusa County APCD	Winter	2010	325.06	382.50	448.17	558.47	73.02	94.44	100.85	124.61
AD	Colusa County APCD	Winter	2011	325.11	381.70	447.33	559.09	73.01	92.76	100.79	124.78
AD	Colusa County APCD	Winter	2012	325.20	381.15	446.68	559.76	73.01	91.49	100.76	124.99
AD	Colusa County APCD	Winter	2013	325.30	380.64	446.18	560.48	73.01	90.33	100.78	125.24
AD	Colusa County APCD	Winter	2014	325.41	380.08	445.78	561.20	73.01	89.10	100.78	125.48
AD	Colusa County APCD	Winter	2015	325.57	379.70	445.45	561.93	73.07	88.20	100.70	125.75
AD	Colusa County APCD	Winter	2016	325.69	379.22	445.20	562.63	73.11	87.13	100.69	126.03
AD	Colusa County APCD	Winter	2017	325.77	378.98	445.00	563.29	73.11	86.50	100.69	126.31

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	ng (g/VMT)	(CO2 Star	ting (a/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Colusa County APCD	Winter	2018	325.86	378.69	444.85	563.88	73.14	85.83	100.67	126.58
AD	Colusa County APCD	Winter	2019	325.91	378.54	444.73	564.40	73.14	85.43	100.69	126.82
AD	Colusa County APCD	Winter	2020	325.96	378.43	444.64	564.86	73.23	85.29	100.77	127.05
AD	Colusa County APCD	Winter	2021	326.03	378.48	444.56	565.20	73.30	85.37	100.83	127.21
AD	Colusa County APCD	Winter	2022	326.00	378.50	444.46	565.49	73.33	85.43	100.88	127.34
AD	Colusa County APCD	Winter	2023	325.99	378.59	444.38	565.73	73.36	85.52	100.91	127.52
AD	Colusa County APCD	Winter	2024	325.96	378.62	444.30	565.93	73.37	85.59	100.94	127.69
AD	Colusa County APCD	Winter	2025	325.94	378.65	444.24	566.14	73.39	85.65	100.97	127.86
AD	Colusa County APCD	Winter	2026	325.95	378.74	444.15	566.35	73.41	85.73	100.99	128.02
AD	Colusa County APCD	Winter	2027	325.96	378.83	444.08	566.56	73.42	85.79	101.00	128.16
AD	Colusa County APCD	Winter	2028	325.96	378.92	444.01	566.77	73.43	85.86	101.01	128.30
AD	Colusa County APCD	Winter	2029	325.97	379.01	443.92	566.97	73.44	85.92	101.01	128.42
AD	Colusa County APCD	Winter	2030	325.95	379.10	443.83	567.18	73.44	85.97	101.00	128.54
AD	Colusa County APCD	Winter	2031	325.95	379.18	443.78	567.38	73.45	86.03	101.00	128.66
AD	Colusa County APCD	Winter	2032	325.95	379.27	443.73	567.59	73.45	86.08	101.00	128.77
AD	Colusa County APCD	Winter	2033	325.94	379.34	443.70	567.78	73.46	86.13	101.01	128.87
AD	Colusa County APCD	Winter	2034	325.93	379.41	443.65	567.95	73.46	86.17	101.01	128.96
AD	Colusa County APCD	Winter	2035	325.92	379.46	443.62	568.10	73.47	86.21	101.01	129.05
AD	El Dorado County APCD	Annual	2010	344.06	399.91	474.51	595.67	73.80	87.93	100.07	125.05
AD	El Dorado County APCD	Annual	2011	344.37	400.11	474.18	596.23	73.69	87.21	100.08	125.19
AD	El Dorado County APCD	Annual	2012	344.66	400.37	473.92	596.88	73.60	86.69	100.14	125.37
AD	El Dorado County APCD	Annual	2013	344.92	400.60	473.73	597.60	73.52	86.25	100.18	125.58
AD	El Dorado County APCD	Annual	2014	345.14	400.81	473.57	598.32	73.42	85.86	100.22	125.79
AD	El Dorado County APCD	Annual	2015	345.36	401.02	473.47	599.08	73.39	85.52	100.26	126.03
AD	El Dorado County APCD	Annual	2016	345.56	401.22	473.39	599.80	73.42	85.23	100.32	126.28
AD	El Dorado County APCD	Annual	2017	345.72	401.40	473.32	600.49	73.43	84.98	100.35	126.52
AD	El Dorado County APCD	Annual	2018	345.84	401.56	473.26	601.09	73.41	84.79	100.39	126.76
AD	El Dorado County APCD	Annual	2019	342.63	398.23	469.09	596.26	73.42	84.81	100.46	126.97
AD	El Dorado County APCD	Annual	2020	342.72	398.46	469.09	596.75	73.51	84.90	100.55	127.17
AD	El Dorado County APCD	Annual	2021	342.78	398.68	469.12	597.13	73.59	85.03	100.63	127.30
AD	El Dorado County APCD	Annual	2022	342.81	398.88	469.15	597.45	73.64	85.16	100.70	127.41
AD	El Dorado County APCD	Annual	2023	342.82	399.03	469.17	597.71	73.67	85.26	100.75	127.57
AD	El Dorado County APCD	Annual	2024	342.83	399.18	469.16	597.94	73.69	85.36	100.80	127.71
AD	El Dorado County APCD	Annual	2025	342.83	399.32	469.18	598.18	73.71	85.45	100.84	127.86
AD	El Dorado County APCD	Annual	2026	342.86	399.50	469.17	598.40	73.73	85.55	100.88	128.01
AD	El Dorado County APCD	Annual	2027	342.87	399.67	469.18	598.61	73.74	85.63	100.90	128.14
AD	El Dorado County APCD	Annual	2028	342.89	399.84	469.18	598.84	73.76	85.71	100.92	128.26
AD	El Dorado County APCD	Annual	2029	342.90	400.02	469.17	599.06	73.76	85.79	100.93	128.37
AD	El Dorado County APCD	Annual	2030	342.92	400.19	469.17	599.30	73.77	85.86	100.94	128.48
AD	El Dorado County APCD	Annual	2031	342.94	400.37	469.18	599.52	73.77	85.94	100.95	128.59
AD	El Dorado County APCD	Annual	2032	342.96	400.53	469.19	599.74	73.78	86.00	100.95	128.70
AD	El Dorado County APCD	Annual	2033	342.97	400.67	469.20	599.95	73.78	86.06	100.96	128.79
AD	El Dorado County APCD	Annual	2034	342.98	400.81	469.22	600.14	73.78	86.12	100.97	128.88
AD	El Dorado County APCD	Annual	2035	342.99	400.92	469.23	600.31	73.79	86.17	100.97	128.97
AD	El Dorado County APCD	Summer	2010	374.54	427.96	510.75	641.98	73.80	87.93	100.07	125.05
AD	El Dorado County APCD	Summer	2011	374.93	428.86	510.63	642.58	73.69	87.21	100.08	125.19
AD	El Dorado County APCD	Summer	2012	375.31	429.65	510.55	643.32	73.60	86.69	100.14	125.37
AD	El Dorado County APCD	Summer	2013	375.65	430.31	510.52	644.16	73.52	86.25	100.18	125.58
AD	El Dorado County APCD	Summer	2014	375.94	430.86	510.54	645.06	73.42	85.86	100.22	125.79
AD	El Dorado County APCD	Summer	2015	376.22	431.35	510.57	646.01	73.39	85.52	100.26	126.03
AD	El Dorado County APCD	Summer	2016	376.46	431.78	510.61	646.90	73.42	85.23	100.32	126.28
AD	El Dorado County APCD	Summer	2017	376.65	432.17	510.63	647.77	73.43	84.98	100.35	126.52
AD	El Dorado County APCD	Summer	2018	376.77	432.48	510.62	648.50	73.41	84.79	100.39	126.76
AD	El Dorado County APCD	Summer	2019	373.21	428.93	506.01	643.20	73.42	84.81	100.46	126.97

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	ng (g/VMT)	(CO2 Star	ting (a/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	El Dorado County APCD	Summer	2020	373.27	429.23	505.95	643.70	73.51	84.90	100.55	127.17
AD	El Dorado County APCD	Summer	2021	373.33	429.49	505.85	644.00	73.59	85.03	100.63	127.30
AD	El Dorado County APCD	Summer	2022	373.37	429.73	505.76	644.26	73.64	85.16	100.70	127.41
AD	El Dorado County APCD	Summer	2023	373.40	429.92	505.67	644.45	73.67	85.26	100.75	127.57
AD	El Dorado County APCD	Summer	2024	373.39	430.06	505.63	644.57	73.69	85.36	100.80	127.71
AD	El Dorado County APCD	Summer	2025	373.41	430.22	505.59	644.69	73.71	85.45	100.84	127.86
AD	El Dorado County APCD	Summer	2026	373.41	430.40	505.56	644.85	73.73	85.55	100.88	128.01
AD	El Dorado County APCD	Summer	2027	373.41	430.57	505.53	645.01	73.74	85.63	100.90	128.14
AD	El Dorado County APCD	Summer	2028	373.41	430.76	505.51	645.18	73.76	85.71	100.92	128.26
AD	El Dorado County APCD	Summer	2029	373.41	430.95	505.48	645.36	73.76	85.79	100.93	128.37
AD	El Dorado County APCD	Summer	2030	373.42	431.14	505.45	645.55	73.77	85.86	100.94	128.48
AD	El Dorado County APCD	Summer	2031	373.41	431.34	505.42	645.79	73.77	85.94	100.95	128.59
AD	El Dorado County APCD	Summer	2032	373.40	431.50	505.39	646.04	73.78	86.00	100.95	128.70
AD	El Dorado County APCD	Summer	2033	373.40	431.64	505.36	646.26	73.78	86.06	100.96	128.79
AD	El Dorado County APCD	Summer	2034	373.40	431.76	505.33	646.48	73.78	86.12	100.97	128.88
AD	El Dorado County APCD	Summer	2035	373.39	431.86	505.30	646.67	73.79	86.17	100.97	128.97
AD	El Dorado County APCD	Winter	2010	336.47	392.87	465.40	584.06	73.80	87.93	100.07	125.05
AD	El Dorado County APCD	Winter	2011	336.76	392.90	465.02	584.60	73.69	87.21	100.08	125.19
AD	El Dorado County APCD	Winter	2012	337.03	393.02	464.72	585.24	73.60	86.69	100.14	125.37
AD	El Dorado County APCD	Winter	2013	337.27	393.15	464.49	585.93	73.52	86.25	100.18	125.58
AD	El Dorado County APCD	Winter	2014	337.47	393.27	464.28	586.60	73.42	85.86	100.22	125.79
AD	El Dorado County APCD	Winter	2015	337.68	393.40	464.14	587.31	73.39	85.52	100.26	126.03
AD	El Dorado County APCD	Winter	2016	337.87	393.55	464.04	587.99	73.42	85.23	100.32	126.28
AD	El Dorado County APCD	Winter	2017	338.02	393.68	463.94	588.63	73.43	84.98	100.35	126.52
AD	El Dorado County APCD	Winter	2018	338.13	393.80	463.87	589.19	73.41	84.79	100.39	126.76
AD	El Dorado County APCD	Winter	2019	335.01	390.52	459.80	584.48	73.42	84.81	100.46	126.97
AD	El Dorado County APCD	Winter	2020	335.11	390.72	459.82	584.96	73.51	84.90	100.55	127.17
AD	El Dorado County APCD	Winter	2021	335.16	390.94	459.88	585.35	73.59	85.03	100.63	127.30
AD	El Dorado County APCD	Winter	2022	335.19	391.13	459.93	585.69	73.64	85.16	100.70	127.41
AD	El Dorado County APCD	Winter	2023	335.21	391.27	459.97	585.96	73.67	85.26	100.75	127.57
AD	El Dorado County APCD	Winter	2024	335.21	391.42	459.98	586.21	73.69	85.36	100.80	127.71
AD	El Dorado County APCD	Winter	2025	335.22	391.55	460.00	586.49	73.71	85.45	100.84	127.86
AD	El Dorado County APCD	Winter	2026	335.25	391.72	460.01	586.71	73.73	85.55	100.88	128.01
AD	El Dorado County APCD	Winter	2027	335.27	391.89	460.02	586.94	73.74	85.63	100.90	128.14
AD	El Dorado County APCD	Winter	2028	335.28	392.06	460.03	587.17	73.76	85.71	100.92	128.26
AD	El Dorado County APCD	Winter	2029	335.30	392.23	460.02	587.41	73.76	85.79	100.93	128.37
AD	El Dorado County APCD	Winter	2030	335.32	392.40	460.03	587.66	73.77	85.86	100.94	128.48
AD	El Dorado County APCD	Winter	2031	335.34	392.57	460.04	587.87	73.77	85.94	100.95	128.59
AD	El Dorado County APCD	Winter	2032	335.37	392.73	460.07	588.09	73.78	86.00	100.95	128.70
AD	El Dorado County APCD	Winter	2033	335.39	392.87	460.09	588.29	73.78	86.06	100.96	128.79
AD	El Dorado County APCD	Winter	2034	335.40	393.01	460.11	588.48	73.78	86.12	100.97	128.88
AD	El Dorado County APCD	Winter	2035	335.42	393.13	460.13	588.64	73.79	86.17	100.97	128.97
AD	Feather River AQMD	Annual	2010	325.72	381.57	447.59	558.28	73.45	93.72	100.52	124.69
AD	Feather River AQMD	Annual	2011	325.89	381.23	447.09	559.03	73.45	92.05	100.47	124.90
AD	Feather River AQMD	Annual	2012	326.09	381.01	446.71	559.86	73.48	90.72	100.48	125.14
AD	Feather River AQMD	Annual	2013	326.28	380.77	446.42	560.75	73.50	89.47	100.49	125.41
AD	Feather River AQMD	Annual	2014	326.43	380.65	446.20	561.58	73.50	88.61	100.49	125.69
AD	Feather River AQMD	Annual	2015	326.61	380.45	446.03	562.43	73.55	87.57	100.52	125.97
AD	Feather River AQMD	Annual	2016	326.77	380.34	445.89	563.22	73.60	86.86	100.54	126.26
AD	Feather River AQMD	Annual	2017	326.89	380.23	445.76	563.96	73.64	86.15	100.56	126.55
AD	Feather River AQMD	Annual	2018	326.97	380.11	445.66	564.59	73.65	85.54		126.82
AD	Feather River AQMD	Annual	2019	325.22	377.77	443.02	562.17	73.67	85.33	100.64	127.05
AD	Feather River AQMD	Annual	2020	325.28	377.78	442.94	562.61	73.76	85.29	100.71	127.27
AD	Feather River AQMD	Annual	2021	325.33	377.89	442.88	562.95	73.83	85.40	100.78	127.43

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	<u> </u>	CO2 Running (g/VMT) CO2						CO2 Star	2 Starting (g/trip)		
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV	
AD	Feather River AQMD	Annual	2022	325.35	377.98	442.82	563.23	73.87	85.48	100.83	127.56	
AD	Feather River AQMD	Annual	2023	325.35	378.04	442.76	563.45	73.90	85.56	100.87	127.73	
AD	Feather River AQMD	Annual	2024	325.30	378.13	442.73	563.63	73.92	85.63	100.91	127.89	
AD	Feather River AQMD	Annual	2025	325.29	378.23	442.70	563.82	73.94	85.70	100.93	128.04	
AD	Feather River AQMD	Annual	2026	325.30	378.30	442.64	563.98	73.96	85.77	100.95	128.18	
AD	Feather River AQMD	Annual	2027	325.32	378.37	442.59	564.14	73.97	85.82	100.97	128.30	
AD	Feather River AQMD	Annual	2028	325.33	378.44	442.55	564.31	73.98	85.87	100.98	128.42	
AD	Feather River AQMD	Annual	2029	325.33	378.52	442.50	564.48	73.99	85.92	100.98	128.53	
AD	Feather River AQMD	Annual	2030	325.33	378.59	442.45	564.66	73.99	85.97	100.97	128.64	
AD	Feather River AQMD	Annual	2031	325.34	378.67	442.43	564.81	73.99	86.01	100.98	128.74	
AD	Feather River AQMD	Annual	2032	325.35	378.75	442.40	564.96	74.00	86.06	100.98	128.83	
AD	Feather River AQMD	Annual	2033	325.36	378.81	442.38	565.10	74.00	86.09	100.99	128.92	
AD	Feather River AQMD	Annual	2034	325.36	378.88	442.36	565.23	74.01	86.13	100.99	129.00	
AD	Feather River AQMD	Annual	2035	325.37	378.92	442.34	565.35	74.01	86.16	100.99	129.08	
AD	Feather River AQMD	Summer	2010	361.70	419.04	494.41	617.34	73.45	93.72	100.52	124.69	
AD	Feather River AQMD	Summer	2011	362.18	419.54	494.52	618.21	73.45	92.05	100.47	124.90	
AD	Feather River AQMD	Summer	2012	362.62	419.99	494.59	619.26	73.48	90.72	100.48	125.14	
AD	Feather River AQMD	Summer	2013	363.00	420.31	494.65	620.44	73.50	89.47	100.49	125.41	
AD	Feather River AQMD	Summer	2014	363.29	420.57	494.71	621.58	73.50	88.61	100.49	125.69	
AD	Feather River AQMD	Summer	2015	363.57	420.79	494.73	622.75	73.55	87.57	100.52	125.97	
AD	Feather River AQMD	Summer	2016	363.79	420.94	494.73	623.88	73.60	86.86	100.54	126.26	
AD	Feather River AQMD	Summer	2017	363.94	421.09	494.67	624.89	73.64	86.15	100.56	126.55	
AD	Feather River AQMD	Summer	2018	364.03	421.16	494.57	625.74	73.65	85.54	100.60	126.82	
AD	Feather River AQMD	Summer	2019	362.06	418.63	491.62	623.14	73.67	85.33	100.64	127.05	
AD	Feather River AQMD	Summer	2020	362.10	418.69	491.50	623.69	73.76	85.29	100.71	127.27	
AD	Feather River AQMD	Summer	2021	362.12	418.84	491.40	624.12	73.83	85.40	100.78	127.43	
AD	Feather River AQMD	Summer	2022	362.12	418.98	491.31	624.47	73.87	85.48	100.83	127.56	
AD	Feather River AQMD	Summer	2023	362.11	419.10	491.25	624.74	73.90	85.56	100.87	127.73	
AD	Feather River AQMD	Summer	2024	362.07	419.25	491.20	624.93	73.92	85.63	100.91	127.89	
AD	Feather River AQMD	Summer	2025	362.06	419.39	491.18	625.12	73.94	85.70	100.93	128.04	
AD	Feather River AQMD	Summer	2026	362.09	419.49	491.11	625.25	73.96	85.77	100.95	128.18	
AD	Feather River AQMD	Summer	2027	362.12	419.57	491.08	625.41	73.97	85.82	100.97	128.30	
AD	Feather River AQMD	Summer	2028	362.15	419.68	491.05	625.58	73.98	85.87	100.98	128.42	
AD	Feather River AQMD	Summer	2029	362.17	419.79	491.02	625.77	73.99		100.98	128.53	
AD	Feather River AQMD	Summer	2030	362.19	419.91	491.00	625.97	73.99	85.97	100.97	128.64	
AD	Feather River AQMD	Summer	2031	362.20	420.01	491.01	626.14	73.99	86.01	100.98	128.74	
AD	Feather River AQMD	Summer	2032	362.21	420.10	491.01	626.33	74.00	86.06	100.98	128.83	
AD	Feather River AQMD	Summer	2033	362.22	420.19	491.01	626.51	74.00	86.09	100.99	128.92	
AD	Feather River AQMD	Summer	2034	362.22	420.27	491.00	626.69	74.01	86.13	100.99	129.00	
AD	Feather River AOMD	Summer	2035	362.23	420.33	490.99	626.85	74.01	86.16		129.08	
AD	Feather River AOMD	Winter	2010	315.77	371.26	434.66	541.87	73.45	93.72	100.52	124.69	
AD	Feather River AOMD	Winter	2011	315.85	370.69	433.99	542.58	73.45	92.05	100.47	124.90	
AD	Feather River AOMD	Winter	2012	315.98	370.29	433.49	543.36	73.48	90.72		125.14	
AD	Feather River AOMD	Winter	2013	316.12	369.90	433.11	544.17	73.50	89.47	100.49	125.41	
AD	Feather River AOMD	Winter	2014	316.24	369.68	432.81	544.92	73.50	88.61	100.49	125.69	
AD AD	Feather River AQMD Feather River AQMD	Winter	2015 2016	316.38	369.37	432.59	545.67 546.38	73.55	87.57	100.52 100.54	125.97	
		Winter	1	316.52	369.19	432.41		73.60	86.86		126.26	
AD AD	Feather River AOMD	Winter	2017	316.64	369.01	432.27	547.04	73.64	86.15 85.54	100.56	126.55 126.82	
AD AD	Feather River AQMD Feather River AQMD	Winter Winter	2018 2019	316.72 315.03	368.83 366.54	432.16 429.60	547.62 545.24	73.65 73.67	85.54 85.33	100.60 100.64	120.82	
AD AD	Feather River AQMD	Winter	2019	315.03	366.54	429.60	545.66	73.76	85.29	100.64	127.05	
AD	Feather River AQMD	Winter	2020	315.16	366.64	429.34	545.00	73.83	85.40	100.71	127.43	
AD AD	Feather River AQMD	Winter	2021	315.18	366.71	429.43	546.23	73.87	85.48	100.78	127.43	
AD	Feather River AQMD	Winter	2022	315.18	366.76	429.43	546.44	73.90	85.56	100.87	127.73	
	. Samoi into Alamo		020	0.0.10	555.75	.20.00	J-10	. 0.00	50.50	. 55.67		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		1		CO2 Runni	na (a/\/MT)	CO2 Starting (g/trip)					
	Location	Cassan	Voor	LDA	LDT1		MDV	LDA	LDT1		MDV		
AD	Feather River AQMD	Season Winter	Year 2024	315.13	366.83	LDT2 429.35	546.62	73.92	85.63	LDT2 100.91	127.89		
AD	Feather River AQMD	Winter	2024			429.33	546.81	73.94		100.91	128.04		
AD AD	Feather River AQMD	Winter	2025	315.11 315.13	366.92 366.98	429.32	546.98	73.94	85.70 85.77	100.95	128.18		
AD	Feather River AQMD	Winter	2020	315.13	367.04	429.20	547.14	73.97	85.82	100.93	128.30		
AD	Feather River AQMD	Winter	2027	315.14	367.11	429.21	547.14	73.98	85.87	100.98	128.42		
AD	Feather River AQMD	Winter	2029	315.14	367.17	429.11	547.49	73.99	85.92	100.98	128.53		
AD	Feather River AQMD	Winter	2030	315.14	367.17	429.06	547.66	73.99	85.97	100.97	128.64		
AD	Feather River AQMD	Winter	2030	315.15	367.31	429.02	547.79	73.99	86.01	100.98	128.74		
AD	Feather River AQMD	Winter	2032	315.16	367.38	428.99	547.79	74.00	86.06	100.98	128.83		
AD	Feather River AQMD	Winter	2032	315.16	367.45	428.96	548.06	74.00	86.09	100.99	128.92		
AD	Feather River AQMD	Winter	2034	315.17	367.50	428.94	548.17	74.01	86.13	100.99	129.00		
AD	Feather River AQMD	Winter	2035	315.18	367.55	428.92	548.27	74.01	86.16	100.99	129.08		
AD	Glenn County APCD	Annual	2010	347.61	407.24	479.18	597.47	73.80	101.05	102.36	125.05		
AD	Glenn County APCD	Annual	2011	347.94	406.83	478.46	597.84	73.70	98.07	102.06	125.06		
AD	Glenn County APCD	Annual	2012	348.25	406.57	477.93	598.43	73.59	95.83	101.82	125.13		
AD	Glenn County APCD	Annual	2013	348.56	406.34	477.52	599.20	73.54	93.69	101.62	125.27		
AD	Glenn County APCD	Annual	2014	348.81	406.16	477.20	600.00	73.43	91.83	101.37	125.43		
AD	Glenn County APCD	Annual	2015	349.05	406.03	476.95	600.89	73.38	90.19	101.22	125.64		
AD	Glenn County APCD	Annual	2016	349.27	405.92	476.74	601.81	73.41	88.68	101.09	125.88		
AD	Glenn County APCD	Annual	2017	349.44	405.85	476.57	602.68	73.41	87.43	101.01	126.13		
AD	Glenn County APCD	Annual	2018	349.58	405.77	476.41	603.43	73.43	86.26	100.91	126.38		
AD	Glenn County APCD	Annual	2019	349.68	405.76	476.29	604.10	73.46	85.63	100.80	126.62		
AD	Glenn County APCD	Annual	2020	349.77	405.79	476.19	604.70	73.56	85.43	100.85	126.85		
AD	Glenn County APCD	Annual	2021	349.82	405.88	476.10	605.14	73.62	85.50	100.90	126.97		
AD	Glenn County APCD	Annual	2022	349.86	405.97	476.01	605.47	73.68	85.55	100.94	127.04		
AD	Glenn County APCD	Annual	2023	349.88	406.04	475.94	605.72	73.71	85.61	100.98	127.23		
AD	Glenn County APCD	Annual	2024	349.89	406.11	475.87	605.91	73.71	85.66	101.00	127.41		
AD	Glenn County APCD	Annual	2025	349.89	406.19	475.82	606.12	73.72	85.74	101.02	127.59		
AD	Glenn County APCD	Annual	2026	349.91	406.27	475.76	606.32	73.75	85.81	101.03	127.77		
AD	Glenn County APCD	Annual	2027	349.93	406.34	475.71	606.53	73.76	85.87	101.03	127.93		
AD	Glenn County APCD	Annual	2028	349.94	406.42	475.66	606.74	73.77	85.93	101.03	128.07		
AD	Glenn County APCD	Annual	2029	349.94	406.49	475.61	606.94	73.78	85.99	101.02	128.21		
AD	Glenn County APCD	Annual	2030	349.94	406.57	475.56	607.16	73.78	86.04	101.01	128.34		
AD	Glenn County APCD	Annual	2031	349.94	406.64	475.55	607.42	73.79	86.10	101.01	128.47		
AD	Glenn County APCD	Annual	2032	349.94	406.69	475.53	607.68	73.79	86.15	101.01	128.60		
AD	Glenn County APCD	Annual	2033	349.94	406.75	475.52	607.92	73.80	86.19	101.01	128.71		
AD	Glenn County APCD	Annual	2034	349.94	406.79	475.50	608.14	73.80	86.23	101.01	128.82		
AD	Glenn County APCD	Annual	2035	349.93	406.82	475.49	608.33	73.81	86.26	101.01	128.92		
AD	Glenn County APCD	Summer	2010	384.83	445.81	527.20	657.56	73.80	101.05	102.36	125.05		
AD	Glenn County APCD	Summer	2011	385.51	446.50	527.25	657.84	73.70	98.07	102.06	125.06		
AD	Glenn County APCD	Summer	2012	386.08	446.98	527.28	658.52	73.59	95.83	101.82	125.13		
AD	Glenn County APCD	Summer	2013	386.56	447.34	527.28	659.58	73.54	93.69	101.62	125.27		
AD	Glenn County APCD	Summer	2014	386.94	447.60	527.29	660.69	73.43	91.83	101.37	125.43		
AD	Glenn County APCD	Summer	2015	387.27	447.83	527.25	661.99	73.38	90.19	101.22	125.64		
AD	Glenn County APCD	Summer	2016	387.55	448.01	527.19	663.37	73.41	88.68	101.09	125.88		
AD	Glenn County APCD	Summer	2017	387.74	448.13	527.06	664.65	73.41	87.43	101.01	126.13		
AD	Glenn County APCD	Summer	2018	387.86	448.22	526.91	665.76	73.43	86.26	100.91	126.38		
AD	Glenn County APCD	Summer	2019	387.96	448.30	526.79	666.74	73.46	85.63	100.80	126.62		
AD	Glenn County APCD	Summer	2020	388.02	448.37	526.65	667.59	73.56	85.43	100.85	126.85		
AD	Glenn County APCD	Summer	2021	388.06	448.51	526.53	668.25	73.62	85.50	100.90	126.97		
AD	Glenn County APCD	Summer	2022	388.09	448.64	526.43	668.76	73.68	85.55	100.94	127.04		
AD	Glenn County APCD	Summer	2023	388.10	448.75	526.35	669.12	73.71	85.61	100.98	127.23		
AD	Glenn County APCD	Summer	2024	388.12	448.88	526.29	669.37	73.71	85.66	101.00	127.41		
AD	Glenn County APCD	Summer	2025	388.13	449.00	526.24	669.61	73.72	85.74	101.02	127.59		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	ng (a/VMT)	(CO2 Star	ting (g/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Glenn County APCD	Summer	2026	388.17	449.13	526.19	669.78	73.75	85.81	101.03	127.77
AD	Glenn County APCD	Summer	2027	388.21	449.21	526.15	669.97	73.76	85.87	101.03	127.93
AD	Glenn County APCD	Summer	2028	388.24	449.33	526.12	670.17	73.77	85.93	101.03	128.07
AD	Glenn County APCD	Summer	2029	388.26	449.45	526.10	670.39	73.78	85.99	101.02	128.21
AD	Glenn County APCD	Summer	2030	388.28	449.57	526.08	670.64	73.78	86.04	101.01	128.34
AD	Glenn County APCD	Summer	2031	388.27	449.67	526.12	670.94	73.79	86.10	101.01	128.47
AD	Glenn County APCD	Summer	2032	388.27	449.74	526.13	671.26	73.79	86.15	101.01	128.60
AD	Glenn County APCD	Summer	2033	388.26	449.81	526.14	671.55	73.80	86.19	101.01	128.71
AD	Glenn County APCD	Summer	2034	388.25	449.85	526.14	671.85	73.80	86.23	101.01	128.82
AD	Glenn County APCD	Summer	2035	388.24	449.87	526.13	672.11	73.81	86.26	101.01	128.92
AD	Glenn County APCD	Winter	2010	335.44	394.64	463.49	577.83	73.80	101.05	102.36	125.05
AD	Glenn County APCD	Winter	2011	335.66	393.87	462.51	578.23	73.70	98.07	102.06	125.06
AD	Glenn County APCD	Winter	2012	335.89	393.37	461.80	578.79	73.59	95.83	101.82	125.13
AD	Glenn County APCD	Winter	2013	336.14	392.94	461.25	579.47	73.54	93.69	101.62	125.27
AD	Glenn County APCD	Winter	2014	336.35	392.62	460.83	580.17	73.43	91.83	101.37	125.43
AD	Glenn County APCD	Winter	2015	336.56	392.37	460.51	580.92	73.38	90.19	101.22	125.64
AD	Glenn County APCD	Winter	2016	336.76	392.17	460.25	581.69	73.41	88.68	101.09	125.88
AD	Glenn County APCD	Winter	2017	336.93	392.03	460.06	582.43	73.41	87.43	101.01	126.13
AD	Glenn County APCD	Winter	2018	337.06	391.89	459.91	583.06	73.43	86.26	100.91	126.38
AD	Glenn County APCD	Winter	2019	337.18	391.86	459.79	583.63	73.46	85.63	100.80	126.62
AD	Glenn County APCD	Winter	2020	337.27	391.87	459.70	584.15	73.56	85.43	100.85	126.85
AD	Glenn County APCD	Winter	2021	337.33	391.95	459.61	584.51	73.62	85.50	100.90	126.97
AD	Glenn County APCD	Winter	2022	337.37	392.02	459.54	584.78	73.68	85.55	100.94	127.04
AD	Glenn County APCD	Winter	2023	337.39	392.08	459.47	585.00	73.71	85.61	100.98	127.23
AD	Glenn County APCD	Winter	2024	337.39	392.13	459.40	585.17	73.71	85.66	101.00	127.41
AD	Glenn County APCD	Winter	2025	337.39	392.20	459.34	585.37	73.72	85.74	101.02	127.59
AD	Glenn County APCD	Winter	2026	337.41	392.27	459.27	585.58	73.75	85.81	101.03	127.77
AD	Glenn County APCD	Winter	2027	337.42	392.32	459.22	585.80	73.76	85.87	101.03	127.93
AD	Glenn County APCD	Winter	2028	337.42	392.39	459.16	586.00	73.77	85.93	101.03	128.07
AD	Glenn County APCD	Winter	2029	337.42	392.46	459.10	586.21	73.78	85.99	101.02	128.21
AD	Glenn County APCD	Winter	2030	337.42	392.52	459.05	586.42	73.78	86.04	101.01	128.34
AD	Glenn County APCD	Winter	2031	337.42	392.58	459.02	586.66	73.79	86.10	101.01	128.47
AD	Glenn County APCD	Winter	2032	337.42	392.63	459.00	586.91	73.79	86.15	101.01	128.60
AD	Glenn County APCD	Winter	2033	337.41	392.67	458.97	587.13	73.80	86.19	101.01	128.71
AD	Glenn County APCD	Winter	2034	337.41	392.71	458.95	587.32	73.80	86.23	101.01	128.82
AD	Glenn County APCD	Winter	2035	337.41	392.75	458.94	587.49	73.81	86.26	101.01	128.92
AD	Great Basin UAPCD	Annual	2010	351.71	410.12	479.62	598.88	74.54	91.99	101.41	124.88
AD	Great Basin UAPCD	Annual	2011	351.58	409.65	479.10	599.56	74.30	90.81	101.24	125.01
AD	Great Basin UAPCD	Annual	2012	351.55	409.23	478.69	600.33	74.12	89.78	101.13	125.19
AD	Great Basin UAPCD	Annual	2013	351.50	408.84	478.36	601.12	73.86	88.90	101.03	125.40
AD	Great Basin UAPCD	Annual	2014	351.45	408.49	478.12	601.90	73.59	88.09	100.88	125.62
AD	Great Basin UAPCD	Annual	2015	351.50	408.21	477.92	602.74	73.49	87.37	100.88	125.86
AD	Great Basin UAPCD	Annual	2016	351.62	407.99	477.76	603.56	73.49	86.82	100.85	126.11
AD	Great Basin UAPCD	Annual	2017	351.64	407.78	477.63	604.31	73.40	86.29	100.83	126.37
AD	Great Basin UAPCD	Annual	2018	351.66	407.60	477.52	604.96	73.33	85.85	100.80	126.61
AD	Great Basin UAPCD	Annual	2019	351.69	407.52	477.42	605.53	73.29	85.59	100.75	126.84
AD	Great Basin UAPCD	Annual	2020	351.72	407.45	477.34	606.03	73.36	85.50		127.06
AD	Great Basin UAPCD	Annual	2021	351.66	407.35	477.26	606.36	73.36	85.50	100.84	127.21
AD	Great Basin UAPCD	Annual	2022	351.57	407.28	477.17	606.67	73.35	85.52	100.88	127.36
AD	Great Basin UAPCD	Annual	2023	351.48	407.18	477.10	606.89	73.33	85.53	100.90	127.53
AD	Great Basin UAPCD	Annual	2024	351.41	407.09	477.03	607.04	73.32	85.55		127.69
AD	Great Basin UAPCD	Annual	2025	351.37	407.16	477.00	607.21	73.31	85.62	100.95	127.84
AD	Great Basin UAPCD	Annual	2026	351.39	407.29	476.94	607.42	73.33	85.71	100.97	127.99
AD	Great Basin UAPCD	Annual	2027	351.40	407.43	476.89	607.63	73.34	85.79	100.99	128.14

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

Π	Location				:O2 Runni	ng (g/VMT	T) CO2 Starting (g/trip)					
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV	
AD	Great Basin UAPCD	Annual	2028	351.40	407.56	476.84	607.84	73.35	85.87	101.00	128.27	
1	Great Basin UAPCD	Annual	2029	351.39	407.69	476.77	608.06	73.36	85.94	101.00	128.39	
-	Great Basin UAPCD	Annual	2030	351.38	407.82	476.71	608.27	73.36	86.00	101.00	128.51	
 	Great Basin UAPCD	Annual	2031	351.38	407.96	476.68	608.50	73.36	86.07	101.01	128.63	
 	Great Basin UAPCD	Annual	2032	351.38	408.09	476.65	608.73	73.37	86.13	101.01	128.74	
	Great Basin UAPCD	Annual	2032	351.38	408.21	476.62	608.94	73.37	86.18	101.01	128.84	
	Great Basin UAPCD	Annual	2034	351.37	408.32	476.60	609.12	73.38	86.23	101.02	128.94	
-	Great Basin UAPCD	Annual	2035	351.37	408.41	476.58	609.12	73.38	86.28	101.02	129.02	
-	Great Basin UAPCD	Summer	2010	368.80	426.31	499.33	622.32	74.54	91.99	101.02	124.88	
-	Great Basin UAPCD	Summer	2010	368.81	426.47	498.98	623.07	74.30	90.81	101.41	125.01	
-	Great Basin UAPCD	Summer	2011	368.86	426.56	498.74	623.95	74.12	89.78	101.24	125.01	
-			2012	368.89	426.59	498.57	624.87	73.86		101.13	125.19	
-	Great Basin UAPCD	Summer	2013	368.92	426.59	498.50	625.78	73.59	88.90 88.09	101.03	125.40	
-	Great Basin UAPCD	Summer									125.86	
\vdash	Great Basin UAPCD	Summer	2015	369.01	426.63	498.39	626.79	73.49	87.37	100.88		
-	Great Basin UAPCD	Summer	2016	369.15	426.65	498.34	627.79	73.49	86.82	100.85	126.11	
\vdash	Great Basin UAPCD	Summer	2017	369.19	426.65	498.29	628.71	73.40	86.29	100.83	126.37	
	Great Basin UAPCD	Summer	2018	369.21	426.63	498.22	629.47	73.33	85.85	100.80	126.61	
-	Great Basin UAPCD	Summer	2019	369.25	426.71	498.16	630.15	73.29	85.59	100.75	126.84	
 	Great Basin UAPCD	Summer	2020	369.30	426.76	498.11	630.75	73.36	85.50	100.79	127.06	
	Great Basin UAPCD	Summer	2021	369.22	426.73	498.07	631.17	73.36	85.50	100.84	127.21	
-	Great Basin UAPCD	Summer	2022	369.14	426.72	498.03	631.56	73.35	85.52	100.88	127.36	
	Great Basin UAPCD	Summer	2023	369.04	426.67	498.01	631.85	73.33	85.53	100.90	127.53	
 	Great Basin UAPCD	Summer	2024	368.98	426.64	498.01	632.03	73.32	85.55	100.92	127.69	
	Great Basin UAPCD	Summer	2025	368.96	426.73	498.02	632.24	73.31	85.62	100.95	127.84	
-	Great Basin UAPCD	Summer	2026	368.99	426.89	497.97	632.46	73.33	85.71	100.97	127.99	
	Great Basin UAPCD	Summer	2027	369.03	427.08	497.94	632.69	73.34	85.79	100.99	128.14	
 	Great Basin UAPCD	Summer	2028	369.05	427.25	497.90	632.94	73.35	85.87	101.00	128.27	
	Great Basin UAPCD	Summer	2029	369.06	427.42	497.85	633.19	73.36	85.94	101.00	128.39	
-	Great Basin UAPCD	Summer	2030	369.07	427.57	497.80	633.43	73.36	86.00	101.00	128.51	
	Great Basin UAPCD	Summer	2031	369.06	427.77	497.77	633.69	73.36	86.07	101.01	128.63	
	Great Basin UAPCD	Summer	2032	369.06	427.93	497.74	633.93	73.37	86.13	101.01	128.74	
-	Great Basin UAPCD	Summer	2033	369.06	428.08	497.72	634.18	73.37	86.18	101.01	128.84	
	Great Basin UAPCD	Summer	2034	369.05	428.21	497.70	634.38	73.38	86.23		128.94	
	Great Basin UAPCD	Summer	2035	369.04	428.32	497.68	634.56	73.38		101.02		
-	Great Basin UAPCD	Winter	2010	367.72	425.30	498.12	620.89	74.54	91.99	101.41	124.88	
AD	Great Basin UAPCD	Winter	2011	367.73	425.41	497.76	621.64	74.30	90.81	101.24	125.01	
AD	Great Basin UAPCD	Winter	2012	367.77	425.48	497.51	622.51	74.12	89.78	101.13	125.19	
	Great Basin UAPCD	Winter	2013	367.80	425.47	497.33	623.43	73.86	88.90			
-	Great Basin UAPCD	Winter	2014	367.82	425.45	497.25	624.33	73.59	88.09	100.88	125.62	
-	Great Basin UAPCD	Winter	2015	367.92	425.48	497.13	625.32	73.49	87.37	100.88	125.86	
AD	Great Basin UAPCD	Winter	2016	368.05	425.48	497.08	626.32	73.49	86.82	100.85	126.11	
AD	Great Basin UAPCD	Winter	2017	368.09	425.46	497.03	627.23	73.40	86.29	100.83	126.37	
AD	Great Basin UAPCD	Winter	2018	368.11	425.44	496.95	627.98	73.33	85.85	100.80	126.61	
AD	Great Basin UAPCD	Winter	2019	368.14	425.50	496.89	628.66	73.29	85.59	100.75	126.84	
AD	Great Basin UAPCD	Winter	2020	368.19	425.55	496.84	629.25	73.36	85.50	100.79	127.06	
AD	Great Basin UAPCD	Winter	2021	368.12	425.51	496.80	629.66	73.36	85.50	100.84	127.21	
AD	Great Basin UAPCD	Winter	2022	368.04	425.50	496.75	630.05	73.35	85.52	100.88	127.36	
AD	Great Basin UAPCD	Winter	2023	367.94	425.45	496.73	630.33	73.33	85.53	100.90	127.53	
AD	Great Basin UAPCD	Winter	2024	367.88	425.41	496.72	630.51	73.32	85.55	100.92	127.69	
AD	Great Basin UAPCD	Winter	2025	367.85	425.50	496.73	630.71	73.31	85.62	100.95	127.84	
AD	Great Basin UAPCD	Winter	2026	367.89	425.66	496.68	630.94	73.33	85.71	100.97	127.99	
AD	Great Basin UAPCD	Winter	2027	367.93	425.85	496.65	631.16	73.34	85.79	100.99	128.14	
AD	Great Basin UAPCD	Winter	2028	367.95	426.02	496.61	631.41	73.35	85.87	101.00	128.27	
		Winter	2029	367.95	426.19	496.56	631.66	73.36	85.94	101.00		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Star	tina (a/tri	(q
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Great Basin UAPCD	Winter	2030	367.96	426.33	496.51	631.90	73.36	86.00	101.00	128.51
AD	Great Basin UAPCD	Winter	2031	367.95	426.53	496.47	632.15	73.36	86.07	101.01	128.63
AD	Great Basin UAPCD	Winter	2032	367.95	426.69	496.45	632.40	73.37	86.13	101.01	128.74
AD	Great Basin UAPCD	Winter	2033	367.95	426.84	496.42	632.64	73.37	86.18	101.01	128.84
AD	Great Basin UAPCD	Winter	2034	367.94	426.96	496.41	632.84	73.38	86.23	101.02	128.94
AD	Great Basin UAPCD	Winter	2035	367.94	427.07	496.38	633.02	73.38	86.28	101.02	129.02
AD	Imperial County APCD	Annual	2010	333.06	382.51	456.21	575.78	72.99	86.06	100.65	125.48
AD	Imperial County APCD	Annual	2011	332.74	382.65	455.12	575.21	73.04	85.73	100.60	125.71
AD	Imperial County APCD	Annual	2012	333.03	383.36	454.93	575.79	73.14	85.50	100.60	125.97
AD	Imperial County APCD	Annual	2013	331.75	382.30	452.68	573.90	73.23	85.37	100.58	126.29
AD	Imperial County APCD	Annual	2014	331.98	382.91	452.61	574.66	73.31	85.29	100.59	126.61
AD	Imperial County APCD	Annual	2015	327.26	377.77	445.90	566.93	73.39	85.24	100.62	126.91
AD	Imperial County APCD	Annual	2016	327.36	378.16	445.86	567.56	73.41	85.18	100.65	127.20
AD	Imperial County APCD	Annual	2017	327.39	378.50	445.81	568.11	73.41	85.15	100.65	127.47
AD	Imperial County APCD	Annual	2018	327.40	378.76	445.76	568.55	73.39	85.16	100.65	127.71
AD	Imperial County APCD	Annual	2019	327.23	378.80	445.47	568.62	73.39	85.24	100.69	127.93
AD	Imperial County APCD	Annual	2020	327.21	379.01	445.41	568.92	73.41	85.34	100.76	128.13
AD	Imperial County APCD	Annual	2021	327.15	379.11	445.34	569.08	73.42	85.44	100.80	128.28
AD	Imperial County APCD	Annual	2022	327.03	379.19	445.26	569.20	73.39	85.52	100.84	128.40
AD	Imperial County APCD	Annual	2023	326.91	379.26	445.18	569.30	73.35	85.60	100.87	128.53
AD	Imperial County APCD	Annual	2024	329.56	382.51	448.87	574.16	73.32	85.66	100.89	128.63
AD	Imperial County APCD	Annual	2025	329.46	382.58	448.83	574.22	73.28	85.73	100.92	128.73
AD	Imperial County APCD	Annual	2026	329.42	382.67	448.77	574.27	73.26	85.80	100.94	128.82
AD	Imperial County APCD	Annual	2027	329.39	382.76	448.73	574.32	73.24	85.86	100.95	128.90
AD	Imperial County APCD	Annual	2028	329.37	382.86	448.71	574.39	73.23	85.92	100.96	128.97
AD	Imperial County APCD	Annual	2029	329.36	382.96	448.68	574.47	73.21	85.97	100.96	129.04
AD	Imperial County APCD	Annual	2030	329.34	383.07	448.66	574.55	73.20	86.02	100.97	129.10
AD	Imperial County APCD	Annual	2031	329.66	383.57	449.13	575.24	73.19	86.07	100.97	129.15
AD	Imperial County APCD	Annual	2032	329.64	383.67	449.12	575.31	73.18	86.11	100.97	129.21
AD	Imperial County APCD	Annual	2033	329.63	383.75	449.11	575.38	73.18	86.15	100.98	129.26
AD	Imperial County APCD	Annual	2034	329.63	383.82	449.11	575.45	73.18	86.19	100.98	129.30
AD	Imperial County APCD	Annual	2035	329.62	383.88	449.10	575.52	73.18	86.22	100.98	129.34
AD	Imperial County APCD	Summer	2010	341.49	391.06	467.38	590.08	72.99	86.06	100.65	125.48
AD	Imperial County APCD	Summer	2011	341.29	391.47	466.40	589.55	73.04	85.73	100.60	125.71
AD	Imperial County APCD	Summer	2012	341.64	392.37	466.28	590.14	73.14	85.50	100.60	125.97
AD	Imperial County APCD	Summer	2013	340.37	391.46	464.05	588.24	73.23	85.37	100.58	126.29
AD	Imperial County APCD	Summer	2014	340.64	392.20	464.05	589.07	73.31	85.29	100.59	126.61
AD	Imperial County APCD	Summer	2015	335.82	387.05	457.23	581.20	73.39	85.24	100.62	126.91
AD	Imperial County APCD	Summer	2016	335.93	387.53	457.23	581.90	73.41	85.18	100.65	127.20
AD	Imperial County APCD	Summer	2017	335.98	387.93	457.21	582.52	73.41	85.15	100.65	127.47
AD	Imperial County APCD	Summer	2018	335.99	388.23	457.17	583.00	73.39	85.16	100.65	127.71
AD	Imperial County APCD	Summer	2019	335.83	388.32	456.89	583.10	73.39	85.24	100.69	127.93
AD	Imperial County APCD	Summer	2020	335.80	388.55	456.83	583.42	73.41	85.34	100.76	128.13
AD	Imperial County APCD	Summer	2021	335.69	388.62	456.70	583.51	73.42	85.44	100.80	128.28
AD	Imperial County APCD	Summer	2022	335.56	388.70	456.60	583.62	73.39	85.52	100.84	128.40
AD	Imperial County APCD	Summer	2023	335.42	388.78	456.51	583.70	73.35	85.60	100.87	128.53
AD	Imperial County APCD	Summer	2024	338.10	392.07	460.23	588.61	73.32	85.66	100.89	128.63
AD	Imperial County APCD	Summer	2025	338.00	392.15	460.18	588.66	73.28	85.73	100.92	128.73
AD	Imperial County APCD	Summer	2026	337.95	392.24	460.11	588.69	73.26	85.80	100.94	128.82
AD	Imperial County APCD	Summer	2027	337.92	392.33	460.07	588.73	73.24	85.86	100.95	128.90
AD	Imperial County APCD	Summer	2028	337.91	392.44	460.04	588.80	73.23	85.92	100.96	128.97
AD	Imperial County APCD	Summer	2029	337.90	392.56	460.02	588.88	73.21	85.97	100.96	129.04
AD	Imperial County APCD	Summer	2030	337.89	392.68	460.00	588.96	73.20	86.02	100.97	129.10
AD	Imperial County APCD	Summer	2031	338.20	393.18	460.46	589.62	73.19	86.07	100.97	129.15

D-125 September 2016

Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

Season Vear LOA LDT		Location	<u> </u>			`∩2 Runni	na (a/\/MT)	73.18 86.11 100.97 73.18 86.15 100.98 73.18 86.19 100.98 73.18 86.22 100.98			n)
AD Imperial County APCD Summer 2032 338.17 393.28 460.44 589.69 73.16 86.11 100.97 129.2 AD Imperial County APCD Summer 2033 338.16 393.37 460.44 589.67 73.18 86.19 100.98 129.2 AD Imperial County APCD Summer 2036 338.16 393.37 460.44 589.67 73.18 86.19 100.98 129.2 AD Imperial County APCD Summer 2036 338.16 393.17 460.44 589.89 73.18 86.19 100.98 129.2 AD Imperial County APCD Winter 2010 314.55 393.15 400.44 589.89 73.18 86.19 100.98 129.2 AD Imperial County APCD Winter 2010 314.55 393.24 393.35 544.19 73.18 86.29 100.98 129.5 AD Imperial County APCD Winter 2012 314.15 393.25 493.35 544.19 73.18 86.29 100.98 129.5 AD Imperial County APCD Winter 2012 314.13 36.35 540.00 542.77 30.41 85.50 100.65 125.5 AD Imperial County APCD Winter 2012 314.13 36.35 540.00 542.77 33.41 85.50 100.65 125.5 AD Imperial County APCD Winter 2013 314.29 362.16 427.68 542.37 73.33 86.27 100.58 126.5 AD Imperial County APCD Winter 2014 312.09 362.16 427.68 542.37 73.31 86.29 100.55 126.6 AD Imperial County APCD Winter 2014 312.09 362.16 427.68 542.37 73.31 85.29 100.55 126.6 AD Imperial County APCD Winter 2014 310.85 308.44 35.35 42.00 535.54 73.39 85.24 100.65 127.5 AD Imperial County APCD Winter 2015 308.54 36.25 37.77 42.75 536.46 73.44 85.15 100.65 127.5 AD Imperial County APCD Winter 2016 308.50 357.58 420.87 536.47 73.49 85.16 100.65 127.5 AD Imperial County APCD Winter 2018 308.35 357.91 420.75 536.41 73.39 85.10 100.65 127.5 AD Imperial County APCD Winter 2019 308.35 357.91 420.75 536.41 73.39 85.10 100.68 127.5 AD Imperial County APCD Winter 2019 308.35 38.79 14 20.27 536.41 73.39 85.10 100.68 127.5 AD Imperial County APCD Winter 2020 308.36 38.01 420.35 536.11 73.39 85.52 100.84 128.4 AD Imperial County APCD Winter 2020 308.36 38.01 420.35 536.11 73.39 85.52 100.84 128.4 AD Imperial County APCD Winter 2020 308.36 38.10 420.27 536.31 53.39 85.20 100.84 128.4 AD Imperial County APCD Winter 2020 308.36 38.39 42.27 542.27 73.32 85.60 100.89 128.4 AD Imperial County APCD Winter 2020 308.36 38.30 42.27 542.27 73.31 85.89 100.89 128.		Location	Socon	Voor								
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AD		'										129.26
AD Imperial County APCD Summer 2036 338.15 38.61 460.44 589.91 73.18 86.22 109.98 129.5 AD Imperial County APCD Winter 2011 314.45 383.62 431.85 544.19 72.90 86.08 100.85 129.5 AD Imperial County APCD Winter 2011 314.41 313.97 363.27 430.33 543.27 73.04 85.75 100.60 125.5 AD Imperial County APCD Winter 2012 314.13 383.55 430.01 544.27 73.14 85.50 100.60 125.5 AD Imperial County APCD Winter 2013 312.97 362.16 427.46 542.97 73.31 85.27 100.59 126.6 AD Imperial County APCD Winter 2015 308.44 357.38 421.00 535.54 73.39 85.24 100.59 126.6 AD Imperial County APCD Winter 2015 308.50 37.58 420.87 536.67 73.41 85.18 100.68 127.7 AD Imperial County APCD Winter 2016 308.50 37.58 420.87 536.47 73.31 85.27 100.68 127.7 AD Imperial County APCD Winter 2018 308.53 367.39 362.45 73.41 85.18 100.68 127.7 AD Imperial County APCD Winter 2018 308.53 367.39 367.65 368.41 73.39 86.15 100.68 127.7 AD Imperial County APCD Winter 2018 308.33 367.93 40.03 536.45 73.41 85.14 100.68 127.4 AD Imperial County APCD Winter 2019 308.33 367.63 40.03 536.45 73.41 85.14 100.68 127.4 AD Imperial County APCD Winter 2020 308.63 368.06 40.03 537.63 43.18 534.00 43.18 534.00 AD Imperial County APCD Winter 2021 308.33 388.16 420.31 537.29 73.42 85.44 100.89 127.5 AD Imperial County APCD Winter 2022 308.24 368.20												129.30
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AD Imperial County APCD Winter Display County AP				-								125.48
AD Imperial County APCD Winter 2012 314.13 383.55 430.01 644.27 73.14 85.50 400.60 125.6 AD Imperial County APCD Winter 2013 312.73 382.16 427.68 542.37 73.23 85.27 100.59 126.6 AD Imperial County APCD Winter 2014 312.93 362.46 427.46 542.97 73.31 85.29 100.59 126.6 AD Imperial County APCD Winter 2016 308.44 367.38 421.00 355.54 73.39 85.24 100.65 125.6 AD Imperial County APCD Winter 2016 308.50 375.78 421.07 536.81 73.39 85.24 100.65 125.6 AD Imperial County APCD Winter 2018 308.52 357.77 420.75 538.45 73.41 85.15 100.65 127.4 AD Imperial County APCD Winter 2019 308.53 37.93 420.67 538.81 73.39 85.16 100.65 127.4 AD Imperial County APCD Winter 2019 308.38 357.91 420.39 538.57 37.39 85.16 100.65 127.4 AD Imperial County APCD Winter 2019 308.38 357.91 420.39 538.57 37.39 85.16 100.66 127.5 AD Imperial County APCD Winter 2019 308.38 357.91 420.39 538.57 37.39 85.16 100.66 127.5 AD Imperial County APCD Winter 2019 308.33 368.06 420.34 357.09 73.41 85.34 100.69 127.5 AD Imperial County APCD Winter 2019 308.33 368.06 420.34 357.09 73.41 85.34 100.69 127.5 AD Imperial County APCD Winter 2019 308.34 368.06 420.34 357.09 73.41 85.34 100.69 127.5 AD Imperial County APCD Winter 2019 308.24 358.22 420.27 537.45 73.39 85.52 100.84 128.4 AD Imperial County APCD Winter 2019 308.24 358.22 420.27 537.45 73.39 85.52 100.84 128.4 AD Imperial County APCD Winter 2019 308.64 361.39 423.70 542.17 73.2 85.66 100.87 128.4 AD Imperial County APCD Winter 2019 308.65 31.35 361.39 423.70 542.17 73.2 85.66 100.89 128.1 AD Imperial County APCD Winter 2019 310.45 361.35 423.45 542.37 73.26 85.07 100.89 128.1 AD Imperial County APCD Winter 2019 310.45 361.47 423.66 542.33 73.26 85.00 100.99 128.1 AD Imperial County APCD Winter 2019 310.45 361.47 423.65 542.35 73.26 85.00 100.99 128.1 AD Imperial County APCD Winter 2019 310.46 361.47 423.65 542.35 73.26 85.00 100.99 128.1 AD Imperial County APCD Winter 2019 310.46 361.47 423.65 542.35 73.26 85.00 100.99 128.1 AD Imperial County APCD Winter 2019 310.4		·		_								125.71
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Imperial County APCD		·		2013		362.16	427.68			85.37	100.58	126.29
AD Imperial County APCD Winter 2016 308.50 357.58 420.87 536.02 73.41 85.18 100.65 127.7 AD Imperial County APCD Winter 2018 308.52 357.77 420.75 536.46 73.41 85.18 100.65 127.7 AD Imperial County APCD Winter 2019 308.38 357.91 420.39 536.83 73.39 85.24 100.65 127.7 AD Imperial County APCD Winter 2019 308.38 357.91 420.39 536.83 73.39 85.24 100.76 128.3 AD Imperial County APCD Winter 2021 308.33 356.16 420.31 537.29 73.42 85.44 100.80 127.5 AD Imperial County APCD Winter 2022 308.24 368.22 420.22 537.43 73.39 85.62 100.84 128.4 AD Imperial County APCD Winter 2023 308.43 358.28 420.22 537.43 73.39 85.62 100.84 128.4 AD Imperial County APCD Winter 2023 308.43 358.28 420.22 537.43 73.39 85.62 100.84 128.4 AD Imperial County APCD Winter 2024 310.65 361.33 423.72 542.17 537.39 85.62 100.84 128.4 AD Imperial County APCD Winter 2026 310.52 361.39 423.70 542.25 73.22 85.66 100.88 128.6 AD Imperial County APCD Winter 2026 310.52 361.47 423.66 542.33 73.26 85.60 100.84 128.4 AD Imperial County APCD Winter 2026 310.52 361.47 423.66 542.33 73.26 85.60 100.84 128.4 AD Imperial County APCD Winter 2026 310.44 361.71 423.67 542.47 73.21 85.87 100.92 128.7 AD Imperial County APCD Winter 2026 310.44 361.71 423.57 542.57 73.21 85.80 100.92 128.7 AD Imperial County APCD Winter 2026 310.44 361.71 423.57 542.57 73.21 85.81 100.92 128.7 AD Imperial County APCD Winter 2026 310.44 361.71 423.57 542.57 73.21 85.81 100.92 128.7 AD Imperial County APCD Winter 2026 310.40 361.70 423.57 542.57 73.21 85.81 100.92 128.7 AD Imperial County APCD Winter 2026 310.40 361.70 423.57 542.57 73.21 85.81 100.92 128.7 AD Imperial County APCD Winter 2026 310.40 361.70 423.57 542.57 73.21 85.81 100.92 129.1 AD Imperial County APCD Winter 2033 310.71 362.40 423.97 543.39 73.18 86.11 100.97 129.1 AD Imperial County APCD Winter 2033 310.71 362.40 423.97 543.39 73.18 86.11 100.98 129.2 AD Imperial County APCD Winter 2033 310.71 362.40 423.97 543.39 73.8 85.81 100.98 129.2 AD Imperial County APCD Annual 2016 337.07 3	AD	Imperial County APCD	Winter	2014	312.93	362.45	427.46	542.97	73.31	85.29	100.59	126.61
AD Imperial County APCD Winter 2018 308.52 357.77 420.75 538.48 73.41 85.15 100.65 127. AD Imperial County APCD Winter 2018 308.53 357.93 420.67 536.81 73.39 85.24 100.65 127. AD Imperial County APCD Winter 2020 308.38 357.91 420.39 536.81 73.39 85.24 100.66 127. AD Imperial County APCD Winter 2020 308.38 357.91 420.39 536.83 73.39 85.24 100.66 127. AD Imperial County APCD Winter 2021 308.33 358.16 420.31 537.29 73.42 85.44 100.86 128.1 AD Imperial County APCD Winter 2021 308.33 358.16 420.31 537.29 73.42 85.44 100.86 128.1 AD Imperial County APCD Winter 2022 308.24 358.22 420.22 537.54 73.39 85.52 100.44 128.4 AD Imperial County APCD Winter 2023 308.31 358.28 420.22 537.54 73.39 85.52 100.47 128.1 AD Imperial County APCD Winter 2025 310.55 361.39 423.70 542.26 73.28 85.60 100.09 128.7 AD Imperial County APCD Winter 2026 310.55 361.39 423.70 542.26 73.28 85.73 100.92 128.7 AD Imperial County APCD Winter 2026 310.52 361.47 423.66 542.33 73.26 85.80 100.94 128.4 AD Imperial County APCD Winter 2026 310.46 361.64 423.61 542.49 73.23 85.92 100.04 128.4 AD Imperial County APCD Winter 2028 310.46 361.64 423.61 542.49 73.23 85.92 100.06 128.5 AD Imperial County APCD Winter 2028 310.46 361.64 423.61 542.49 73.23 85.92 100.06 128.5 AD Imperial County APCD Winter 2028 310.46 361.64 423.61 542.49 73.23 85.92 100.06 128.5 AD Imperial County APCD Winter 2028 310.46 361.64 423.67 542.65 73.28 86.07 100.09 128.5 AD Imperial County APCD Winter 2031 310.73 382.26 423.86 542.33 73.18 86.19 100.06 129.5 AD Imperial County APCD Winter 2031 310.73 382.26 423.86 542.83 73.18 86.19 100.06 129.5 AD Imperial County APCD Winter 2031 310.71 362.33 423.97 543.69 73.18 86.19 100.06 129.5 AD Imperial County APCD Winter 2031 310.71 362.30 423.97 543.69 73.18 86.19 100.08 129.5 AD Imperial County APCD Winter 2031 310.71 362.30 42.39 543.39 73.18 86.19 100.08 129.5 AD Imperial County APCD Minter 2031 330.71 362.40 423.97 543.89 73.18 86.19 100.08 129.5 AD Imperial County APCD Minter 2031 330.71 362.40 423.97 543.89 73.89 86.61 100.07 129.5 AD I	AD	Imperial County APCD	Winter	2015	308.44	357.38	421.00	535.54	73.39	85.24	100.62	126.91
Imperial County APCD	AD	Imperial County APCD	Winter	2016	308.50	357.58	420.87	536.02	73.41	85.18	100.65	127.20
Imperial County APCD	AD	Imperial County APCD	Winter	2017	308.52	357.77	420.75	536.45	73.41	85.15	100.65	127.47
Imperial County APCD	AD	Imperial County APCD	Winter	2018	308.53	357.93	420.67	536.81	73.39	85.16	100.65	127.71
AD Imperial County APCD Winter 2021 308.33 358.16 420.31 537.29 73.42 85.44 100.80 128.2 AD Imperial County APCD Winter 2022 308.24 358.22 420.27 557.43 73.39 85.52 100.84 128.4 AD Imperial County APCD Winter 2023 308.13 358.28 402.25 37.43 73.99 85.52 100.84 128.4 AD Imperial County APCD Winter 2024 310.65 361.33 423.72 542.17 73.32 85.66 100.89 128.6 AD Imperial County APCD Winter 2025 310.55 361.39 423.70 542.25 73.28 85.73 100.92 128.5 AD Imperial County APCD Winter 2026 310.55 361.39 423.70 542.25 73.28 85.73 100.92 128.5 AD Imperial County APCD Winter 2027 310.48 361.55 423.63 542.41 73.24 85.86 100.95 128.5 AD Imperial County APCD Winter 2028 310.46 361.64 423.61 542.49 73.23 85.92 100.96 128.5 AD Imperial County APCD Winter 2028 310.46 361.14 423.61 542.49 73.23 85.92 100.96 128.5 AD Imperial County APCD Winter 2028 310.46 361.79 423.54 542.67 73.20 86.02 100.97 128.1 AD Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2033 310.71 362.40 423.97 543.87 73.18 86.11 100.98 129.2 AD Imperial County APCD Winter 2034 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.2 AD Imperial County APCD Winter 2034 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.2 AD Imperial County APCD Winter 2034 310.70 362.40 423.97 543.87 73.18 86.19 100.98 129.2 AD Imperial County APCD Winter 2034 310.70 362.40 423.97 543.87 73.18 86.19 100.98 129.2 AD Imperial County APCD Winter 2034 310.70 362.40 423.97 543.87 73.18 86.19 100.98 129.2 AD Imperial County APCD Winter 2034 310.70 362.40 423.97 543.87 73.18 86.19 100.98 129.3 AD Imperial County APCD Annual 2010 336.60 392.15 460.74 578.88 73.94 91.90 100.87 125.5 AD Imperial County APCD Annual 2010 336.60 392.15 460.74 578.88 73.94 91.90 100.87 125.6 AD Imperial County APCD Annual 2013 336.60 392.15 460.74 578.88 73.94 91.90 100.75 126.6 AD Imperial County APCD Annual 2013 336.60 39	AD	Imperial County APCD	Winter	2019	308.38	357.91	420.39	536.83	73.39	85.24	100.69	127.93
AD Imperial County APCD Winter 2022 308.24 358.22 420.27 537.43 73.39 85.52 100.84 128.4 AD Imperial County APCD Winter 2023 308.33 358.28 420.22 537.54 73.35 85.60 100.87 128.4 AD Imperial County APCD Winter 2024 310.65 361.33 423.70 542.25 73.28 85.61 00.93 128.7 AD Imperial County APCD Winter 2026 310.55 361.39 423.70 542.25 73.28 85.61 00.93 128.7 AD Imperial County APCD Winter 2026 310.52 361.47 423.66 542.33 73.26 85.80 100.94 128.7 AD Imperial County APCD Winter 2028 310.48 361.55 423.63 542.41 73.24 85.86 100.95 128.7 AD Imperial County APCD Winter 2028 310.46 361.64 423.61 542.49 73.23 85.92 100.86 128.8 AD Imperial County APCD Winter 2028 310.46 361.64 423.61 542.49 73.23 85.92 100.86 128.8 AD Imperial County APCD Winter 2039 310.44 361.71 423.57 542.57 73.21 85.97 100.96 128.8 AD Imperial County APCD Winter 2030 310.42 361.79 423.54 542.64 73.20 86.07 100.96 129.8 AD Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2031 310.71 362.40 423.97 543.39 73.18 86.11 100.97 129.1 AD Imperial County APCD Winter 2034 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.3 AD Imperial County APCD Winter 2035 310.71 362.40 423.97 543.40 73.18 86.19 100.98 129.3 AD Imperial County APCD Winter 2035 310.70 362.51 423.95 543.58 73.18 86.19 100.98 129.3 AD Imperial County APCD Minter 2036 310.70 362.51 423.95 543.58 73.18 86.19 100.98 129.3 AD Kem County APCD Annual 2010 336.08 392.10 460.74 577.53 74.06 93.66 100.99 129.3 AD Kem County APCD Annual 2011 336.08 392.10 460.74 577.53 74.06 93.66 100.99 129.3 AD Kem County APCD Annual 2013 336.87 391.23 459.75 580.87 73.89 86.61 100.77 126.6 AD Kem County APCD Annual 2013 336.87 391.23 459.75 580.87 73.89 86.61 100.77 126.6 AD Kem County APCD Annual 2016 337.08 390.85 459.94 582.87 73.59 86.61 100.77 126.6 AD Kem County APCD Annual 2018 337.73 390.79 458.81 584.40 73.52 85.86 100.07 127.4 AD Kem County APCD Annual 2026 338.85 392.94 460.01 86.87 73.75 85.65 100.85 127.4 AD Kem County APCD Annual 2028 338.52	AD	Imperial County APCD	Winter	2020	308.36	358.06	420.34	537.09	73.41	85.34	100.76	128.13
AD Imperial County APCD Winter 2023 30.8.13 358.28 420.22 537.54 73.35 85.60 100.87 128.5 AD Imperial County APCD Winter 2024 310.65 361.33 423.72 542.17 73.32 85.66 100.89 128.6 AD Imperial County APCD Winter 2025 310.52 361.39 423.70 542.57 73.28 85.73 100.92 128.5 AD Imperial County APCD Winter 2026 310.52 361.39 423.70 542.57 73.28 85.73 100.92 128.5 AD Imperial County APCD Winter 2026 310.52 361.47 423.66 542.33 73.26 85.80 100.94 128.6 AD Imperial County APCD Winter 2027 310.48 361.55 423.63 542.41 73.24 85.86 100.95 128.5 AD Imperial County APCD Winter 2028 310.46 361.61 423.61 542.49 73.23 85.92 100.96 128.5 AD Imperial County APCD Winter 2029 310.44 361.71 423.57 542.57 73.21 85.97 100.96 128.5 AD Imperial County APCD Winter 2030 310.42 361.79 423.54 542.64 73.20 86.02 100.97 129.1 AD Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2032 310.71 362.33 423.97 543.39 73.18 86.11 100.97 129.1 AD Imperial County APCD Winter 2033 310.71 362.34 423.95 543.50 73.18 86.15 100.98 129.3 AD Imperial County APCD Winter 2034 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.3 AD Imperial County APCD Winter 2035 310.70 362.46 423.95 543.56 73.18 86.19 100.98 129.3 AD Imperial County APCD Winter 2035 310.70 362.61 423.95 543.50 73.18 86.19 100.98 129.3 AD Imperial County APCD Annual 2010 336.08 392.10 460.74 577.53 74.06 93.66 100.99 125.1 AD Kem County APCD Annual 2011 336.60 392.15 460.74 577.53 74.06 93.66 100.99 125.1 AD Kem County APCD Annual 2012 336.87 391.28 460.00 580.23 73.76 88.09 100.77 126.5 AD Kem County APCD Annual 2015 337.07 391.86 480.95 581.63 73.89 86.61 100.72 126.5 AD Kem County APCD Annual 2016 337.08 390.85 459.24 582.18 73.59 86.61 100.79 126.5 AD Kem County APCD Annual 2016 337.08 390.85 459.24 582.18 73.59 86.61 100.79 126.5 AD Kem County APCD Annual 2019 337.31 390.73 458.89 583.87 73.57 85.56 100.69 127.4 AD Kem County APCD Annual 2022 338.51 392.80 460.01 587.37 73.75 85.66 10	AD	Imperial County APCD	Winter	2021	308.33	358.16	420.31	537.29	73.42	85.44	100.80	128.28
AD Imperial County APCD Winter 2024 310.65 361.33 423.72 542.17 73.32 85.66 100.89 128.6 AD Imperial County APCD Winter 2025 310.55 361.39 423.70 542.25 732.8 85.66 100.89 128.6 AD Imperial County APCD Winter 2026 310.55 361.39 423.70 542.25 732.8 85.73 100.92 128.7 AD Imperial County APCD Winter 2027 310.48 361.55 423.63 542.41 73.24 85.86 100.95 128.5 AD Imperial County APCD Winter 2028 310.48 361.55 423.63 542.41 73.24 85.86 100.95 128.5 AD Imperial County APCD Winter 2028 310.48 361.55 423.63 542.47 73.24 85.86 100.95 128.5 AD Imperial County APCD Winter 2028 310.49 361.79 423.57 542.57 73.21 85.97 100.96 128.5 AD Imperial County APCD Winter 2030 310.42 361.79 423.57 542.57 73.21 85.97 100.96 128.5 AD Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2033 310.71 362.33 423.97 543.98 73.18 86.11 100.97 129.1 AD Imperial County APCD Winter 2034 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.3 AD Imperial County APCD Winter 2034 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.3 AD Imperial County APCD Winter 2034 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.3 AD Imperial County APCD Annual 2010 336.08 392.10 460.74 578.88 73.94 91.90 100.87 125.5 AD Kern County APCD Annual 2011 336.60 392.16 460.74 578.88 73.94 91.90 100.87 125.5 AD Kern County APCD Annual 2014 336.07 391.05 459.55 581.63 73.61 87.91 100.70 126.6 AD Kern County APCD Annual 2014 336.87 391.03 459.75 580.93 73.88 80.00 100.77 126.6 AD Kern County APCD Annual 2016 337.08 390.85 459.24 582.18 73.59 86.61 100.72 126.6 AD Kern County APCD Annual 2016 337.07 391.05 459.55 581.63 73.61 87.91 100.70 126.6 AD Kern County APCD Annual 2016 337.08 390.85 459.24 582.18 73.59 86.61 100.72 126.6 AD Kern County APCD Annual 2019 337.31 390.37 459.10 582.67 73.76 85.51 100.67 127.6 AD Kern County APCD Annual 2019 337.31 390.67 459.55 581.63 73.59 86.61 100.79 127.6 AD Kern	AD	Imperial County APCD	Winter	2022	308.24	358.22	420.27	537.43	73.39	85.52	100.84	128.40
AD Imperial County APCD Winter 2025 310.55 361.39 423.70 542.25 73.28 85.73 100.92 128.7 AD Imperial County APCD Winter 2026 310.52 361.47 423.66 542.33 73.26 65.80 100.94 128.8 AD Imperial County APCD Winter 2027 310.48 361.55 423.35 524.17 73.24 85.86 100.95 128.5 AD Imperial County APCD Winter 2028 310.46 361.64 423.61 542.49 73.23 85.92 100.96 128.5 AD Imperial County APCD Winter 2029 310.44 361.71 423.57 542.57 73.21 85.97 100.96 129.5 AD Imperial County APCD Winter 2029 310.44 361.71 423.57 542.57 73.21 85.97 100.96 129.5 AD Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2032 310.71 362.33 423.97 543.36 73.18 86.11 100.97 129.1 AD Imperial County APCD Winter 2032 310.71 362.33 423.97 543.36 73.18 86.11 100.97 129.2 AD Imperial County APCD Winter 2034 310.70 362.46 423.96 543.52 73.18 86.15 100.98 129.3 AD Imperial County APCD Winter 2034 310.70 362.46 423.95 543.58 73.18 86.15 100.98 129.3 AD Imperial County APCD Winter 2034 310.70 362.46 423.95 543.58 73.18 86.15 100.98 129.3 AD Imperial County APCD Annual 2010 336.08 392.10 460.74 577.53 74.06 93.66 100.99 125.7 AD Imperial County APCD Annual 2011 336.08 392.15 460.74 578.39 394 91.90 100.87 125.5 AD Imperial County APCD Annual 2011 336.08 392.15 460.74 578.39 394 91.90 100.87 125.5 AD Imperial County APCD Annual 2013 336.87 391.78 460.32 579.53 73.83 90.8 100.77 126.0 AD Imperial County APCD Annual 2013 336.87 391.78 460.32 579.53 73.83 90.8 100.77 126.0 AD Imperial County APCD Annual 2013 336.87 391.78 460.32 579.53 73.89 86.61 100.97 125.4 AD Imperial County APCD Annual 2014 336.97 391.78 450.74 578.87 39.9 86.61 100.72 126.6 AD Imperial County APCD Annual 2016 337.07 391.05 459.55 581.63 73.61 87.91 100.07 125.6 AD Imperial County APCD Annual 2018 337.31 390.73 458.91 588.87 73.57 85.86 100.69 127.4 AD Imperial County APCD Annual 2018 337.31 390.73 458.91 588.87 73.57 85.86 100.89 127.4 AD Imp	AD	Imperial County APCD	Winter	2023	308.13	358.28	420.22	537.54	73.35	85.60	100.87	128.53
AD Imperial County APCD Winter 2026 310.52 361.47 423.66 542.33 73.26 85.80 100.94 128.6 AD Imperial County APCD Winter 2027 310.48 361.55 423.63 542.41 73.24 85.86 100.95 128.5 AD Imperial County APCD Winter 2028 310.46 361.64 423.61 542.49 73.23 85.92 100.96 128.5 AD Imperial County APCD Winter 2029 310.44 361.71 423.57 542.57 73.21 85.97 100.96 128.5 AD Imperial County APCD Winter 2029 310.44 361.73 423.57 542.57 73.21 85.97 100.96 128.5 AD Imperial County APCD Winter 2030 310.42 361.79 423.54 542.64 73.20 86.02 100.97 129.1 AD Imperial County APCD Winter 2031 310.73 362.26 423.99 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2032 310.71 362.33 423.97 543.49 73.18 86.11 100.97 129.1 AD Imperial County APCD Winter 2033 310.71 362.40 423.97 543.46 73.18 86.15 100.98 129.3 AD Imperial County APCD Winter 2034 310.70 362.46 423.99 543.52 73.18 86.19 100.98 129.3 AD Imperial County APCD Winter 2035 310.70 362.45 423.95 543.58 73.18 86.29 100.98 129.3 AD Imperial County APCD Winter 2035 310.70 362.51 423.95 543.58 73.18 86.29 100.98 129.3 AD Imperial County APCD Annual 2010 336.08 392.10 460.74 578.88 73.18 86.22 100.98 129.3 AD Kern County APCD Annual 2011 336.60 392.15 460.74 578.88 73.94 91.90 100.87 125.5 AD Kern County APCD Annual 2013 336.86 391.78 460.00 580.23 73.76 89.06 100.79 126.5 AD Kern County APCD Annual 2013 336.86 53 391.46 460.00 580.23 73.76 89.06 100.77 126.5 AD Kern County APCD Annual 2013 336.85 391.85 460.00 580.23 73.76 89.06 100.77 126.5 AD Kern County APCD Annual 2013 336.85 391.95 459.55 581.63 73.66 86.00 100.77 126.5 AD Kern County APCD Annual 2013 336.85 391.05 459.55 581.63 73.66 86.00 100.77 126.5 AD Kern County APCD Annual 2013 336.85 391.05 459.55 581.63 73.66 86.00 100.77 126.5 AD Kern County APCD Annual 2019 337.18 390.73 459.10 582.87 73.57 86.55 100.07 127.2 AD Kern County APCD Annual 2019 337.31 390.79 458.91 582.87 73.57 86.55 100.07 127.2 AD Kern County APCD Annual 2021 338.50 392.99 460.18 586.67 73.79 85.56 100.0	AD	Imperial County APCD		2024	310.65	361.33	423.72	542.17	73.32	85.66	100.89	128.63
AD Imperial County APCD Winter 2027 310.48 361.55 423.63 542.41 73.24 85.86 100.95 128.54 DI Imperial County APCD Winter 2028 310.46 361.64 423.61 542.49 73.23 85.92 100.96 128.54 DI Imperial County APCD Winter 2029 310.44 361.71 423.57 542.57 73.21 85.97 100.96 128.54 DI Imperial County APCD Winter 2030 310.42 361.79 423.54 542.64 73.20 86.02 100.97 129.14 DI Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.14 DI Imperial County APCD Winter 2032 310.71 362.36 423.98 543.31 73.19 86.07 100.97 129.14 DI Imperial County APCD Winter 2032 310.71 362.34 423.97 543.39 73.18 86.11 100.97 129.14 DI Imperial County APCD Winter 2033 310.71 362.40 423.97 543.46 73.18 86.19 100.98 129.34 DI Imperial County APCD Winter 2033 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.34 DI Imperial County APCD Winter 2034 310.70 362.46 423.95 543.58 73.18 86.19 100.98 129.34 DI Imperial County APCD Winter 2035 310.70 362.46 423.95 543.58 73.18 86.19 100.98 129.34 DI Imperial County APCD Annual 2010 336.08 392.10 460.74 577.53 74.06 93.66 100.99 129.34 DI Imperial County APCD Annual 2011 336.60 392.15 460.74 578.88 73.94 91.90 100.87 125.34 DI Imperial County APCD Annual 2012 336.72 391.78 460.32 579.53 73.83 90.38 100.77 126.04 DI Imperial County APCD Annual 2014 336.67 391.78 460.32 579.53 73.80 90.88 100.77 126.04 DI Imperial County APCD Annual 2015 337.07 391.05 459.55 581.87 33.89 90.88 100.77 126.04 DI Imperial County APCD Annual 2016 337.07 391.05 459.55 581.87 33.89 90.88 100.77 126.04 DI Imperial County APCD Annual 2016 337.07 391.05 459.55 581.87 33.89 86.61 100.72 126.84 DI Imperial County APCD Annual 2016 337.07 391.05 459.55 581.87 33.89 86.61 100.72 126.84 DI Imperial County APCD Annual 2016 337.07 391.05 459.55 581.87 33.86 86.01 100.79 126.64 DI Imperial County APCD Annual 2016 337.07 391.08 459.50 582.87 73.57 85.95 100.70 127.04 DI Imperial County APCD Annual 2020 338.51 392.99 460.05 586.62 73.58 86.61 100.79 127.04 DI Imperial County APCD Annual 2021 338.52 392.99 460.05 586.62 73	AD	Imperial County APCD	Winter	2025	310.55	361.39	423.70	542.25	73.28	85.73	100.92	128.73
AD Imperial County APCD Winter 2028 310.46 361.64 423.61 542.49 73.23 85.92 100.96 128.5 AD Imperial County APCD Winter 2029 310.44 361.71 423.57 542.57 73.21 85.97 100.96 128.5 AD Imperial County APCD Winter 2030 310.42 361.79 423.54 542.64 73.20 86.02 100.97 129.1 AD Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2032 310.71 362.33 423.97 543.39 73.18 86.11 100.97 129.2 AD Imperial County APCD Winter 2033 310.71 362.40 429.97 543.39 73.18 86.19 100.98 129.2 AD Imperial County APCD Winter 2034 310.70 362.64 423.96 543.58 73.18 86.19 100.98 129.3 AD Imperial County APCD Winter 2034 310.70 362.51 429.95 543.58 73.18 86.19 100.98 129.3 AD Imperial County APCD Annual 2011 336.08 392.10 460.74 577.53 74.06 93.66 100.99 125.5 AD Kern County APCD Annual 2011 336.08 392.10 460.74 577.53 74.06 93.66 100.99 125.5 AD Kern County APCD Annual 2012 336.72 391.78 460.32 579.53 73.83 90.38 100.77 126.6 AD Kern County APCD Annual 2013 336.85 391.46 460.00 580.23 73.76 89.06 100.77 126.6 AD Kern County APCD Annual 2015 337.07 391.8 595.55 581.63 73.86 88.03 100.77 126.6 AD Kern County APCD Annual 2016 337.08 391.23 459.75 580.93 73.68 88.03 100.77 126.6 AD Kern County APCD Annual 2016 337.08 390.85 459.24 582.18 73.59 86.61 100.72 126.6 AD Kern County APCD Annual 2016 337.08 390.85 583.45 73.56 85.16 100.07 127.0 AD Kern County APCD Annual 2018 337.34 390.73 459.95 581.63 73.58 85.95 100.70 127.0 AD Kern County APCD Annual 2019 337.31 390.73 459.95 582.87 73.57 85.95 100.70 127.0 AD Kern County APCD Annual 2019 337.31 390.73 459.95 582.87 73.57 85.95 100.70 127.0 AD Kern County APCD Annual 2019 337.31 390.73 459.95 582.87 73.77 85.95 100.06 127.0 AD Kern County APCD Annual 2029 338.50 392.99 460.05 587.07 73.76 85.71 100.07 127.0 AD Kern County APCD Annual 2029 338.51 392.89 460.06 587.20 73.76 85.71 100.09 127.0 AD Kern Count	AD	Imperial County APCD	Winter	2026	310.52	361.47	423.66	542.33	73.26	85.80	100.94	128.82
AD Imperial County APCD Winter 2029 310.44 361.71 423.57 542.57 73.21 85.97 100.96 129.0 AD Imperial County APCD Winter 2030 310.42 361.79 423.54 542.64 73.20 86.02 100.97 129.1 AD Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2032 310.71 362.33 423.97 543.39 73.18 86.11 100.97 129.2 AD Imperial County APCD Winter 2033 310.71 362.40 423.97 543.46 73.18 86.15 100.98 129.2 AD Imperial County APCD Winter 2034 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.2 AD Imperial County APCD Winter 2035 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.2 AD Imperial County APCD Winter 2035 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.2 AD Imperial County APCD Winter 2035 310.70 362.46 423.95 543.58 73.18 86.29 100.98 129.3 AD Kern County APCD Annual 2010 336.08 392.10 460.74 578.88 73.18 86.22 100.98 129.3 AD Kern County APCD Annual 2011 336.60 392.15 460.74 578.88 73.94 91.90 100.87 125.5 AD Kern County APCD Annual 2013 336.87 391.78 460.02 579.55 73.83 90.38 100.77 126.6 AD Kern County APCD Annual 2014 336.97 391.28 459.75 580.93 73.68 80.03 100.75 126.5 AD Kern County APCD Annual 2014 336.97 391.29 459.75 580.93 73.68 88.03 100.72 126.3 AD Kern County APCD Annual 2016 337.07 391.05 459.55 581.63 73.61 87.19 100.70 126.5 AD Kern County APCD Annual 2016 337.08 390.85 459.24 582.18 73.59 86.61 100.72 126.3 AD Kern County APCD Annual 2016 337.08 390.87 458.81 584.40 73.62 88.56 100.74 127.6 AD Kern County APCD Annual 2018 337.31 390.73 458.89 583.95 73.55 85.38 100.69 127.4 AD Kern County APCD Annual 2018 337.31 390.79 458.81 584.40 73.62 85.81 100.69 127.4 AD Kern County APCD Annual 2020 337.31 390.79 458.81 584.07 73.6 85.61 100.79 127.2 AD Kern County APCD Annual 2023 338.51 392.93 460.01 587.37 73.76 85.64 100.89 127.8 AD Kern County APCD Annual 2029 338.51 392.93 460.01 587.37 73.76 85.64 100.89 127.8 AD Kern County APCD Annual 2029 338.52 392.80 459.95 586.62 73.76 85.64 100.89 127.8 AD Kern Co	AD	Imperial County APCD		2027	310.48	361.55	423.63	542.41	73.24	85.86	100.95	128.90
AD Imperial County APCD Winter 2030 310.42 361.79 423.54 542.64 73.20 86.02 100.97 129.1 AD Imperial County APCD Winter 2031 310.73 362.26 423.98 543.31 73.19 86.07 100.97 129.1 AD Imperial County APCD Winter 2032 310.71 362.33 423.97 543.36 73.18 86.11 100.97 129.2 AD Imperial County APCD Winter 2033 310.71 362.40 423.97 543.46 73.18 86.15 100.98 129.2 AD Imperial County APCD Winter 2034 310.70 362.46 423.95 543.52 73.18 86.19 100.99 129.3 AD Imperial County APCD Winter 2034 310.70 362.51 423.95 543.52 73.18 86.19 100.99 129.3 AD Imperial County APCD Annual 2010 336.08 392.10 460.74 577.53 74.06 93.66 100.99 129.3 AD Kern County APCD Annual 2011 336.60 392.15 460.74 577.88 73.94 91.90 100.87 125.5 AD Kern County APCD Annual 2012 336.72 391.78 460.32 579.53 73.83 90.38 100.77 126.5 AD Kern County APCD Annual 2014 336.97 391.23 459.75 580.93 73.68 88.03 100.72 126.3 AD Kern County APCD Annual 2016 337.08 390.85 591.63 373.61 87.19 100.70 126.5 AD Kern County APCD Annual 2016 337.08 390.85 583.95 581.63 73.61 87.19 100.70 126.5 AD Kern County APCD Annual 2016 337.08 390.87 458.98 583.45 73.59 86.61 100.72 126.5 AD Kern County APCD Annual 2016 337.08 390.87 458.98 583.45 73.57 85.95 100.70 127.2 AD Kern County APCD Annual 2018 337.24 390.67 458.98 583.45 73.57 85.95 100.70 127.2 AD Kern County APCD Annual 2019 337.31 390.73 458.98 583.45 73.57 85.95 100.70 127.2 AD Kern County APCD Annual 2019 337.31 390.73 458.89 583.95 73.55 85.38 100.69 127.4 AD Kern County APCD Annual 2019 337.31 390.73 458.89 583.95 73.55 85.38 100.69 127.4 AD Kern County APCD Annual 2019 337.31 390.73 458.89 583.95 73.55 85.38 100.69 127.4 AD Kern County APCD Annual 2020 337.37 390.79 458.81 584.7 73.59 85.61 100.67 127.2 AD Kern County APCD Annual 2020 337.37 390.79 458.81 584.7 73.59 85.61 100.67 127.2 AD Kern County APCD Annual 2020 338.85 392.19 460.8 588.97 73.57 85.64 100.89 127.5 AD Kern County APCD Annual 2022 338.85 392.39 460.8 588.97 73.58 85.64 100.89 127.5 AD Kern County APCD Annual	AD	Imperial County APCD	Winter	2028	310.46	361.64	423.61	542.49	73.23	85.92	100.96	128.97
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AD Imperial County APCD Winter 2032 310.71 362.33 423.97 543.39 73.18 86.11 100.97 129.2 AD Imperial County APCD Winter 2033 310.71 362.40 423.97 543.46 73.18 86.15 100.98 129.3 AD Imperial County APCD Winter 2034 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.3 AD Imperial County APCD Winter 2035 310.70 362.46 423.96 543.52 73.18 86.19 100.98 129.3 AD Imperial County APCD Winter 2035 310.70 362.51 423.95 543.58 73.18 86.22 100.98 129.3 AD Kern County APCD Annual 2010 336.08 392.10 460.74 577.53 74.06 93.66 100.99 125.5 AD Kern County APCD Annual 2011 336.60 392.15 460.74 576.88 73.94 91.90 100.87 125.5 AD Kern County APCD Annual 2012 336.72 391.78 460.32 579.53 73.83 90.38 100.77 126.0 AD Kern County APCD Annual 2013 336.85 391.46 460.00 580.23 73.76 89.06 100.75 126.0 AD Kern County APCD Annual 2014 336.97 391.23 459.75 580.93 73.68 88.03 100.77 126.0 AD Kern County APCD Annual 2015 337.07 391.05 459.55 581.63 73.61 87.19 100.70 126.0 AD Kern County APCD Annual 2016 337.08 390.85 459.24 582.18 73.59 86.61 100.72 126.0 AD Kern County APCD Annual 2017 337.18 390.73 459.10 582.87 73.57 85.95 100.70 127.0 AD Kern County APCD Annual 2018 337.24 390.67 458.98 583.45 73.54 85.51 100.67 127.0 AD Kern County APCD Annual 2019 337.31 390.73 459.10 582.87 73.57 85.95 100.70 127.0 AD Kern County APCD Annual 2029 337.37 390.79 458.81 584.40 73.62 85.36 100.67 127.0 AD Kern County APCD Annual 2029 338.51 392.39 460.10 586.87 73.78 85.66 100.85 127.0 AD Kern County APCD Annual 2029 338.51 392.38 460.12 587.07 73.78 85.66 100.85 127.0 AD Kern County APCD Annual 2029 338.51 392.39 460.10 587.35 73.78 85.66 100.85 127.0 AD Kern County APCD Annual 2029 338.53 392.89 460.10 587.35 73.78 85.60 100.98 127.5 AD Kern County APCD Annual 2029 338.51 392.38 460.12 587.07 73.78 85.66 100.85 127.0 AD Kern County APCD Annual 2029 338.53 392.80 459.85 587.07 73.78 85.60 100.98 128.5 AD Kern County APCD Annual 2028 338.53 392.80 459.95 587.55 73.81 85.90 100.99 128.5 AD Kern County APCD Annua	AD	Imperial County APCD	Winter	2030	310.42	361.79	423.54	542.64	73.20	86.02		129.10
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AD Kern County APCD Annual 2030 338.52 392.95 459.78 588.27 73.82 86.04 100.98 128.8 AD Kern County APCD Annual 2031 338.52 393.02 459.75 588.42 73.83 86.08 100.99 128.9 AD Kern County APCD Annual 2032 338.52 393.08 459.73 588.57 73.83 86.12 100.99 129.0		,										
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AD Kern County APCD Annual 2032 338.52 393.08 459.73 588.57 73.83 86.12 100.99 129.0		·										
		·										129.02
IANNUAL I 20331 338.521 393.131 459.711 588.701 73.841 86.161 100 991 129 (AD	Kern County APCD	Annual	2032	338.52	393.13	459.71	588.70	73.84	86.16	100.99	129.02

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	1		73.84 86.19 101.00 73.84 86.21 101.00 74.06 93.66 100.99			
	Location	Season	Year	LDA	LDT1	LDT2	MDV				MDV	
AD	Kern County APCD	Annual	2034	338.52	393.17	459.69	588.81				129.16	
AD	Kern County APCD	Annual	2034	338.52	393.17	459.67	588.91				129.10	
AD	Kern County APCD	Summer		370.45	428.06	505.41	634.10				125.79	
AD	Kern County APCD	Summer	2010 2011	371.25	428.88	505.41	635.59				125.79	
AD	Kern County APCD	Summer	2011	371.53	429.08	505.98	636.35	73.83	90.38	100.87	126.04	
AD	Kern County APCD		2012	371.80	429.08	505.93	637.24	73.76	89.06	100.77	126.04	
	Kern County APCD	Summer	-			505.86						
AD	,	Summer	2014	372.02	429.32		638.18	73.68 73.61	88.03	100.72	126.38 126.58	
AD	Kern County APCD	Summer	2015	372.21	429.42	505.83	639.13		87.19	100.70		
AD	Kern County APCD	Summer	2016	372.30	429.42	505.66	640.02	73.59	86.61	100.72	126.80	
AD	Kern County APCD	Summer	2017	372.46	429.55	505.63	641.01	73.57	85.95	100.70	127.03	
AD	Kern County APCD	Summer	2018	372.55	429.66	505.57	641.83	73.54	85.51	100.67	127.24	
AD	Kern County APCD	Summer	2019	372.63	429.83	505.50	642.53	73.55	85.38	100.69	127.44	
AD	Kern County APCD	Summer	2020	372.70	430.00	505.43	643.14	73.62	85.36	100.74	127.63	
AD	Kern County APCD	Summer	2021	373.95	431.58	507.02	645.71	73.68	85.47	100.80	127.74	
AD	Kern County APCD	Summer	2022	373.96	431.73	506.96	646.06	73.72	85.56	100.85	127.82	
AD	Kern County APCD	Summer	2023	373.95	431.88	506.89	646.33	73.75	85.64	100.89	127.98	
AD	Kern County APCD	Summer	2024	373.93	431.99	506.83	646.50	73.76	85.71	100.92	128.12	
AD	Kern County APCD	Summer	2025	373.93	432.11	506.78	646.66	73.78	85.78	100.95	128.26	
AD	Kern County APCD	Summer	2026	373.97	432.28	506.79	646.94	73.79	85.84	100.97	128.40	
AD	Kern County APCD	Summer	2027	374.00	432.43	506.79	647.19	73.81	85.90	100.98	128.53	
AD	Kern County APCD	Summer	2028	374.02	432.56	506.79	647.41	73.82	85.95	100.99	128.65	
AD	Kern County APCD	Summer	2029	374.04	432.69	506.77	647.62	73.82	86.00	100.99	128.75	
AD	Kern County APCD	Summer	2030	374.04	432.80	506.75	647.82	73.82	86.04	100.98	128.85	
AD	Kern County APCD	Summer	2031	374.04	432.90	506.73	647.98	73.83	86.08	100.99	128.94	
AD	Kern County APCD	Summer	2032	374.04	432.98	506.71	648.14	73.83	86.12	100.99	129.02	
AD	Kern County APCD	Summer	2033	374.04	433.05	506.68	648.28	73.84	86.16	100.99	129.09	
AD	Kern County APCD	Summer	2034	374.04	433.09	506.66	648.41	73.84	86.19	101.00	129.16	
AD	Kern County APCD	Summer	2035	374.03	433.12	506.63	648.53	73.84	86.21	101.00	129.22	
AD	Kern County APCD	Winter	2010	325.30	380.82	446.72	559.78	74.06	93.66	100.99	125.79	
AD	Kern County APCD	Winter	2011	325.73	380.63	446.54	561.09	73.94	91.90	100.87	125.91	
AD	Kern County APCD	Winter	2012	325.80	380.08	446.01	561.70	73.83	90.38	100.77	126.04	
AD	Kern County APCD	Winter	2013	325.89	379.61	445.61	562.35	73.76	89.06	100.75	126.20	
AD	Kern County APCD	Winter	2014	325.97	379.28	445.29	562.97	73.68	88.03	100.72	126.38	
AD	Kern County APCD	Winter	2015	326.05	379.02	445.03	563.59	73.61		100.70	126.58	
AD	Kern County APCD	Winter	2016	326.03	378.75	444.68	564.04	73.59	86.61	100.72	126.80	
AD	Kern County APCD	Winter	2017	326.12	378.55	444.51	564.64	73.57	85.95	100.70	127.03	
AD	Kern County APCD	Winter	2018	326.17	378.44	444.37	565.14	73.54	85.51	100.67	127.24	
AD	Kern County APCD	Winter	2019	326.23	378.47	444.27	565.58	73.55	85.38	100.69	127.44	
AD	Kern County APCD	Winter	2020	326.29	378.49	444.19	565.97	73.62	85.36	100.74	127.63	
AD	Kern County APCD	Winter	2021	327.38	379.84	445.58	568.09	73.68	85.47	100.80	127.74	
AD	Kern County APCD	Winter	2022	327.40	379.92	445.51	568.30	73.72	85.56	100.85	127.82	
AD	Kern County APCD	Winter	2023	327.39	379.99	445.45	568.48	73.75	85.64	100.89	127.98	
AD	Kern County APCD	Winter	2024	327.36	380.05	445.39	568.60	73.76	85.71	100.92	128.12	
AD	Kern County APCD	Winter	2025	327.36	380.12	445.34	568.75	73.78	85.78	100.95	128.26	
AD	Kern County APCD	Winter	2026	327.38	380.19	445.29	568.94	73.79	85.84	100.97	128.40	
AD	Kern County APCD	Winter	2027	327.39	380.27	445.22	569.11	73.81	85.90	100.98	128.53	
AD	Kern County APCD	Winter	2028	327.39	380.33	445.17	569.28	73.82	85.95	100.99	128.65	
AD	Kern County APCD	Winter	2029	327.39	380.39	445.11	569.43	73.82	86.00	100.99	128.75	
AD	Kern County APCD	Winter	2030	327.38	380.45	445.05	569.59	73.82	86.04	100.98	128.85	
AD	Kern County APCD	Winter	2031	327.38	380.51	445.02	569.73	73.83	86.08	100.99	128.94	
AD	Kern County APCD	Winter	2032	327.38	380.56	445.00	569.88	73.83	86.12	100.99	129.02	
AD	Kern County APCD	Winter	2033	327.38	380.61	444.98	570.01	73.84	86.16		129.09	
AD	Kern County APCD	Winter	2034	327.38	380.65	444.96	570.12	73.84	86.19	101.00	129.16	
AD	Kern County APCD	Winter	2035	327.38	380.68	444.94	570.22	73.84	86.21	101.00	129.22	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(74.77 89.34 101.91 1 74.52 88.47 101.71 1 74.36 87.81 101.56 1 74.20 87.25 101.40 1		
	Location	Season	Year	LDA	LDT1	LDT2	MDV				MDV
AD	Lake County APCD	Annual	2010	342.07	393.50	467.77	584.22				124.46
AD	Lake County APCD	Annual	2010	342.02	394.05	467.77	584.79				124.54
AD	Lake County APCD	Annual	2012	342.06	394.51	466.93	585.54				124.69
AD	Lake County APCD	Annual	2013	342.12	394.89	466.63	586.41				124.90
AD	Lake County APCD	Annual	2014	342.14	395.21	466.41	587.25				125.12
AD	Lake County APCD	Annual	2015	342.23	395.51	466.24	588.17	73.90	86.33	101.09	125.37
AD	Lake County APCD	Annual	2016	342.33	395.78	466.10	589.06	73.88	85.99	101.00	125.66
AD	Lake County APCD	Annual	2017	342.36	396.00	465.97	589.89	73.79	85.60	100.88	125.95
AD	Lake County APCD	Annual	2018	342.39	396.17	465.87	590.62	73.73	85.27	100.83	126.22
AD	Lake County APCD	Annual	2019	342.41	396.35	465.79	591.26	73.69	85.13	100.79	126.48
AD	Lake County APCD	Annual	2020	342.44	396.52	465.72	591.82	73.77	85.14	100.79	126.73
AD	Lake County APCD	Annual	2021	342.39	396.64	465.65	592.21	73.79	85.21	100.84	126.90
AD	Lake County APCD	Annual	2022	342.31	396.75	465.57	592.55	73.78	85.27	100.85	127.07
AD	Lake County APCD	Annual	2023	342.19	396.83	465.51	592.77	73.76	85.32	100.87	127.26
AD	Lake County APCD	Annual	2024	342.07	396.89	465.44	592.97	73.71	85.36	100.88	127.45
AD	Lake County APCD	Annual	2025	342.01	396.99	465.40	593.14	73.71	85.45	100.91	127.61
AD	Lake County APCD	Annual	2026	342.02	397.10	465.36	593.32	73.73	85.55	100.93	127.78
AD	Lake County APCD	Annual	2027	342.03	397.21	465.31	593.53	73.74	85.64	100.94	127.94
AD	Lake County APCD	Annual	2028	342.03	397.32	465.27	593.73	73.75	85.72	100.95	128.09
AD	Lake County APCD	Annual	2029	342.02	397.43	465.24	593.93	73.75	85.80	100.96	128.22
AD	Lake County APCD	Annual	2030	342.00	397.54	465.21	594.14	73.75	85.88	100.95	128.35
AD	Lake County APCD	Annual	2031	342.00	397.66	465.19	594.38	73.76	85.96	100.95	128.48
AD	Lake County APCD	Annual	2032	341.99	397.76	465.18	594.62	73.76	86.03	100.96	128.61
AD	Lake County APCD	Annual	2033	341.99	397.84	465.18	594.84	73.77	86.09	100.96	128.72
AD	Lake County APCD	Annual	2034	341.98	397.92	465.17	595.03	73.77	86.15	100.97	128.82
AD	Lake County APCD	Annual	2035	341.97	397.97	465.16	595.21	73.78	86.20	100.97	128.92
AD	Lake County APCD	Summer	2010	365.54	417.38	498.77	621.97	74.77	89.34	101.91	124.46
AD	Lake County APCD	Summer	2011	365.78	418.72	498.60	622.61	74.52	88.47	101.71	124.54
AD	Lake County APCD	Summer	2012	366.03	419.77	498.49	623.54	74.36	87.81	101.56	124.69
AD	Lake County APCD	Summer	2013	366.25	420.60	498.41	624.68	74.20	87.25	101.40	124.90
AD	Lake County APCD	Summer	2014	366.39	421.26	498.37	625.78	73.98	86.77	101.22	125.12
AD	Lake County APCD	Summer	2015	366.55	421.85	498.36	627.02	73.90	86.33	101.09	125.37
AD	Lake County APCD	Summer	2016	366.69	422.33	498.33	628.23	73.88	85.99	101.00	125.66
AD	Lake County APCD	Summer	2017	366.75	422.72	498.28	629.33	73.79	85.60	100.88	125.95
AD	Lake County APCD	Summer	2018	366.77	423.03	498.21	630.31	73.73	85.27	100.83	126.22
AD	Lake County APCD	Summer	2019	366.79	423.31	498.14	631.16	73.69	85.13	100.79	126.48
AD	Lake County APCD	Summer	2020	366.81	423.55	498.08	631.89	73.77	85.14	100.79	126.73
AD	Lake County APCD	Summer	2021	366.76	423.74	498.00	632.43	73.79	85.21	100.84	126.90
AD	Lake County APCD	Summer	2022	366.67	423.91	497.93	632.88	73.78	85.27	100.85	127.07
AD	Lake County APCD	Summer	2023	366.57	424.04	497.87	633.19	73.76	85.32	100.87	127.26
AD	Lake County APCD	Summer	2024	366.46	424.16	497.81	633.47	73.71	85.36	100.88	127.45
AD	Lake County APCD	Summer	2025	366.41	424.28	497.76	633.69	73.71	85.45	100.91	127.61
AD	Lake County APCD	Summer	2026	366.43	424.42	497.70	633.89	73.73	85.55	100.93	127.78
AD	Lake County APCD	Summer	2027	366.46	424.56	497.65	634.10	73.74	85.64	100.94	127.94
AD	Lake County APCD	Summer	2028	366.47	424.70	497.62	634.32	73.75	85.72	100.95	128.09
AD	Lake County APCD	Summer	2029	366.48	424.86	497.59	634.55	73.75	85.80	100.96	128.22
AD	Lake County APCD	Summer	2030	366.48	425.00	497.56	634.80	73.75	85.88	100.95	128.35
AD	Lake County APCD	Summer	2031	366.48	425.18	497.58	635.06	73.76	85.96	100.95	128.48
AD	Lake County APCD	Summer	2032	366.47	425.33	497.59	635.34	73.76	86.03	100.96	128.61
AD	Lake County APCD	Summer	2033	366.46	425.44	497.60	635.60	73.77	86.09	100.96	128.72
AD	Lake County APCD	Summer	2034	366.45	425.54	497.60	635.84	73.77	86.15	100.97	128.82
AD	Lake County APCD	Summer	2035	366.44	425.60	497.60	636.06	73.78	86.20	100.97	128.92
AD	Lake County APCD	Winter	2010	355.28	406.94	485.21	605.47	74.77	89.34	101.91	124.46
AD	Lake County APCD	Winter	2011	355.39	407.93	484.91	606.07	74.52	88.47	101.71	124.54

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/\/MT)	(CO2 Starting (g/trip LDA LDT1 LDT2 74.36 87.81 101.56 74.20 87.25 101.40 73.98 86.77 101.22 73.90 86.33 101.09 73.88 85.99 101.00 73.79 85.60 100.88 73.73 85.27 100.83		
	Location	Season	Year	LDA	LDT1	LDT2	MDV				MDV
AD	Lake County APCD	Winter	2012	355.55	408.73	484.69	606.93				124.69
AD	Lake County APCD	Winter	2013	355.70	409.36	484.52	607.95				124.90
AD	Lake County APCD	Winter	2014	355.79	409.87	484.39	608.93				125.12
AD	Lake County APCD	Winter	2015	355.91	410.33	484.31	610.03				125.37
AD	Lake County APCD	Winter	2016	356.04	410.72	484.24	611.10				125.66
AD	Lake County APCD	Winter	2017	356.08	411.04	484.15	612.08				125.95
AD	Lake County APCD	Winter	2018	356.11	411.29	484.07	612.96				126.22
AD	Lake County APCD	Winter	2019	356.13	411.52	484.00	613.71	73.69	85.13	100.79	126.48
AD	Lake County APCD	Winter	2020	356.15	411.73	483.93	614.36	73.77	85.14	100.79	126.73
AD	Lake County APCD	Winter	2021	356.11	411.89	483.85	614.84	73.79	85.21	100.84	126.90
AD	Lake County APCD	Winter	2022	356.02	412.03	483.78	615.25	73.78	85.27	100.85	127.07
AD	Lake County APCD	Winter	2023	355.91	412.15	483.72	615.52	73.76	85.32	100.87	127.26
AD	Lake County APCD	Winter	2024	355.79	412.24	483.66	615.76	73.71	85.36	100.88	127.45
AD	Lake County APCD	Winter	2025	355.74	412.35	483.61	615.96	73.71	85.45	100.91	127.61
AD	Lake County APCD	Winter	2026	355.76	412.47	483.56	616.15	73.73	85.55	100.93	127.78
AD	Lake County APCD	Winter	2027	355.78	412.60	483.51	616.36	73.74	85.64	100.94	127.94
AD	Lake County APCD	Winter	2028	355.78	412.73	483.47	616.58	73.75	85.72	100.95	128.09
AD	Lake County APCD	Winter	2029	355.78	412.87	483.44	616.79	73.75	85.80	100.96	128.22
AD	Lake County APCD	Winter	2030	355.78	412.99	483.41	617.02	73.75	85.88	100.95	128.35
AD	Lake County APCD	Winter	2031	355.77	413.15	483.42	617.27	73.76	85.96	100.95	128.48
AD	Lake County APCD	Winter	2032	355.77	413.27	483.42	617.53	73.76	86.03	100.96	128.61
AD	Lake County APCD	Winter	2033	355.76	413.37	483.42	617.77	73.77	86.09	100.96	128.72
AD	Lake County APCD	Winter	2034	355.75	413.46	483.42	618.00	73.77	86.15	100.97	128.82
AD	Lake County APCD	Winter	2035	355.74	413.52	483.42	618.20	73.78	86.20	100.97	128.92
AD	Lassen County APCD	Annual	2010	366.63	428.55	501.21	626.78	75.03	93.49	101.72	124.85
AD	Lassen County APCD	Annual	2011	366.52	427.89	500.66	627.52	74.78	92.04	101.44	124.99
AD	Lassen County APCD	Annual	2012	366.51	427.37	500.23	628.37	74.62	90.87	101.30	125.17
AD	Lassen County APCD	Annual	2013	366.45	426.93	499.88	629.27	74.35	89.90	101.18	125.38
AD	Lassen County APCD	Annual	2014	366.47	426.50	499.61	630.13	74.18	88.91	101.02	125.60
AD	Lassen County APCD	Annual	2015	366.54	426.15	499.39	631.03	74.11	88.06	100.90	125.84
AD	Lassen County APCD	Annual	2016	366.63	425.82	499.23	631.85	74.09	87.24	100.87	126.11
AD	Lassen County APCD	Annual	2017	366.62	425.58	499.09	632.62	73.95	86.60	100.80	126.37
AD	Lassen County APCD	Annual	2018	366.60	425.38	498.97	633.29	73.84	86.10	100.79	126.62
AD	Lassen County APCD	Annual	2019	366.62	425.22	498.88	633.88	73.81	85.71	100.76	126.84
AD	Lassen County APCD	Annual	2020	366.64	425.15	498.80	634.35	73.88	85.60	100.80	127.07
AD	Lassen County APCD	Annual	2021	366.58	425.05	498.73	634.71	73.90	85.58	100.85	127.25
AD	Lassen County APCD	Annual	2022	366.46	424.97	498.64	635.00	73.88	85.58	100.88	127.38
AD	Lassen County APCD	Annual	2023	366.37	424.91	498.56	635.19	73.88	85.59	100.91	127.55
AD	Lassen County APCD	Annual	2024	366.23	424.85	498.49	635.34	73.85	85.60	100.93	127.70
AD	Lassen County APCD	Annual	2025	366.17	424.91	498.44	635.47	73.85	85.67	100.96	127.84
AD	Lassen County APCD	Annual	2026	366.19	425.03	498.40	635.65	73.87	85.75	100.99	127.99
AD	Lassen County APCD	Annual	2027	366.19	425.15	498.34	635.84	73.88	85.83	101.00	128.13
AD	Lassen County APCD	Annual	2028	366.19	425.28	498.29	636.04	73.89	85.91	101.01	128.26
AD	Lassen County APCD	Annual	2029	366.17	425.41	498.23	636.23	73.89	85.98	101.01	128.38
AD	Lassen County APCD	Annual	2030	366.16	425.52	498.17	636.41	73.89	86.04	101.01	128.49
AD	Lassen County APCD	Annual	2031	366.15	425.65	498.14	636.65	73.90	86.10	101.01	128.61
AD	Lassen County APCD	Annual	2032	366.15	425.76	498.12	636.90	73.90	86.16	101.01	128.73
AD	Lassen County APCD	Annual	2033	366.15	425.86	498.09	637.12	73.91	86.22	101.02	128.83
AD	Lassen County APCD	Annual	2034	366.14	425.94	498.07	637.31	73.91	86.26	101.02	128.92
AD	Lassen County APCD	Annual	2035	366.13	426.00	498.05	637.48	73.92	86.30	101.02	129.01
AD	Lassen County APCD	Summer	2010	385.95	446.82	526.65	657.83	75.03	93.49	101.72	124.85
AD	Lassen County APCD	Summer	2011	386.07	446.99	526.29	658.69	74.78	92.04	101.44	124.99
AD	Lassen County APCD	Summer	2012	386.23	447.10	526.01	659.72	74.62	90.87	101.30	125.17
AD	Lassen County APCD	Summer	2013	386.31	447.13	525.80	660.84	74.35	89.90	101.18	125.38

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	ng (g/VMT	·)	(CO2 Starting (g/trip LDA LDT1 LDT2 74.18 88.91 101.02 74.11 88.06 100.90 74.09 87.24 100.87 73.95 86.60 100.80 73.84 86.10 100.79 73.81 85.71 100.76 73.88 85.60 100.80 73.90 85.58 100.85 73.88 85.58 100.88 73.88 85.59 100.91		
		Season	Year	LDA	LDT1	LDT2	MDV				MDV
AD	Lassen County APCD	Summer	2014	386.41	447.10	525.66	661.92				125.60
AD	Lassen County APCD	Summer	2015	386.54	447.07	525.57	663.05				125.84
AD	Lassen County APCD	Summer	2016	386.67	447.02	525.50	664.09				126.11
AD	Lassen County APCD	Summer	2017	386.67	446.98	525.44	665.06				126.37
AD	Lassen County APCD	Summer	2018	386.66	446.94	525.37	665.90				126.62
AD	Lassen County APCD	Summer	2019	386.67	446.92	525.31	666.64		85.71	100.76	126.84
AD	Lassen County APCD	Summer	2020	386.68	446.95	525.25	667.23		85.60		127.07
AD	Lassen County APCD	Summer	2021	386.62	446.96	525.18	667.70		85.58		127.25
AD	Lassen County APCD	Summer	2022	386.49	446.97	525.10	668.07				127.38
AD	Lassen County APCD	Summer	2023	386.41	446.99	525.03	668.33		85.59	100.91	127.55
AD	Lassen County APCD	Summer	2024	386.28	447.01	524.97	668.54	73.85	85.60	100.93	127.70
AD	Lassen County APCD	Summer	2025	386.22	447.11	524.92	668.73	73.85	85.67	100.96	127.84
AD	Lassen County APCD	Summer	2026	386.24	447.28	524.88	668.93	73.87	85.75	100.99	127.99
AD	Lassen County APCD	Summer	2027	386.26	447.44	524.83	669.14	73.88	85.83	101.00	128.13
AD	Lassen County APCD	Summer	2028	386.27	447.61	524.79	669.37	73.89	85.91	101.01	128.26
AD	Lassen County APCD	Summer	2029	386.27	447.79	524.74	669.59	73.89	85.98	101.01	128.38
AD	Lassen County APCD	Summer	2030	386.26	447.96	524.69	669.81	73.89	86.04	101.01	128.49
AD	Lassen County APCD	Summer	2031	386.26	448.12	524.66	670.10	73.90	86.10	101.01	128.61
AD	Lassen County APCD	Summer	2032	386.26	448.27	524.64	670.38	73.90	86.16	101.01	128.73
AD	Lassen County APCD	Summer	2033	386.25	448.40	524.62	670.64	73.91	86.22	101.02	128.83
AD	Lassen County APCD	Summer	2034	386.25	448.50	524.60	670.87	73.91	86.26	101.02	128.92
AD	Lassen County APCD	Summer	2035	386.24	448.57	524.58	671.07	73.92	86.30	101.02	129.01
AD	Lassen County APCD	Winter	2010	359.88	422.17	492.33	615.94	75.03	93.49	101.72	124.85
AD	Lassen County APCD	Winter	2011	359.69	421.22	491.71	616.64	74.78	92.04	101.44	124.99
AD	Lassen County APCD	Winter	2012	359.63	420.48	491.23	617.43	74.62	90.87	101.30	125.17
AD	Lassen County APCD	Winter	2013	359.52	419.89	490.84	618.25	74.35	89.90	101.18	125.38
AD	Lassen County APCD	Winter	2014	359.51	419.32	490.52	619.04	74.18	88.91	101.02	125.60
AD	Lassen County APCD	Winter	2015	359.57	418.85	490.26	619.85	74.11	88.06	100.90	125.84
AD	Lassen County APCD	Winter	2016	359.64	418.43	490.06	620.60	74.09	87.24	100.87	126.11
AD	Lassen County APCD	Winter	2017	359.62	418.11	489.89	621.30	73.95	86.60	100.80	126.37
AD	Lassen County APCD	Winter	2018	359.60	417.85	489.77	621.91	73.84	86.10	100.79	126.62
AD	Lassen County APCD	Winter	2019	359.62	417.65	489.66	622.44	73.81	85.71	100.76	126.84
AD	Lassen County APCD	Winter	2020	359.65	417.54	489.58	622.88	73.88	85.60	100.80	127.07
AD	Lassen County APCD	Winter	2021	359.59	417.41	489.50	623.21	73.90	85.58	100.85	127.25
AD	Lassen County APCD	Winter	2022	359.47	417.29	489.40	623.46	73.88	85.58	100.88	127.38
AD	Lassen County APCD	Winter	2023	359.38	417.21	489.33	623.63	73.88	85.59	100.91	127.55
AD	Lassen County APCD	Winter	2024	359.24	417.11	489.25	623.75	73.85	85.60	100.93	127.70
AD	Lassen County APCD	Winter	2025	359.18	417.16	489.20	623.86	73.85	85.67	100.96	127.84
AD	Lassen County APCD	Winter	2026	359.19	417.27	489.16	624.04	73.87	85.75	100.99	127.99
AD	Lassen County APCD	Winter	2027	359.18	417.38	489.10	624.22	73.88	85.83	101.00	128.13
AD	Lassen County APCD	Winter	2028	359.18	417.49	489.05	624.41	73.89	85.91	101.01	128.26
AD	Lassen County APCD	Winter	2029	359.16	417.59	488.98	624.59	73.89	85.98	101.01	128.38
AD	Lassen County APCD	Winter	2030	359.14	417.70	488.92	624.75	73.89	86.04	101.01	128.49
AD	Lassen County APCD	Winter	2031	359.14	417.80	488.89	624.98	73.90	86.10		128.61
AD	Lassen County APCD	Winter	2032	359.14	417.90	488.86	625.22	73.90	86.16		128.73
AD	Lassen County APCD	Winter	2033	359.13	417.99	488.84	625.43	73.91	86.22	101.02	128.83
AD	Lassen County APCD	Winter	2034	359.13	418.06	488.82	625.61	73.91	86.26	101.02	128.92
AD	Lassen County APCD	Winter	2035	359.12	418.13	488.80	625.76	73.92	86.30	101.02	129.01
AD	Mariposa County APCD	Annual	2010	354.50	410.51	485.83	607.63	74.37	89.51	102.09	125.68
AD	Mariposa County APCD	Annual	2011	354.40	410.55	485.11	608.19	74.22	88.77	101.86	125.71
AD	Mariposa County APCD	Annual	2012	354.31	410.56	484.54	608.86	74.03	88.15		125.79
AD	Mariposa County APCD	Annual	2013	354.36	410.52	484.09	609.60	73.97	87.50	101.57	125.92
AD	Mariposa County APCD	Annual	2014	354.33	410.46	483.72	610.33	73.82	86.87	101.30	126.07
AD	Mariposa County APCD	Annual	2015	354.43	410.47	483.42	611.09	73.83	86.45	101.16	126.26

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	ng (a/VMT)	(CO2 Starting (g/trip LDA LDT1 LDT2 73.80 86.11 101.08 73.77 85.68 101.00 73.71 85.43 100.90 73.61 85.35 100.87 73.65 85.32 100.89 73.67 85.35 100.93 73.67 85.40 100.94 73.64 85.42 100.94 73.60 85.46 100.96		
		Season	Year	LDA	LDT1	LDT2	MDV				MDV
AD	Mariposa County APCD	Annual	2016	354.48	410.49	483.19	611.81				126.48
AD	Mariposa County APCD	Annual	2017	354.51	410.47	483.00	612.49				126.70
AD	Mariposa County APCD	Annual	2018	354.51	410.48	482.83	613.06				126.90
AD	Mariposa County APCD	Annual	2019	354.47	410.55	482.70	613.53		85.35		127.11
AD	Mariposa County APCD	Annual	2020	354.41	410.60	482.59	613.96		85.32		127.30
AD	Mariposa County APCD	Annual	2021	354.35	410.60	482.48	614.20	73.67	85.35	100.93	127.34
AD	Mariposa County APCD	Annual	2022	354.26	410.63	482.35	614.40	73.67	85.40	100.94	127.39
AD	Mariposa County APCD	Annual	2023	354.08	410.62	482.24	614.56	73.64	85.42	100.94	127.56
AD	Mariposa County APCD	Annual	2024	353.92	410.60	482.16	614.67	73.60	85.46	100.96	127.71
AD	Mariposa County APCD	Annual	2025	353.86	410.66	482.10	614.79	73.60	85.52	100.99	127.87
AD	Mariposa County APCD	Annual	2026	353.86	410.81	482.03	614.95	73.62	85.62	101.00	128.02
AD	Mariposa County APCD	Annual	2027	353.86	410.93	481.97	615.12	73.63	85.71	101.01	128.16
AD	Mariposa County APCD	Annual	2028	353.85	411.06	481.91	615.29	73.64	85.79	101.02	128.29
AD	Mariposa County APCD	Annual	2029	353.83	411.19	481.84	615.47	73.64	85.87	101.02	128.41
AD	Mariposa County APCD	Annual	2030	353.81	411.31	481.77	615.62	73.64	85.94	101.01	128.52
AD	Mariposa County APCD	Annual	2031	353.81	411.44	481.74	615.85	73.65	86.01	101.01	128.65
AD	Mariposa County APCD	Annual	2032	353.80	411.54	481.71	616.07	73.65	86.08	101.02	128.76
AD	Mariposa County APCD	Annual	2033	353.80	411.63	481.68	616.27	73.66	86.13	101.02	128.86
AD	Mariposa County APCD	Annual	2034	353.79	411.70	481.65	616.45	73.66	86.19	101.02	128.96
AD	Mariposa County APCD	Annual	2035	353.78	411.77	481.63	616.61	73.67	86.23	101.02	129.05
AD	Mariposa County APCD	Summer	2010	383.75	439.08	524.10	654.73	74.37	89.51	102.09	125.68
AD	Mariposa County APCD	Summer	2011	383.98	440.10	523.79	655.48	74.22	88.77	101.86	125.71
AD	Mariposa County APCD	Summer	2012	384.14	440.90	523.54	656.41	74.03	88.15	101.71	125.79
AD	Mariposa County APCD	Summer	2013	384.37	441.53	523.38	657.50	73.97	87.50	101.57	125.92
AD	Mariposa County APCD	Summer	2014	384.48	442.00	523.29	658.57	73.82	86.87	101.30	126.07
AD	Mariposa County APCD	Summer	2015	384.66	442.44	523.21	659.71	73.83	86.45	101.16	126.26
AD	Mariposa County APCD	Summer	2016	384.77	442.80	523.13	660.80	73.80	86.11	101.08	126.48
AD	Mariposa County APCD	Summer	2017	384.83	443.08	523.05	661.80	73.77	85.68	101.00	126.70
AD	Mariposa County APCD	Summer	2018	384.83	443.32	522.95	662.65	73.71	85.43	100.90	126.90
AD	Mariposa County APCD	Summer	2019	384.80	443.56	522.85	663.34	73.61	85.35	100.87	127.11
AD	Mariposa County APCD	Summer	2020	384.74	443.78	522.76	663.97	73.65	85.32	100.89	127.30
AD	Mariposa County APCD	Summer	2021	384.68	443.93	522.65	664.40	73.67	85.35	100.93	127.34
AD	Mariposa County APCD	Summer	2022	384.58	444.09	522.56	664.75	73.67	85.40	100.94	127.39
AD	Mariposa County APCD	Summer	2023	384.42	444.21	522.47	665.02	73.64	85.42	100.94	127.56
AD	Mariposa County APCD	Summer	2024	384.29	444.31	522.40	665.20	73.60	85.46	100.96	127.71
AD	Mariposa County APCD	Summer	2025	384.24	444.44	522.34	665.37	73.60	85.52	100.99	127.87
AD	Mariposa County APCD	Summer	2026	384.25	444.68	522.29	665.56	73.62	85.62	101.00	128.02
AD	Mariposa County APCD	Summer	2027	384.26	444.88	522.24	665.76	73.63	85.71	101.01	128.16
AD	Mariposa County APCD	Summer	2028	384.26	445.08	522.20	665.98	73.64	85.79	101.02	128.29
AD	Mariposa County APCD	Summer	2029	384.26	445.29	522.15	666.20	73.64	85.87	101.02	128.41
AD	Mariposa County APCD	Summer	2030	384.25	445.48	522.11	666.42	73.64	85.94	101.01	128.52
AD	Mariposa County APCD	Summer	2031	384.25	445.67	522.08	666.71	73.65	86.01	101.01	128.65
AD	Mariposa County APCD	Summer	2032	384.25	445.81	522.06	667.00	73.65	86.08	101.02	128.76
AD	Mariposa County APCD	Summer	2033	384.25	445.93	522.04	667.26	73.66	86.13	101.02	128.86
AD	Mariposa County APCD	Summer	2034	384.24	446.03	522.02	667.49	73.66	86.19		128.96
AD	Mariposa County APCD	Summer	2035	384.23	446.10	521.99	667.70	73.67	86.23	101.02	129.05
AD	Mariposa County APCD	Winter	2010	347.30	403.48	476.41	596.03	74.37	89.51	102.09	125.68
AD	Mariposa County APCD	Winter	2011	347.12	403.27	475.59	596.55	74.22	88.77	101.86	125.71
AD	Mariposa County APCD	Winter	2012	346.97	403.10	474.94	597.15	74.03	88.15	101.71	125.79
AD	Mariposa County APCD	Winter	2013	346.97	402.89	474.42	597.81	73.97	87.50	101.57	125.92
AD	Mariposa County APCD	Winter	2014	346.91	402.69	473.97	598.45	73.82	86.87	101.30	126.07
AD	Mariposa County APCD	Winter	2015	346.99	402.60	473.63	599.12	73.83	86.45	101.16	126.26
AD	Mariposa County APCD	Winter	2016	347.02	402.54	473.35	599.75	73.80	86.11	101.08	126.48
AD	Mariposa County APCD	Winter	2017	347.05	402.44	473.14	600.35	73.77	85.68	101.00	126.70

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		I	(CO2 Runni	na (a/VMT)	(CO2 Star	ting (g/tri	(q
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Mariposa County APCD	Winter	2018	347.05	402.40	472.95	600.86	73.71	85.43	100.90	126.90
AD	Mariposa County APCD	Winter	2019	347.00	402.43	472.82	601.27	73.61	85.35	100.87	127.11
AD	Mariposa County APCD	Winter	2020	346.95	402.43	472.71	601.65	73.65	85.32	100.89	127.30
AD	Mariposa County APCD	Winter	2021	346.89	402.39	472.58	601.84	73.67	85.35	100.93	127.34
AD	Mariposa County APCD	Winter	2022	346.79	402.39	472.45	602.00	73.67	85.40	100.94	127.39
AD	Mariposa County APCD	Winter	2023	346.62	402.35	472.34	602.13	73.64	85.42	100.94	127.56
AD	Mariposa County APCD	Winter	2024	346.44	402.31	472.26	602.23	73.60	85.46	100.96	127.71
AD	Mariposa County APCD	Winter	2025	346.39	402.35	472.20	602.34	73.60	85.52	100.99	127.87
AD	Mariposa County APCD	Winter	2026	346.39	402.47	472.12	602.49	73.62	85.62	101.00	128.02
AD	Mariposa County APCD	Winter	2027	346.37	402.58	472.05	602.65	73.63	85.71	101.01	128.16
AD	Mariposa County APCD	Winter	2028	346.37	402.69	472.00	602.81	73.64	85.79	101.02	128.29
AD	Mariposa County APCD	Winter	2029	346.35	402.80	471.92	602.98	73.64	85.87	101.02	128.41
AD	Mariposa County APCD	Winter	2030	346.32	402.90	471.85	603.12	73.64	85.94	101.01	128.52
AD	Mariposa County APCD	Winter	2031	346.31	403.01	471.81	603.33	73.65	86.01	101.01	128.65
AD	Mariposa County APCD	Winter	2032	346.31	403.10	471.78	603.54	73.65	86.08	101.02	128.76
AD	Mariposa County APCD	Winter	2033	346.30	403.18	471.75	603.72	73.66	86.13	101.02	128.86
AD	Mariposa County APCD	Winter	2034	346.29	403.25	471.72	603.89	73.66	86.19	101.02	128.96
AD	Mariposa County APCD	Winter	2035	346.28	403.31	471.70	604.03	73.67	86.23	101.02	129.05
AD	Mendocino County APCD	Annual	2010	328.61	379.07	451.10	562.37	72.79	86.74	100.94	123.79
AD	Mendocino County APCD	Annual	2011	328.64	379.33	450.55	563.04	72.74	86.20	100.83	123.99
AD	Mendocino County APCD	Annual	2012	328.71	379.62	450.13	563.82	72.71	85.88	100.79	124.25
AD	Mendocino County APCD	Annual	2013	328.81	379.86	449.78	564.69	72.69	85.57	100.77	124.53
AD	Mendocino County APCD	Annual	2014	328.91	380.10	449.50	565.53	72.66	85.38	100.70	124.83
AD	Mendocino County APCD	Annual	2015	329.05	380.33	449.28	566.42	72.71	85.22	100.68	125.15
AD	Mendocino County APCD	Annual	2016	329.20	380.54	449.10	567.26	72.78	85.05	100.67	125.47
AD	Mendocino County APCD	Annual	2017	329.29	380.71	448.96	568.05	72.79	84.90	100.65	125.80
AD	Mendocino County APCD	Annual	2018	329.36	380.86	448.84	568.75	72.80	84.79	100.64	126.10
AD	Mendocino County APCD	Annual	2019	329.41	381.04	448.75	569.35	72.81	84.81	100.66	126.39
AD	Mendocino County APCD	Annual	2020	329.46	381.20	448.68	569.87	72.90	84.89	100.71	126.66
AD	Mendocino County APCD	Annual	2021	329.47	381.32	448.60	570.28	72.95	85.00	100.77	126.88
AD	Mendocino County APCD	Annual	2022	329.44	381.41	448.52	570.63	72.98	85.10	100.81	127.08
AD	Mendocino County APCD	Annual	2023	329.37	381.48	448.45	570.90	72.99	85.18	100.85	127.29
AD	Mendocino County APCD	Annual	2024	329.30	381.52	448.37	571.09	72.98	85.26	100.87	127.48
AD	Mendocino County APCD	Annual	2025	329.26	381.61	448.33	571.27	72.99	85.36	100.90	127.65
AD	Mendocino County APCD	Annual	2026	329.27	381.77	448.27	571.47	73.01	85.47	100.93	127.81
AD	Mendocino County APCD	Annual	2027	329.27	381.91	448.22	571.68	73.03	85.57	100.94	127.97
AD	Mendocino County APCD	Annual	2028	329.27	382.05	448.17	571.89	73.03	85.66	100.96	128.11
AD	Mendocino County APCD	Annual	2029	329.25	382.19	448.10	572.09	73.04	85.75	100.95	128.24
AD	Mendocino County APCD	Annual	2030	329.24	382.33	448.03	572.30	73.04	85.83	100.95	128.37
AD	Mendocino County APCD	Annual	2031	329.23	382.47	448.00	572.53	73.05	85.91	100.96	128.50
AD	Mendocino County APCD	Annual	2032	329.23	382.60	447.97	572.77	73.06	85.98	100.96	128.62
AD	Mendocino County APCD	Annual	2033	329.22	382.71	447.95	572.98	73.06	86.05	100.96	128.73
AD	Mendocino County APCD	Annual	2034	329.22	382.81	447.93	573.17	73.07	86.11	100.97	128.83
AD	Mendocino County APCD	Annual	2035	329.21	382.89	447.91	573.33	73.07	86.16	100.97	128.93
AD	Mendocino County APCD	Summer	2010	335.50	385.93	460.22	573.75	72.79	86.74	100.94	123.79
AD	Mendocino County APCD	Summer	2011	335.60	386.40	459.76	574.44	72.74	86.20	100.83	123.99
AD	Mendocino County APCD	Summer	2012	335.73	386.85	459.39	575.26	72.71	85.88	100.79	124.25
AD	Mendocino County APCD	Summer	2013	335.88	387.22	459.11	576.18	72.69	85.57	100.77	124.53
AD	Mendocino County APCD	Summer	2014	336.01	387.57	458.87	577.08	72.66	85.38	100.70	124.83
AD	Mendocino County APCD	Summer	2015	336.17	387.90	458.70	578.04	72.71	85.22	100.68	125.15
AD	Mendocino County APCD	Summer	2016	336.34	388.18	458.56	578.96	72.78	85.05	100.67	125.47
AD	Mendocino County APCD	Summer	2017	336.43	388.42	458.43	579.82	72.79	84.90	100.65	125.80
AD	Mendocino County APCD	Summer	2018	336.49	388.62	458.33	580.57	72.80	84.79	100.64	126.10
AD	Mendocino County APCD	Summer	2019	336.54	388.83	458.25	581.22	72.81	84.81	100.66	126.39

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/\/MT	7		in)		
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	CO2 Star LDT1	LDT2	MDV
AD	Mendocino County APCD	Summer	2020	336.59	389.03	458.18	581.78	72.90	84.89	100.71	126.66
AD	Mendocino County APCD	Summer	2021	336.60	389.18	458.11	582.21	72.95	85.00	100.77	126.88
AD	Mendocino County APCD	Summer	2022	336.57	389.31	458.03	582.59	72.98	85.10	100.81	127.08
AD	Mendocino County APCD	Summer	2023	336.50	389.40	457.96	582.88	72.99	85.18	100.85	127.29
AD	Mendocino County APCD	Summer	2024	336.43	389.46	457.89	583.08	72.98	85.26	100.87	127.48
AD	Mendocino County APCD	Summer	2025	336.39	389.57	457.85	583.26	72.99	85.36	100.90	127.65
AD	Mendocino County APCD	Summer	2026	336.40	389.75	457.79	583.47	73.01	85.47	100.93	127.81
AD	Mendocino County APCD	Summer	2027	336.41	389.91	457.74	583.68	73.03	85.57	100.94	127.97
AD	Mendocino County APCD	Summer	2028	336.41	390.07	457.70	583.89	73.03	85.66	100.96	128.11
AD	Mendocino County APCD	Summer	2029	336.40	390.24	457.63	584.11	73.04	85.75	100.95	128.24
AD	Mendocino County APCD	Summer	2030	336.39	390.39	457.57	584.32	73.04	85.83	100.95	128.37
AD	Mendocino County APCD	Summer	2031	336.39	390.55	457.53	584.57	73.05	85.91	100.96	128.50
AD	Mendocino County APCD	Summer	2032	336.38	390.69	457.51	584.82	73.06	85.98	100.96	128.62
AD	Mendocino County APCD	Summer	2033	336.38	390.81	457.48	585.05	73.06	86.05	100.96	128.73
AD	Mendocino County APCD	Summer	2034	336.37	390.92	457.46	585.25	73.07	86.11	100.97	128.83
AD	Mendocino County APCD	Summer	2035	336.36	391.01	457.44	585.42	73.07	86.16	100.97	128.93
AD	Mendocino County APCD	Winter	2010	325.36	375.84	446.80	556.99	72.79	86.74	100.94	123.79
AD	Mendocino County APCD	Winter	2011	325.35	375.99	446.21	557.66	72.74	86.20	100.83	123.99
AD	Mendocino County APCD	Winter	2012	325.39	376.21	445.75	558.43	72.71	85.88	100.79	124.25
AD	Mendocino County APCD	Winter	2013	325.47	376.38	445.38	559.27	72.69	85.57	100.77	124.53
AD	Mendocino County APCD	Winter	2014	325.56	376.57	445.08	560.08	72.66	85.38	100.70	124.83
AD	Mendocino County APCD	Winter	2015	325.69	376.77	444.84	560.93	72.71	85.22	100.68	125.15
AD	Mendocino County APCD	Winter	2016	325.84	376.93	444.64	561.74	72.78	85.05	100.67	125.47
AD	Mendocino County APCD	Winter	2017	325.92	377.08	444.49	562.50	72.79	84.90	100.65	125.80
AD	Mendocino County APCD	Winter	2018	325.99	377.20	444.36	563.17	72.80	84.79	100.64	126.10
AD	Mendocino County APCD	Winter	2019	326.04	377.36	444.27	563.75	72.81	84.81	100.66	126.39
AD	Mendocino County APCD	Winter	2020	326.10	377.51	444.20	564.26	72.90	84.89	100.71	126.66
AD	Mendocino County APCD	Winter	2021	326.10	377.61	444.12	564.65	72.95	85.00	100.77	126.88
AD	Mendocino County APCD	Winter	2022	326.08	377.69	444.04	564.99	72.98	85.10	100.81	127.08
AD	Mendocino County APCD	Winter	2023	326.01	377.75	443.96	565.25	72.99	85.18	100.85	127.29
AD	Mendocino County APCD	Winter	2024	325.93	377.77	443.88	565.44	72.98	85.26	100.87	127.48
AD	Mendocino County APCD	Winter	2025	325.89	377.86	443.83	565.61	72.99	85.36	100.90	127.65
AD	Mendocino County APCD	Winter	2026	325.90	378.00	443.78	565.81	73.01	85.47	100.93	127.81
AD	Mendocino County APCD	Winter	2027	325.90	378.13	443.72	566.01	73.03		100.94	127.97
AD	Mendocino County APCD	Winter	2028	325.90	378.27	443.68	566.22	73.03	85.66	100.96	128.11
AD	Mendocino County APCD	Winter	2029	325.88	378.40	443.60	566.42	73.04	85.75	100.95	128.24
AD	Mendocino County APCD	Winter	2030	325.86	378.53	443.54	566.62	73.04	85.83	100.95	128.37
AD	Mendocino County APCD	Winter	2031	325.86	378.66	443.50	566.86	73.05	85.91	100.96	128.50
AD	Mendocino County APCD	Winter	2032	325.85	378.78	443.47	567.09	73.06	85.98 86.05	100.96	128.62
AD	Mendocino County APCD	Winter	2033	325.85	378.89	443.45	567.29	73.06	86.05	100.96	128.73
AD AD	Mendocino County APCD Mendocino County APCD	Winter	2034	325.84	378.99	443.43	567.47 567.63	73.07	86.11	100.97	128.83
AD AD	Modoc County APCD	Winter	2035 2010	325.83 408.79	379.07 488.59	443.41 560.53	567.63 697.57	73.07 74.87	86.16	100.97 102.62	128.93 125.01
AD AD	Modoc County APCD	Annual	2010	408.79	488.59	559.72	698.46	74.87	97.48		125.01
AD AD	Modoc County APCD	Annual Annual	2011	408.43	483.59	559.72	699.50	74.72	95.30		125.06
AD	Modoc County APCD	Annual	2012	408.39	482.13	558.57	700.69	74.23	93.74	102.13	125.22
AD	Modoc County APCD	Annual	2013	408.30	480.62	558.13	700.09	73.97	91.96	101.58	125.59
AD	Modoc County APCD	Annual	2014	408.25	479.23	557.81	701.74	73.76	90.19	101.45	125.82
AD	Modoc County APCD	Annual	2016	408.36	478.26	557.54	702.03	73.79	88.96	101.43	126.08
AD	Modoc County APCD	Annual	2017	408.32	477.36	557.31	703.92	73.64	87.77	101.05	126.34
AD	Modoc County APCD	Annual	2018	408.22	476.76	557.13	705.82	73.43	87.03	100.91	126.59
AD	Modoc County APCD	Annual	2019	408.20	476.34	556.98	706.60	73.35	86.56	100.78	126.79
AD	Modoc County APCD	Annual	2020	408.15	475.96	556.87	707.25	73.39	86.27	100.75	127.00
AD	Modoc County APCD	Annual	2021	408.10	475.54	556.77	707.69	73.42	86.13	100.87	127.13

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	ng (g/VMT)	(CO2 Star	ting (g/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Modoc County APCD	Annual	2022	408.00	475.17	556.62	708.03	73.42	86.00	100.88	127.20
AD	Modoc County APCD	Annual	2023	407.93	474.79	556.52	708.27	73.44	85.87	100.91	127.38
AD	Modoc County APCD	Annual	2024	407.79	474.58	556.39	708.49	73.41	85.82	100.92	127.55
AD	Modoc County APCD	Annual	2025	407.72	474.59	556.34	708.71	73.41	85.87	100.96	127.72
AD	Modoc County APCD	Annual	2026	407.73	474.69	556.26	709.00	73.43	85.94	100.98	127.90
AD	Modoc County APCD	Annual	2027	407.73	474.80	556.20	709.30	73.44	86.00	100.99	128.07
AD	Modoc County APCD	Annual	2028	407.71	474.90	556.15	709.60	73.44	86.06	101.01	128.22
AD	Modoc County APCD	Annual	2029	407.70	475.01	556.08	709.88	73.45	86.12	101.01	128.36
AD	Modoc County APCD	Annual	2030	407.68	475.10	556.00	710.15	73.45	86.17	101.01	128.50
AD	Modoc County APCD	Annual	2031	407.69	475.22	555.95	710.46	73.45	86.22	101.01	128.63
AD	Modoc County APCD	Annual	2032	407.68	475.32	555.91	710.77	73.46	86.27	101.01	128.76
AD	Modoc County APCD	Annual	2033	407.68	475.40	555.88	711.04	73.47	86.31	101.01	128.87
AD	Modoc County APCD	Annual	2034	407.67	475.47	555.85	711.29	73.47	86.35	101.01	128.97
AD	Modoc County APCD	Annual	2035	407.66	475.53	555.81	711.49	73.48	86.38	101.02	129.07
AD	Modoc County APCD	Summer	2010	425.39	503.36	582.23	724.10	74.87	100.48	102.62	125.01
AD	Modoc County APCD	Summer	2011	425.44	501.48	581.68	725.15	74.72	97.48	102.30	125.08
AD	Modoc County APCD	Summer	2012	425.41	500.15	581.24	726.37	74.39	95.30	102.13	125.22
AD	Modoc County APCD	Summer	2013	425.50	499.17	580.90	727.80	74.23	93.74	101.93	125.38
AD	Modoc County APCD	Summer	2014	425.50	498.13	580.66	729.05	73.97	91.96	101.58	125.59
AD	Modoc County APCD	Summer	2015	425.50	497.14	580.45	730.41	73.76	90.19	101.45	125.82
AD	Modoc County APCD	Summer	2016	425.64	496.45	580.30	731.70	73.79	88.96	101.31	126.08
AD	Modoc County APCD	Summer	2017	425.62	495.80	580.16	732.94	73.64	87.77	101.05	126.34
AD	Modoc County APCD	Summer	2018	425.52	495.35	580.02	733.96	73.43	87.03	100.91	126.59
AD	Modoc County APCD	Summer	2019	425.50	495.06	579.91	734.91	73.35	86.56	100.78	126.79
AD	Modoc County APCD	Summer	2020	425.44	494.80	579.80	735.68	73.39	86.27	100.81	127.00
AD	Modoc County APCD	Summer	2021	425.39	494.51	579.70	736.23	73.42	86.13	100.87	127.13
AD	Modoc County APCD	Summer	2022	425.28	494.26	579.57	736.66	73.42	86.00	100.88	127.20
AD	Modoc County APCD	Summer	2023	425.21	493.99	579.47	736.98	73.44	85.87	100.91	127.38
AD	Modoc County APCD	Summer	2024	425.08	493.85	579.37	737.26	73.41	85.82	100.92	127.55
AD	Modoc County APCD	Summer	2025	425.02	493.90	579.31	737.53	73.41	85.87	100.96	127.72
AD	Modoc County APCD	Summer	2026	425.03	494.03	579.22	737.87	73.43	85.94	100.98	127.90
AD	Modoc County APCD	Summer	2027	425.04	494.17	579.16	738.21	73.44	86.00	100.99	128.07
AD	Modoc County APCD	Summer	2028	425.05	494.30	579.11	738.56	73.44	86.06	101.01	128.22
AD	Modoc County APCD	Summer	2029	425.05	494.46	579.05	738.88	73.45	86.12	101.01	128.36
AD	Modoc County APCD	Summer	2030	425.04	494.57	578.98	739.20	73.45	86.17	101.01	128.50
AD	Modoc County APCD	Summer	2031	425.05	494.75	578.95	739.54	73.45	86.22	101.01	128.63
AD	Modoc County APCD	Summer	2032	425.05	494.88	578.93	739.88	73.46	86.27	101.01	128.76
AD	Modoc County APCD	Summer	2033	425.05	494.99	578.91	740.18	73.47	86.31	101.01	128.87
AD	Modoc County APCD	Summer	2034	425.04	495.08	578.89	740.44	73.47	86.35	101.01	128.97
AD	Modoc County APCD	Summer	2035	425.03	495.14	578.86	740.68	73.48	86.38	101.02	129.07
AD	Modoc County APCD	Winter	2010	403.43	483.82	553.52	689.00	74.87	100.48	102.62	125.01
AD	Modoc County APCD	Winter	2011	403.20	480.53	552.63	689.84	74.72	97.48	102.30	125.08
AD	Modoc County APCD	Winter	2012	402.94	478.25	551.93	690.82	74.39	95.30	102.13	125.22
AD	Modoc County APCD	Winter	2013	402.86	476.62	551.35	691.93	74.23	93.74	101.93	125.38
AD	Modoc County APCD	Winter	2014	402.75	474.97	550.86	692.91	73.97	91.96	101.58	125.59
AD	Modoc County APCD	Winter	2015	402.67	473.44	550.49	693.96	73.76	90.19	101.45	125.82
AD	Modoc County APCD	Winter	2016	402.78	472.38	550.19	694.95	73.79	88.96	101.31	126.08
AD	Modoc County APCD	Winter	2017	402.74	471.40	549.93	695.92	73.64	87.77	101.05	126.34
AD	Modoc County APCD	Winter	2018	402.64	470.75	549.73	696.72	73.43	87.03	100.91	126.59
AD	Modoc County APCD	Winter	2019	402.61	470.29	549.57	697.46	73.35	86.56	100.78	126.79
AD	Modoc County APCD	Winter	2020	402.56	469.87	549.46	698.07	73.39	86.27	100.81	127.00
AD	Modoc County APCD	Winter	2021	402.52	469.41	549.36	698.48	73.42	86.13	100.87	127.13
AD	Modoc County APCD	Winter	2022	402.41	469.01	549.21	698.78	73.42	86.00	100.88	127.20
AD	Modoc County APCD	Winter	2023	402.35	468.59	549.10	699.00	73.44	85.87	100.91	127.38

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(O2 Runni	na (a/VMT)	CO2 Starting (g/trip)				
		Season	Year	LDA	LDT1	LDT2	MDV				MDV	
AD	Modoc County APCD	Winter	2024	402.21	468.35	548.97	699.20	73.41	85.82	100.92	127.55	
	Modoc County APCD	Winter	2025	402.14	468.36	548.91	699.40	73.41	85.87	100.96	127.72	
	Modoc County APCD	Winter	2026	402.14	468.45	548.84	699.67	73.43	85.94	100.98	127.90	
	Modoc County APCD	Winter	2027	402.13	468.54	548.78	699.96	73.44	86.00	100.99	128.07	
	Modoc County APCD	Winter	2028	402.11	468.63	548.73	700.25	73.44	86.06	101.01	128.22	
	Modoc County APCD	Winter	2029	402.10	468.72	548.66	700.50	73.45	86.12	101.01	128.36	
	Modoc County APCD	Winter	2030	402.08	468.81	548.57	700.77	73.45	86.17	101.01	128.50	
AD	Modoc County APCD	Winter	2031	402.08	468.91	548.52	701.07	73.45	86.22	101.01	128.63	
AD	Modoc County APCD	Winter	2032	402.08	469.00	548.47	701.37	73.46	86.27	101.01	128.76	
AD	Modoc County APCD	Winter	2033	402.07	469.08	548.44	701.63	73.47	86.31	101.01	128.87	
AD	Modoc County APCD	Winter	2034	402.06	469.14	548.40	701.87	73.47	86.35	101.01	128.97	
AD	Modoc County APCD	Winter	2035	402.05	469.20	548.37	702.06	73.48	86.38	101.02	129.07	
AD	Mojave Desert AQMD	Annual	2010	343.05	394.06	468.76	591.38	73.41	85.48	100.04	125.17	
AD	Mojave Desert AQMD	Annual	2011	342.29	393.63	467.24	590.34	73.41	85.20	100.07	125.44	
AD	Mojave Desert AQMD	Annual	2012	342.53	394.30	467.14	591.14	73.44	85.03	100.14	125.71	
AD	Mojave Desert AQMD	Annual	2013	341.38	393.17	465.19	589.42	73.47	84.92	100.21	125.99	
AD	Mojave Desert AQMD	Annual	2014	341.59	393.65	465.17	590.21	73.49	84.81	100.26	126.27	
AD	Mojave Desert AQMD	Annual	2015	338.75	390.36	460.98	585.50	73.53	84.76	100.32	126.55	
AD	Mojave Desert AQMD	Annual	2016	338.93	390.74	460.98	586.19	73.58	84.74	100.39	126.82	
AD	Mojave Desert AQMD	Annual	2017	339.08	391.08	460.98	586.83	73.61	84.71	100.44	127.08	
AD	Mojave Desert AQMD	Annual	2018	339.19	391.37	460.98	587.37	73.63	84.72	100.49	127.32	
AD	Mojave Desert AQMD	Annual	2019	338.63	390.87	460.03	586.67	73.67	84.83	100.55	127.55	
AD	Mojave Desert AQMD	Annual	2020	338.73	391.16	460.03	587.11	73.75	84.98	100.63	127.76	
AD	Mojave Desert AQMD	Annual	2021	338.49	390.98	459.55	586.82	73.81	85.14	100.70	127.93	
AD	Mojave Desert AQMD	Annual	2022	338.53	391.22	459.56	587.12	73.85	85.27	100.76	128.07	
AD	Mojave Desert AQMD	Annual	2023	338.54	391.42	459.56	587.36	73.88	85.39	100.81	128.23	
AD	Mojave Desert AQMD	Annual	2024	340.10	393.08	461.41	589.95	73.90	85.50	100.85	128.37	
AD	Mojave Desert AQMD	Annual	2025	340.11	393.24	461.42	590.15	73.91	85.59	100.89	128.50	
AD	Mojave Desert AQMD	Annual	2026	340.14	393.40	461.41	590.33	73.93	85.68	100.92	128.62	
AD	Mojave Desert AQMD	Annual	2027	340.16	393.55	461.40	590.50	73.94	85.76	100.94	128.72	
AD	Mojave Desert AQMD	Annual	2028	340.18	393.70	461.40	590.67	73.95	85.84	100.95	128.82	
AD	Mojave Desert AQMD	Annual	2029	340.20	393.85	461.40	590.84	73.96	85.91	100.96	128.90	
AD	Mojave Desert AQMD	Annual	2030	340.22	393.99	461.40	591.00	73.96	85.97	100.97	128.98	
AD	Mojave Desert AQMD	Annual	2031	342.78	396.53	464.37	595.11	73.96	86.03	100.98	129.06	
	Mojave Desert AQMD	Annual	2032	342.80	396.66	464.38	595.29	73.97	86.09	100.98	129.13	
	Mojave Desert AQMD	Annual	2033	342.81	396.77	464.39	595.46	73.97	86.13		129.19	
	Mojave Desert AQMD	Annual	2034	342.83	396.88	464.41	595.62	73.97	86.18		129.24	
	Mojave Desert AQMD	Annual	2035	342.85	396.97	464.43	595.76	73.98	86.22		129.29	
	Mojave Desert AQMD	Summer	2010	368.41	420.54	502.82	633.92	73.41	85.48		125.17	
	Mojave Desert AQMD	Summer	2011	367.55	420.78	501.45	632.76	73.41	85.20		125.44	
	Mojave Desert AQMD	Summer	2012	367.74	422.01	501.49	633.58	73.44	85.03		125.71	
	Mojave Desert AQMD	Summer	2013	366.36	420.99	499.44	631.63	73.47	84.92	100.21	125.99	
	Mojave Desert AQMD	Summer	2014	366.44	421.63	499.44	632.39	73.49	84.81		126.27	
	Mojave Desert AQMD	Summer	2015	363.25	418.10	494.94	627.28	73.53		100.32	126.55	
	Mojave Desert AQMD	Summer	2016	363.37	418.49	494.93	627.96	73.58	84.74		126.82	
	Mojave Desert AQMD	Summer	2017	363.42	418.82	494.89	628.59	73.61	84.71		127.08	
	Mojave Desert AQMD	Summer	2018	363.43	419.07	494.81	629.09	73.63	84.72		127.32	
	Mojave Desert AQMD	Summer	2019	362.72	418.47	493.69	628.25	73.67	84.83		127.55	
	Mojave Desert AQMD	Summer	2020	362.73	418.73	493.60	628.67	73.75	84.98		127.76	
	Mojave Desert AQMD	Summer	2021	362.41	418.50	492.93	628.23	73.81	85.14			
	Mojave Desert AQMD	Summer	2022	362.41	418.75	492.84	628.48	73.85	85.27	100.76	128.07	
	Mojave Desert AQMD	Summer	2023	362.38	418.95	492.74	628.63	73.88	85.39	100.81	128.23	
	Mojave Desert AQMD	Summer	2024	363.89	420.61	494.47	631.12	73.90			128.37	
AD	Mojave Desert AQMD	Summer	2025	363.86 D-135	420.78	494.42	631.25	73.91	85.59 Se		128.50	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/\/MT)	(CO2 Star	ting (g/tri	(a
	20041011	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Mojave Desert AQMD	Summer	2026	363.86	420.97	494.37	631.36	73.93	85.68	100.92	128.62
AD	Mojave Desert AQMD	Summer	2027	363.84	421.14	494.32	631.45	73.94	85.76	100.94	128.72
AD	Mojave Desert AQMD	Summer	2028	363.82	421.29	494.28	631.55	73.95	85.84	100.95	128.82
AD	Mojave Desert AQMD	Summer	2029	363.80	421.45	494.24	631.64	73.96	85.91	100.96	128.90
AD	Mojave Desert AQMD	Summer	2030	363.78	421.60	494.20	631.73	73.96	85.97	100.97	128.98
AD	Mojave Desert AQMD	Summer	2031	366.32	424.18	497.16	635.80	73.96	86.03	100.98	129.06
AD	Mojave Desert AQMD	Summer	2032	366.30	424.34	497.16	635.94	73.97	86.09	100.98	129.13
AD	Mojave Desert AQMD	Summer	2033	366.29	424.48	497.16	636.07	73.97	86.13	100.99	129.19
AD	Mojave Desert AQMD	Summer	2034	366.28	424.59	497.16	636.19	73.97	86.18	100.99	129.24
AD	Mojave Desert AQMD	Summer	2035	366.27	424.67	497.16	636.30	73.98	86.22	101.00	129.29
AD	Mojave Desert AQMD	Winter	2010	329.23	380.23	450.90	569.02	73.41	85.48	100.04	125.17
AD	Mojave Desert AQMD	Winter	2011	328.43	379.61	449.39	568.04	73.41	85.20	100.07	125.44
AD	Mojave Desert AQMD	Winter	2012	328.62	380.12	449.23	568.81	73.44	85.03	100.14	125.71
AD	Mojave Desert AQMD	Winter	2013	327.45	378.91	447.29	567.12	73.47	84.92	100.21	125.99
AD	Mojave Desert AQMD	Winter	2014	327.61	379.28	447.21	567.85	73.49	84.81	100.26	126.27
AD	Mojave Desert AQMD	Winter	2015	324.84	376.02	443.12	563.25	73.53	84.76	100.32	126.55
AD	Mojave Desert AQMD	Winter	2016	324.99	376.34	443.08	563.87	73.58	84.74	100.39	126.82
AD	Mojave Desert AQMD	Winter	2017	325.11	376.62	443.04	564.46	73.61	84.71	100.44	127.08
AD	Mojave Desert AQMD	Winter	2018	325.20	376.87	443.02	564.96	73.63	84.72	100.49	127.32
AD	Mojave Desert AQMD	Winter	2019	324.64	376.36	442.08	564.24	73.67	84.83	100.55	127.55
AD	Mojave Desert AQMD	Winter	2020	324.71	376.61	442.06	564.63	73.75	84.98	100.63	127.76
AD	Mojave Desert AQMD	Winter	2021	324.46	376.36	441.55	564.27	73.81	85.14	100.70	127.93
AD	Mojave Desert AQMD	Winter	2022	324.48	376.54	441.52	564.49	73.85	85.27	100.76	128.07
AD	Mojave Desert AQMD	Winter	2023	324.48	376.68	441.50	564.66	73.88	85.39	100.81	128.23
AD	Mojave Desert AQMD	Winter	2024	325.93	378.21	443.20	567.06	73.90	85.50	100.85	128.37
AD	Mojave Desert AQMD	Winter	2025	325.94	378.32	443.20	567.22	73.91	85.59	100.89	128.50
AD	Mojave Desert AQMD	Winter	2026	325.96	378.44	443.18	567.37	73.93	85.68	100.92	128.62
AD	Mojave Desert AQMD	Winter	2027	325.97	378.56	443.16	567.51	73.94	85.76	100.94	128.72
AD	Mojave Desert AQMD	Winter	2028	325.99	378.68	443.15	567.64	73.95	85.84	100.95	128.82
AD	Mojave Desert AQMD	Winter	2029	325.99	378.79	443.13	567.78	73.96	85.91	100.96	128.90
AD	Mojave Desert AQMD	Winter	2030	326.00	378.91	443.12	567.91	73.96	85.97	100.97	128.98
AD	Mojave Desert AQMD	Winter	2031	328.38	381.24	445.87	571.70	73.96	86.03	100.98	129.06
AD	Mojave Desert AQMD	Winter	2032	328.39	381.34	445.87	571.84	73.97	86.09	100.98	129.13
AD	Mojave Desert AQMD	Winter	2033	328.40	381.43	445.87	571.96	73.97	86.13	100.99	129.19
AD	Mojave Desert AQMD	Winter	2034	328.42	381.50	445.87	572.08	73.97	86.18	100.99	129.24
AD	Mojave Desert AQMD	Winter	2035	328.43	381.57	445.87	572.18	73.98	86.22	101.00	129.29
AD	Monterey Bay Unified APCD	Annual	2010	352.08	409.85	484.60	606.53	72.96	88.37	99.87	123.92
AD	Monterey Bay Unified APCD	Annual	2011	352.06	409.40	483.84	606.61	72.93	87.57	99.90	124.13
AD	Monterey Bay Unified APCD	Annual	2012	352.19	409.24	483.32	607.40	72.89	86.90	99.95	124.37
AD	Monterey Bay Unified APCD	Annual	2013	352.37	409.19	482.92	608.27	72.92	86.40	100.03	124.65
AD	Monterey Bay Unified APCD	Annual	2014	352.53	409.12	482.60	609.12	72.92	85.94	100.10	124.93
AD	Monterey Bay Unified APCD	Annual	2015	352.73	409.11	482.36	609.99	72.98	85.55	100.18	125.24
AD	Monterey Bay Unified APCD	Annual	2016	352.92	409.09	482.18	610.81	73.05	85.20	100.28	125.55
AD	Monterey Bay Unified APCD	Annual	2017	353.06	409.10	482.04	611.59	73.09	84.93	100.35	125.86
AD	Monterey Bay Unified APCD	Annual	2018	353.17	409.13	481.94	612.28	73.12	84.71	100.43	126.15
AD	Monterey Bay Unified APCD	Annual	2019	353.27	409.25	481.87	612.89	73.16	84.66	100.51	126.43
AD	Monterey Bay Unified APCD	Annual	2020	353.37	409.39	481.83	613.44	73.25	84.73	100.59	126.69
AD	Monterey Bay Unified APCD	Annual	2021	354.32	410.59	483.10	615.32	73.33	84.87	100.68	126.92
AD	Monterey Bay Unified APCD	Annual	2022	354.37	410.77	483.07	615.74	73.38	84.99	100.74	127.10
AD	Monterey Bay Unified APCD	Annual	2023	354.37	410.92	483.04	616.07	73.42	85.10	100.80	127.31
AD	Monterey Bay Unified APCD	Annual	2024	354.34	411.03	483.02	616.34	73.43	85.19	100.84	127.49
AD	Monterey Bay Unified APCD	Annual	2025	354.34	411.14	483.01	616.61	73.45	85.28	100.88	127.66
AD	Monterey Bay Unified APCD	Annual	2026	353.30	409.99	481.54	614.89	73.47	85.37	100.91	127.83
AD	Monterey Bay Unified APCD	Annual	2027	353.33	410.12	481.49	615.18	73.49	85.45	100.93	127.98

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Star	tina (a/tri	(q
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Monterey Bay Unified APCD	Annual	2028	353.35	410.27	481.44	615.46	73.50	85.52	100.94	128.12
AD	Monterey Bay Unified APCD	Annual	2029	353.36	410.41	481.37	615.73	73.51	85.58	100.94	128.25
AD	Monterey Bay Unified APCD	Annual	2030	353.37	410.56	481.31	616.01	73.51	85.65	100.94	128.38
AD	Monterey Bay Unified APCD	Annual	2031	353.39	410.72	481.27	616.28	73.52	85.71	100.95	128.50
AD	Monterey Bay Unified APCD	Annual	2032	353.41	410.88	481.25	616.56	73.52	85.77	100.96	128.62
AD	Monterey Bay Unified APCD	Annual	2033	353.43	411.02	481.23	616.82	73.53	85.83	100.96	128.73
AD	Monterey Bay Unified APCD	Annual	2034	353.45	411.15	481.21	617.05	73.53	85.88	100.96	128.83
AD	Monterey Bay Unified APCD	Annual	2035	353.47	411.25	481.20	617.25	73.54	85.93	100.97	128.92
AD	Monterey Bay Unified APCD	Summer	2010	372.98	431.76	511.84	642.11	72.96	88.37	99.87	123.92
AD	Monterey Bay Unified APCD	Summer	2011	373.14	431.60	511.31	642.11	72.93	87.57	99.90	124.13
AD	Monterey Bay Unified APCD	Summer	2012	373.41	431.71	511.01	642.95	72.89	86.90	99.95	124.37
AD	Monterey Bay Unified APCD	Summer	2013	373.71	431.90	510.79	643.91	72.92	86.40	100.03	124.65
AD	Monterey Bay Unified APCD	Summer	2014	373.96	432.06	510.63	644.90	72.92	85.94	100.10	124.93
AD	Monterey Bay Unified APCD	Summer	2015	374.21	432.22	510.51	645.93	72.98	85.55	100.18	125.24
AD	Monterey Bay Unified APCD	Summer	2016	374.44	432.38	510.41	646.92	73.05	85.20	100.28	125.55
AD	Monterey Bay Unified APCD	Summer	2017	374.60	432.55	510.33	647.86	73.09	84.93	100.35	125.86
AD	Monterey Bay Unified APCD	Summer	2018	374.71	432.72	510.25	648.67	73.12	84.71	100.43	126.15
AD	Monterey Bay Unified APCD	Summer	2019	374.81	432.96	510.19	649.38	73.16	84.66	100.51	126.43
AD	Monterey Bay Unified APCD	Summer	2020	374.91	433.20	510.15	650.02	73.25	84.73	100.59	126.69
AD	Monterey Bay Unified APCD	Summer	2021	375.91	434.52	511.49	652.05	73.33	84.87	100.68	126.92
AD	Monterey Bay Unified APCD	Summer	2022	375.97	434.78	511.48	652.54	73.38	84.99	100.74	127.10
AD	Monterey Bay Unified APCD	Summer	2023	375.98	434.99	511.46	652.91	73.42	85.10	100.80	127.31
AD	Monterey Bay Unified APCD	Summer	2024	375.97	435.16	511.45	653.21	73.43	85.19	100.84	127.49
AD	Monterey Bay Unified APCD	Summer	2025	375.98	435.32	511.45	653.50	73.45	85.28	100.88	127.66
AD	Monterey Bay Unified APCD	Summer	2026	374.88	434.13	509.90	651.66	73.47	85.37	100.91	127.83
AD	Monterey Bay Unified APCD	Summer	2027	374.91	434.30	509.87	651.96	73.49	85.45	100.93	127.98
AD	Monterey Bay Unified APCD	Summer	2028	374.94	434.48	509.85	652.26	73.50	85.52	100.94	128.12
AD	Monterey Bay Unified APCD	Summer	2029	374.97	434.67	509.80	652.55	73.51	85.58	100.94	128.25
AD	Monterey Bay Unified APCD	Summer	2030	374.99	434.87	509.76	652.86	73.51	85.65	100.94	128.38
AD	Monterey Bay Unified APCD	Summer	2031	375.02	435.07	509.74	653.15	73.52	85.71	100.95	128.50
AD	Monterey Bay Unified APCD	Summer	2032	375.05	435.26	509.73	653.46	73.52	85.77	100.96	128.62
AD	Monterey Bay Unified APCD	Summer	2033	375.08	435.43	509.73	653.75	73.53	85.83	100.96	128.73
AD	Monterey Bay Unified APCD	Summer	2034	375.11	435.58	509.72	654.02	73.53	85.88	100.96	128.83
AD	Monterey Bay Unified APCD	Summer	2035	375.13	435.71	509.72	654.27	73.54	85.93	100.97	128.92
AD	Monterey Bay Unified APCD	Winter	2010	350.54	408.22	482.61	603.75	72.96	88.37	99.87	123.92
AD	Monterey Bay Unified APCD	Winter	2011	350.51	407.75	481.84	603.84	72.93	87.57	99.90	124.13
AD	Monterey Bay Unified APCD	Winter	2012	350.63	407.55	481.30	604.63	72.89	86.90	99.95	124.37
AD	Monterey Bay Unified APCD	Winter	2013	350.80	407.48	480.89	605.48	72.92	86.40	100.03	124.65
AD	Monterey Bay Unified APCD	Winter	2014	350.96	407.39	480.56	606.32	72.92	85.94	100.10	124.93
AD	Monterey Bay Unified APCD	Winter	2015	351.15	407.36	480.31	607.18	72.98	85.55	100.18	125.24
AD	Monterey Bay Unified APCD	Winter	2016	351.33	407.32	480.12	607.99	73.05	85.20	100.28	125.55
AD	Monterey Bay Unified APCD	Winter	2017	351.48	407.33	479.98	608.75	73.09	84.93	100.35	125.86
AD	Monterey Bay Unified APCD	Winter	2018	351.58	407.34	479.88	609.43	73.12	84.71	100.43	126.15
AD	Monterey Bay Unified APCD	Winter	2019	351.68	407.44	479.81	610.03	73.16	84.66	100.51	126.43
AD	Monterey Bay Unified APCD	Winter	2020	351.78	407.58	479.76	610.57	73.25	84.73	100.59	126.69
AD	Monterey Bay Unified APCD	Winter	2021	352.73	408.76	481.03	612.44	73.33	84.87	100.68	126.92
AD	Monterey Bay Unified APCD	Winter	2022	352.78	408.94	481.00	612.85	73.38	84.99	100.74	127.10
AD	Monterey Bay Unified APCD	Winter	2023	352.78	409.08	480.97	613.18	73.42	85.10	100.80	127.31
AD	Monterey Bay Unified APCD	Winter	2024	352.74	409.19	480.94	613.44	73.43	85.19	100.84	127.49
AD	Monterey Bay Unified APCD	Winter	2025	352.74	409.30	480.93	613.72	73.45	85.28	100.88	127.66
AD	Monterey Bay Unified APCD	Winter	2026	351.70	408.15	479.46	612.01	73.47	85.37	100.91	127.83
AD	Monterey Bay Unified APCD	Winter	2027	351.73	408.27	479.41	612.29	73.49	85.45	100.93	127.98
AD	Monterey Bay Unified APCD	Winter	2028	351.74	408.41	479.36	612.56	73.50	85.52	100.94	128.12
AD	Monterey Bay Unified APCD	Winter	2029	351.75	408.56	479.28	612.84	73.51	85.58	100.94	128.25

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	I		(CO2 Runni	ng (g/VMT)	(CO2 Star	tina (a/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Monterey Bay Unified APCD	Winter	2030	351.76	408.70	479.22	613.11	73.51	85.65	100.94	128.38
AD	Monterey Bay Unified APCD	Winter	2031	351.78	408.85	479.18	613.38	73.52	85.71	100.95	128.50
AD	Monterey Bay Unified APCD	Winter	2032	351.80	409.00	479.15	613.65	73.52	85.77	100.96	128.62
AD	Monterey Bay Unified APCD	Winter	2033	351.82	409.14	479.13	613.90	73.53	85.83	100.96	128.73
AD	Monterey Bay Unified APCD	Winter	2034	351.84	409.26	479.11	614.13	73.53	85.88	100.96	128.83
AD	Monterey Bay Unified APCD	Winter	2035	351.85	409.37	479.10	614.33	73.54	85.93	100.97	128.92
AD	North Coast Unified APCD	Annual	2010	338.11	392.75	467.85	585.18	73.17	86.39	100.59	124.05
AD	North Coast Unified APCD	Annual	2011	338.10	393.14	467.19	585.81	73.12	85.93	100.52	124.23
AD	North Coast Unified APCD	Annual	2012	338.14	393.49	466.64	586.54	73.06	85.62	100.52	124.47
AD	North Coast Unified APCD	Annual	2013	338.24	393.78	466.22	587.38	73.05	85.35	100.53	124.74
AD	North Coast Unified APCD	Annual	2014	338.28	394.01	465.87	588.19	73.01	85.13	100.52	125.01
AD	North Coast Unified APCD	Annual	2015	338.37	394.26	465.57	589.00	72.98	84.96	100.52	125.31
AD	North Coast Unified APCD	Annual	2016	338.50	394.52	465.35	589.80	73.04	84.88	100.56	125.63
AD	North Coast Unified APCD	Annual	2017	338.57	394.73	465.13	590.53	73.04	84.75	100.59	125.94
AD	North Coast Unified APCD	Annual	2018	338.64	394.93	464.97	591.16	73.06	84.68	100.60	126.24
AD	North Coast Unified APCD	Annual	2019	338.69	395.13	464.85	591.71	73.08	84.72	100.65	126.52
AD	North Coast Unified APCD	Annual	2020	338.73	395.31	464.72	592.18	73.17	84.80	100.71	126.78
AD	North Coast Unified APCD	Annual	2021	338.75	395.45	464.60	592.55	73.23	84.92	100.77	126.99
AD	North Coast Unified APCD	Annual	2022	338.73	395.55	464.48	592.85	73.27	85.02	100.82	127.17
AD	North Coast Unified APCD	Annual	2023	338.66	395.62	464.39	593.07	73.28	85.12	100.86	127.37
AD	North Coast Unified APCD	Annual	2024	338.54	395.69	464.32	593.28	73.28	85.20	100.89	127.56
AD	North Coast Unified APCD	Annual	2025	338.47	395.79	464.26	593.47	73.29	85.30	100.92	127.72
AD	North Coast Unified APCD	Annual	2026	338.49	395.93	464.14	593.62	73.31	85.41	100.94	127.88
AD	North Coast Unified APCD	Annual	2027	338.50	396.07	464.04	593.77	73.32	85.51	100.96	128.03
AD	North Coast Unified APCD	Annual	2028	338.50	396.22	463.93	593.95	73.33	85.61	100.97	128.17
AD	North Coast Unified APCD	Annual	2029	338.50	396.36	463.83	594.12	73.33	85.70	100.97	128.30
AD	North Coast Unified APCD	Annual	2030	338.48	396.49	463.70	594.29	73.34	85.78	100.96	128.43
AD	North Coast Unified APCD	Annual	2031	338.48	396.63	463.68	594.46	73.34	85.86	100.97	128.55
AD	North Coast Unified APCD	Annual	2032	338.47	396.74	463.65	594.63	73.35	85.94	100.97	128.67
AD	North Coast Unified APCD	Annual	2033	338.46	396.83	463.63	594.77	73.35	86.01	100.97	128.77
AD	North Coast Unified APCD	Annual	2034	338.45	396.90	463.60	594.89	73.36	86.07	100.98	128.87
AD	North Coast Unified APCD	Annual	2035	338.44	396.95	463.58	594.99	73.36	86.12	100.98	128.96
AD	North Coast Unified APCD	Summer	2010	339.07	393.94	469.47	587.35	73.17	86.39	100.59	124.05
AD	North Coast Unified APCD	Summer	2011	339.07	394.39	468.84	587.99	73.12	85.93	100.52	124.23
AD	North Coast Unified APCD	Summer	2012	339.11	394.78	468.30	588.72	73.06	85.62	100.52	124.47
AD	North Coast Unified APCD	Summer	2013	339.22	395.11	467.90	589.58	73.05	85.35	100.53	124.74
AD	North Coast Unified APCD	Summer	2014	339.27	395.37	467.56	590.40	73.01	85.13	100.52	125.01
AD	North Coast Unified APCD	Summer	2015	339.36	395.64	467.27	591.23	72.98	84.96	100.52	125.31
AD	North Coast Unified APCD	Summer	2016	339.49	395.92	467.05	592.05	73.04	84.88	100.56	125.63
AD	North Coast Unified APCD	Summer	2017	339.56	396.15	466.84	592.80	73.04	84.75	100.59	125.94
AD	North Coast Unified APCD	Summer	2018	339.62	396.36	466.67	593.44	73.06	84.68	100.60	126.24
AD	North Coast Unified APCD	Summer	2019	339.68	396.58	466.56	594.00	73.08	84.72	100.65	126.52
AD	North Coast Unified APCD	Summer	2020	339.72	396.76	466.42	594.47	73.17	84.80	100.71	126.78
AD	North Coast Unified APCD	Summer	2021	339.73	396.92	466.29	594.85	73.23	84.92	100.77	126.99
AD	North Coast Unified APCD	Summer	2022	339.71	397.02	466.18	595.16	73.27	85.02	100.82	127.17
AD	North Coast Unified APCD	Summer	2023	339.64	397.10	466.08	595.38	73.28	85.12	100.86	127.37
AD	North Coast Unified APCD	Summer	2024	339.52	397.18	466.01	595.60	73.28	85.20	100.89	127.56
AD	North Coast Unified APCD	Summer	2025	339.44	397.28	465.96	595.80	73.29	85.30	100.92	127.72
AD	North Coast Unified APCD	Summer	2026	339.46	397.42	465.83	595.95	73.31	85.41	100.94	127.88
AD	North Coast Unified APCD	Summer	2027	339.47	397.56	465.72	596.10	73.32	85.51	100.96	128.03
AD	North Coast Unified APCD	Summer	2028	339.48	397.72	465.61	596.27	73.33	85.61	100.97	128.17
AD	North Coast Unified APCD	Summer	2029	339.48	397.86	465.51	596.44	73.33	85.70	100.97	128.30
AD	North Coast Unified APCD	Summer	2030	339.46	397.99	465.38	596.62	73.34	85.78	100.96	128.43
AD	North Coast Unified APCD	Summer	2031	339.46	398.14	465.36	596.78	73.34	85.86	100.97	128.55

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Star	ting (g/tri	(α
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	North Coast Unified APCD	Summer	2032	339.46	398.25	465.34	596.94	73.35	85.94	100.97	128.67
AD	North Coast Unified APCD	Summer	2033	339.45	398.34	465.31	597.08	73.35	86.01	100.97	128.77
AD	North Coast Unified APCD	Summer	2034	339.43	398.40	465.29	597.20	73.36	86.07	100.98	128.87
AD	North Coast Unified APCD	Summer	2035	339.42	398.44	465.27	597.30	73.36	86.12	100.98	128.96
AD	North Coast Unified APCD	Winter	2010	336.39	390.83	465.37	582.01	73.17	86.39	100.59	124.05
AD	North Coast Unified APCD	Winter	2011	336.36	391.14	464.68	582.63	73.12	85.93	100.52	124.23
AD	North Coast Unified APCD	Winter	2012	336.38	391.43	464.11	583.35	73.06	85.62	100.52	124.47
AD	North Coast Unified APCD	Winter	2013	336.47	391.68	463.67	584.16	73.05	85.35	100.53	124.74
AD	North Coast Unified APCD	Winter	2014	336.51	391.88	463.31	584.95	73.01	85.13	100.52	125.01
AD	North Coast Unified APCD	Winter	2015	336.59	392.10	463.00	585.74	72.98	84.96	100.52	125.31
AD	North Coast Unified APCD	Winter	2016	336.72	392.33	462.77	586.52	73.04	84.88	100.56	125.63
AD	North Coast Unified APCD	Winter	2017	336.79	392.52	462.55	587.24	73.04	84.75	100.59	125.94
AD	North Coast Unified APCD	Winter	2018	336.86	392.70	462.38	587.85	73.06	84.68	100.60	126.24
AD	North Coast Unified APCD	Winter	2019	336.92	392.89	462.26	588.38	73.08	84.72	100.65	126.52
AD	North Coast Unified APCD	Winter	2020	336.96	393.05	462.13	588.84	73.17	84.80	100.71	126.78
AD	North Coast Unified APCD	Winter	2021	336.98	393.18	462.02	589.20	73.23	84.92	100.77	126.99
AD	North Coast Unified APCD	Winter	2022	336.96	393.27	461.90	589.49	73.27	85.02	100.82	127.17
AD	North Coast Unified APCD	Winter	2023	336.89	393.33	461.80	589.70	73.28	85.12	100.86	127.37
AD	North Coast Unified APCD	Winter	2024	336.78	393.40	461.73	589.91	73.28	85.20	100.89	127.56
AD	North Coast Unified APCD	Winter	2025	336.70	393.50	461.68	590.09	73.29	85.30	100.92	127.72
AD	North Coast Unified APCD	Winter	2026	336.72	393.63	461.56	590.25	73.31	85.41	100.94	127.88
AD	North Coast Unified APCD	Winter	2027	336.73	393.76	461.46	590.40	73.32	85.51	100.96	128.03
AD	North Coast Unified APCD	Winter	2028	336.73	393.91	461.35	590.57	73.33	85.61	100.97	128.17
AD	North Coast Unified APCD	Winter	2029	336.72	394.04	461.25	590.75	73.33	85.70	100.97	128.30
AD	North Coast Unified APCD	Winter	2030	336.71	394.16	461.12	590.92	73.34	85.78	100.96	128.43
AD	North Coast Unified APCD	Winter	2031	336.71	394.30	461.10	591.08	73.34	85.86	100.97	128.55
AD	North Coast Unified APCD	Winter	2032	336.70	394.41	461.07	591.25	73.35	85.94	100.97	128.67
AD	North Coast Unified APCD	Winter	2033	336.69	394.50	461.05	591.39	73.35	86.01	100.97	128.77
AD	North Coast Unified APCD	Winter	2034	336.68	394.57	461.02	591.51	73.36	86.07	100.98	128.87
AD	North Coast Unified APCD	Winter	2035	336.67	394.61	461.00	591.61	73.36	86.12	100.98	128.96
AD	Northern Sierra AQMD	Annual	2010	335.85	403.50	460.60	582.46	73.83	93.66	100.49	125.24
AD	Northern Sierra AQMD	Annual	2011	335.79	403.58	459.90	583.10	73.66	92.12	100.45	125.33
AD	Northern Sierra AQMD	Annual	2012	335.78	403.52	459.38	583.85	73.51	90.81	100.45	125.45
AD	Northern Sierra AQMD	Annual	2013	335.79	403.50	459.02	584.66	73.39	89.69	100.44	125.61
AD	Northern Sierra AQMD	Annual	2014	335.77	403.42	458.71	585.44	73.23	88.70	100.46	125.78
AD	Northern Sierra AQMD	Annual	2015	335.82	403.39	458.48	586.29	73.16	87.84	100.50	125.98
AD	Northern Sierra AQMD	Annual	2016	335.92	403.32	458.32	587.09	73.17	87.09	100.56	126.21
AD	Northern Sierra AQMD	Annual	2017	335.94	403.29	458.20	587.82	73.12	86.34	100.55	126.44
AD	Northern Sierra AQMD	Annual	2018	335.96	403.18	458.11	588.47	73.08	85.76	100.59	126.67
AD	Northern Sierra AQMD	Annual	2019	335.99	403.23	458.04	589.02	73.07	85.48	100.62	126.89
AD	Northern Sierra AQMD	Annual	2020	336.03	403.26	457.98	589.50	73.16	85.41	100.69	127.10
AD	Northern Sierra AQMD	Annual	2021	336.06	403.35	457.94	589.83	73.23	85.46	100.76	127.22
AD	Northern Sierra AQMD	Annual	2022	336.04	403.43	457.90	590.06	73.28	85.51	100.82	127.27
AD	Northern Sierra AQMD	Annual	2023	336.00	403.49	457.85	590.24	73.30	85.55	100.87	127.44
AD	Northern Sierra AQMD	Annual	2024	335.93	403.48	457.82	590.43	73.31	85.58	100.90	127.60
AD	Northern Sierra AQMD	Annual	2025	335.92	403.43	457.78	590.66	73.33	85.65	100.93	127.77
AD	Northern Sierra AQMD	Annual	2026	335.94	403.53	457.74	590.88	73.35	85.73	100.96	127.93
AD	Northern Sierra AQMD	Annual	2027	335.96	403.60	457.69	591.11	73.37	85.80	100.97	128.07
AD	Northern Sierra AQMD	Annual	2028	335.97	403.70	457.66	591.34	73.38	85.86	100.98	128.21
AD	Northern Sierra AQMD	Annual	2029	335.98	403.82	457.62	591.59	73.38	85.92	100.98	128.33
AD	Northern Sierra AQMD	Annual	2030	335.97	403.91	457.56	591.83	73.39	85.98	100.97	128.46
AD	Northern Sierra AQMD	Annual	2031	335.99	404.07	457.55	592.03	73.40	86.03	100.98	128.58
AD	Northern Sierra AQMD	Annual	2032	336.00	404.19	457.53	592.24	73.40	86.08	100.98	128.69
AD	Northern Sierra AQMD	Annual	2033	336.01	404.33	457.52	592.41	73.41	86.13	100.98	128.80

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	ng (a/VMT)	(CO2 Star	ting (a/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Northern Sierra AQMD	Annual	2034	336.01	404.45	457.50	592.56	73.41	86.17	100.99	128.89
AD	Northern Sierra AQMD	Annual	2035	336.01	404.53	457.50	592.68	73.42	86.21	100.99	128.98
AD	Northern Sierra AQMD	Summer	2010	359.56	428.44	492.24	621.66	73.83	93.66	100.49	125.24
AD	Northern Sierra AQMD	Summer	2011	359.74	429.15	491.87	622.40	73.66	92.12	100.45	125.33
AD	Northern Sierra AQMD	Summer	2012	359.93	429.60	491.60	623.31	73.51	90.81	100.45	125.45
AD	Northern Sierra AQMD	Summer	2013	360.10	429.97	491.44	624.34	73.39	89.69	100.44	125.61
AD	Northern Sierra AQMD	Summer	2014	360.21	430.21	491.29	625.36	73.23	88.70	100.46	125.78
AD	Northern Sierra AQMD	Summer	2015	360.36	430.46	491.19	626.49	73.16	87.84	100.50	125.98
AD	Northern Sierra AQMD	Summer	2016	360.51	430.61	491.11	627.56	73.17	87.09	100.56	126.21
AD	Northern Sierra AQMD	Summer	2017	360.57	430.78	491.05	628.52	73.12	86.34	100.55	126.44
AD	Northern Sierra AQMD	Summer	2018	360.60	430.82	490.96	629.37	73.08	85.76	100.59	126.67
AD	Northern Sierra AQMD	Summer	2019	360.63	430.98	490.90	630.09	73.07	85.48	100.62	126.89
AD	Northern Sierra AQMD	Summer	2020	360.67	431.10	490.84	630.70	73.16	85.41	100.69	127.10
AD	Northern Sierra AQMD	Summer	2021	360.69	431.25	490.78	631.15	73.23	85.46	100.76	127.22
AD	Northern Sierra AQMD	Summer	2022	360.67	431.39	490.74	631.50	73.28	85.51	100.82	127.27
AD	Northern Sierra AQMD	Summer	2023	360.63	431.52	490.69	631.75	73.30	85.55	100.87	127.44
AD	Northern Sierra AQMD	Summer	2024	360.56	431.57	490.66	632.00	73.31	85.58	100.90	127.60
AD	Northern Sierra AQMD	Summer	2025	360.55	431.55	490.62	632.26	73.33	85.65	100.93	127.77
AD	Northern Sierra AQMD	Summer	2026	360.58	431.69	490.59	632.48	73.35	85.73	100.96	127.93
AD	Northern Sierra AQMD	Summer	2027	360.60	431.79	490.57	632.71	73.37	85.80	100.97	128.07
AD	Northern Sierra AQMD	Summer	2028	360.63	431.93	490.55	632.96	73.38	85.86	100.98	128.21
AD	Northern Sierra AQMD	Summer	2029	360.65	432.08	490.53	633.23	73.38	85.92	100.98	128.33
AD	Northern Sierra AQMD	Summer	2030	360.66	432.21	490.50	633.50	73.39	85.98	100.97	128.46
AD	Northern Sierra AQMD	Summer	2031	360.68	432.40	490.49	633.75	73.40	86.03	100.98	128.58
AD	Northern Sierra AQMD	Summer	2032	360.69	432.54	490.48	633.99	73.40	86.08	100.98	128.69
AD	Northern Sierra AQMD	Summer	2033	360.71	432.70	490.47	634.21	73.41	86.13	100.98	128.80
AD	Northern Sierra AQMD	Summer	2034	360.72	432.84	490.46	634.40	73.41	86.17	100.99	128.89
AD	Northern Sierra AQMD	Summer	2035	360.71	432.93	490.45	634.56	73.42	86.21	100.99	128.98
AD	Northern Sierra AQMD	Winter	2010	330.67	398.10	453.69	573.92	73.83	93.66	100.49	125.24
AD	Northern Sierra AQMD	Winter	2011	330.56	398.05	452.91	574.54	73.66	92.12	100.45	125.33
AD	Northern Sierra AQMD	Winter	2012	330.50	397.88	452.34	575.25	73.51	90.81	100.45	125.45
AD	Northern Sierra AQMD	Winter	2013	330.48	397.78	451.93	576.01	73.39	89.69	100.44	125.61
AD	Northern Sierra AQMD	Winter	2014	330.43	397.63	451.58	576.74	73.23	88.70	100.46	125.78
AD	Northern Sierra AQMD	Winter	2015	330.46	397.55	451.33	577.53	73.16	87.84	100.50	125.98
AD	Northern Sierra AQMD	Winter	2016	330.54	397.43	451.14	578.28	73.17	87.09	100.56	126.21
AD	Northern Sierra AQMD	Winter	2017	330.55	397.35	451.02	578.95	73.12	86.34	100.55	126.44
AD	Northern Sierra AQMD	Winter	2018	330.57	397.21	450.92	579.56	73.08	85.76	100.59	126.67
AD	Northern Sierra AQMD	Winter	2019	330.60	397.23	450.85	580.08	73.07	85.48	100.62	126.89
AD	Northern Sierra AQMD	Winter	2020	330.64	397.25	450.80	580.53	73.16	85.41	100.69	127.10
AD	Northern Sierra AQMD	Winter	2021	330.68	397.32	450.76	580.82	73.23	85.46	100.76	127.22
AD	Northern Sierra AQMD	Winter	2022	330.66	397.39	450.72	581.03	73.28	85.51	100.82	127.27
AD	Northern Sierra AQMD	Winter	2023	330.62	397.44	450.67	581.20	73.30	85.55	100.87	127.44
AD	Northern Sierra AQMD	Winter	2024	330.55	397.42	450.64	581.38	73.31	85.58		127.60
AD	Northern Sierra AQMD	Winter	2025	330.53	397.35	450.60	581.60	73.33	85.65	100.93	127.77
AD	Northern Sierra AQMD	Winter	2026	330.56	397.45	450.55	581.82	73.35	85.73	100.96	127.93
AD	Northern Sierra AQMD	Winter	2027	330.57	397.51	450.50	582.04	73.37	85.80	100.97	128.07
AD	Northern Sierra AQMD	Winter	2028	330.58	397.61	450.46	582.28	73.38	85.86	100.98	128.21
AD	Northern Sierra AQMD	Winter	2029	330.58	397.72	450.42	582.52	73.38	85.92	100.98	128.33
AD	Northern Sierra AQMD	Winter	2030	330.58	397.80	450.36	582.75	73.39	85.98	100.97	128.46
AD	Northern Sierra AQMD	Winter	2031	330.60	397.96	450.34	582.95	73.40	86.03	100.98	128.58
AD	Northern Sierra AQMD	Winter	2032	330.60	398.07	450.32	583.15	73.40	86.08		128.69
AD	Northern Sierra AQMD	Winter	2033	330.61	398.20	450.31	583.31	73.41	86.13		128.80
AD	Northern Sierra AQMD	Winter	2034	330.62	398.33	450.30	583.45	73.41	86.17	100.99	128.89
AD	Northern Sierra AQMD	Winter	2035	330.61	398.41	450.29	583.56	73.42	86.21	100.99	128.98

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	CO2 Running (g/VMT) CO2 Starting (g/trip)							in)		
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Northern Sonoma County APCD	Annual	2010	390.51	449.32	534.32	668.22	73.44	86.67	100.89	124.24
AD	Northern Sonoma County APCD	Annual	2011	390.41	449.46	533.78	668.92	73.35	86.07	100.76	124.42
AD	Northern Sonoma County APCD	Annual	2012	390.39	449.72	533.36	669.75	73.28	85.75	100.71	124.64
AD	Northern Sonoma County APCD	Annual	2013	390.45	449.93	533.03	670.64	73.24	85.48	100.70	124.89
AD	Northern Sonoma County APCD	Annual	2014	390.51	450.12	532.77	671.53	73.21	85.23	100.66	125.14
AD	Northern Sonoma County APCD	Annual	2015	390.56	450.29	532.56	672.43	73.15	84.99	100.59	125.42
AD	Northern Sonoma County APCD	Annual	2016	389.58	449.24	530.90	671.41	73.14	84.86	100.60	125.69
AD	Northern Sonoma County APCD	Annual	2017	389.62	449.43	530.76	672.22	73.11	84.74	100.59	125.97
AD	Northern Sonoma County APCD	Annual	2018	389.63	449.60	530.64	672.91	73.05	84.67	100.59	126.25
AD	Northern Sonoma County APCD	Annual	2019	389.66	449.79	530.55	673.52	73.04	84.68	100.60	126.51
AD	Northern Sonoma County APCD	Annual	2020	389.72	449.99	530.48	674.07	73.12	84.77	100.66	126.75
AD	Northern Sonoma County APCD	Annual	2021	389.70	450.13	530.40	674.51	73.17	84.88	100.73	126.95
AD	Northern Sonoma County APCD	Annual	2022	389.64	450.20	530.29	674.87	73.19	84.96	100.77	127.13
AD	Northern Sonoma County APCD	Annual	2023	389.45	450.24	530.20	675.12	73.19	85.04	100.81	127.31
AD	Northern Sonoma County APCD	Annual	2024	389.28	450.28	530.12	675.30	73.17	85.12	100.85	127.48
AD	Northern Sonoma County APCD	Annual	2025	389.20	450.39	530.07	675.47	73.17	85.21	100.89	127.63
AD	Northern Sonoma County APCD	Annual	2026	388.38	449.63	528.86	674.20	73.19	85.33	100.92	127.79
AD	Northern Sonoma County APCD	Annual	2027	388.39	449.84	528.80	674.40	73.21	85.43	100.94	127.93
AD	Northern Sonoma County APCD	Annual	2028	388.39	450.05	528.74	674.61	73.21	85.53	100.95	128.07
AD	Northern Sonoma County APCD	Annual	2029	388.37	450.26	528.66	674.83	73.22	85.63	100.96	128.20
AD	Northern Sonoma County APCD	Annual	2030	388.34	450.46	528.57	675.05	73.22	85.71	100.96	128.32
AD	Northern Sonoma County APCD	Annual	2031	388.34	450.68	528.53	675.33	73.23	85.80	100.96	128.45
AD	Northern Sonoma County APCD	Annual	2032	388.33	450.87	528.49	675.61	73.23	85.88	100.97	128.57
AD	Northern Sonoma County APCD	Annual	2033	388.32	451.04	528.45	675.87	73.24	85.96	100.97	128.69
AD	Northern Sonoma County APCD	Annual	2034	388.31	451.20	528.43	676.10	73.25	86.03	100.98	128.79
AD	Northern Sonoma County APCD	Annual	2035	388.30	451.32	528.40	676.31	73.25	86.08	100.98	128.89
AD	Northern Sonoma County APCD	Summer	2010	405.40	463.97	554.11	693.02	73.44	86.67	100.89	124.24
AD	Northern Sonoma County APCD	Summer	2011	405.46	464.55	553.73	693.76	73.35	86.07	100.76	124.42
AD	Northern Sonoma County APCD	Summer	2012	405.58	465.14	553.43	694.67	73.28	85.75	100.71	124.64
AD	Northern Sonoma County APCD	Summer	2013	405.73	465.65	553.21	695.68	73.24	85.48	100.70	124.89
AD	Northern Sonoma County APCD	Summer	2014	405.87	466.08	553.06	696.69	73.21	85.23	100.66	125.14
AD	Northern Sonoma County APCD	Summer	2015	405.97	466.45	552.95	697.74	73.15	84.99	100.59	125.42
	Northern Sonoma County APCD	Summer	2016	404.98	465.53	551.32	696.79	73.14	84.86		125.69
AD	Northern Sonoma County APCD	Summer	2017	405.05	465.86	551.23	697.73	73.11	84.74	100.59	125.97
AD	Northern Sonoma County APCD	Summer	2018	405.05	466.14	551.15	698.52	73.05	84.67		126.25
AD	Northern Sonoma County APCD	Summer	2019	405.08	466.43	551.09	699.22	73.04	84.68		126.51
AD	Northern Sonoma County APCD	Summer	2020	405.14	466.72	551.02	699.85	73.12	84.77	100.66	126.75
AD	Northern Sonoma County APCD	Summer	2021	405.12	466.94	550.95	700.35	73.17	84.88		126.95
AD	Northern Sonoma County APCD	Summer	2022	405.06	467.10	550.86	700.77	73.19	84.96	100.77	127.13
AD	Northern Sonoma County APCD	Summer	2023	404.88	467.22	550.78	701.06	73.19	85.04		127.31
AD	Northern Sonoma County APCD	Summer	2024	404.72	467.34	550.70	701.27	73.17	85.12	100.85	127.48
AD	Northern Sonoma County APCD	Summer	2025	404.64	467.50	550.65	701.46	73.17	85.21		127.63
AD	Northern Sonoma County APCD	Summer	2026	403.80	466.76	549.40	700.14	73.19	85.33		127.79
AD	Northern Sonoma County APCD	Summer	2027	403.82	467.03	549.34	700.34	73.21	85.43		127.93
AD	Northern Sonoma County APCD	Summer	2028	403.82	467.29	549.29	700.56	73.21	85.53		128.07
AD	Northern Sonoma County APCD	Summer	2029	403.81	467.55	549.22	700.79	73.22		100.96	128.20
	Northern Sonoma County APCD	Summer	2030	403.80	467.80	549.13	701.03	73.22	85.71		128.32
AD	Northern Sonoma County APCD	Summer	2031	403.80	468.07	549.10	701.35	73.23	85.80		128.45
AD	Northern Sonoma County APCD	Summer	2032	403.79	468.29	549.07	701.67	73.23	85.88		128.57
AD	Northern Sonoma County APCD	Summer	2033	403.79	468.49	549.04	701.96	73.24	85.96		128.69
AD	Northern Sonoma County APCD	Summer	2034	403.78	468.67	549.01	702.23	73.25	86.03		128.79
AD	Northern Sonoma County APCD	Summer	2035	403.77	468.80	548.99	702.46	73.25	86.08		128.89
AD	Northern Sonoma County APCD	Winter	2010	383.18	442.11	524.58	656.01	73.44	86.67	100.89	124.24
AD	Northern Sonoma County APCD	Winter	2011	383.00	442.03	523.97	656.70	73.35	86.07	100.76	124.42

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MIT)		CO2 Star	ting (a/tri	n)
	Location	Caaaaa	V								
۸.	North and Conserve County ADCD	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Northern Sonoma County APCD	Winter Winter	2012	382.92	442.12	523.49	657.49	73.28	85.75	100.71	124.64
AD	Northern Sonoma County APCD Northern Sonoma County APCD		2013	382.92 382.95	442.20 442.27	523.10 522.78	658.32 659.14	73.24 73.21	85.48	100.70 100.66	124.89
AD AD	, , , , , , , , , , , , , , , , , , ,	Winter Winter	2014 2015	382.97	442.27	522.76	659.14	73.21	85.23 84.99	100.66	125.14 125.42
AD	Northern Sonoma County APCD	Winter	2016	382.00	441.23	522.32	658.92	73.13	84.86	100.59	125.42
AD AD	Northern Sonoma County APCD	Winter	2010	382.00	441.35	520.68	659.67	73.14	84.74	100.59	125.09
	Northern Sonoma County APCD		-					73.11			
AD	Northern Sonoma County APCD	Winter	2018	382.04	441.46	520.55	660.31		84.67	100.59	126.25
AD	Northern Sonoma County APCD	Winter	2019	382.06	441.60	520.45	660.88	73.04 73.12	84.68	100.60	126.51
AD	Northern Sonoma County APCD	Winter	2020	382.13	441.75	520.37	661.39		84.77	100.66	126.75
AD	Northern Sonoma County APCD	Winter	2021	382.11	441.85	520.28	661.79	73.17	84.88	100.73	126.95
AD	Northern Sonoma County APCD	Winter	2022	382.05	441.88	520.16	662.13	73.19	84.96	100.77	127.13
AD	Northern Sonoma County APCD	Winter	2023	381.86	441.88	520.07	662.35	73.19	85.04	100.81	127.31
AD	Northern Sonoma County APCD	Winter	2024	381.68	441.89	519.99	662.52	73.17	85.12	100.85	127.48
AD	Northern Sonoma County APCD	Winter	2025	381.60	441.97	519.94	662.68	73.17	85.21	100.89	127.63
AD	Northern Sonoma County APCD	Winter	2026	380.80	441.20	518.76	661.43	73.19	85.33	100.92	127.79
AD	Northern Sonoma County APCD	Winter	2027	380.81	441.38	518.69	661.63	73.21	85.43	100.94	127.93
AD	Northern Sonoma County APCD	Winter	2028	380.79	441.56	518.63	661.84	73.21	85.53	100.95	128.07
AD	Northern Sonoma County APCD	Winter	2029	380.77	441.75	518.54	662.05	73.22	85.63	100.96	128.20
AD	Northern Sonoma County APCD	Winter	2030	380.74	441.93	518.44	662.26	73.22	85.71	100.96	128.32
AD	Northern Sonoma County APCD	Winter	2031	380.73	442.12	518.40	662.52	73.23	85.80	100.96	128.45
AD	Northern Sonoma County APCD	Winter	2032	380.72	442.30	518.36	662.79	73.23	85.88	100.97	128.57
AD	Northern Sonoma County APCD	Winter	2033	380.71	442.46	518.33	663.03	73.24	85.96	100.97	128.69
AD	Northern Sonoma County APCD	Winter	2034	380.70	442.60	518.30	663.25	73.25	86.03	100.98	128.79
AD	Northern Sonoma County APCD	Winter	2035	380.69	442.72	518.27	663.43	73.25	86.08	100.98	128.89
AD	Placer County APCD	Annual	2010	330.80	382.95	453.87	573.60	73.15	86.40	99.87	125.61
AD	Placer County APCD	Annual	2011	330.96	383.35	453.67	574.14	73.10	85.94	99.92	125.82
AD	Placer County APCD	Annual	2012	331.12	383.73	453.52	574.71	73.06	85.63	100.00	126.05
AD	Placer County APCD	Annual	2013	331.32	384.06	453.41	575.29	73.08	85.40	100.09	126.27
AD	Placer County APCD	Annual	2014	331.48	384.35	453.34	575.86	73.07	85.22	100.16	126.50
AD	Placer County APCD	Annual	2015	331.65	384.62	453.29	576.42	73.11	85.08	100.23	126.73
AD	Placer County APCD	Annual	2016	331.81	384.88	453.26	576.96	73.18	85.00	100.31	126.96
AD	Placer County APCD	Annual	2017	331.93	385.06	453.23	577.48	73.23	84.86	100.37	127.19
AD	Placer County APCD	Annual	2018	332.03	385.26	453.21	577.92	73.27	84.81	100.44	127.41
AD	Placer County APCD	Annual	2019	331.81	385.22	453.03	577.86	73.33		100.51	127.59
AD	Placer County APCD	Annual	2020	331.89	385.39	453.01	578.18	73.41	85.01	100.59	127.77
AD	Placer County APCD	Annual	2021	331.94	385.58	452.99	578.41	73.48			127.91
AD	Placer County APCD	Annual	2022	331.98	385.74	452.97	578.60	73.53	85.27	100.73	128.02
AD	Placer County APCD	Annual	2023	332.00	385.86	452.94	578.76	73.57	85.37	100.79	128.16
AD	Placer County APCD	Annual	2024	332.00	385.96	452.93	578.88	73.59	85.46	100.83	128.28
AD	Placer County APCD	Annual	2025	332.00	386.05	452.91	579.01	73.61	85.54	100.87	128.41
AD	Placer County APCD	Annual	2026	332.02	386.16	452.89	579.13	73.63	85.62	100.90	128.52
AD	Placer County APCD	Annual	2027	332.04	386.27	452.88	579.25	73.64	85.70	100.92	128.62
AD	Placer County APCD	Annual	2028	332.05	386.37	452.86	579.37	73.65	85.76		128.71
AD	Placer County APCD	Annual	2029	332.05	386.48	452.84	579.49	73.66		100.95	128.80
AD	Placer County APCD	Annual	2030	332.06	386.59	452.82	579.61	73.67	85.89	100.96	128.88
AD	Placer County APCD	Annual	2031	332.06	386.69	452.81	579.74	73.67	85.94	100.97	128.95
AD	Placer County APCD	Annual	2032	332.06	386.79	452.80	579.86	73.68	86.00	100.98	129.02
AD	Placer County APCD	Annual	2033	332.06	386.87	452.79	579.98	73.68	86.05	100.98	129.09
AD	Placer County APCD	Annual	2034	332.06	386.95	452.79	580.09	73.68	86.09	100.99	129.15
AD	Placer County APCD	Annual	2035	332.06	387.01	452.78	580.18	73.68	86.13	100.99	129.20
AD	Placer County APCD	Summer	2010	366.87	419.79	499.91	632.16	73.15	86.40	99.87	125.61
AD	Placer County APCD	Summer	2011	367.20	420.83	499.86	632.72	73.10	85.94		125.82
AD	Placer County APCD	Summer	2012	367.51	421.72	499.86	633.38	73.06	85.63	100.00	126.05
AD	Placer County APCD	Summer	2013	367.83	422.43	499.88	634.06	73.08	85.40	100.09	126.27

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/\/MT	7		^∩2 Star	ting (g/tri	n)
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Placer County APCD	Summer	2014	368.11	423.03	499.98	634.82	73.07	85.22	100.16	126.50
AD	Placer County APCD	Summer	2014	368.37	423.53	500.06	635.56	73.11	85.08	100.10	126.73
AD	Placer County APCD	Summer	2016	368.59	423.99	500.00	636.33	73.18	85.00	100.23	126.96
AD	Placer County APCD	Summer	2017	368.75	424.37	500.30	637.08	73.23	84.86	100.37	127.19
AD	Placer County APCD	Summer	2018	368.87	424.73	500.37	637.69	73.27	84.81	100.44	127.41
AD	Placer County APCD	Summer	2019	368.64	424.75	500.19	637.68	73.33	84.90	100.51	127.59
AD	Placer County APCD	Summer	2020	368.73	425.03	500.21	638.11	73.41	85.01	100.59	127.77
AD	Placer County APCD	Summer	2021	368.79	425.26	500.22	638.45	73.48	85.15	100.67	127.91
AD	Placer County APCD	Summer	2022	368.85	425.49	500.23	638.74	73.53	85.27	100.73	128.02
AD	Placer County APCD	Summer	2023	368.90	425.67	500.25	638.98	73.57	85.37	100.79	128.16
AD	Placer County APCD	Summer	2024	368.92	425.83	500.26	639.17	73.59	85.46	100.83	128.28
AD	Placer County APCD	Summer	2025	368.94	425.99	500.29	639.37	73.61	85.54	100.87	128.41
AD	Placer County APCD	Summer	2026	368.98	426.17	500.30	639.54	73.63	85.62	100.90	128.52
AD	Placer County APCD	Summer	2027	369.02	426.34	500.32	639.72	73.64	85.70	100.92	128.62
AD	Placer County APCD	Summer	2028	369.05	426.52	500.35	639.90	73.65	85.76	100.94	128.71
AD	Placer County APCD	Summer	2029	369.08	426.71	500.38	640.08	73.66	85.83	100.95	128.80
AD	Placer County APCD	Summer	2030	369.11	426.89	500.40	640.26	73.67	85.89	100.96	128.88
AD	Placer County APCD	Summer	2031	369.14	427.07	500.42	640.42	73.67	85.94	100.97	128.95
AD	Placer County APCD	Summer	2032	369.16	427.23	500.45	640.59	73.68	86.00	100.98	129.02
AD	Placer County APCD	Summer	2033	369.19	427.37	500.48	640.76	73.68	86.05	100.98	129.09
AD	Placer County APCD	Summer	2034	369.21	427.50	500.51	640.92	73.68	86.09	100.99	129.15
AD	Placer County APCD	Summer	2035	369.22	427.60	500.54	641.08	73.68	86.13	100.99	129.20
AD	Placer County APCD	Winter	2010	321.28	373.22	441.80	558.12	73.15	86.40	99.87	125.61
AD	Placer County APCD	Winter	2011	321.39	373.46	441.55	558.65	73.10	85.94	99.92	125.82
AD	Placer County APCD	Winter	2012	321.51	373.70	441.37	559.19	73.06	85.63	100.00	126.05
AD	Placer County APCD	Winter	2013	321.67	373.92	441.22	559.73	73.08	85.40	100.09	126.27
AD	Placer County APCD	Winter	2014	321.80	374.13	441.10	560.26	73.07	85.22	100.16	126.50
AD	Placer County APCD	Winter	2015	321.94	374.34	441.02	560.77	73.11	85.08	100.23	126.73
AD	Placer County APCD	Winter	2016	322.09	374.54	440.94	561.25	73.18	85.00	100.31	126.96
AD	Placer County APCD	Winter	2017	322.20	374.67	440.87	561.70	73.23	84.86	100.37	127.19
AD	Placer County APCD	Winter	2018	322.28	374.82	440.83	562.09	73.27	84.81	100.44	127.41
AD	Placer County APCD	Winter	2019	322.07	374.75	440.63	562.01	73.33	84.90	100.51	127.59
AD	Placer County APCD	Winter	2020	322.14	374.90	440.60	562.29	73.41	85.01	100.59	127.77
AD	Placer County APCD	Winter	2021	322.19	375.07	440.56	562.49	73.48	85.15	100.67	127.91
AD	Placer County APCD	Winter	2022	322.22	375.21	440.52	562.65	73.53	85.27	100.73	128.02
AD	Placer County APCD	Winter	2023	322.22	375.31	440.49	562.78	73.57	85.37	100.79	128.16
AD	Placer County APCD	Winter	2024	322.22	375.39	440.45	562.88	73.59	85.46	100.83	128.28
AD	Placer County APCD	Winter	2025	322.22	375.47	440.42	562.98	73.61	85.54	100.87	128.41
AD	Placer County APCD	Winter	2026	322.23	375.55	440.39	563.08	73.63	85.62	100.90	128.52
AD	Placer County APCD	Winter	2027	322.23	375.64	440.36	563.18	73.64	85.70	100.92	128.62
AD	Placer County APCD	Winter	2028	322.24	375.72	440.33	563.28	73.65	85.76	100.94	128.71
AD	Placer County APCD	Winter	2029	322.23	375.80	440.29	563.38	73.66	85.83	100.95	128.80
AD	Placer County APCD	Winter	2030	322.23	375.89	440.25	563.48	73.67	85.89	100.96	128.88
AD	Placer County APCD	Winter	2031	322.22	375.97	440.23	563.59	73.67	85.94	100.97	128.95
AD	Placer County APCD	Winter	2032	322.22	376.04	440.21	563.70	73.68	86.00	100.98	129.02
AD	Placer County APCD	Winter	2033	322.21	376.11	440.19	563.80	73.68	86.05	100.98	129.09
AD	Placer County APCD	Winter	2034	322.20	376.17	440.17	563.89	73.68	86.09	100.99	129.15
AD	Placer County APCD	Winter	2035	322.19	376.21	440.15	563.96	73.68	86.13	100.99	129.20
AD	Sacramento Metropolitan AQMD	Annual	2010	338.27	388.45	463.58	584.38	72.89	84.85	99.62	124.76
AD	Sacramento Metropolitan AQMD	Annual	2011	338.59	389.26	463.49	584.93	72.94	84.61	99.69	124.96
AD	Sacramento Metropolitan AQMD	Annual	2012	338.89	389.98	463.44	585.56	73.00	84.46	99.78	125.19
AD	Sacramento Metropolitan AQMD	Annual	2013	339.19	390.61	463.40	586.25	73.08	84.39	99.88	125.44
AD	Sacramento Metropolitan AQMD	Annual	2014	339.46	391.17	463.38	586.94	73.15	84.34	99.96	125.69
AD	Sacramento Metropolitan AQMD	Annual	2015	339.72	391.68	463.38	587.65	73.24	84.33	100.03	125.96

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Lagation	1	<u> </u>		CO2 D:	na (~/\/*	-)		CO2 C+-	ting /=-/-	in)
	Location		.,		O2 Runni					rting (g/tr	
4.0	On any and a Madaga allian A OMD	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Sacramento Metropolitan AQMD	Annual	2016	339.95	392.11	463.38	588.32	73.35	84.32	100.13	126.23
AD	Sacramento Metropolitan AQMD	Annual	2017	340.12	392.49	463.38	588.95	73.41	84.30		126.50
AD	Sacramento Metropolitan AQMD	Annual	2018	340.26	392.81	463.37	589.51	73.47	84.32	100.29	126.76
AD	Sacramento Metropolitan AQMD	Annual	2019	338.61	391.09	460.99	586.96	73.53	84.47	100.38	126.99 127.20
AD AD	Sacramento Metropolitan AQMD	Annual	2020 2021	338.72 338.80	391.37 391.64	460.98 460.97	587.40 587.73	73.64 73.72	84.63 84.80	100.47 100.57	127.20
AD	Sacramento Metropolitan AQMD Sacramento Metropolitan AQMD	Annual	2021	338.84	391.86	460.96	588.00	73.78	84.95	100.57	127.54
AD	'	Annual Annual	2022	338.86	392.04	460.94	588.22	73.76	85.07	100.64	127.54
AD	Sacramento Metropolitan AQMD Sacramento Metropolitan AQMD	Annual	2023	338.87	392.04	460.92	588.37	73.85	85.19		127.71
AD	Sacramento Metropolitan AQMD	Annual	2024	338.88	392.19	460.92	588.52	73.87	85.29	100.76	128.00
AD	Sacramento Metropolitan AQMD	Annual	2026	338.89	392.46	460.90	588.69	73.89	85.39	100.85	128.15
AD	Sacramento Metropolitan AQMD	Annual	2027	338.90	392.59	460.89	588.86	73.91	85.48	100.88	128.28
AD	Sacramento Metropolitan AQMD	Annual	2028	338.91	392.72	460.89	589.02	73.92	85.56	100.00	128.39
AD	Sacramento Metropolitan AQMD	Annual	2029	338.91	392.85	460.87	589.18	73.93	85.64	100.92	128.50
AD	Sacramento Metropolitan AQMD	Annual	2030	338.91	392.98	460.87	589.35	73.93	85.71	100.93	128.60
AD	Sacramento Metropolitan AQMD	Annual	2031	338.92	393.12	460.86	589.51	73.94	85.79	100.94	128.70
AD	Sacramento Metropolitan AQMD	Annual	2032	338.92	393.24	460.86	589.69	73.94	85.85	100.95	128.80
AD	Sacramento Metropolitan AQMD	Annual	2033	338.92	393.34	460.85	589.84	73.95	85.91	100.96	128.88
AD	Sacramento Metropolitan AQMD	Annual	2034	338.92	393.44	460.84	589.99	73.95	85.97	100.96	128.96
AD	Sacramento Metropolitan AQMD	Annual	2035	338.92	393.51	460.84	590.12	73.95	86.02	100.97	129.04
AD	Sacramento Metropolitan AQMD	Summer	2010	375.62	427.51	513.20	646.48	72.89	84.85	99.62	124.76
AD	Sacramento Metropolitan AQMD	Summer	2011	376.19	429.01	513.26	646.92	72.94	84.61	99.69	124.96
AD	Sacramento Metropolitan AQMD	Summer	2012	376.70	430.30	513.35	647.57	73.00	84.46	99.78	125.19
AD	Sacramento Metropolitan AQMD	Summer	2013	377.16	431.37	513.46	648.38	73.08	84.39	99.88	125.44
AD	Sacramento Metropolitan AQMD	Summer	2014	377.55	432.28	513.62	649.25	73.15	84.34	99.96	125.69
AD	Sacramento Metropolitan AQMD	Summer	2015	377.89	433.05	513.77	650.20	73.24	84.33	100.03	125.96
AD	Sacramento Metropolitan AQMD	Summer	2016	378.19	433.69	513.89	651.12	73.35	84.32	100.13	126.23
AD	Sacramento Metropolitan AQMD	Summer	2017	378.39	434.26	513.97	651.99	73.41	84.30	100.21	126.50
AD	Sacramento Metropolitan AQMD	Summer	2018	378.53	434.71	513.99	652.74	73.47	84.32	100.29	126.76
AD	Sacramento Metropolitan AQMD	Summer	2019	376.67	432.84	511.33	650.00	73.53	84.47	100.38	126.99
AD	Sacramento Metropolitan AQMD	Summer	2020	376.76	433.18	511.31	650.57	73.64	84.63	100.47	127.20
AD	Sacramento Metropolitan AQMD	Summer	2021	376.83	433.55	511.26	650.99	73.72	84.80	100.57	127.38
AD	Sacramento Metropolitan AQMD	Summer	2022	376.86	433.86	511.21	651.34	73.78	84.95	100.64	127.54
AD	Sacramento Metropolitan AQMD	Summer	2023	376.88	434.12	511.16	651.60	73.82	85.07	100.71	127.71
AD	Sacramento Metropolitan AQMD	Summer	2024	376.89	434.33	511.11	651.76	73.85	85.19	100.76	127.86
AD	Sacramento Metropolitan AQMD	Summer	2025	376.91	434.52	511.07	651.91	73.87	85.29	100.81	128.00
AD	Sacramento Metropolitan AQMD	Summer	2026	376.91	434.70	511.07	652.09	73.89	85.39	100.85	128.15
AD	Sacramento Metropolitan AQMD	Summer	2027	376.93	434.88	511.07	652.26	73.91	85.48	100.88	128.28
AD	Sacramento Metropolitan AQMD	Summer	2028	376.94	435.06	511.07	652.43	73.92	85.56	100.90	128.39
AD	Sacramento Metropolitan AQMD	Summer	2029	376.95	435.25	511.08	652.61	73.93	85.64	100.92	128.50
AD	Sacramento Metropolitan AQMD	Summer	2030	376.96	435.44	511.08	652.80	73.93	85.71	100.93	128.60
AD	Sacramento Metropolitan AQMD	Summer	2031	376.96	435.63	511.08	652.97	73.94	85.79	100.94	128.70
AD	Sacramento Metropolitan AQMD	Summer	2032	376.97	435.80	511.07	653.16	73.94	85.85	100.95	128.80
AD	Sacramento Metropolitan AQMD	Summer	2033	376.98	435.94	511.07	653.35	73.95	85.91	100.96	128.88
AD	Sacramento Metropolitan AQMD	Summer	2034	376.98	436.06	511.06	653.53	73.95	85.97	100.96	128.96
AD	Sacramento Metropolitan AQMD	Summer	2035	376.98	436.16	511.05	653.69	73.95	86.02	100.97	129.04
AD	Sacramento Metropolitan AQMD	Winter	2010	328.26	377.97	450.28	567.73	72.89	84.85	99.62	124.76
AD	Sacramento Metropolitan AQMD	Winter	2011	328.50	378.59	450.15	568.31	72.94	84.61	99.69	124.96
AD	Sacramento Metropolitan AQMD	Winter	2012	328.76	379.17	450.05	568.93	73.00	84.46	99.78	125.19
AD	Sacramento Metropolitan AQMD	Winter	2013	329.01	379.69	449.97	569.59	73.08	84.39	99.88	125.44
AD	Sacramento Metropolitan AQMD	Winter	2014	329.25	380.15	449.91	570.23	73.15	84.34	99.96	125.69
AD	Sacramento Metropolitan AQMD	Winter	2015	329.48	380.58	449.87	570.88	73.24	84.33	100.03	125.96
AD	Sacramento Metropolitan AQMD	Winter	2016	329.69	380.95	449.84	571.48	73.35	84.32	100.13	126.23
AD	Sacramento Metropolitan AQMD	Winter	2017	329.86	381.29	449.81	572.05	73.41	84.30	100.21	126.50

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/\/MT)	-	CO2 Star	ting (g/tri	(n)
	20041011	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Sacramento Metropolitan AQMD	Winter	2018	329.99	381.58	449.80	572.55	73.47	84.32	100.29	126.76
AD	Sacramento Metropolitan AQMD	Winter	2019	328.41	379.90	447.49	570.06	73.53	84.47	100.28	126.99
AD	Sacramento Metropolitan AQMD	Winter	2020	328.52	380.16	447.49	570.46	73.64	84.63	100.47	127.20
AD	Sacramento Metropolitan AQMD	Winter	2021	328.60	380.41	447.49	570.77	73.72	84.80	100.57	127.38
AD	Sacramento Metropolitan AQMD	Winter	2022	328.65	380.61	447.49	571.03	73.78	84.95	100.64	127.54
AD	Sacramento Metropolitan AQMD	Winter	2023	328.67	380.77	447.48	571.23	73.82	85.07	100.71	127.71
AD	Sacramento Metropolitan AQMD	Winter	2024	328.67	380.89	447.47	571.38	73.85	85.19	100.76	127.86
AD	Sacramento Metropolitan AQMD	Winter	2025	328.68	381.01	447.47	571.53	73.87	85.29	100.81	128.00
AD	Sacramento Metropolitan AQMD	Winter	2026	328.70	381.14	447.46	571.70	73.89	85.39	100.85	128.15
AD	Sacramento Metropolitan AQMD	Winter	2027	328.71	381.25	447.45	571.86	73.91	85.48	100.88	128.28
AD	Sacramento Metropolitan AQMD	Winter	2028	328.72	381.37	447.43	572.02	73.92	85.56	100.90	128.39
AD	Sacramento Metropolitan AQMD	Winter	2029	328.72	381.49	447.42	572.18	73.93	85.64	100.92	128.50
AD	Sacramento Metropolitan AQMD	Winter	2030	328.72	381.60	447.41	572.34	73.93	85.71	100.93	128.60
AD	Sacramento Metropolitan AQMD	Winter	2031	328.72	381.72	447.40	572.50	73.94	85.79	100.94	128.70
AD	Sacramento Metropolitan AQMD	Winter	2032	328.72	381.83	447.39	572.67	73.94	85.85	100.95	128.80
AD	Sacramento Metropolitan AQMD	Winter	2033	328.72	381.92	447.39	572.82	73.95	85.91	100.96	128.88
AD	Sacramento Metropolitan AQMD	Winter	2034	328.72	382.01	447.38	572.96	73.95	85.97	100.96	128.96
AD	Sacramento Metropolitan AQMD	Winter	2035	328.71	382.08	447.37	573.07	73.95	86.02	100.97	129.04
AD	San Diego County APCD	Annual	2010	352.52	405.15	482.46	610.22	72.99	83.92	99.34	125.27
AD	San Diego County APCD	Annual	2011	353.81	407.05	483.85	612.57	73.01	83.88	99.44	125.44
AD	San Diego County APCD	Annual	2012	354.03	407.67	483.80	613.09	73.05	83.89	99.57	125.64
AD	San Diego County APCD	Annual	2013	354.28	408.23	483.77	613.65	73.12	83.94	99.70	125.85
AD	San Diego County APCD	Annual	2014	354.50	408.76	483.75	614.21	73.17	83.99	99.82	126.06
AD	San Diego County APCD	Annual	2015	354.72	409.25	483.74	614.79	73.24	84.07	99.93	126.29
AD	San Diego County APCD	Annual	2016	354.92	409.69	483.74	615.32	73.32	84.16	100.05	126.52
AD	San Diego County APCD	Annual	2017	355.08	410.10	483.73	615.84	73.37	84.25	100.15	126.74
AD	San Diego County APCD	Annual	2018	355.21	410.47	483.74	616.29	73.41	84.35	100.25	126.96
AD	San Diego County APCD	Annual	2019	355.33	410.82	483.74	616.69	73.46	84.52	100.35	127.15
AD	San Diego County APCD	Annual	2020	355.43	411.15	483.75	617.07	73.55	84.69	100.45	127.34
AD	San Diego County APCD	Annual	2021	356.07	412.11	484.56	618.41	73.62	84.87	100.55	127.52
AD	San Diego County APCD	Annual	2022	356.11	412.36	484.56	618.69	73.67	85.02	100.63	127.67
AD	San Diego County APCD	Annual	2023	356.12	412.55	484.56	618.89	73.71	85.15	100.70	127.83
AD	San Diego County APCD	Annual	2024	356.12	412.71	484.55	619.06	73.72	85.27	100.76	127.98
AD	San Diego County APCD	Annual	2025	356.11	412.86	484.55	619.23	73.74	85.38	100.81	128.12
AD	San Diego County APCD	Annual	2026	356.13	413.01	484.54	619.39	73.76	85.48	100.85	128.26
AD	San Diego County APCD	Annual	2027	356.14	413.16	484.53	619.54	73.77	85.57	100.88	128.38
AD	San Diego County APCD	Annual	2028	356.15	413.30	484.51	619.69	73.78	85.66	100.90	128.48
AD	San Diego County APCD	Annual	2029	356.15	413.45	484.50	619.84	73.79	85.74	100.92	128.58
AD	San Diego County APCD	Annual	2030	356.14	413.59	484.49	619.98	73.79	85.81	100.93	128.68
AD	San Diego County APCD	Annual	2031	356.14	413.74	484.48	620.13	73.80	85.89	100.94	128.77
AD	San Diego County APCD	Annual	2032	356.14	413.87	484.48	620.29	73.80	85.96	100.95	128.86
AD	San Diego County APCD	Annual	2033	356.14	414.00	484.47	620.43	73.80	86.02	100.96	128.93
AD	San Diego County APCD	Annual	2034	356.13	414.10	484.46	620.55	73.80	86.08	100.97	129.01
AD	San Diego County APCD	Annual	2035	356.13	414.20	484.46	620.67	73.81	86.13	100.97	129.08
AD	San Diego County APCD	Summer	2010	372.46	426.19	509.00	643.64	72.99	83.92	99.34	125.27
AD	San Diego County APCD	Summer	2011	373.89	428.41	510.48	645.96	73.01	83.88	99.44	125.44
AD	San Diego County APCD	Summer	2012	374.19	429.26	510.46	646.43	73.05	83.89	99.57	125.64
AD	San Diego County APCD	Summer	2013	374.48	430.00	510.47	646.99	73.12	83.94	99.70	125.85
AD	San Diego County APCD	Summer	2014	374.75	430.67	510.51	647.60	73.17	83.99	99.82	126.06
AD	San Diego County APCD	Summer	2015	375.00	431.27	510.56	648.26	73.24	84.07	99.93	126.29
AD	San Diego County APCD	Summer	2016	375.24	431.81	510.61	648.90	73.32	84.16	100.05	126.52
AD	San Diego County APCD	Summer	2017	375.42	432.30	510.65	649.52	73.37	84.25	100.15	126.74
AD	San Diego County APCD	Summer	2018	375.55	432.74	510.67	650.05	73.41	84.35	100.25	126.96
AD	San Diego County APCD	Summer	2019	375.68	433.15	510.68	650.53	73.46	84.52	100.35	127.15

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

Season Year LDA LDT LDT2 MDV LDA LDT1 LDT2 MDV LDA LDT1 LDT2 MDV		Location			(°∩2 Runni	na (a/\/MT)		CO2 Star	tina (a/tri	in)
AB San Diego County APCD Summer 2020 376.78 438.25 510.88 660.97 73.56 84.86 100.45 127.34 AD San Diego County APCD Summer 2022 376.57 434.60 511.57 652.87 73.62 84.87 100.55 127.67 AD San Diego County APCD Summer 2022 376.52 44.80 511.57 652.80 73.67 36.50 100.50 127.67 AD San Diego County APCD Summer 2022 376.52 44.80 511.57 652.80 73.67 85.20 100.55 127.67 AD San Diego County APCD Summer 2024 376.64 435.14 511.67 653.20 73.71 85.15 100.07 127.88 AD San Diego County APCD Summer 2024 376.64 435.14 511.67 653.20 73.71 85.15 100.07 127.88 AD San Diego County APCD Summer 2026 376.54 435.24 511.69 653.27 73.76 85.40 100.51 127.64 AD San Diego County APCD Summer 2026 376.54 435.25 511.69 653.27 73.76 85.40 100.81 128.24 AD San Diego County APCD Summer 2026 376.54 435.25 511.69 653.27 73.76 85.40 100.81 128.24 AD San Diego County APCD Summer 2026 376.54 435.25 511.69 653.27 73.77 85.67 100.88 128.24 AD San Diego County APCD Summer 2026 376.54 435.25 511.69 653.27 73.77 85.67 100.88 128.24 AD San Diego County APCD Summer 2026 376.58 435.25 511.49 654.06 73.79 85.61 100.80 128.48 AD San Diego County APCD Summer 2026 376.58 435.25 511.49 654.06 73.79 85.61 100.80 128.48 AD San Diego County APCD Summer 2023 376.57 436.07 511.49 654.05 73.80 85.89 100.50 128.54 AD San Diego County APCD Summer 2023 376.57 436.07 511.40 654.05 73.80 85.89 100.50 128.54 AD San Diego County APCD Summer 2023 376.57 436.07 511.46 654.55 73.80 85.89 100.55 128.54 AD San Diego County APCD Summer 2023 376.57 436.07 511.46 654.55 73.80 85.89 100.55 128.54 AD San Diego County APCD Summer 2023 376.57 436.07 511.46 654.55 73.80 85.89 100.55 128.64 AD San Diego County APCD Summer 2023 376.57 436.07 511.46 654.55 73.80 85.89 100.55 128.64 AD San Diego County APCD Winter 2012 350.80 403.00 478.80 510.17 72.90 83.29 93.40 1222.50 403.20 403.		Location	Socon	Voor								
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AD San Diego County APCD Summer 2022 376.52 434.00 511.67 652.92 73.67 85.02 100.68 127.67 AD San Diego County APCD Summer 2024 376.54 435.14 511.67 653.07 73.71 85.15 100.76 127.86 AD San Diego County APCD Summer 2026 376.54 435.24 511.66 653.27 73.72 85.27 100.76 127.86 AD San Diego County APCD Summer 2026 376.54 435.24 511.66 653.27 73.72 85.27 100.76 127.86 AD San Diego County APCD Summer 2026 376.54 435.25 511.66 653.27 73.72 85.27 100.76 127.86 AD San Diego County APCD Summer 2026 376.54 435.25 511.65 653.27 73.72 85.27 100.76 127.86 AD San Diego County APCD Summer 2028 376.58 435.72 511.65 653.27 73.77 85.67 85.48 100.86 128.24 AD San Diego County APCD Summer 2028 376.58 436.75 11.65 653.27 73.77 85.67 100.88 128.34 AD San Diego County APCD Summer 2028 376.58 436.75 11.65 653.22 73.78 85.64 100.32 128.58 AD San Diego County APCD Summer 2028 376.58 436.75 11.48 654.05 73.79 85.67 100.88 128.34 AD San Diego County APCD Summer 2031 376.57 436.77 511.48 654.05 73.78 85.67 100.82 128.58 AD San Diego County APCD Summer 2031 376.57 436.77 511.48 654.05 73.80 85.89 100.30 128.68 AD San Diego County APCD Summer 2033 376.57 436.77 511.48 654.05 73.80 85.89 100.30 128.84 AD San Diego County APCD Summer 2033 376.57 436.77 511.46 654.05 73.80 85.89 100.30 128.84 AD San Diego County APCD Summer 2033 376.57 436.77 511.46 654.05 73.80 85.89 100.30 128.84 AD San Diego County APCD Summer 2033 376.57 436.77 511.46 654.05 73.80 85.89 100.30 128.84 AD San Diego County APCD Summer 2033 376.57 437.40 511.45 654.67 73.80 85.89 100.05 128.84 AD San Diego County APCD Winter 2010 348.91 401.34 477.65 604.17 73.80 85.89 100.05 128.84 AD San Diego County APCD Winter 2010 348.91 401.34 477.65 604.17 73.80 85.89 100.05 128.84 AD San Diego County APCD Winter 2010 357.65 405.89 405.89 607.06 73.24 84.07 93.89 33.93 4125.27 80.80 80.00 8		·										
AD San Diego County APCD Summer 2023 376.54 435.46 511.57 633.07 37.17 65.71 00.76 127.58 AD San Diego County APCD Summer 2024 376.54 435.45 511.56 653.25 73.72 85.73 100.76 127.58 AD San Diego County APCD Summer 2025 376.54 435.52 511.56 653.45 73.74 85.38 100.81 128.12 AD San Diego County APCD Summer 2026 376.55 435.30 111.56 653.62 73.76 85.38 100.85 128.34 AD San Diego County APCD Summer 2027 376.56 435.30 111.56 653.62 73.76 85.38 100.85 128.34 AD San Diego County APCD Summer 2028 376.57 436.07 511.57 653.32 73.78 85.66 100.30 128.58 AD San Diego County APCD Summer 2029 376.57 436.07 511.57 653.32 73.79 85.61 100.32 128.58 AD San Diego County APCD Summer 2029 376.57 436.47 511.40 654.51 73.79 85.61 100.32 128.58 AD San Diego County APCD Summer 2029 376.57 436.47 511.40 654.51 73.00 85.99 100.32 128.58 AD San Diego County APCD Summer 2030 376.57 436.47 511.40 654.51 73.00 85.99 100.34 128.57 AD San Diego County APCD Summer 2030 376.57 436.67 511.40 654.55 73.30 85.91 100.34 128.57 AD San Diego County APCD Summer 2031 376.57 436.67 511.40 654.55 73.30 85.91 100.34 128.57 AD San Diego County APCD Summer 2034 376.57 436.32 511.40 654.55 73.30 85.91 100.34 128.57 AD San Diego County APCD Summer 2034 376.57 436.32 511.40 654.35 73.00 85.91 100.34 128.57 AD San Diego County APCD Summer 2034 376.57 436.32 511.45 654.35 73.00 85.91 100.37 128.01 AD San Diego County APCD Winter 2010 349.91 101.43 477.65 60.41 72.99 83.92 83.93 83.94 83.4 83.4 83.4 83.4 83.4 83.4 83.4 83.												
AD San Diego County APCD Summer 2026 376.54 435.52 511.56 653.27 37.72 65.73 100.76 128.15 AD San Diego County APCD Summer 2027 376.56 435.52 511.56 653.45 73.74 85.38 10.81 128.12 AD San Diego County APCD Summer 2028 376.55 435.72 511.56 653.45 73.74 85.38 10.81 10.85 128.12 AD San Diego County APCD Summer 2028 376.57 435.07 11.51 653.02 73.78 85.77 100.88 10.82 128.12 AD San Diego County APCD Summer 2028 376.57 435.07 11.51 653.02 73.78 85.77 100.88 10.82 128.12 AD San Diego County APCD Summer 2028 376.57 435.07 11.51 653.02 13.78 85.77 100.88 10.82 128.14 AD San Diego County APCD Summer 2028 376.58 436.13 11.49 654.06 13.79 85.74 100.90 128.44 AD San Diego County APCD Summer 2030 376.57 436.07 11.40 11												127.83
AD San Diego County APCD Summer 2026 376.54 435.62 611.56 663.45 73.74 85.38 10.081 528.28 AD San Diego County APCD Summer 2028 376.55 435.72 511.54 663.62 73.76 85.46 10.086 128.28 AD San Diego County APCD Summer 2028 376.57 436.07 511.51 663.27 73.76 85.67 10.088 128.38 AD San Diego County APCD Summer 2029 376.57 436.07 511.51 663.27 73.79 85.67 10.088 128.38 AD San Diego County APCD Summer 2029 376.57 436.07 511.40 664.21 73.79 85.61 10.092 128.68 AD San Diego County APCD Summer 2030 376.58 436.25 111.40 664.21 73.79 85.61 10.092 128.68 AD San Diego County APCD Summer 2031 376.57 436.61 511.47 654.28 73.80 85.81 10.093 128.68 AD San Diego County APCD Summer 2032 376.57 436.61 511.47 654.28 73.80 85.89 10.095 128.68 AD San Diego County APCD Summer 2033 376.57 436.61 511.47 654.28 73.80 85.89 10.095 128.68 AD San Diego County APCD Summer 2034 376.57 437.61 511.46 664.21 73.79 85.61 10.095 128.68 AD San Diego County APCD Summer 2034 376.57 437.61 511.46 664.21 73.79 85.61 10.095 128.68 AD San Diego County APCD Summer 2034 376.57 437.61 511.46 664.25 73.80 85.89 10.095 128.68 AD San Diego County APCD Summer 2034 376.57 437.61 511.46 664.25 73.80 85.89 10.095 128.68 AD San Diego County APCD Summer 2034 376.57 437.61 511.46 664.25 73.80 85.89 10.095 128.68 AD San Diego County APCD Winter 2034 376.57 437.64 511.45 664.26 73.80 86.02 10.095 128.68 AD San Diego County APCD Winter 2034 380.61 511.45 664.05 73.00 85.61 664.07 87.00 83.00 83.00 93.01 128.68 AD San Diego County APCD Winter 2034 380.81 40.34 477.65 606.17 73.01 83.99 93.41 125.24 AD San Diego County APCD Winter 2034 380.81 40.43 479.94 606.53 73.01 83.88 99.57 125.61 AD San Diego County APCD Winter 2034 380.81 40.43 479.94 606.53 73.01 83.89 99.70 125.68 AD San Diego County APCD Winter 2034 380.81 40.43 479.94 606.53 73.01 83.89 99.70 125.68 AD San Diego County APCD Winter 2034 380.81 40.43 479.94 606.53 73.01 83.89 99.70 125.68 AD San Diego County APCD Winter 2034 380.81 40.43 479.94 606.53 73.01 83.89 99.70 125.68 AD San Diego County APCD Winter 2034 38												127.98
AD San Diego County APCD Summer 2026 376.55 435.70 431.51 4653.62 73.76 85.47 100.85 128.26 AD San Diego County APCD Summer 2028 376.57 436.07 611.51 653.32 73.78 85.67 100.89 128.48 AD San Diego County APCD Summer 2028 376.57 436.07 611.51 653.32 73.78 85.67 100.80 128.48 AD San Diego County APCD Summer 2039 376.58 438.43 11.48 654.26 73.79 85.74 100.92 128.68 AD San Diego County APCD Summer 2030 376.58 438.43 11.48 654.26 73.79 85.74 100.92 128.68 AD San Diego County APCD Summer 2031 376.57 435.67 11.40 654.51 73.50 85.89 100.94 128.77 AD San Diego County APCD Summer 2032 376.57 436.67 11.40 654.51 73.50 85.69 100.95 128.89 AD San Diego County APCD Summer 2033 376.57 437.68 111.45 654.58 73.80 85.69 100.95 128.89 AD San Diego County APCD Summer 2033 376.57 437.68 111.45 654.78 73.80 85.69 100.95 128.89 AD San Diego County APCD Summer 2033 376.57 437.64 151.45 654.78 73.80 86.08 100.97 128.08 AD San Diego County APCD Summer 2034 376.57 437.64 151.45 654.78 73.80 86.08 100.97 128.08 AD San Diego County APCD Summer 2035 376.57 437.64 151.45 654.78 73.80 86.08 100.97 128.08 AD San Diego County APCD Summer 2036 376.57 437.64 151.45 654.78 73.80 86.08 100.97 128.08 AD San Diego County APCD Winter 2010 348.91 401.34 477.65 604.17 72.99 83.92 93.40 128.27 AD San Diego County APCD Winter 2010 346.91 407.39 407.69 476.90 606.33 73.01 83.88 99.44 128.27 AD San Diego County APCD Winter 2011 350.18 403.18 479.04 606.63 73.01 83.88 99.47 128.64 AD San Diego County APCD Winter 2012 350.08 403.66 478.90 607.62 73.12 83.49 99.67 128.64 AD San Diego County APCD Winter 2013 350.62 404.30 478.90 607.63 73.01 83.89 99.67 128.64 AD San Diego County APCD Winter 2014 351.00 405.69 478.80 608.73 73.27 84.61 100.05 128.62 AD San Diego County APCD Winter 2015 351.00 405.69 478.80 608.73 73.71 85.61 100.05 128.62 AD San Diego County APCD Winter 2016 351.05 405.69 478.80 608.73 73.71 85.61 100.05 128.62 AD San Diego County APCD Winter 2018 351.05 405.69 478.80 608.73 73.71 85.61 100.05 128.62 AD San Diego County APCD Winter 2020 352.41 4				2025		435.52	511.56			85.38	100.81	128.12
AD San Diego County APCD Summer 2027 376.56 435.90 511.53 653.77 737 85.67 100.88 128.38 AD San Diego County APCD Summer 2029 376.58 436.27 511.51 653.92 73.77 85.67 100.98 128.36 AD San Diego County APCD Summer 2029 376.58 436.42 511.49 664.06 73.79 86.74 100.92 128.66 AD San Diego County APCD Summer 2030 376.58 436.43 511.48 664.07 73.79 85.81 100.93 128.68 AD San Diego County APCD Summer 2030 376.58 436.43 511.48 664.07 73.79 85.81 100.93 128.68 AD San Diego County APCD Summer 2030 376.57 436.77 511.46 654.65 73.80 86.92 100.95 128.68 AD San Diego County APCD Summer 2032 376.57 436.77 511.46 654.65 73.80 86.02 100.95 128.68 AD San Diego County APCD Summer 2034 376.57 436.72 511.46 654.65 73.80 86.02 100.95 128.68 AD San Diego County APCD Summer 2035 376.57 437.40 511.45 654.92 73.80 86.02 100.95 128.68 AD San Diego County APCD Summer 2035 376.57 437.40 511.45 654.92 73.80 86.03 100.97 129.00 AD San Diego County APCD Winter 2013 386.91 477.65 604.77 72.99 89.93 4125.24 AD San Diego County APCD Winter 2013 360.62 404.30 478.94 607.62 73.12 83.89 99.41 125.44 AD San Diego County APCD Winter 2013 360.62 404.30 478.94 607.62 73.12 83.99 99.92 125.06 AD San Diego County APCD Winter 2014 350.83 404.79 478.94 607.62 73.12 83.99 99.92 125.06 AD San Diego County APCD Winter 2014 350.83 404.79 478.94 607.62 73.12 83.99 99.92 125.06 AD San Diego County APCD Winter 2014 350.83 404.79 478.94 607.62 73.12 83.99 99.92 125.06 AD San Diego County APCD Winter 2014 350.83 404.79 478.94 607.67 73.17 83.99 99.82 125.04 AD San Diego County APCD Winter 2015 351.05 405.62 447.89 607.67 73.37 84.64 100.05 126.52 AD San Diego County APCD Winter 2016 351.52 405.69 478.89 607.67 73.17 83.99 99.82 125.04 AD San Diego County APCD Winter 2016 351.55 406.87 478.87 605.77 73.78 85.64 100.05 126.52 AD San Diego County APCD Winter 2026 352.42 408.26 479.67 612.57 73.67 85.02 100.65 127.54 AD San Diego County APCD Winter 2026 352.42 408.26 479.67 612.57 73.68 84.87 100.55 127.54 AD San Diego County APCD Winter 2026 352.44 408.90 479.67 612.57 7				2026			511.54			85.48		128.26
AD San Diego County APCD Summer AD San Diego County APCD Minter AD San Diego County APCD Minte	AD			2027	376.56	435.90	511.53	653.77	73.77	85.57	100.88	128.38
AD San Diego County APCD Summer 2031 376.58 436.43 511.48 654.21 73.79 85.81 109.93 128.68 AD San Diego County APCD Summer 2033 376.57 436.61 511.47 654.35 73.80 85.81 109.93 128.67 AD San Diego County APCD Summer 2033 376.57 436.61 511.47 654.35 73.80 85.96 109.95 128.87 AD San Diego County APCD Summer 2033 376.57 436.61 511.45 654.65 73.80 85.96 109.95 128.87 AD San Diego County APCD Summer 2033 376.57 436.92 511.45 654.65 73.80 86.02 109.96 128.93 AD San Diego County APCD Summer 2035 376.57 437.14 511.45 654.92 73.81 86.13 109.97 129.07 AD San Diego County APCD Winter 2010 348.91 401.34 477.65 604.17 72.99 83.92 99.34 125.27 AD San Diego County APCD Winter 2011 350.18 403.18 479.04 605.53 73.01 83.99 99.44 125.47 AD San Diego County APCD Winter 2012 350.39 403.76 478.88 607.06 73.05 83.89 99.57 125.64 AD San Diego County APCD Winter 2014 350.83 404.79 4405.65 73.01 83.99 99.82 126.02 AD San Diego County APCD Winter 2014 350.83 404.79 4478.81 606.17 73.12 83.94 99.70 125.68 AD San Diego County APCD Winter 2014 350.83 404.79 4478.81 606.17 73.12 83.99 99.82 126.25 AD San Diego County APCD Winter 2015 351.05 405.26 478.88 605.73 73.12 83.99 99.82 126.25 AD San Diego County APCD Winter 2016 351.25 405.86 478.88 605.73 73.12 83.99 99.82 126.25 AD San Diego County APCD Winter 2016 351.25 405.86 478.88 605.73 73.12 83.99 99.82 126.25 AD San Diego County APCD Winter 2018 351.55 406.44 478.87 608.75 73.41 84.95 100.05 126.54 AD San Diego County APCD Winter 2018 351.55 406.44 478.87 610.95 73.46 84.00 100.5 126.54 AD San Diego County APCD Winter 2018 351.65 406.78 478.87 610.95 73.46 84.00 100.5 126.54 AD San Diego County APCD Winter 2021 352.43 408.40 478.87 610.57 73.46 83.00 100.5 126.54 AD San Diego County APCD Winter 2021 352.43 408.04 479.66 613.03 73.74 85.8 40.00 51.27 54.00 AD San Diego County APCD Winter 2021 352.44 408.60 479.66 613.03 73.74 85.8 40.00 51.27 54.00 AD San Diego County APCD Winter 2021 352.44 408.60 479.66 613.03 73.74 85.8 40.00.55 126.54 AD San Diego County APCD Winter 2021 352.44 408.60 47	AD	San Diego County APCD	Summer	2028	376.57	436.07	511.51	653.92	73.78	85.66	100.90	128.48
AD San Diego County APCD Summer AD San Diego County APCD Minter AD San Diego County APCD Winter AD San Diego County APCD Winte	AD	San Diego County APCD	Summer	2029	376.58	436.25	511.49	654.06	73.79	85.74	100.92	128.58
AD San Diego County APCD Summer 2032 376.57 436.77 511.46 654.55 73.80 65.96 100.95 128.66 AD San Diego County APCD Summer 2033 376.57 436.92 511.45 654.65 73.80 66.02 100.95 128.67 60 51 60 5	AD	San Diego County APCD	Summer	2030	376.58	436.43	511.48	654.21	73.79	85.81	100.93	128.68
AD San Diego County APCD Summer 2034 376.57 436.92 511.45 654.56 73.80 86.02 100.96 128.93 AD San Diego County APCD Summer 2034 376.57 437.04 511.45 654.79 73.80 86.08 100.97 129.04 AD San Diego County APCD Summer 2034 376.57 437.04 511.45 654.92 73.81 86.13 100.97 129.04 AD San Diego County APCD Winter 2010 348.91 401.34 477.65 604.17 72.99 83.92 99.34 125.27 AD San Diego County APCD Winter 2011 350.18 403.18 479.04 606.53 73.01 83.89 99.57 125.64 AD San Diego County APCD Winter 2013 350.62 404.30 478.94 607.62 73.12 83.99 99.70 125.81 AD San Diego County APCD Winter 2014 350.83 404.79 478.94 607.62 73.12 83.99 99.70 125.81 AD San Diego County APCD Winter 2015 351.05 405.26 478.99 607.67 73.12 83.99 99.70 125.81 AD San Diego County APCD Winter 2016 351.25 405.69 478.89 609.25 73.32 84.16 100.05 126.52 AD San Diego County APCD Winter 2016 351.25 405.69 478.89 609.25 73.32 84.16 100.05 126.52 AD San Diego County APCD Winter 2016 351.25 405.69 478.89 609.25 73.32 84.16 100.05 126.52 AD San Diego County APCD Winter 2019 351.65 406.89 478.86 609.25 73.32 84.16 100.05 126.52 AD San Diego County APCD Winter 2019 351.65 406.89 478.87 609.75 73.31 84.35 100.55 126.74 AD San Diego County APCD Winter 2019 351.65 406.89 478.87 609.75 73.31 84.35 100.55 126.74 AD San Diego County APCD Winter 2019 351.65 406.89 478.87 610.95 73.46 84.52 100.15 126.74 AD San Diego County APCD Winter 2019 351.65 406.89 478.87 610.95 73.46 84.52 100.15 126.74 AD San Diego County APCD Winter 2019 351.65 406.89 478.87 610.95 73.68 84.87 100.55 127.52 AD San Diego County APCD Winter 2019 351.65 406.89 478.87 610.95 73.68 84.87 100.55 127.52 AD San Diego County APCD Winter 2024 352.42 408.24 479.67 612.25 73.62 84.87 100.55 127.52 AD San Diego County APCD Winter 2024 352.42 408.26 479.67 612.25 73.67 85.08 100.07 6127.85 AD San Diego County APCD Winter 2024 352.44 409.04 479.66 613.07 73.76 85.68 100.07 127.85 AD San Diego County APCD Winter 2024 352.44 409.04 479.66 613.20 73.76 85.68 100.09 128.68 AD S	AD	San Diego County APCD	Summer	2031	376.57	436.61	511.47	654.35	73.80	85.89	100.94	128.77
AD San Diego County APCD Summer 2034 376.57 437.04 511.45 664.79 73.80 86.08 100.97 129.01 AD San Diego County APCD Summer 2035 376.57 437.14 511.44 654.92 73.81 86.13 100.97 129.01 AD San Diego County APCD Winter 2011 350.18 40.31 40.33 476.66 604.17 73.01 83.88 99.44 125.44 AD San Diego County APCD Winter 2012 350.39 40.376 478.98 607.06 73.05 83.99 99.57 125.66 AD San Diego County APCD Winter 2013 350.62 404.30 478.94 607.62 73.05 83.99 99.57 125.64 AD San Diego County APCD Winter 2014 350.83 404.79 478.94 607.62 73.05 83.99 99.57 125.64 AD San Diego County APCD Winter 2014 350.83 404.79 478.91 608.17 73.17 83.99 99.82 126.06 AD San Diego County APCD Winter 2016 351.25 405.69 478.89 607.06 73.07 83.49 99.01 125.84 AD San Diego County APCD Winter 2016 351.25 405.69 478.89 609.25 73.72.4 84.07 99.93 125.84 AD San Diego County APCD Winter 2016 351.25 405.69 478.89 609.25 73.72.4 84.07 99.93 125.84 AD San Diego County APCD Winter 2016 351.25 405.69 478.89 609.25 73.73.7 84.25 100.15 126.74 AD San Diego County APCD Winter 2016 351.25 405.69 478.89 609.25 73.37 84.25 100.15 126.74 AD San Diego County APCD Winter 2019 351.65 405.64 478.89 609.25 73.37 84.25 100.15 126.74 AD San Diego County APCD Winter 2019 351.65 405.64 478.89 601.10 73.41 84.05 100.25 126.04 AD San Diego County APCD Winter 2019 351.65 405.64 478.89 610.15 73.34 84.55 100.25 126.04 AD San Diego County APCD Winter 2019 351.65 406.64 478.80 610.15 73.46 84.52 100.55 126.04 AD San Diego County APCD Winter 2019 351.65 406.64 478.80 610.15 73.46 84.52 100.55 126.04 AD San Diego County APCD Winter 2019 351.65 406.04 478.67 610.15 73.47 83.80 100.25 127.54 AD San Diego County APCD Winter 2021 352.42 408.04 479.67 612.57 73.76 84.85 100.55 127.54 AD San Diego County APCD Winter 2022 352.42 408.04 479.67 612.57 73.79 84.85 100.55 127.54 AD San Diego County APCD Winter 2023 352.45 408.94 479.67 612.57 73.79 85.65 100.68 128.45 AD San Diego County APCD Winter 2024 352.44 408.95 479.66 613.00 73.76 85.67 100.66 122.94 AD San Diego County APCD Winter 2024 352.	AD	San Diego County APCD	Summer	2032	376.57	436.77	511.46	654.51	73.80	85.96	100.95	128.86
AD San Diego County APCD Winter 2010 348-91 401-34 477.66 604-17 72.99 83.92 99.34 125.27 AD San Diego County APCD Winter 2011 350.18 401-34 477.66 604-17 72.99 83.92 99.34 125.24 AD San Diego County APCD Winter 2012 350.39 403.76 478-98 607.06 73.05 83.89 99.57 125.64 AD San Diego County APCD Winter 2013 350.62 404-30 478-98 607.06 73.05 83.89 99.57 125.64 AD San Diego County APCD Winter 2013 350.62 404-30 478-98 607.06 73.05 83.89 99.57 125.64 AD San Diego County APCD Winter 2013 350.62 404-30 478-94 607.62 73.12 83.34 99.70 125.84 AD San Diego County APCD Winter 2015 351.05 405.26 478.89 608.73 73.24 84.07 99.93 126.05 AD San Diego County APCD Winter 2016 351.25 405.69 478.89 608.73 73.24 84.07 99.93 126.05 AD San Diego County APCD Winter 2016 351.25 405.69 478.89 608.73 73.24 84.07 99.93 126.05 AD San Diego County APCD Winter 2016 351.25 405.69 478.89 608.73 73.24 84.07 99.93 126.05 AD San Diego County APCD Winter 2018 351.53 406.64 478.86 601.01 73.41 84.35 100.25 126.96 AD San Diego County APCD Winter 2019 351.65 406.78 478.87 601.05 73.46 84.25 100.35 127.54 AD San Diego County APCD Winter 2019 351.65 406.78 478.87 610.57 73.46 84.52 100.35 127.54 AD San Diego County APCD Winter 2021 352.38 406.04 478.67 610.24 73.55 84.69 100.45 127.34 AD San Diego County APCD Winter 2022 352.42 408.28 479.67 612.25 73.62 84.87 100.55 127.54 AD San Diego County APCD Winter 2024 352.42 408.28 479.67 612.51 73.67 85.02 100.45 127.34 AD San Diego County APCD Winter 2024 352.42 408.62 479.66 613.30 73.74 85.35 100.76 127.85 AD San Diego County APCD Winter 2024 352.42 408.62 479.66 613.30 73.74 85.35 100.76 127.85 AD San Diego County APCD Winter 2024 352.42 408.62 479.66 613.30 73.74 85.81 100.70 127.85 AD San Diego County APCD Winter 2024 352.42 408.62 479.66 613.30 73.74 85.81 100.70 127.85 AD San Diego County APCD Winter 2024 352.44 408.69 479.65 613.20 73.76 85.08 100.95 128.65 AD San Diego County APCD Winter 2024 352.44 408.69 479.65 613.20 73.76 85.08 100.95 128.65 AD San Die	AD	San Diego County APCD	Summer	2033	376.57	436.92	511.45	654.65	73.80	86.02	100.96	128.93
AD San Diego County APCD Winter 2010 348.91 401.34 477.65 604.17 72.99 83.92 99.34 125.27 AD San Diego County APCD Winter 2012 350.39 403.76 87.89 607.06 73.01 83.88 99.44 125.47 AD San Diego County APCD Winter 2012 350.39 404.79 478.91 606.55 73.01 83.88 99.47 125.64 AD San Diego County APCD Winter 2013 350.62 404.30 478.94 606.62 73.12 83.94 99.70 125.65 AD San Diego County APCD Winter 2014 350.83 404.79 478.91 608.17 73.17 83.99 99.82 126.05 AD San Diego County APCD Winter 2015 351.05 805.26 478.89 608.73 73.21 83.94 99.70 125.65 AD San Diego County APCD Winter 2016 351.25 405.69 478.88 609.25 73.32 84.16 100.05 126.54 AD San Diego County APCD Winter 2017 351.40 406.08 478.87 609.25 73.32 84.16 100.05 126.54 AD San Diego County APCD Winter 2018 351.53 406.44 478.86 610.18 73.37 84.25 100.15 126.74 AD San Diego County APCD Winter 2019 351.65 406.78 478.87 610.97 73.46 84.52 100.15 126.74 AD San Diego County APCD Winter 2020 351.75 407.10 478.87 610.97 73.46 84.52 100.35 126.94 AD San Diego County APCD Winter 2020 351.75 407.10 478.87 610.97 73.46 84.52 100.35 127.55 AD San Diego County APCD Winter 2021 352.38 408.49 478.87 610.97 73.46 84.52 100.35 127.55 AD San Diego County APCD Winter 2021 352.38 408.04 478.87 610.97 73.46 84.52 100.35 127.55 AD San Diego County APCD Winter 2022 352.42 408.28 479.67 612.25 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.28 479.67 612.57 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.28 479.67 612.57 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.28 479.67 612.57 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.80 479.67 612.57 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.98 479.67 612.57 73.76 85.07 100.76 127.98 AD San Diego County APCD Winter 2024 352.42 408.98 479.67 612.57 73.76 85.67 100.09 127.85 AD San Diego County APCD Winter 2023 352.44 408.96 479.66 613.00 73.78 85.67 100.09 128.64 AD San Diego County APCD Winter 2023 352.44 408.95	AD	San Diego County APCD	Summer	2034	376.57	437.04	511.45	654.79	73.80	86.08	100.97	129.01
AD San Diego County APCD Winter 2011 350.18 403.18 479.04 606.53 73.01 83.88 99.44 125.44 AD San Diego County APCD Winter 2012 350.39 403.76 478.98 607.06 73.05 83.89 99.57 125.64 AD San Diego County APCD Winter 2013 350.62 404.30 478.94 607.62 73.12 83.94 99.70 125.84 AD San Diego County APCD Winter 2014 350.83 404.79 478.91 608.17 73.17 83.99 99.82 126.06 AD San Diego County APCD Winter 2015 351.05 405.26 478.99 608.73 73.24 84.07 99.93 126.25 AD San Diego County APCD Winter 2016 351.25 405.69 478.88 609.25 73.32 84.16 100.05 126.57 AD San Diego County APCD Winter 2017 351.40 406.08 478.87 609.75 73.37 84.25 100.15 126.74 AD San Diego County APCD Winter 2018 351.63 406.69 478.87 609.75 73.37 84.25 100.15 126.74 AD San Diego County APCD Winter 2018 351.63 406.78 478.87 609.75 73.37 84.25 100.15 126.74 AD San Diego County APCD Winter 2018 351.63 406.78 478.87 610.57 73.46 84.52 100.35 126.99 AD San Diego County APCD Winter 2019 351.65 406.78 478.87 610.57 73.46 84.52 100.35 127.54 AD San Diego County APCD Winter 2020 351.75 407.10 478.87 610.57 73.68 84.69 100.45 127.54 AD San Diego County APCD Winter 2021 352.38 408.04 479.67 612.25 73.62 84.87 100.55 127.54 AD San Diego County APCD Winter 2022 352.42 408.28 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2023 352.43 408.47 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2023 352.43 408.47 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2023 352.43 408.47 479.67 612.51 73.77 85.51 100.70 127.83 AD San Diego County APCD Winter 2023 352.43 408.47 479.67 612.51 73.77 85.51 100.76 127.93 AD San Diego County APCD Winter 2023 352.44 408.60 479.66 612.87 73.72 85.57 100.76 127.93 AD San Diego County APCD Winter 2026 352.43 408.90 479.66 612.87 73.79 85.61 100.93 128.44 AD San Diego County APCD Winter 2028 352.44 408.60 479.60 613.30 73.74 85.81 100.93 128.64 AD San Diego County APCD Winter 2028 352.44 408.60 479.60 613.30 73.78 85.66 100.93 128.44 AD San Diego County APCD Winter 2028 352.44 408.6	AD	San Diego County APCD	Summer	2035	376.57	437.14	511.44	654.92	73.81	86.13	100.97	129.08
AD San Diego County APCD Winter 2012 350.39 403.76 478.98 607.06 73.05 83.89 99.57 125.64 AD San Diego County APCD Winter 2013 350.62 404.30 478.94 607.62 73.12 83.94 99.70 125.85 AD San Diego County APCD Winter 2015 351.05 405.26 478.89 608.73 73.24 84.07 99.93 126.25 AD San Diego County APCD Winter 2016 351.05 405.26 478.89 608.73 73.24 84.07 99.93 126.25 AD San Diego County APCD Winter 2016 351.05 405.69 478.88 609.25 73.32 84.16 100.05 126.52 AD San Diego County APCD Winter 2016 351.40 406.69 478.86 609.25 73.32 84.16 100.05 126.52 AD San Diego County APCD Winter 2018 351.53 405.69 478.88 609.25 73.32 84.16 100.05 126.52 AD San Diego County APCD Winter 2018 351.53 406.44 478.86 610.18 73.41 84.35 100.25 126.94 AD San Diego County APCD Winter 2018 351.63 406.44 478.86 610.18 73.41 84.35 100.25 126.94 AD San Diego County APCD Winter 2019 351.65 406.78 478.87 610.57 73.46 84.52 100.35 127.15 AD San Diego County APCD Winter 2021 352.38 408.04 479.67 612.51 73.67 84.69 100.45 127.34 AD San Diego County APCD Winter 2022 352.42 408.28 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.62 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.62 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.62 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.62 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.62 479.66 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.62 479.66 613.07 73.78 85.81 100.70 127.83 AD San Diego County APCD Winter 2025 352.42 408.62 479.66 613.07 73.78 85.81 100.87 128.54 AD San Diego County APCD Winter 2026 352.44 408.62 479.66 613.07 73.78 85.81 100.93 128.64 AD San Diego County APCD Winter 2027 352.44 408.62 479.66 613.07 73.78 85.81 100.93 128.64 AD San Diego County APCD Winter 2033 352.44 409.80 479.65 613.30 73.78 85.81 100.93 128.64 AD San Diego County APCD Winter 2034 352.44 409.	AD	San Diego County APCD	Winter	2010	348.91	401.34	477.65	604.17	72.99	83.92	99.34	125.27
AD San Diego County APCD Winter 2013 350.62 404.30 478.94 607.62 73.12 83.94 99.70 125.85 AD San Diego County APCD Winter 2014 350.83 404.79 478.91 608.17 73.17 83.99 99.82 126.05 AD San Diego County APCD Winter 2015 351.05 405.69 478.88 608.25 73.32 84.16 100.05 126.55 AD San Diego County APCD Winter 2016 351.25 405.69 478.88 609.25 73.32 84.16 100.05 126.55 AD San Diego County APCD Winter 2017 351.40 406.08 478.87 609.75 73.37 84.25 100.15 126.74 AD San Diego County APCD Winter 2018 351.53 406.44 478.86 610.18 73.41 84.35 100.25 126.96 AD San Diego County APCD Winter 2019 351.65 406.78 478.87 610.57 73.46 84.52 100.35 127.54 AD San Diego County APCD Winter 2019 351.65 406.78 478.87 610.57 73.46 84.52 100.35 127.34 AD San Diego County APCD Winter 2019 351.65 406.78 478.87 610.57 73.46 84.52 100.35 127.34 AD San Diego County APCD Winter 2020 351.75 407.10 478.87 610.54 73.46 84.52 100.35 127.34 AD San Diego County APCD Winter 2021 352.38 408.04 479.67 612.25 73.62 84.87 100.55 127.55 AD San Diego County APCD Winter 2022 352.42 408.28 479.67 612.25 73.62 85.02 100.63 127.63 AD San Diego County APCD Winter 2023 352.43 408.47 479.67 612.21 73.71 85.15 100.70 127.83 AD San Diego County APCD Winter 2024 352.42 408.52 479.65 613.20 73.76 85.02 100.68 127.64 AD San Diego County APCD Winter 2025 352.42 408.52 479.66 613.20 73.76 85.82 100.68 127.94 AD San Diego County APCD Winter 2025 352.43 408.90 479.65 613.20 73.76 85.81 100.70 127.83 AD San Diego County APCD Winter 2026 352.44 409.94 479.65 613.30 73.78 85.67 100.88 128.34 AD San Diego County APCD Winter 2028 352.44 409.95 479.65 613.30 73.78 85.67 100.88 128.34 AD San Diego County APCD Winter 2028 352.44 409.96 479.60 613.30 73.78 85.67 100.88 128.34 AD San Diego County APCD Winter 2029 352.45 409.86 479.60 613.30 73.78 85.67 100.88 128.34 AD San Diego County APCD Winter 2031 352.44 409.96 479.60 613.30 73.78 85.61 100.99 128.65 AD San Diego County APCD Winter 2031 352.44 409.96 479.60 613.30 73.78 85.81 100.99 128.65 AD San Diego County APCD Winter 2031 352.44 40	AD	San Diego County APCD	Winter	2011	350.18	403.18	479.04	606.53	73.01	83.88	99.44	125.44
AD San Diego County APCD Winter 2014 350.83 404.79 478.91 608.17 73.17 83.99 99.82 126.00 AD San Diego County APCD Winter 2015 351.05 405.26 478.89 608.73 73.24 84.07 99.93 126.25 AD San Diego County APCD Winter 2016 351.25 405.69 478.88 609.25 73.32 84.16 100.05 126.55 AD San Diego County APCD Winter 2017 351.40 406.08 478.87 609.57 73.37 84.25 100.15 126.74 AD San Diego County APCD Winter 2018 351.53 406.44 478.86 610.18 73.41 84.35 100.25 128.96 AD San Diego County APCD Winter 2019 351.65 406.78 478.87 610.57 73.46 84.52 100.15 126.74 AD San Diego County APCD Winter 2020 351.75 407.10 478.87 610.57 73.46 84.52 100.35 127.15 AD San Diego County APCD Winter 2021 352.38 408.04 479.67 612.25 73.62 84.87 100.55 127.55 AD San Diego County APCD Winter 2022 352.42 408.82 479.67 612.51 73.67 85.02 100.63 127.61 AD San Diego County APCD Winter 2023 352.43 408.47 479.67 612.51 73.67 85.02 100.63 127.61 AD San Diego County APCD Winter 2024 352.42 408.82 479.66 612.87 73.72 85.27 100.76 127.85 AD San Diego County APCD Winter 2024 352.42 408.82 479.66 612.87 73.72 85.27 100.76 127.85 AD San Diego County APCD Winter 2024 352.42 408.82 479.66 612.87 73.72 85.27 100.76 127.93 AD San Diego County APCD Winter 2024 352.42 408.82 479.66 613.03 73.74 85.38 100.81 128.14 AD San Diego County APCD Winter 2024 352.42 408.82 479.66 613.03 73.74 85.87 100.86 128.84 AD San Diego County APCD Winter 2026 352.42 408.82 479.66 613.03 73.74 85.87 100.86 128.84 AD San Diego County APCD Winter 2026 352.42 408.82 479.66 613.03 73.74 85.77 100.76 127.95 AD San Diego County APCD Winter 2026 352.42 408.80 479.66 613.03 73.74 85.77 100.76 127.95 AD San Diego County APCD Winter 2027 352.44 409.04 479.66 613.64 73.79 85.67 100.80 128.44 AD San Diego County APCD Winter 2028 352.45 409.80 479.66 613.67 73.79 85.81 100.81 128.44 AD San Diego County APCD Winter 2030 352.44 409.04 479.66 613.64 73.79 85.81 100.93 128.66 AD San Diego County APCD Winter 2031 352.44 409.04 479.66 613.64 73.79 85.81 100.93 128.66 AD San Diego County APCD Winter 2031 352.44 40	AD	San Diego County APCD	Winter	2012	350.39	403.76	478.98	607.06	73.05	83.89	99.57	125.64
AD San Diego County APCD Winter 2015 351.05 405.26 478.89 608.73 73.24 84.07 99.93 126.25 AD San Diego County APCD Winter 2016 351.25 405.69 478.88 609.25 73.32 84.16 100.05 126.52 AD San Diego County APCD Winter 2018 351.53 406.44 478.86 610.18 73.41 84.35 100.25 126.95 AD San Diego County APCD Winter 2019 351.65 406.78 478.87 610.57 73.46 84.52 100.35 126.95 AD San Diego County APCD Winter 2019 351.65 406.78 478.87 610.57 73.46 84.52 100.35 127.15 AD San Diego County APCD Winter 2020 351.75 407.10 478.87 610.94 73.55 84.69 100.45 127.34 AD San Diego County APCD Winter 2021 352.38 408.04 479.67 612.25 73.62 84.87 100.55 127.55 AD San Diego County APCD Winter 2022 352.42 408.28 479.67 612.55 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2022 352.42 408.28 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.28 479.66 612.87 73.72 85.27 100.76 127.95 AD San Diego County APCD Winter 2024 352.42 408.82 479.66 612.87 73.72 85.27 100.76 127.95 AD San Diego County APCD Winter 2024 352.42 408.80 479.66 613.20 73.76 85.48 100.81 128.12 AD San Diego County APCD Winter 2026 352.43 408.47 479.66 613.20 73.76 85.48 100.85 128.24 AD San Diego County APCD Winter 2026 352.43 408.90 479.66 613.20 73.76 85.48 100.85 128.24 AD San Diego County APCD Winter 2026 352.43 409.94 479.66 613.20 73.76 85.48 100.85 128.24 AD San Diego County APCD Winter 2026 352.43 409.94 479.66 613.20 73.76 85.48 100.85 128.24 AD San Diego County APCD Winter 2026 352.43 409.94 479.66 613.20 73.76 85.48 100.85 128.24 AD San Diego County APCD Winter 2026 352.43 409.94 479.66 613.20 73.76 85.48 100.85 128.24 AD San Diego County APCD Winter 2026 352.44 409.95 479.66 613.20 73.76 85.48 100.85 128.24 AD San Diego County APCD Winter 2031 352.44 409.95 479.66 613.20 73.76 85.81 100.93 128.64 AD San Diego County APCD Winter 2031 352.44 409.95 479.66 613.20 73.76 85.81 100.93 128.64 AD San Diego County APCD Winter 2031 352.44 409.95 479.66 613.90 73.99 85.81 100.93 128.64 AD San Diego County APCD Winter 2031 352.44 4	AD	San Diego County APCD	Winter	2013	350.62	404.30	478.94	607.62	73.12	83.94	99.70	125.85
AD San Diego County APCD Winter 2016 351.25 405.69 478.88 609.25 73.32 84.16 100.05 126.52 AD San Diego County APCD Winter 2017 351.40 406.08 478.87 609.75 73.37 84.25 100.15 126.74 126.52 AD San Diego County APCD Winter 2018 351.53 406.44 478.86 610.15 73.37 84.25 100.15 126.74 126.52 AD San Diego County APCD Winter 2018 351.65 406.78 478.87 610.57 73.46 84.52 100.25 127.15 AD San Diego County APCD Winter 2020 351.75 407.10 478.87 610.94 73.55 84.69 100.45 127.34 AD San Diego County APCD Winter 2021 352.38 408.04 479.67 612.25 73.62 84.87 100.55 127.55 AD San Diego County APCD Winter 2022 352.24 408.62 479.67 612.25 73.62 84.87 100.55 127.65 AD San Diego County APCD Winter 2022 352.24 408.62 479.67 612.25 173.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.62 479.66 612.25 73.72 85.27 100.76 127.83 AD San Diego County APCD Winter 2024 352.42 408.62 479.66 612.87 73.72 85.27 100.76 127.83 AD San Diego County APCD Winter 2026 352.43 408.60 479.66 613.20 73.76 85.48 100.81 128.14 AD San Diego County APCD Winter 2026 352.43 408.00 479.66 613.20 73.76 85.48 100.81 128.14 AD San Diego County APCD Winter 2026 352.43 409.04 479.66 613.20 73.76 85.48 100.81 128.14 AD San Diego County APCD Winter 2028 352.43 409.80 479.66 613.20 73.76 85.48 100.81 128.14 AD San Diego County APCD Winter 2028 352.45 409.18 479.60 613.30 73.78 85.67 100.88 128.26 AD San Diego County APCD Winter 2028 352.45 409.18 479.60 613.30 73.78 85.67 100.88 128.26 AD San Diego County APCD Winter 2029 352.45 409.18 479.60 613.90 73.79 85.74 100.89 128.64 AD San Diego County APCD Winter 2029 352.45 409.18 479.60 613.90 73.79 85.74 100.92 128.56 AD San Diego County APCD Winter 2030 352.44 409.93 479.65 613.60 73.80 85.69 100.95 128.66 AD San Diego County APCD Winter 2031 352.44 409.93 479.65 613.60 73.80 85.69 100.95 128.64 AD San Diego County APCD Winter 2031 352.44 409.93 479.65 613.60 73.80 85.99 100.94 128.57 AD San Diego County APCD Winter 2031 352.44 409.95 479.59 614.10 73.80 85.99 100.94 128.57 AD San Diego County APCD Wint	AD	San Diego County APCD	Winter	2014	350.83	404.79	478.91	608.17	73.17	83.99	99.82	126.06
AD San Diego County APCD Winter 2017 351.40 406.08 478.87 609.75 73.37 84.25 100.15 126.74 AD San Diego County APCD Winter 2018 351.53 406.44 478.86 610.18 73.41 84.35 100.25 126.94 AD San Diego County APCD Winter 2019 351.65 406.78 478.87 610.57 73.46 84.52 100.35 127.15 AD San Diego County APCD Winter 2020 351.75 407.10 478.87 610.94 73.55 84.69 100.45 127.34 AD San Diego County APCD Winter 2021 352.38 408.04 479.67 612.25 73.62 84.87 100.55 127.52 AD San Diego County APCD Winter 2022 352.42 408.28 479.67 612.25 73.62 84.87 100.55 127.52 AD San Diego County APCD Winter 2022 352.42 408.28 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.28 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.28 479.66 613.03 73.74 85.15 100.70 127.83 AD San Diego County APCD Winter 2024 352.42 408.75 479.66 613.03 73.74 85.38 100.81 128.12 AD San Diego County APCD Winter 2026 352.43 408.90 479.65 613.20 73.76 85.48 100.85 128.84 AD San Diego County APCD Winter 2026 352.43 408.90 479.65 613.20 73.76 85.48 100.85 128.24 AD San Diego County APCD Winter 2028 352.45 409.94 479.66 613.03 73.78 85.67 100.88 128.24 AD San Diego County APCD Winter 2028 352.45 409.94 479.66 613.30 73.78 85.67 100.98 128.48 AD San Diego County APCD Winter 2028 352.45 409.32 479.60 613.50 73.78 85.67 100.98 128.48 AD San Diego County APCD Winter 2028 352.45 409.8 479.60 613.79 73.79 85.67 100.88 128.84 AD San Diego County APCD Winter 2032 352.44 409.80 479.60 613.79 73.79 85.67 100.92 128.65 AD San Diego County APCD Winter 2032 352.44 409.80 479.60 613.49 73.89 85.81 100.93 128.66 AD San Diego County APCD Winter 2032 352.44 409.80 479.60 613.49 73.89 85.81 100.93 128.66 AD San Diego County APCD Winter 2033 352.44 409.80 479.60 613.49 73.89 85.81 100.93 128.66 AD San Diego County APCD Winter 2033 352.44 409.80 479.60 613.49 73.89 85.81 100.93 128.66 AD San Diego County APCD Winter 2033 352.44 409.80 479.60 613.49 73.89 85.81 100.93 128.66 AD San Diego County APCD Winter 2033 352.44 4	AD	San Diego County APCD	Winter	2015	351.05	405.26	478.89	608.73	73.24	84.07	99.93	126.29
AD San Diego County APCD Winter 2018 351.53 406.44 478.86 610.18 73.41 84.35 100.25 126.96 AD San Diego County APCD Winter 2020 351.65 406.78 478.87 610.57 73.48 84.52 100.35 127.15 AD San Diego County APCD Winter 2021 352.38 408.04 479.67 612.25 73.62 84.87 100.55 127.55 AD San Diego County APCD Winter 2022 352.42 408.02 479.67 612.51 73.67 85.02 100.63 127.65 AD San Diego County APCD Winter 2023 352.43 408.04 479.67 612.51 73.67 85.02 100.63 127.65 AD San Diego County APCD Winter 2023 352.43 408.04 479.67 612.51 73.67 85.02 100.63 127.65 AD San Diego County APCD Winter 2024 352.34 408.04 479.67 612.51 73.67 85.02 100.63 127.65 AD San Diego County APCD Winter 2024 352.42 408.62 479.66 612.87 73.72 85.27 100.76 127.95 AD San Diego County APCD Winter 2024 352.42 408.75 479.66 612.87 73.72 85.27 100.76 127.95 AD San Diego County APCD Winter 2025 352.42 408.75 479.66 613.03 73.74 85.38 100.81 128.12 AD San Diego County APCD Winter 2026 352.43 408.90 479.65 613.20 73.76 85.48 100.85 128.25 AD San Diego County APCD Winter 2026 352.43 408.90 479.65 613.20 73.76 85.48 100.85 128.25 AD San Diego County APCD Winter 2027 352.44 409.04 479.64 613.35 73.77 85.57 100.88 128.35 AD San Diego County APCD Winter 2028 352.45 409.18 479.63 613.50 73.78 85.66 100.90 128.45 AD San Diego County APCD Winter 2029 352.45 409.18 479.63 613.50 73.78 85.66 100.90 128.65 AD San Diego County APCD Winter 2031 352.44 409.60 479.60 613.79 73.79 85.81 100.91 128.55 AD San Diego County APCD Winter 2031 352.44 409.60 479.60 613.79 73.79 85.81 100.91 128.55 AD San Diego County APCD Winter 2033 352.44 409.60 479.60 613.79 73.79 85.81 100.91 128.65 AD San Diego County APCD Winter 2033 352.44 409.60 479.60 613.79 73.79 85.81 100.91 128.65 AD San Diego County APCD Winter 2033 352.44 409.60 479.60 613.79 73.79 85.81 100.91 128.65 AD San Diego County APCD Winter 2033 352.44 409.60 479.60 613.79 73.79 85.81 100.91 128.65 AD San Diego County APCD Winter 2033 352.44 409.60 479.60 613.79 73.80 86.00 100.91 128.65 AD San Diego County APCD Winter 2034 352.45	AD	San Diego County APCD	Winter	2016	351.25	405.69	478.88	609.25	73.32	84.16	100.05	126.52
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AD San Diego County APCD Winter 2020 351.75 407.10 478.87 610.94 73.55 84.69 100.45 127.34 AD San Diego County APCD Winter 2021 352.38 408.04 479.67 612.25 73.62 84.87 100.55 127.55 AD San Diego County APCD Winter 2022 352.42 408.28 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2023 352.43 408.47 479.67 612.51 73.67 85.02 100.63 127.67 AD San Diego County APCD Winter 2024 352.42 408.62 479.66 612.87 73.72 85.27 100.76 127.93 AD San Diego County APCD Winter 2024 352.42 408.62 479.66 613.03 73.74 85.38 100.81 128.12 AD San Diego County APCD Winter 2026 352.43 408.90 479.66 613.03 73.74 85.38 100.81 128.12 AD San Diego County APCD Winter 2026 352.43 408.90 479.66 613.03 73.76 85.68 100.85 128.26 AD San Diego County APCD Winter 2028 352.45 409.04 479.66 613.03 73.77 85.57 100.88 128.36 AD San Diego County APCD Winter 2028 352.45 409.18 479.63 613.20 73.76 85.66 100.90 128.45 AD San Diego County APCD Winter 2029 352.45 409.48 479.63 613.05 73.77 85.57 100.88 128.36 AD San Diego County APCD Winter 2029 352.45 409.48 479.60 613.79 73.79 85.81 100.93 128.66 AD San Diego County APCD Winter 2030 352.45 409.46 479.60 613.79 73.79 85.81 100.93 128.66 AD San Diego County APCD Winter 2031 352.44 409.60 479.60 613.79 73.79 85.81 100.93 128.66 AD San Diego County APCD Winter 2031 352.44 409.60 479.60 613.79 73.80 85.89 100.94 128.77 AD San Diego County APCD Winter 2031 352.44 409.85 479.59 614.10 73.80 85.89 100.95 128.86 AD San Diego County APCD Winter 2031 352.44 409.85 479.59 614.30 73.80 85.89 100.95 128.86 AD San Diego County APCD Winter 2031 352.44 409.85 479.59 614.30 73.80 85.89 100.94 128.75 AD San Diego County APCD Winter 2031 352.44 409.85 479.59 614.30 73.80 85.89 100.95 128.86 AD San Diego County APCD Winter 2031 352.44 409.85 479.59 614.30 73.80 85.89 100.95 128.86 AD San Diego County APCD Winter 2031 352.44 409.85 479.59 614.30 73.80 85.80 100.95 128.86 AD San Diego County APCD Winter 2031 352.44 409.85 479.59 614.30 73.80 85.80 100.95 128.86 AD San Diego County APCD Winter 2031 352.44	AD	San Diego County APCD		2018	351.53	406.44	478.86	610.18	73.41	84.35		126.96
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AD San Joaquin Valley Unified APCD Annual 2020 347.59 402.04 473.30 604.13 73.77 84.83 100.58 127.28		· ,		1							- 1	
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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/VMT)	(CO2 Star	tina (a/tri	in)
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	San Joaquin Valley Unified APCD	Annual	2022	347.60	402.27	472.95	604.67	73.89	85.13	100.73	127.64
AD	San Joaquin Valley Unified APCD	Annual	2023	347.63	402.44	472.93	604.96	73.92	85.25	100.78	127.82
AD	San Joaquin Valley Unified APCD	Annual	2024	347.85	403.02	473.49	605.81	73.94	85.37	100.83	127.98
AD	San Joaquin Valley Unified APCD	Annual	2025	347.86	403.16	473.48	606.02	73.96	85.47	100.86	128.14
AD	San Joaquin Valley Unified APCD	Annual	2026	348.71	404.36	474.80	607.63	73.98	85.57	100.89	128.28
AD	San Joaquin Valley Unified APCD	Annual	2027	348.72	404.49	474.74	607.80	73.99	85.65	100.92	128.41
AD	San Joaquin Valley Unified APCD	Annual	2028	348.73	404.62	474.69	607.97	74.00	85.74	100.93	128.53
AD	San Joaquin Valley Unified APCD	Annual	2029	348.73	404.75	474.65	608.15	74.01	85.81	100.94	128.63
AD	San Joaquin Valley Unified APCD	Annual	2030	348.73	404.88	474.61	608.33	74.01	85.88	100.95	128.74
AD	San Joaquin Valley Unified APCD	Annual	2031	348.73	405.01	474.57	608.48	74.02	85.95	100.96	128.83
AD	San Joaquin Valley Unified APCD	Annual	2032	348.73	405.13	474.53	608.63	74.02	86.02	100.96	128.92
AD	San Joaquin Valley Unified APCD	Annual	2033	348.73	405.23	474.50	608.78	74.02	86.07	100.97	129.00
AD	San Joaquin Valley Unified APCD	Annual	2034	348.73	405.32	474.47	608.91	74.03	86.12	100.97	129.08
AD	San Joaquin Valley Unified APCD	Annual	2035	348.74	405.39	474.45	609.03	74.03	86.17	100.98	129.15
AD	San Joaquin Valley Unified APCD	Summer	2010	378.79	430.24	517.12	652.23	73.37	85.32	100.36	124.58
AD	San Joaquin Valley Unified APCD	Summer	2011	379.32	432.07	517.21	652.97	73.37	85.05	100.34	124.82
AD	San Joaquin Valley Unified APCD	Summer	2012	379.51	433.17	516.96	653.39	73.39	84.87	100.35	125.07
AD	San Joaquin Valley Unified APCD	Summer	2013	380.02	434.48	517.27	654.53	73.43	84.73	100.37	125.34
AD	San Joaquin Valley Unified APCD	Summer	2014	380.35	435.44	517.38	655.51	73.45	84.65	100.38	125.62
AD	San Joaquin Valley Unified APCD	Summer	2015	381.29	437.04	518.48	657.68	73.50	84.60	100.40	125.92
AD	San Joaquin Valley Unified APCD	Summer	2016	381.55	437.73	518.55	658.71	73.57	84.57	100.44	126.22
AD	San Joaquin Valley Unified APCD	Summer	2017	381.72	438.33	518.60	659.66	73.60	84.54	100.44	126.51
AD	San Joaquin Valley Unified APCD	Summer	2018	382.62	439.83	519.89	661.84	73.63	84.56	100.47	126.79
AD	San Joaquin Valley Unified APCD	Summer	2019	382.75	440.33	519.93	662.62	73.68	84.67	100.51	127.05
AD	San Joaquin Valley Unified APCD	Summer	2020	382.86	440.77	519.95	663.30	73.77	84.83	100.58	127.28
AD	San Joaquin Valley Unified APCD	Summer	2021	382.80	440.85	519.59	663.56	73.84	84.99	100.66	127.48
AD	San Joaquin Valley Unified APCD	Summer	2022	382.85	441.14	519.54	664.00	73.89	85.13	100.73	127.64
AD	San Joaquin Valley Unified APCD	Summer	2023	382.88	441.39	519.49	664.34	73.92	85.25	100.78	127.82
AD	San Joaquin Valley Unified APCD	Summer	2024	383.14	442.10	520.11	665.29	73.94	85.37	100.83	127.98
AD	San Joaquin Valley Unified APCD	Summer	2025	383.16	442.31	520.10	665.52	73.96	85.47	100.86	128.14
AD	San Joaquin Valley Unified APCD	Summer	2026	384.09	443.68	521.54	667.23	73.98	85.57	100.89	128.28
AD	San Joaquin Valley Unified APCD	Summer	2027	384.11	443.88	521.48	667.40	73.99	85.65	100.92	128.41
AD	San Joaquin Valley Unified APCD	Summer	2028	384.12	444.07	521.44	667.58	74.00	85.74	100.93	128.53
AD	San Joaquin Valley Unified APCD	Summer	2029	384.14	444.28	521.41	667.76	74.01		100.94	128.63
AD	San Joaquin Valley Unified APCD	Summer	2030	384.15	444.48	521.38	667.96	74.01	85.88	100.95	128.74
AD	San Joaquin Valley Unified APCD	Summer	2031	384.15	444.67	521.34	668.13	74.02	85.95	100.96	128.83
AD	San Joaquin Valley Unified APCD	Summer	2032	384.15	444.83	521.31	668.31	74.02	86.02	100.96	128.92
AD	San Joaquin Valley Unified APCD	Summer	2033	384.15	444.97	521.29	668.48	74.02	86.07	100.97	129.00
AD	San Joaquin Valley Unified APCD	Summer	2034	384.16	445.10	521.27	668.66	74.03	86.12	100.97	129.08
AD	San Joaquin Valley Unified APCD	Summer	2035	384.17	445.18	521.25	668.82	74.03	86.17	100.98	129.15
AD	San Joaquin Valley Unified APCD	Winter	2010	331.71	382.09	455.17	573.36	73.37	85.32	100.36	124.58
AD	San Joaquin Valley Unified APCD	Winter	2011	331.86	382.70	454.81	574.06	73.37	85.05	100.34	124.82
AD	San Joaquin Valley Unified APCD	Winter	2012	331.84	382.98	454.30	574.45	73.39	84.87	100.35	125.07
AD	San Joaquin Valley Unified APCD	Winter	2013	332.15	383.59	454.32	575.38	73.43	84.73	100.37	125.34
AD	San Joaquin Valley Unified APCD	Winter	2014	332.34	384.02	454.16	576.11	73.45	84.65	100.38	125.62
AD	San Joaquin Valley Unified APCD	Winter	2015	333.08	385.08	454.89	577.78	73.50	84.60	100.40	125.92
AD	San Joaquin Valley Unified APCD	Winter	2016	333.25	385.43	454.79 454.71	578.46	73.57	84.57	100.44	126.22
AD	San Joaquin Valley Unified APCD	Winter	2017	333.38	385.74	454.71	579.09	73.60	84.54	100.44	126.51
AD AD	San Joaquin Valley Unified APCD San Joaquin Valley Unified APCD	Winter Winter	2018 2019	334.17 334.29	386.90 387.21	455.78 455.78	580.83 581.37	73.63 73.68	84.56 84.67	100.47 100.51	126.79 127.05
AD AD	San Joaquin Valley Unified APCD	Winter	2019	334.40	387.49	455.76	581.86	73.77	84.83	100.51	127.05
AD AD	San Joaquin Valley Unified APCD	Winter	2020	334.40	387.50	455.79	582.01	73.84	84.99	100.56	127.28
AD	San Joaquin Valley Unified APCD	Winter	2021	334.40	387.67	455.46	582.34	73.89	85.13	100.88	127.40
AD	San Joaquin Valley Unified APCD	Winter	2022	334.42	387.81	455.44	582.61	73.92	85.25	100.73	127.82
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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		I		CO2 Runni	na (a/\/MT)	(CO2 Star	ting (g/tri	n)
	Location	Saccon	Voor	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	San Joaquin Valley Unified APCD	Season Winter	Year 2024	334.63	388.34	455.98	583.42	73.94	85.37	100.83	127.98
AD	San Joaquin Valley Unified APCD	Winter	2025	334.64	388.44	455.97	583.62	73.96	85.47	100.86	128.14
AD	San Joaquin Valley Unified APCD	Winter	2026	335.45	389.58	457.23	585.17	73.98	85.57	100.89	128.28
AD	San Joaquin Valley Unified APCD	Winter	2027	335.46	389.68	457.23	585.33	73.99	85.65	100.03	128.41
AD	San Joaquin Valley Unified APCD	Winter	2028	335.46	389.78	457.17	585.50	74.00	85.74	100.92	128.53
AD	San Joaquin Valley Unified APCD	Winter	2029	335.46	389.88	457.06	585.66	74.01	85.81	100.94	128.63
AD	San Joaquin Valley Unified APCD	Winter	2030	335.45	389.98	457.02	585.83	74.01	85.88	100.95	128.74
AD	San Joaquin Valley Unified APCD	Winter	2031	335.45	390.08	456.97	585.97	74.02	85.95	100.96	128.83
AD	San Joaquin Valley Unified APCD	Winter	2032	335.44	390.18	456.93	586.11	74.02	86.02	100.96	128.92
AD	San Joaquin Valley Unified APCD	Winter	2033	335.44	390.27	456.89	586.24	74.02	86.07	100.97	129.00
AD	San Joaquin Valley Unified APCD	Winter	2034	335.44	390.34	456.86	586.35	74.03	86.12	100.97	129.08
AD	San Joaquin Valley Unified APCD	Winter	2035	335.44	390.41	456.83	586.45	74.03	86.17	100.98	129.15
AD	San Luis Obispo County APCD	Annual	2010	323.71	378.06	444.34	556.25	73.66	90.73	100.02	124.73
AD	San Luis Obispo County APCD	Annual	2011	323.66	377.48	443.78	556.86	73.53	89.58	100.04	124.90
AD	San Luis Obispo County APCD	Annual	2012	323.65	377.05	443.34	557.51	73.41	88.66	100.08	125.11
AD	San Luis Obispo County APCD	Annual	2013	323.72	376.63	442.99	558.19	73.36	87.82	100.14	125.34
AD	San Luis Obispo County APCD	Annual	2014	323.79	376.32	442.72	558.85	73.31	87.15	100.20	125.58
AD	San Luis Obispo County APCD	Annual	2015	323.89	376.00	442.50	559.54	73.31	86.48	100.25	125.85
AD	San Luis Obispo County APCD	Annual	2016	323.99	375.75	442.33	560.18	73.31	85.95	100.33	126.11
AD	San Luis Obispo County APCD	Annual	2017	324.07	375.53	442.19	560.79	73.31	85.47	100.39	126.38
AD	San Luis Obispo County APCD	Annual	2018	324.12	375.39	442.08	561.33	73.30	85.15		126.64
AD	San Luis Obispo County APCD	Annual	2019	324.17	375.38	441.99	561.79	73.31	85.03	100.54	126.87
AD	San Luis Obispo County APCD	Annual	2020	324.24	375.40	441.92	562.20	73.40	85.04	100.62	127.10
AD	San Luis Obispo County APCD	Annual	2021	324.29	375.51	441.85	562.51	73.47	85.15	100.70	127.27
AD	San Luis Obispo County APCD	Annual	2022	324.32	375.62	441.79	562.77	73.52	85.25	100.76	127.41
AD	San Luis Obispo County APCD	Annual	2023	324.30	375.69	441.73	562.97	73.56	85.34	100.82	127.59
AD	San Luis Obispo County APCD	Annual	2024	324.27	375.76	441.66	563.12	73.57	85.42	100.86	127.74
AD	San Luis Obispo County APCD	Annual	2025	324.25	375.82	441.61	563.29	73.59	85.49	100.89	127.90
AD	San Luis Obispo County APCD	Annual	2026	324.27	375.91	441.54	563.46	73.61	85.57	100.92	128.06
AD	San Luis Obispo County APCD	Annual	2027	324.28	375.99	441.47	563.63	73.63	85.63	100.94	128.19
AD	San Luis Obispo County APCD	Annual	2028	324.28	376.07	441.40	563.80	73.64	85.68	100.95	128.31
AD	San Luis Obispo County APCD	Annual	2029	324.27	376.16	441.32	563.96	73.64	85.74	100.95	128.43
AD	San Luis Obispo County APCD	Annual	2030	324.26	376.24	441.24	564.13	73.65	85.79	100.95	128.54
AD	San Luis Obispo County APCD	Annual	2031	324.26	376.33	441.20	564.31	73.65	85.84	100.96	128.65
AD	San Luis Obispo County APCD	Annual	2032	324.26	376.41	441.16	564.49	73.66	85.88	100.96	128.75
AD	San Luis Obispo County APCD	Annual	2033	324.25	376.48	441.13	564.65	73.66	85.92	100.97	128.84
AD	San Luis Obispo County APCD	Annual	2034	324.25	376.54	441.10	564.79	73.67	85.96	100.97	128.93
AD	San Luis Obispo County APCD	Annual	2035	324.24	376.60	441.08	564.92	73.67	86.00	100.97	129.01
AD	San Luis Obispo County APCD	Summer	2010	337.08	392.11	461.85	578.62	73.66	90.73	100.02	124.73
AD	San Luis Obispo County APCD	Summer	2011	337.15	391.73	461.44	579.22	73.53	89.58	100.04	124.90
AD	San Luis Obispo County APCD	Summer	2012	337.23	391.46	461.13	579.91	73.41	88.66	100.08	125.11
AD	San Luis Obispo County APCD	Summer	2013	337.36	391.21	460.89	580.65	73.36	87.82	100.14	125.34
AD	San Luis Obispo County APCD	Summer	2014	337.49	391.02	460.71	581.40	73.31	87.15	100.20	125.58
AD	San Luis Obispo County APCD	Summer	2015	337.63	390.82	460.57	582.19	73.31	86.48	100.25	125.85
AD	San Luis Obispo County APCD	Summer	2016	337.76	390.68	460.46	582.94	73.31	85.95	100.33	126.11
AD	San Luis Obispo County APCD	Summer	2017	337.85	390.56	460.36	583.64	73.31	85.47	100.39	126.38
AD	San Luis Obispo County APCD	Summer	2018	337.91	390.51	460.26	584.25	73.30	85.15	100.47	126.64
AD	San Luis Obispo County APCD	Summer	2019	337.96	390.55	460.18	584.77	73.31	85.03	100.54	126.87
AD	San Luis Obispo County APCD	Summer	2020	338.03	390.62	460.11	585.24	73.40	85.04	100.62	127.10
AD	San Luis Obispo County APCD	Summer	2021	338.07	390.76	460.04	585.58	73.47	85.15	100.70	127.27
AD	San Luis Obispo County APCD	Summer	2022	338.10	390.89	459.97	585.87	73.52	85.25	100.76	127.41
AD	San Luis Obispo County APCD	Summer	2023	338.08	390.99	459.91	586.10	73.56	85.34	100.82	127.59
AD	San Luis Obispo County APCD	Summer	2024	338.05	391.07	459.85	586.26	73.57	85.42	100.86	127.74
AD	San Luis Obispo County APCD	Summer	2025	338.04	391.16	459.80	586.42	73.59	85.49	100.89	127.90

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT)	(CO2 Star	ting (g/tri	(a
	20041011	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	San Luis Obispo County APCD	Summer	2026	338.05	391.26	459.73	586.60	73.61	85.57	100.92	128.06
AD	San Luis Obispo County APCD	Summer	2027	338.07	391.36	459.67	586.77	73.63	85.63	100.94	128.19
AD	San Luis Obispo County APCD	Summer	2028	338.07	391.45	459.61	586.94	73.64	85.68	100.95	128.31
AD	San Luis Obispo County APCD	Summer	2029	338.07	391.55	459.54	587.11	73.64	85.74	100.95	128.43
AD	San Luis Obispo County APCD	Summer	2030	338.06	391.65	459.47	587.29	73.65	85.79	100.95	128.54
AD	San Luis Obispo County APCD	Summer	2031	338.06	391.75	459.44	587.47	73.65	85.84	100.96	128.65
AD	San Luis Obispo County APCD	Summer	2032	338.06	391.85	459.41	587.66	73.66	85.88	100.96	128.75
AD	San Luis Obispo County APCD	Summer	2033	338.06	391.93	459.38	587.84	73.66	85.92	100.97	128.84
AD	San Luis Obispo County APCD	Summer	2034	338.06	391.99	459.35	588.00	73.67	85.96	100.97	128.93
AD	San Luis Obispo County APCD	Summer	2035	338.05	392.05	459.33	588.14	73.67	86.00	100.97	129.01
AD	San Luis Obispo County APCD	Winter	2010	321.04	375.26	440.86	551.80	73.66	90.73	100.02	124.73
AD	San Luis Obispo County APCD	Winter	2011	320.97	374.65	440.26	552.41	73.53	89.58	100.04	124.90
AD	San Luis Obispo County APCD	Winter	2012	320.95	374.18	439.80	553.05	73.41	88.66	100.08	125.11
AD	San Luis Obispo County APCD	Winter	2013	321.01	373.73	439.43	553.72	73.36	87.82	100.14	125.34
AD	San Luis Obispo County APCD	Winter	2014	321.07	373.40	439.14	554.36	73.31	87.15	100.20	125.58
AD	San Luis Obispo County APCD	Winter	2015	321.16	373.05	438.90	555.03	73.31	86.48	100.25	125.85
AD	San Luis Obispo County APCD	Winter	2016	321.25	372.78	438.72	555.65	73.31	85.95	100.33	126.11
AD	San Luis Obispo County APCD	Winter	2017	321.32	372.53	438.57	556.25	73.31	85.47	100.39	126.38
AD	San Luis Obispo County APCD	Winter	2018	321.37	372.38	438.46	556.77	73.30	85.15	100.47	126.64
AD	San Luis Obispo County APCD	Winter	2019	321.42	372.35	438.37	557.21	73.31	85.03	100.54	126.87
AD	San Luis Obispo County APCD	Winter	2020	321.50	372.37	438.30	557.61	73.40	85.04	100.62	127.10
AD	San Luis Obispo County APCD	Winter	2021	321.55	372.47	438.23	557.91	73.47	85.15	100.70	127.27
AD	San Luis Obispo County APCD	Winter	2022	321.57	372.57	438.17	558.16	73.52	85.25	100.76	127.41
AD	San Luis Obispo County APCD	Winter	2023	321.56	372.64	438.10	558.37	73.56	85.34	100.82	127.59
AD	San Luis Obispo County APCD	Winter	2024	321.53	372.71	438.04	558.51	73.57	85.42	100.86	127.74
AD	San Luis Obispo County APCD	Winter	2025	321.51	372.77	437.99	558.68	73.59	85.49	100.89	127.90
AD	San Luis Obispo County APCD	Winter	2026	321.52	372.85	437.92	558.85	73.61	85.57	100.92	128.06
AD	San Luis Obispo County APCD	Winter	2027	321.53	372.93	437.84	559.02	73.63	85.63	100.94	128.19
AD	San Luis Obispo County APCD	Winter	2028	321.53	373.01	437.77	559.19	73.64	85.68	100.95	128.31
AD	San Luis Obispo County APCD	Winter	2029	321.52	373.09	437.69	559.35	73.64	85.74	100.95	128.43
AD	San Luis Obispo County APCD	Winter	2030	321.51	373.17	437.61	559.52	73.65	85.79	100.95	128.54
AD	San Luis Obispo County APCD	Winter	2031	321.51	373.25	437.57	559.69	73.65	85.84	100.96	128.65
AD	San Luis Obispo County APCD	Winter	2032	321.51	373.33	437.53	559.87	73.66	85.88	100.96	128.75
AD	San Luis Obispo County APCD	Winter	2033	321.50	373.40	437.50	560.03	73.66	85.92	100.97	128.84
AD	San Luis Obispo County APCD	Winter	2034	321.50	373.46	437.47	560.17	73.67	85.96	100.97	128.93
AD	San Luis Obispo County APCD	Winter	2035	321.49	373.52	437.45	560.29	73.67	86.00	100.97	129.01
AD	Santa Barbara County APCD	Annual	2010	310.84	363.09	427.75	535.11	73.30	88.99	99.96	124.67
AD	Santa Barbara County APCD	Annual	2011	310.88	362.63	427.11	535.68	73.27	88.16	99.98	124.88
AD	Santa Barbara County APCD	Annual	2012	310.95	362.25	426.61	536.31	73.24	87.48	100.03	125.11
AD	Santa Barbara County APCD	Annual	2013	311.07	361.91	426.21	536.98	73.26	86.88	100.11	125.37
AD	Santa Barbara County APCD	Annual	2014	311.18	361.62	425.89	537.62	73.27	86.37	100.18	125.64
AD	Santa Barbara County APCD	Annual	2015	313.00	363.39	428.01	541.26	73.31	85.95	100.25	125.92
AD	Santa Barbara County APCD	Annual	2016	313.13	363.16	427.81	541.86	73.36	85.55	100.33	126.20
AD	Santa Barbara County APCD	Annual	2017	313.22	362.94	427.65	542.43	73.38	85.18	100.40	126.48
AD	Santa Barbara County APCD	Annual	2018	313.28	362.85	427.53	542.93	73.40	85.00	100.47	126.74
AD	Santa Barbara County APCD	Annual	2019	313.35	362.86	427.43	543.35	73.43	84.95	100.55	126.99
AD	Santa Barbara County APCD	Annual	2020	313.43	362.88	427.35	543.74	73.53	84.99	100.64	127.22
AD	Santa Barbara County APCD	Annual	2021	313.48	362.96	427.30	543.99	73.59	85.09	100.71	127.38
AD	Santa Barbara County APCD	Annual	2022	313.49	363.03	427.24	544.20	73.64	85.18	100.77	127.51
AD	Santa Barbara County APCD	Annual	2023	313.48	363.09	427.17	544.37	73.67	85.26	100.82	127.66
AD	Santa Barbara County APCD	Annual	2024	313.44	363.12	427.11	544.49	73.68	85.33	100.86	127.80
AD	Santa Barbara County APCD	Annual	2025	313.43	363.17	427.06	544.63	73.70	85.40	100.90	127.95
AD	Santa Barbara County APCD	Annual	2026	311.28	360.68	423.96	540.92	73.71	85.47	100.92	128.08
AD	Santa Barbara County APCD	Annual	2027	311.28	360.75	423.88	541.07	73.73	85.52	100.94	128.21

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/\/MT)	CO2 Starting (g/trip)					
	20041011	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
AD	Santa Barbara County APCD	Annual	2028	311.28	360.82	423.82	541.22	73.74	85.58	100.95	128.32		
AD	Santa Barbara County APCD	Annual	2029	311.28	360.90	423.73	541.36	73.74	85.63	100.95	128.43		
AD	Santa Barbara County APCD	Annual	2030	311.26	360.97	423.64	541.52	73.75	85.67	100.95	128.53		
AD	Santa Barbara County APCD	Annual	2031	311.26	361.06	423.58	541.68	73.75	85.72	100.96	128.63		
AD	Santa Barbara County APCD	Annual	2032	311.25	361.13	423.54	541.85	73.76	85.77	100.96	128.73		
AD	Santa Barbara County APCD	Annual	2033	311.25	361.21	423.50	542.00	73.76	85.81	100.96	128.82		
AD	Santa Barbara County APCD	Annual	2034	311.24	361.27	423.46	542.14	73.76	85.85	100.97	128.90		
AD	Santa Barbara County APCD	Annual	2035	311.24	361.32	423.43	542.26	73.77	85.88	100.97	128.98		
AD	Santa Barbara County APCD	Summer	2010	318.00	370.60	437.04	547.10	73.30	88.99	99.96	124.67		
AD	Santa Barbara County APCD	Summer	2011	318.11	370.21	436.50	547.67	73.27	88.16	99.98	124.88		
AD	Santa Barbara County APCD	Summer	2012	318.23	369.92	436.07	548.31	73.24	87.48	100.03	125.11		
AD	Santa Barbara County APCD	Summer	2013	318.39	369.65	435.73	549.01	73.26	86.88	100.11	125.37		
AD	Santa Barbara County APCD	Summer	2014	318.53	369.43	435.47	549.69	73.27	86.37	100.18	125.64		
AD	Santa Barbara County APCD	Summer	2015	320.38	371.28	437.66	553.41	73.31	85.95	100.25	125.92		
AD	Santa Barbara County APCD	Summer	2016	320.52	371.11	437.49	554.06	73.36	85.55	100.33	126.20		
AD	Santa Barbara County APCD	Summer	2017	320.61	370.94	437.35	554.68	73.38	85.18	100.40	126.48		
AD	Santa Barbara County APCD	Summer	2018	320.68	370.90	437.24	555.21	73.40	85.00	100.47	126.74		
AD	Santa Barbara County APCD	Summer	2019	320.75	370.93	437.14	555.67	73.43	84.95	100.55	126.99		
AD	Santa Barbara County APCD	Summer	2020	320.82	370.99	437.07	556.08	73.53	84.99	100.64	127.22		
AD	Santa Barbara County APCD	Summer	2021	320.86	371.07	437.00	556.34	73.59	85.09	100.71	127.38		
AD	Santa Barbara County APCD	Summer	2022	320.87	371.15	436.93	556.55	73.64	85.18	100.77	127.51		
AD	Santa Barbara County APCD	Summer	2023	320.85	371.21	436.86	556.71	73.67	85.26	100.82	127.66		
AD	Santa Barbara County APCD	Summer	2024	320.82	371.26	436.79	556.83	73.68	85.33	100.86	127.80		
AD	Santa Barbara County APCD	Summer	2025	320.80	371.31	436.74	556.96	73.70	85.40	100.90	127.95		
AD	Santa Barbara County APCD	Summer	2026	318.61	368.79	433.59	553.19	73.71	85.47	100.92	128.08		
AD	Santa Barbara County APCD	Summer	2027	318.61	368.86	433.51	553.33	73.73	85.52	100.94	128.21		
AD	Santa Barbara County APCD	Summer	2028	318.62	368.94	433.45	553.48	73.74	85.58	100.95	128.32		
AD	Santa Barbara County APCD	Summer	2029	318.61	369.02	433.37	553.64	73.74	85.63	100.95	128.43		
AD	Santa Barbara County APCD	Summer	2030	318.60	369.11	433.28	553.80	73.75	85.67	100.95	128.53		
AD	Santa Barbara County APCD	Summer	2031	318.60	369.20	433.24	553.96	73.75	85.72	100.96	128.63		
AD	Santa Barbara County APCD	Summer	2032	318.60	369.29	433.20	554.14	73.76	85.77	100.96	128.73		
AD	Santa Barbara County APCD	Summer	2033	318.60	369.37	433.17	554.30	73.76	85.81	100.96	128.82		
AD	Santa Barbara County APCD	Summer	2034	318.59	369.44	433.13	554.45	73.76	85.85	100.97	128.90		
AD	Santa Barbara County APCD	Summer	2035	318.59	369.50	433.10	554.58	73.77	85.88	100.97	128.98		
AD	Santa Barbara County APCD	Winter	2010	310.39	362.63	427.17	534.37	73.30	88.99	99.96	124.67		
AD	Santa Barbara County APCD	Winter	2011	310.43	362.16	426.53	534.94	73.27	88.16	99.98	124.88		
AD	Santa Barbara County APCD	Winter	2012	310.50	361.77	426.02	535.57	73.24	87.48	100.03	125.11		
AD	Santa Barbara County APCD	Winter	2013	310.62	361.43	425.62	536.23	73.26	86.88	100.11	125.37		
AD	Santa Barbara County APCD	Winter	2014	310.73	361.13	425.30	536.87	73.27	86.37	100.18	125.64		
AD	Santa Barbara County APCD	Winter	2015	312.55	362.90	427.42	540.51	73.31	85.95	100.25	125.92		
AD	Santa Barbara County APCD	Winter	2016	312.67	362.67	427.21	541.11	73.36	85.55	100.33	126.20		
AD	Santa Barbara County APCD	Winter	2017	312.76	362.45	427.05	541.68	73.38	85.18	100.40	126.48		
AD	Santa Barbara County APCD	Winter	2018	312.83	362.36	426.93	542.17	73.40	85.00	100.47	126.74		
AD	Santa Barbara County APCD	Winter	2019	312.90	362.36	426.83	542.59	73.43	84.95	100.55	126.99		
AD	Santa Barbara County APCD	Winter	2020	312.97	362.38	426.75	542.98	73.53	84.99	100.64	127.22		
AD	Santa Barbara County APCD	Winter	2021	313.02	362.45	426.70	543.23	73.59	85.09	100.71	127.38		
AD	Santa Barbara County APCD	Winter	2022	313.04	362.53	426.64	543.44	73.64	85.18	100.77	127.51		
AD	Santa Barbara County APCD	Winter	2023	313.02	362.58	426.57	543.61	73.67	85.26	100.82	127.66		
AD	Santa Barbara County APCD	Winter	2024	312.99	362.62	426.51	543.73	73.68	85.33	100.86	127.80		
AD	Santa Barbara County APCD	Winter	2025	312.98	362.66	426.46	543.87	73.70	85.40	100.90	127.95		
AD	Santa Barbara County APCD	Winter	2026	310.82	360.18	423.37	540.16	73.71	85.47	100.92	128.08		
AD	Santa Barbara County APCD	Winter	2027	310.83	360.25	423.29	540.31	73.73	85.52	100.94	128.21		
AD	Santa Barbara County APCD	Winter	2028	310.83	360.32	423.22	540.46	73.74	85.58	100.95	128.32		
AD	Santa Barbara County APCD	Winter	2029	310.82	360.40	423.14	540.60	73.74	85.63	100.95	128.43		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

Season Year LDA LDT LDT2 MDV LDA LDT2 MDV		Location	<u> </u>			CO2 Runni	na (a/\/MT	<u>, l</u>		CO2 Star	tina (a/tri	n)
AD Santa Barbara County APCD Winter 2030 310.81 360.47 423.04 540.76 73.76 85.67 90.95 128.58 AD Santa Barbara County APCD Winter 2031 310.80 360.55 422.99 540.82 73.76 85.72 100.96 128.75 AD Santa Barbara County APCD Winter 2032 310.80 360.55 422.90 540.82 73.76 85.72 100.96 128.75 AD Santa Barbara County APCD Winter 2033 310.80 360.65 422.90 541.24 73.76 85.71 100.86 128.75 AD Santa Barbara County APCD Winter 2033 310.80 360.65 422.90 541.24 73.76 85.71 100.86 128.75 AD Santa Barbara County APCD Winter 2033 310.80 360.76 422.90 541.24 73.76 85.81 100.96 128.75 AD Santa Barbara County APCD Winter 2033 310.80 360.76 360.76 422.90 541.24 73.76 85.81 100.96 128.75 AD Santa Barbara County APCD Winter 2035 310.78 360.81 20.81		Location	Socon	Voor				_				
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AD Shasta County ACMD Annual 2010 350.80 413.29 482.10 601.62 74.15 98.71 101.24 125.4 AD Shasta County ACMD Annual 2010 350.80 412.33 481.45 602.23 73.97 82.68 101.09 125.4 AD Shasta County ACMD Annual 2011 350.90 412.33 481.45 602.23 73.97 82.68 101.09 125.4 AD Shasta County ACMD Annual 2011 350.90 412.33 481.45 602.23 73.97 82.68 101.09 125.4 AD Shasta County ACMD Annual 2013 351.61 410.88 480.58 603.65 73.79 84.20 101.00 125.4 AD Shasta County ACMD Annual 2013 351.61 410.88 480.58 603.65 73.79 84.20 101.00 125.4 AD Shasta County ACMD Annual 2013 351.81 410.82 480.58 603.65 73.67 82.45 100.33 125.7 AD Shasta County ACMD Annual 2013 351.84 410.82 480.58 603.65 73.67 82.45 100.35 100.55 125.8 AD Shasta County ACMD Annual 2016 351.59 409.32 479.82 606.35 73.46 89.34 100.76 125.8 AD Shasta County ACMD Annual 2016 351.59 409.32 479.82 606.35 73.48 89.34 100.76 125.2 AD Shasta County ACMD Annual 2018 351.70 408.85 479.55 607.09 73.46 88.34 100.75 125.2 AD Shasta County ACMD Annual 2018 351.87 408.50 679.50 73.42 83.83 100.75 125.2 AD Shasta County ACMD Annual 2018 351.87 408.50 479.51 607.77 33.42 83.85 100.65 125.7 AD Shasta County ACMD Annual 2018 351.97 408.41 479.30 608.34 73.52 85.64 100.75 125.1 AD Shasta County ACMD Annual 2021 351.97 408.41 479.30 608.34 73.52 85.64 100.76 125.1 AD Shasta County ACMD Annual 2022 352.00 408.47 479.30 608.34 73.55 85.64 100.77 127.1 AD Shasta County ACMD Annual 2023 351.98 408.56 478.87 610.53 73.76 85.67 100.78 127.1 AD Shasta County ACMD Annual 2023 351.99 408.57 478.97 608.30 73.89 85.61 100.78 127.1 AD Shasta County ACMD Annual 2023 351.99 408.50 478.87 610.13 73.71 85.77 100.35 127.8 AD Shasta County ACMD Annual 2023 351.99 408.50 478.87 610.13 73.71 85.77 100.35 127.8 AD Shasta County ACMD Annual 2028 351.99 408.50 478.87 610.13 73.77 86.80 100.87 127.4 AD Shasta County ACMD Annual 2028 351.99 408.50 478.87 610.13 73.77 86.80 100.87 127.8 AD Shasta County ACMD Annual 2028 351.99 408.50 478.89 610.10 73.78 86.80 100.35 127.8												128.90
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AD Shasta County AQMD Annual 2016 351.28 410.22 480.25 664.58 73.54 90.71 100.35 125.8 AD Shasta County AQMD Annual 2016 351.59 409.72 480.02 605.45 73.48 89.23 100.76 126.0 AD Shasta County AQMD Annual 2016 351.59 409.32 479.82 606.30 73.48 89.23 100.76 126.0 AD Shasta County AQMD Annual 2016 351.59 409.32 479.82 606.30 73.48 89.23 100.76 126.0 AD Shasta County AQMD Annual 2016 351.59 409.32 479.82 606.30 73.46 86.94 100.86 126.5 AD Shasta County AQMD Annual 2018 351.78 408.50 479.51 607.09 73.46 86.94 100.86 126.5 AD Shasta County AQMD Annual 2019 351.86 408.50 479.51 607.07 73.42 85.50 100.65 126.9 AD Shasta County AQMD Annual 2019 351.80 408.50 479.51 607.77 73.42 85.50 100.66 126.9 AD Shasta County AQMD Annual 2020 351.92 408.34 479.30 609.94 73.52 85.46 100.71 127.1 AD Shasta County AQMD Annual 2021 351.97 408.14 479.21 609.27 73.59 85.66 100.78 127.1 AD Shasta County AQMD Annual 2022 352.00 408.47 479.13 609.57 73.64 85.60 100.83 127.2 AD Shasta County AQMD Annual 2024 351.99 408.52 478.91 609.97 73.67 85.66 100.83 127.2 AD Shasta County AQMD Annual 2024 351.99 408.52 478.91 609.97 73.67 85.66 100.83 127.2 AD Shasta County AQMD Annual 2025 351.99 408.65 478.84 160.13 73.71 85.77 100.93 127.7 AD Shasta County AQMD Annual 2026 351.98 408.65 478.84 160.13 73.71 85.77 100.93 127.7 AD Shasta County AQMD Annual 2026 351.98 408.67 478.67 100.13 73.71 85.77 100.93 127.7 AD Shasta County AQMD Annual 2026 351.99 408.80 478.84 160.13 73.71 85.77 100.93 127.7 AD Shasta County AQMD Annual 2026 351.99 408.80 478.84 160.13 73.71 85.77 100.93 127.7 AD Shasta County AQMD Annual 2028 350.00 408.80 478.84 160.13 73.71 85.77 100.93 127.7 AD Shasta County AQMD Annual 2028 350.00 408.80 478.65 611.21 73.76 86.00 100.96 128.4 AD Shasta County AQMD Annual 2023 351.99 408.90 478.65 611.21 73.76 86.00 100.97 128.1 AD Shasta County AQMD Annual 2023 351.99 408.90 478.65 611.21 73.76 86.00 100.97 128.1 AD Shasta County AQMD Annual 2023 351.99 408.90 478.65 611.21 73.78 86.01 100.97 128.1	AD	Shasta County AQMD	Annual	2012	351.01	411.55	480.95	602.95	73.79	94.20	101.00	125.59
AD Shasta County AQMD Annual 2015 351.43 409.72 480.02 605.45 73.48 89.34 100.76 126.0 AD Shasta County AQMD Annual 2016 351.59 409.32 479.82 606.30 73.48 88.23 100.75 162.20 AD Shasta County AQMD Annual 2018 351.78 408.50 479.65 607.09 73.46 88.23 100.75 162.20 AD Shasta County AQMD Annual 2018 351.78 408.50 479.65 607.09 73.46 88.23 100.05 126.7 AD Shasta County AQMD Annual 2019 351.86 408.40 479.39 608.38 73.43 85.58 100.65 126.7 AD Shasta County AQMD Annual 2020 351.92 408.34 479.30 608.34 73.52 85.46 100.71 127.1 AD Shasta County AQMD Annual 2021 351.97 408.41 479.21 609.29 73.59 85.64 100.78 127.1 AD Shasta County AQMD Annual 2021 351.97 408.41 479.21 609.29 73.59 85.64 100.78 127.1 AD Shasta County AQMD Annual 2023 352.00 408.47 479.13 609.57 73.67 85.66 100.87 127.4 AD Shasta County AQMD Annual 2024 351.98 408.52 479.04 609.77 73.67 85.66 100.87 127.4 AD Shasta County AQMD Annual 2024 351.98 408.52 479.04 609.77 73.67 85.66 100.87 127.4 AD Shasta County AQMD Annual 2024 351.98 408.69 478.97 609.93 73.69 85.71 100.90 127.5 AD Shasta County AQMD Annual 2026 351.98 408.69 478.84 610.34 73.73 85.83 100.95 127.8 AD Shasta County AQMD Annual 2027 351.99 408.69 478.84 610.34 73.73 85.83 100.95 127.8 AD Shasta County AQMD Annual 2027 351.99 408.69 478.84 610.39 73.76 85.89 100.96 128.5 AD Shasta County AQMD Annual 2029 352.00 408.87 478.63 611.69 73.78 85.89 100.96 128.5 AD Shasta County AQMD Annual 2029 352.09 408.87 478.63 611.69 73.78 85.81 100.99 127.81 AD Shasta County AQMD Annual 2029 352.99 408.94 478.56 611.21 73.78 86.04 100.99 128.3 AD Shasta County AQMD Annual 2029 351.99 408.90 478.56 611.91 73.78 86.04 100.99 128.3 AD Shasta County AQMD Annual 2031 351.99 408.90 478.56 611.91 73.79 86.04 100.99 128.3 AD Shasta County AQMD Annual 2031 351.99 408.91 478.56 611.91 73.79 86.04 100.99 128.3 AD Shasta County AQMD Annual 2031 351.99 408.91 478.56 611.91 73.79 86.04 100.99 128.3 AD Shasta County AQMD Summer 2014 377.57 439.89 515.80 643.91 73.79 86.07 100.95 128.3 AD Shasta County AQ	AD	Shasta County AQMD	Annual	2013	351.16	410.88	480.56	603.76	73.67	92.45	100.93	125.73
AD Shasta County AQMD Annual 2016 351.59 409.32 479.82 606.30 73.48 88.23 100.75 126.22 AD Shasta County AQMD Annual 2017 351.70 408.88 479.65 607.09 73.46 86.94 100.68 126.57 607.09 13.46 80.00 100.68 126.57 607.09 13.46 80.00 100.68 126.57 607.09 13.46 80.00 100.68 126.57 607.00 13.46 100.00 13.40 100.68 126.57 607.00 13.46 100.00 13.40 100.68 126.57 607.00 13.40 100.00 13.40 1	AD	Shasta County AQMD	Annual	2014	351.28	410.22	480.26	604.58	73.54	90.71	100.85	125.88
AD Shasta County AQMD Annual 2017 351.70 408.85 479.65 607.07 73.46 86.94 100.68 126.5 AD Shasta County AQMD Annual 2018 351.78 408.50 479.51 607.77 73.42 85.93 100.65 126.7 AD Shasta County AQMD Annual 2020 351.92 408.34 479.30 608.38 73.45 85.58 100.66 126.9 AD Shasta County AQMD Annual 2020 351.92 408.34 479.30 608.34 73.52 85.66 100.071 127.11 AD Shasta County AQMD Annual 2021 351.93 408.41 479.21 609.29 73.59 85.54 100.071 127.11 AD Shasta County AQMD Annual 2022 352.00 408.47 479.13 609.57 73.66 85.66 100.83 127.2 AD Shasta County AQMD Annual 2023 351.99 408.52 479.04 609.77 73.67 85.66 100.87 127.41 AD Shasta County AQMD Annual 2024 351.99 408.52 479.04 609.77 73.67 85.66 100.87 127.41 AD Shasta County AQMD Annual 2025 5351.96 408.62 478.91 610.13 73.71 85.77 100.93 127.75 AD Shasta County AQMD Annual 2026 351.98 408.62 478.91 610.13 73.71 85.77 100.93 127.75 AD Shasta County AQMD Annual 2026 351.98 408.69 478.84 610.34 73.73 85.83 100.95 127.81 AD Shasta County AQMD Annual 2026 351.98 408.69 478.84 610.34 73.73 85.83 100.95 127.81 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.77 73.76 85.92 100.97 128.11 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.77 73.76 85.92 100.97 128.11 AD Shasta County AQMD Annual 2028 352.00 408.80 478.51 611.69 73.78 86.04 100.96 128.44 AD Shasta County AQMD Annual 2029 352.00 408.87 478.63 610.99 73.76 85.90 100.97 128.11 AD Shasta County AQMD Annual 2029 352.00 408.87 478.63 611.29 73.79 86.04 100.96 128.44 AD Shasta County AQMD Annual 2021 351.99 409.00 478.50 611.29 73.78 86.04 100.96 128.44 AD Shasta County AQMD Annual 2031 351.99 409.00 478.50 611.29 73.79 86.04 100.96 128.44 AD Shasta County AQMD Annual 2031 351.99 409.00 478.50 611.69 73.78 86.04 100.96 128.44 AD Shasta County AQMD Annual 2034 351.99 409.00 478.50 611.69 73.79 86.04 100.97 128.78 AD Shasta County AQMD Annual 2034 351.99 409.00 478.50 611.69 73.79 86.04 100.97 128.78 AD Shasta County AQMD Summer 2010 377.12 408.80 515.60 648.00 73.59 94.00 100.90 128.44	AD	Shasta County AQMD	Annual	2015	351.43	409.72	480.02	605.45	73.48	89.34	100.76	126.07
AD Shasta County AQMD Annual 2018 351.78 408.50 479.51 607.77 73.42 85.93 100.65 126.77 AD Shasta County AQMD Annual 2019 351.86 408.40 479.39 608.38 73.43 85.58 100.66 126.77 AD Shasta County AQMD Annual 2029 351.92 408.41 479.21 609.29 73.59 85.54 100.78 127.11 AD Shasta County AQMD Annual 2021 351.97 408.41 479.21 609.29 73.59 85.54 100.78 127.11 AD Shasta County AQMD Annual 2022 352.00 408.47 479.13 609.57 73.64 85.60 100.83 127.24 AD Shasta County AQMD Annual 2022 352.00 408.47 479.13 609.57 73.64 85.60 100.83 127.24 AD Shasta County AQMD Annual 2024 351.96 408.57 478.97 609.93 73.69 85.71 100.90 127.51 AD Shasta County AQMD Annual 2024 351.96 408.52 478.91 610.13 73.71 85.77 100.93 127.81 AD Shasta County AQMD Annual 2025 351.96 408.62 478.91 610.13 73.71 85.77 100.93 127.81 AD Shasta County AQMD Annual 2026 351.98 408.62 478.91 610.13 73.71 85.87 100.90 127.81 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.55 73.74 85.87 100.96 128.00 AD Shasta County AQMD Annual 2029 352.00 408.80 478.71 610.55 73.74 85.87 100.96 128.00 AD Shasta County AQMD Annual 2029 352.00 408.80 478.71 610.77 73.75 85.96 100.97 128.13 AD Shasta County AQMD Annual 2029 352.00 408.80 478.71 610.77 73.76 85.96 100.97 128.13 AD Shasta County AQMD Annual 2031 351.99 408.90 478.50 611.60 73.78 86.00 100.96 128.64 AD Shasta County AQMD Annual 2032 351.99 408.90 478.50 611.60 73.78 86.00 100.97 128.13 AD Shasta County AQMD Annual 2032 351.99 408.90 478.50 611.60 73.78 86.00 100.97 128.13 AD Shasta County AQMD Annual 2032 351.99 408.90 478.50 611.60 73.78 86.00 100.97 128.13 AD Shasta County AQMD Annual 2032 351.99 408.90 478.50 611.60 73.78 86.00 100.97 128.13 AD Shasta County AQMD Annual 2034 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.14 AD Shasta County AQMD Annual 2034 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.14 AD Shasta County AQMD Summer 2010 377.12 440.81 516.16 644.82 74.15 98.71 101.24 125.44 AD Shasta County AQMD Summer 2010 378.03 439.85 515.97 645.10 73.99 96.26 101.00 125.45	AD	Shasta County AQMD	Annual	2016	351.59	409.32	479.82	606.30	73.48	88.23	100.75	126.28
AD Shasta County AQMD Annual 2019 351.86 408.40 479.39 608.38 73.43 85.58 100.66 126.93 AD Shasta County AQMD Annual 2020 351.92 408.34 479.30 608.94 73.52 85.46 100.71 1271.1 AD Shasta County AQMD Annual 2022 352.00 408.47 479.13 609.29 73.62 85.64 100.77 1271.1 AD Shasta County AQMD Annual 2022 352.00 408.47 479.13 609.57 73.64 85.60 100.83 127.2 AD Shasta County AQMD Annual 2023 351.99 408.52 479.04 609.77 73.67 85.66 100.87 1271.4 AD Shasta County AQMD Annual 2023 351.99 408.52 479.04 609.77 73.67 85.66 100.87 1271.4 AD Shasta County AQMD Annual 2025 351.96 408.62 478.91 610.13 73.71 85.77 100.93 127.7 AD Shasta County AQMD Annual 2026 351.96 408.62 478.91 610.13 73.71 85.87 100.93 127.7 AD Shasta County AQMD Annual 2026 351.98 408.69 478.84 610.34 73.73 85.88 100.96 127.8 AD Shasta County AQMD Annual 2026 351.98 408.69 478.84 610.35 73.75 85.62 100.97 128.14 AD Shasta County AQMD Annual 2028 352.00 408.80 478.76 1610.75 73.76 85.69 100.97 128.14 AD Shasta County AQMD Annual 2028 352.00 408.80 478.76 1610.77 73.75 85.92 100.97 128.14 AD Shasta County AQMD Annual 2023 351.99 408.00 478.56 611.21 73.76 85.90 100.96 128.04 AD Shasta County AQMD Annual 2031 351.99 408.09 478.86 611.21 73.76 85.09 100.97 128.31 AD Shasta County AQMD Annual 2031 351.99 408.09 478.56 611.45 73.77 86.04 100.96 128.44 AD Shasta County AQMD Annual 2031 351.99 408.09 478.56 611.45 73.77 86.04 100.96 128.44 AD Shasta County AQMD Annual 2033 351.99 409.07 478.50 611.69 73.78 86.04 100.96 128.45 AD Shasta County AQMD Annual 2034 351.98 409.10 478.44 612.11 73.78 86.14 100.97 128.78 AD Shasta County AQMD Annual 2034 351.98 409.10 478.47 611.91 73.78 86.14 100.97 128.78 AD Shasta County AQMD Annual 2034 351.98 409.10 478.47 611.91 73.78 86.14 100.97 128.78 AD Shasta County AQMD Annual 2034 351.98 409.10 478.47 611.91 73.78 86.14 100.97 128.78 AD Shasta County AQMD Annual 2034 351.98 409.10 478.47 611.91 73.78 86.14 100.97 128.78 AD Shasta County AQMD Annual 2034 351.98 409.10 478.47 611.91 73.78 86	AD	Shasta County AQMD	Annual	2017	351.70	408.85	479.65	607.09	73.46	86.94	100.68	126.51
AD Shasta County AQMD Annual 2020 351.92 408.34 479.30 608.94 73.52 85.46 100.71 127.11 AD Shasta County AQMD Annual 2021 351.97 408.41 479.21 609.29 73.59 85.54 100.78 127.11 AD Shasta County AQMD Annual 2022 352.00 408.47 479.13 609.57 73.67 85.66 100.87 127.41 AD Shasta County AQMD Annual 2023 351.99 408.52 479.04 609.77 73.67 85.66 100.87 127.41 AD Shasta County AQMD Annual 2024 351.96 408.57 478.97 609.99 73.69 85.71 100.90 127.51 AD Shasta County AQMD Annual 2026 351.96 408.69 478.84 610.34 73.73 85.83 100.95 127.81 AD Shasta County AQMD Annual 2026 351.96 408.69 478.84 610.34 73.73 85.83 100.95 127.81 AD Shasta County AQMD Annual 2026 351.96 408.69 478.84 610.34 73.73 85.83 100.95 127.81 AD Shasta County AQMD Annual 2026 351.99 408.74 478.77 610.55 73.74 85.87 100.96 128.04 AD Shasta County AQMD Annual 2029 352.00 408.87 478.63 610.99 73.76 85.96 100.97 128.13 AD Shasta County AQMD Annual 2029 352.00 408.87 478.63 610.99 73.76 85.96 100.97 128.13 AD Shasta County AQMD Annual 2030 351.99 409.90 478.56 611.21 73.76 86.00 100.96 128.54 AD Shasta County AQMD Annual 2030 351.99 409.90 478.56 611.21 73.76 86.00 100.96 128.54 AD Shasta County AQMD Annual 2032 351.99 409.07 478.50 611.69 73.78 86.08 100.97 128.33 AD Shasta County AQMD Annual 2033 351.99 409.07 478.50 611.69 73.78 86.04 100.96 128.54 AD Shasta County AQMD Annual 2033 351.99 409.07 478.50 611.69 73.78 86.04 100.96 128.54 AD Shasta County AQMD Annual 2033 351.98 409.10 478.50 611.69 73.78 86.11 100.97 128.78 AD Shasta County AQMD Annual 2034 351.98 409.10 478.50 611.69 73.78 86.11 100.97 128.78 AD Shasta County AQMD Annual 2035 351.97 409.20 478.42 612.29 73.79 86.17 100.91 128.89 AD Shasta County AQMD Annual 2036 351.97 409.20 478.42 612.29 73.79 86.17 100.91 128.49 AD Shasta County AQMD Summer 2010 377.12 440.81 516.16 644.42 74.15 98.71 101.24 125.44 AD Shasta County AQMD Summer 2010 377.12 440.81 516.16 644.42 74.15 98.71 101.24 125.44 AD Shasta County AQMD Summer 2013 378.91 438.85 515.50 645.99 73.79 94.20 101.00 125.51 AD Shasta County AQMD	AD	Shasta County AQMD	Annual	2018	351.78	408.50	479.51	607.77	73.42	85.93	100.65	126.73
AD Shasta County AQMD Annual 2021 351.97 408.41 479.21 609.29 73.59 85.54 100.78 127.14 AD Shasta County AQMD Annual 2022 352.00 408.47 479.13 609.57 73.64 85.60 100.83 127.24 AD Shasta County AQMD Annual 2023 351.99 408.52 478.97 609.93 73.69 85.61 00.87 127.45 AD Shasta County AQMD Annual 2024 351.96 408.57 478.97 609.93 73.69 85.67 100.90 127.5 AD Shasta County AQMD Annual 2025 351.96 408.57 478.97 609.93 73.69 85.71 100.90 127.5 AD Shasta County AQMD Annual 2025 351.96 408.62 478.91 610.13 73.71 85.77 100.93 127.7 AD Shasta County AQMD Annual 2026 351.98 408.89 478.81 610.34 73.73 85.83 100.95 127.8 AD Shasta County AQMD Annual 2027 351.99 408.74 478.77 610.55 73.74 85.87 100.99 128.0 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.77 73.75 85.92 100.97 128.1 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.77 73.76 85.92 100.97 128.1 AD Shasta County AQMD Annual 2030 351.99 409.84 478.56 611.21 73.76 86.00 100.96 128.54 AD Shasta County AQMD Annual 2030 351.99 409.00 478.53 611.45 73.77 86.04 100.96 128.54 AD Shasta County AQMD Annual 2031 351.99 409.07 478.50 611.69 73.78 86.04 100.96 128.54 AD Shasta County AQMD Annual 2033 351.99 409.07 478.50 611.69 73.78 86.08 100.96 128.54 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.77 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.57 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.57 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.57 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.57 AD Shasta County AQMD Annual 2033 351.99 409.50 478.40 615.19 73.79 86.17 100.96 128.64 AD Shasta County AQMD Annual 2033 351.99 409.50 478.40 615.19 73.79 86.17 100.97 128.57 AD Shasta County AQMD Summer 2010 377.12 440.81 515.50 648.50 73.59 84.91 100.99 128.51 AD Shasta County AQMD Summer 2010 377.75 439.98 515.50 645.50 73.54 89.54	AD	Shasta County AQMD	Annual	2019	351.86	408.40	479.39	608.38	73.43	85.58	100.66	126.93
AD Shasta County AQMD Annual 2022 352.00 408.47 479.13 609.57 73.64 85.60 100.83 127.24 AD Shasta County AQMD Annual 2023 351.99 408.62 479.04 609.77 73.67 85.66 100.87 127.44 AD Shasta County AQMD Annual 2024 351.96 408.87 478.97 609.93 73.67 85.66 100.87 127.45 AD Shasta County AQMD Annual 2025 351.96 408.62 478.91 610.31 73.71 85.77 100.90 127.51 AD Shasta County AQMD Annual 2026 351.98 408.69 478.81 610.34 73.73 85.83 100.95 127.84 AD Shasta County AQMD Annual 2026 351.98 408.69 478.81 610.35 73.74 85.87 100.96 127.84 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.77 73.75 85.92 100.97 128.13 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.77 73.75 85.92 100.97 128.13 AD Shasta County AQMD Annual 2029 352.00 408.87 478.63 610.99 73.76 85.96 100.97 128.33 AD Shasta County AQMD Annual 2029 352.00 408.87 478.63 610.99 73.76 85.96 100.97 128.33 AD Shasta County AQMD Annual 2031 351.99 409.00 478.71 610.77 73.75 85.92 100.97 128.33 AD Shasta County AQMD Annual 2032 351.99 409.00 478.50 611.69 73.76 86.00 100.96 128.43 AD Shasta County AQMD Annual 2032 351.99 409.00 478.45 611.69 73.78 86.10 100.99 128.43 AD Shasta County AQMD Annual 2032 351.99 409.00 478.42 612.29 73.78 86.41 100.99 128.78 AD Shasta County AQMD Annual 2033 351.98 409.07 478.50 611.69 73.78 86.11 100.99 128.78 AD Shasta County AQMD Annual 2034 351.98 409.10 478.42 612.29 73.79 86.17 100.99 128.78 AD Shasta County AQMD Annual 2035 351.98 409.10 478.42 612.29 73.79 86.17 100.99 128.78 AD Shasta County AQMD Summer 2010 377.12 440.81 516.16 644.42 74.15 98.71 101.24 128.48 AD Shasta County AQMD Summer 2010 377.75 439.98 515.80 646.90 73.79 94.20 101.00 125.57 AD Shasta County AQMD Summer 2011 377.85 439.86 515.70 646.99 73.67 92.45 100.99 128.74 AD Shasta County AQMD Summer 2012 377.75 439.86 515.40 656.00 73.79 94.20 101.00 125.57 AD Shasta County AQMD Summer 2016 378.49 439.05 515.50 646.99 73.67 92.45 100.99 125.47 AD Shasta County AQMD Summer 2016 378.49 439.05 515.50 666.99 73.67 93.45 80.91 100.85 125.87 AD Shasta County	AD	Shasta County AQMD	Annual	2020	351.92	408.34	479.30	608.94	73.52	85.46	100.71	127.12
AD Shasta County AQMD Annual 2023 351.99 408.52 479.04 609.77 73.67 85.66 100.87 127.44 AD Shasta County AQMD Annual 2024 351.96 408.62 479.04 609.73 73.67 85.66 100.87 127.54 AD Shasta County AQMD Annual 2025 351.96 408.62 478.84 1610.34 73.73 85.78 100.99 127.55 AD Shasta County AQMD Annual 2026 351.98 408.69 478.84 610.34 73.73 85.83 100.99 127.57 AD Shasta County AQMD Annual 2026 351.98 408.69 478.84 610.34 73.73 85.83 100.99 127.57 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.55 73.74 85.87 100.96 128.04 AD Shasta County AQMD Annual 2029 352.00 408.87 478.63 610.99 73.76 85.92 100.97 128.31 AD Shasta County AQMD Annual 2029 352.00 408.87 478.63 610.99 73.76 85.96 100.97 128.31 AD Shasta County AQMD Annual 2030 351.99 409.00 478.53 611.45 73.77 86.04 100.96 128.44 AD Shasta County AQMD Annual 2031 351.99 409.00 478.53 611.45 73.77 86.04 100.96 128.44 AD Shasta County AQMD Annual 2032 351.99 409.07 478.63 611.91 73.76 86.04 100.99 128.51 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.76 86.04 100.99 128.57 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.81 100.97 128.77 AD Shasta County AQMD Annual 2034 351.98 409.12 478.47 611.91 73.78 86.81 100.97 128.77 AD Shasta County AQMD Annual 2035 351.97 409.20 478.42 612.11 73.76 86.04 100.99 128.79 AD Shasta County AQMD Annual 2035 351.98 409.12 478.47 611.91 73.78 86.81 100.97 128.77 AD Shasta County AQMD Annual 2035 351.98 409.12 478.47 611.91 73.78 86.81 100.97 128.77 AD Shasta County AQMD Annual 2034 351.98 409.12 478.47 611.91 73.78 86.14 100.97 128.77 AD Shasta County AQMD Annual 2035 351.98 409.12 478.47 611.91 73.78 86.14 100.97 128.77 AD Shasta County AQMD Summer 2010 377.12 440.81 516.16 644.42 74.15 98.71 101.24 125.44 AD Shasta County AQMD Summer 2011 377.63 440.85 515.97 645.10 73.97 96.26 101.09 125.47 AD Shasta County AQMD Summer 2013 378.85 438.66 515.49 656.30 73.67 92.45 100.99 125.57 AD Shasta County AQMD Summer 2013 378.89 439.85 515.70 646.99 73.67 92.45 100.99 125.57 AD Shasta County AQMD	AD	Shasta County AQMD	Annual	2021	351.97	408.41	479.21	609.29	73.59	85.54	100.78	127.19
AD Shasta County AQMD Annual 2024 351.96 408.57 478.97 609.93 73.69 85.71 100.90 127.51 AD Shasta County AQMD Annual 2025 351.96 408.62 478.91 610.13 73.71 85.77 100.93 127.73 AD Shasta County AQMD Annual 2026 351.98 408.69 478.84 610.34 73.73 85.83 100.95 127.83 AD Shasta County AQMD Annual 2027 351.99 408.74 478.77 610.55 73.74 85.87 100.96 128.04 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.77 73.75 85.92 100.97 128.11 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.77 73.76 85.92 100.97 128.11 AD Shasta County AQMD Annual 2030 351.99 408.07 478.56 611.99 73.76 85.96 100.97 128.31 AD Shasta County AQMD Annual 2030 351.99 408.07 478.56 611.45 73.76 86.00 100.96 128.43 AD Shasta County AQMD Annual 2030 351.99 409.00 478.55 611.45 73.77 86.04 100.96 128.54 AD Shasta County AQMD Annual 2032 351.99 409.07 478.55 611.69 73.78 86.01 100.97 128.31 AD Shasta County AQMD Annual 2033 351.98 409.07 478.55 611.69 73.78 86.01 100.97 128.31 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 81.77 73.78 86.14 100.97 128.79 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.14 100.97 128.79 AD Shasta County AQMD Annual 2034 351.98 409.12 478.47 611.91 73.78 86.14 100.97 128.79 AD Shasta County AQMD Annual 2034 351.98 409.12 478.47 611.91 73.78 86.14 100.97 128.81 AD Shasta County AQMD Annual 2034 351.98 409.12 478.42 612.29 73.79 86.17 100.97 128.91 AD Shasta County AQMD Summer 2010 377.12 40.81 516.16 644.42 74.15 98.71 101.24 125.41 AD Shasta County AQMD Summer 2010 377.12 40.81 515.62 645.96 73.79 94.20 101.00 125.51 AD Shasta County AQMD Summer 2011 377.45 404.03 515.97 645.99 73.67 92.45 100.93 125.77 AD Shasta County AQMD Summer 2014 378.26 439.31 515.62 645.96 73.79 94.20 101.00 125.51 AD Shasta County AQMD Summer 2014 378.26 439.31 515.62 645.96 73.79 94.20 101.00 125.51 AD Shasta County AQMD Summer 2014 378.29 439.05 515.50 646.99 73.67 92.45 100.93 125.77 AD Shasta County AQMD Summer 2018 378.91 439.96 515.50 645.99 73.67 92.45 100.96 126.04 AD Shasta County AQMD Sum	AD	Shasta County AQMD	Annual	2022	352.00	408.47	479.13	609.57	73.64	85.60	100.83	127.24
AD Shasta County AQMD Annual 2025 351.96 408.62 478.91 610.13 73.71 85.77 100.93 127.77 AD Shasta County AQMD Annual 2026 351.98 408.69 478.84 610.34 73.73 85.83 100.95 127.81 AD Shasta County AQMD Annual 2027 351.99 408.74 478.77 610.55 73.74 85.87 100.96 128.04 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.77 73.75 85.92 100.97 128.13 AD Shasta County AQMD Annual 2029 352.00 408.80 478.71 610.77 73.75 85.92 100.97 128.13 AD Shasta County AQMD Annual 2039 351.99 409.04 478.56 611.21 73.76 86.00 100.96 128.64 AD Shasta County AQMD Annual 2031 351.99 409.00 478.50 611.21 73.76 86.00 100.96 128.64 AD Shasta County AQMD Annual 2032 351.99 409.00 478.50 611.69 73.78 86.08 100.96 128.64 AD Shasta County AQMD Annual 2032 351.99 409.00 478.50 611.69 73.78 86.08 100.96 128.64 AD Shasta County AQMD Annual 2033 351.99 409.00 478.50 611.69 73.78 86.08 100.96 128.67 AD Shasta County AQMD Annual 2034 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.77 AD Shasta County AQMD Annual 2034 351.98 409.16 478.44 612.11 73.78 86.11 100.97 128.77 AD Shasta County AQMD Annual 2034 351.98 409.16 478.44 612.11 73.78 86.11 100.97 128.78 AD Shasta County AQMD Annual 2035 351.97 409.20 478.42 612.29 73.79 86.17 100.97 128.87 AD Shasta County AQMD Annual 2035 351.97 409.20 478.42 612.29 73.79 86.17 100.97 128.87 AD Shasta County AQMD Summer 2010 377.12 440.81 516.16 644.42 74.15 98.71 101.24 125.44 AD Shasta County AQMD Summer 2011 377.45 440.85 515.97 645.10 73.97 96.26 101.09 125.45 AD Shasta County AQMD Summer 2012 377.75 439.98 515.82 645.96 73.79 94.20 101.00 125.51 AD Shasta County AQMD Summer 2013 378.03 439.65 515.70 646.99 73.67 92.45 100.93 125.75 AD Shasta County AQMD Summer 2013 378.03 439.65 515.70 646.99 73.67 92.45 100.93 125.75 AD Shasta County AQMD Summer 2013 378.03 439.65 515.70 645.90 73.69 92.45 100.93 125.75 AD Shasta County AQMD Summer 2013 378.03 439.65 515.70 645.90 73.49 85.91 100.66 126.80 AD Shasta County AQMD Summer 2013 378.93 385.50 515.50 649.91 73.67 88.59 100.66 126.80 AD Shasta County AQMD	AD	Shasta County AQMD	Annual	2023	351.99	408.52	479.04	609.77	73.67	85.66	100.87	127.40
AD Shasta County AQMD Annual 2026 351.98 408.69 478.84 610.34 73.73 85.83 100.95 127.81 AD Shasta County AQMD Annual 2027 351.99 408.74 478.77 610.55 73.74 85.87 100.96 128.05 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.57 73.74 85.87 100.96 128.05 AD Shasta County AQMD Annual 2028 352.00 408.87 478.63 610.99 73.76 85.92 100.97 128.13 AD Shasta County AQMD Annual 2030 351.99 408.94 478.56 611.21 73.76 86.00 100.96 128.61 AD Shasta County AQMD Annual 2030 351.99 409.00 478.53 611.45 73.77 86.04 100.96 128.61 AD Shasta County AQMD Annual 2032 351.99 409.00 478.53 611.45 73.77 86.04 100.96 128.61 AD Shasta County AQMD Annual 2032 351.99 409.00 478.50 611.21 73.76 86.04 100.96 128.61 AD Shasta County AQMD Annual 2032 351.99 409.00 478.50 611.69 73.78 86.08 100.96 128.61 AD Shasta County AQMD Annual 2032 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.71 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.71 AD Shasta County AQMD Annual 2034 351.98 409.16 478.44 612.11 73.78 86.11 100.97 128.87 AD Shasta County AQMD Annual 2034 351.98 409.16 478.44 612.11 73.78 86.17 100.97 128.87 AD Shasta County AQMD Summer 2010 377.12 40.81 516.16 644.42 74.15 98.71 101.09 128.64 AD Shasta County AQMD Summer 2011 377.45 440.35 515.97 645.10 73.97 96.26 101.09 125.44 AD Shasta County AQMD Summer 2013 378.30 343.65 515.82 645.96 73.79 94.20 101.00 125.57 AD Shasta County AQMD Summer 2014 378.26 439.95 515.82 645.96 73.79 94.20 101.00 125.57 AD Shasta County AQMD Summer 2014 378.26 439.93 515.82 645.96 73.79 94.20 101.00 125.57 AD Shasta County AQMD Summer 2014 378.26 439.31 516.66 649.19 73.48 89.34 100.76 126.00 AD Shasta County AQMD Summer 2014 378.26 439.31 515.62 648.05 73.54 90.71 100.85 125.81 AD Shasta County AQMD Summer 2016 378.71 438.86 515.49 650.32 73.48 88.23 100.75 126.00 AD Shasta County AQMD Summer 2018 379.01 438.86 515.49 650.32 73.48 88.23 100.75 126.00 AD Shasta County AQMD Summer 2029 379.07 438.48 515.17 653.03 73.48 85.54 100.71 127.14 AD Shasta County AQMD S	AD	Shasta County AQMD	Annual	2024	351.96	408.57	478.97	609.93	73.69	85.71	100.90	127.56
AD Shasta County AQMD Annual 2027 351.99 408.74 478.77 610.55 73.74 85.87 100.96 128.00 AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.77 73.75 85.92 100.97 128.13 AD Shasta County AQMD Annual 2029 352.00 408.80 478.61 610.77 73.75 85.92 100.97 128.13 AD Shasta County AQMD Annual 2039 351.99 408.87 478.63 610.99 73.76 85.06 100.97 128.31 AD Shasta County AQMD Annual 2030 351.99 409.00 478.53 611.45 73.77 86.04 100.96 128.54 AD Shasta County AQMD Annual 2031 351.99 409.00 478.50 611.69 73.78 86.04 100.96 128.54 AD Shasta County AQMD Annual 2032 351.99 409.07 478.50 611.69 73.78 86.04 100.96 128.54 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.79 AD Shasta County AQMD Annual 2034 351.98 409.16 478.44 612.11 73.78 86.14 100.97 128.79 AD Shasta County AQMD Annual 2034 351.98 409.16 478.44 612.11 73.78 86.14 100.97 128.89 AD Shasta County AQMD Annual 2035 351.97 409.20 478.42 612.29 73.79 86.17 100.97 128.89 AD Shasta County AQMD Summer 2010 377.12 440.81 516.16 644.42 74.15 98.71 101.24 125.44 AD Shasta County AQMD Summer 2011 377.45 440.35 516.16 644.42 74.15 98.71 101.24 125.44 AD Shasta County AQMD Summer 2012 377.75 439.98 518.82 645.96 73.79 94.20 101.09 125.54 AD Shasta County AQMD Summer 2013 378.03 439.65 515.70 646.99 73.67 92.45 100.93 125.77 AD Shasta County AQMD Summer 2016 378.71 438.66 515.49 650.32 73.48 89.42 101.00 125.54 AD Shasta County AQMD Summer 2016 378.71 438.66 515.49 650.32 73.48 89.43 100.76 126.04 AD Shasta County AQMD Summer 2016 378.71 438.66 515.49 650.32 73.48 89.43 100.76 126.04 AD Shasta County AQMD Summer 2016 378.71 438.66 515.49 650.32 73.48 89.43 100.76 126.07 AD Shasta County AQMD Summer 2018 378.91 438.66 515.49 650.32 73.48 89.43 100.76 126.07 AD Shasta County AQMD Summer 2018 378.91 438.66 515.49 650.32 73.48 89.43 100.76 126.07 AD Shasta County AQMD Summer 2020 379.11 438.48 515.17 650.30 73.43 85.56 100.66 126.97 AD Shasta County AQMD Summer 2021 379.11 438.85 514.97 652.24 73.42 85.93 100.66 126.75 AD Shasta County AQMD	AD	Shasta County AQMD	Annual	2025	351.96	408.62	478.91	610.13	73.71	85.77	100.93	127.72
AD Shasta County AQMD Annual 2028 352.00 408.80 478.71 610.77 73.75 85.92 100.97 128.11 AD Shasta County AQMD Annual 2029 352.00 408.87 478.63 610.99 73.76 85.96 100.97 128.31 AD Shasta County AQMD Annual 2030 351.99 408.94 478.56 611.29 73.76 85.96 100.97 128.31 AD Shasta County AQMD Annual 2031 351.99 408.94 478.56 611.65 73.78 86.04 100.96 128.54 AD Shasta County AQMD Annual 2032 351.99 409.07 478.50 611.69 73.78 86.08 100.96 128.67 AD Shasta County AQMD Annual 2033 351.98 409.07 478.50 611.69 73.78 86.08 100.96 128.67 AD Shasta County AQMD Annual 2033 351.98 409.07 478.50 611.69 73.78 86.11 100.97 128.77 AD Shasta County AQMD Annual 2034 351.98 409.07 478.40 611.91 73.78 86.11 100.97 128.77 AD Shasta County AQMD Annual 2033 351.98 409.16 478.44 612.11 73.78 86.11 100.97 128.79 AD Shasta County AQMD Annual 2035 351.97 409.20 478.42 612.29 73.79 86.17 100.97 128.99 AD Shasta County AQMD Summer 2010 377.12 440.35 515.97 645.10 73.97 96.26 101.09 125.44 AD Shasta County AQMD Summer 2011 377.45 440.35 515.97 645.10 73.97 96.26 101.09 125.44 AD Shasta County AQMD Summer 2012 377.75 439.98 515.62 646.96 73.79 94.20 101.00 125.51 AD Shasta County AQMD Summer 2013 378.03 439.65 515.70 646.99 73.67 92.45 100.93 125.77 AD Shasta County AQMD Summer 2014 378.26 439.31 515.62 649.05 73.54 90.71 100.85 125.74 AD Shasta County AQMD Summer 2016 378.71 438.86 515.49 650.32 73.48 88.23 100.75 126.24 AD Shasta County AQMD Summer 2016 378.71 438.86 515.49 650.32 73.48 88.23 100.75 126.24 AD Shasta County AQMD Summer 2018 378.01 438.48 515.07 653.75 73.54 86.40 100.68 126.57 AD Shasta County AQMD Summer 2019 379.01 438.48 515.07 653.75 73.54 86.60 100.71 127.11 AD Shasta County AQMD Summer 2020 379.01 438.48 515.07 653.75 73.54 85.60 100.73 127.14 AD Shasta County AQMD Summer 2021 379.11 438.86 515.49 650.32 73.48 85.93 100.65 126.75 AD Shasta County AQMD Summer 2020 379.11 438.48 515.07 653.67 73.48 85.91 100.78 127.14 AD Shasta County AQMD Summer 2022 379.12 438.66 51.66 655.77 73.48 85.61 100.79 127.44 AD Shasta County AQMD S	AD	Shasta County AQMD	Annual	2026	351.98	408.69	478.84	610.34	73.73	85.83	100.95	127.89
AD Shasta County AQMD Annual 2029 352.00 408.87 478.63 610.99 73.76 85.96 100.97 128.3 AD Shasta County AQMD Annual 2030 351.99 408.94 478.56 611.27 73.76 86.00 100.96 128.43 AD Shasta County AQMD Annual 2031 351.99 409.00 478.53 611.45 73.77 86.00 100.96 128.45 AD Shasta County AQMD Annual 2032 351.99 409.00 478.53 611.46 73.77 86.04 100.96 128.65 AD Shasta County AQMD Annual 2033 351.99 409.00 478.53 611.69 73.78 86.08 100.96 128.65 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.04 100.97 128.77 AD Shasta County AQMD Annual 2034 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.77 AD Shasta County AQMD Annual 2034 351.98 409.12 478.42 612.29 73.79 86.17 100.97 128.79 AD Shasta County AQMD Annual 2035 351.97 409.20 478.42 612.29 73.79 86.17 100.97 128.97 AD Shasta County AQMD Summer 2010 377.12 440.81 516.16 644.42 74.15 98.71 101.24 125.44 AD Shasta County AQMD Summer 2011 377.45 440.35 515.97 645.10 73.97 96.26 101.09 125.44 AD Shasta County AQMD Summer 2012 377.75 439.98 515.82 645.96 73.79 94.20 101.00 125.51 AD Shasta County AQMD Summer 2013 378.03 439.65 515.70 646.99 73.67 92.45 100.93 125.71 AD Shasta County AQMD Summer 2014 378.26 439.31 515.62 648.09 73.67 92.45 100.93 125.71 AD Shasta County AQMD Summer 2015 378.49 439.05 515.62 648.09 73.67 92.45 100.93 125.71 AD Shasta County AQMD Summer 2016 378.71 438.86 515.49 650.32 73.48 89.34 100.76 126.01 AD Shasta County AQMD Summer 2018 378.93 438.50 515.27 652.24 73.42 85.93 100.65 126.72 AD Shasta County AQMD Summer 2018 378.90 438.49 515.07 653.03 73.48 89.34 100.76 126.01 AD Shasta County AQMD Summer 2019 379.01 438.48 515.07 653.03 73.48 89.34 100.66 126.73 AD Shasta County AQMD Summer 2020 379.01 438.48 515.07 653.03 73.48 89.34 100.68 126.54 AD Shasta County AQMD Summer 2021 379.01 438.48 515.07 653.03 73.48 89.34 100.65 126.73 AD Shasta County AQMD Summer 2022 379.11 438.86 514.97 654.24 73.59 85.54 100.78 127.14 AD Shasta County AQMD Summer 2022 379.11 438.89 514.68 655.24 73.49 85.64 100.71 127.14 AD Shasta County AQMD S	AD	Shasta County AQMD	Annual	2027	351.99	408.74	478.77	610.55	73.74	85.87	100.96	128.04
AD Shasta County AQMD Annual 2030 351.99 408.94 478.56 611.21 73.76 86.00 100.96 128.44 AD Shasta County AQMD Annual 2031 351.99 409.00 478.53 611.45 73.77 86.04 100.96 128.51 AD Shasta County AQMD Annual 2032 351.99 409.07 478.50 611.69 73.78 86.08 100.96 128.61 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.67 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.14 100.97 128.67 AD Shasta County AQMD Annual 2033 351.98 409.16 478.44 612.11 73.78 86.11 100.97 128.87 AD Shasta County AQMD Annual 2035 351.97 409.20 478.42 612.29 73.79 86.17 100.97 128.87 AD Shasta County AQMD Summer 2010 377.12 440.81 516.16 644.42 74.15 98.71 101.24 125.44 AD Shasta County AQMD Summer 2011 377.45 440.35 515.97 645.10 73.97 96.26 101.09 125.44 AD Shasta County AQMD Summer 2012 377.75 439.98 515.82 645.96 73.79 94.20 101.00 125.54 AD Shasta County AQMD Summer 2013 378.03 439.65 515.70 646.99 73.67 92.45 100.93 125.73 AD Shasta County AQMD Summer 2014 378.26 439.31 515.62 648.05 73.54 90.71 100.85 125.81 AD Shasta County AQMD Summer 2015 378.49 439.05 515.56 649.19 73.48 89.34 100.76 126.07 AD Shasta County AQMD Summer 2016 378.49 439.05 515.56 649.19 73.48 89.34 100.76 126.07 AD Shasta County AQMD Summer 2016 378.85 438.66 515.49 650.32 73.48 88.23 100.75 126.21 AD Shasta County AQMD Summer 2017 378.85 438.66 515.49 650.32 73.48 88.23 100.76 126.07 AD Shasta County AQMD Summer 2019 379.01 438.48 515.17 653.03 73.43 85.58 100.66 126.57 AD Shasta County AQMD Summer 2020 379.07 438.49 515.07 653.75 73.52 85.46 100.71 127.13 AD Shasta County AQMD Summer 2021 379.11 438.68 514.80 654.91 73.67 85.66 100.87 127.14 AD Shasta County AQMD Summer 2023 379.11 438.68 514.80 654.91 73.67 85.66 100.87 127.14 AD Shasta County AQMD Summer 2024 379.10 438.86 514.80 654.91 73.67 85.66 100.87 127.14 AD Shasta County AQMD Summer 2024 379.10 438.86 514.80 654.91 73.69 85.71 100.90 127.54 AD Shasta County AQMD Summer 2024 379.10 438.86 514.80 654.91 73.69 85.71 100.90 127.54 AD Shasta County AQMD	AD	Shasta County AQMD		2028		408.80	478.71	610.77	73.75	85.92		128.18
AD Shasta County AQMD Annual 2031 351.99 409.00 478.53 611.45 73.77 86.04 100.96 128.51 AD Shasta County AQMD Annual 2032 351.99 409.07 478.50 611.69 73.78 86.08 100.96 128.61 AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.71 AD Shasta County AQMD Annual 2034 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.71 AD Shasta County AQMD Annual 2034 351.98 409.16 478.44 612.11 73.78 86.11 100.97 128.91 AD Shasta County AQMD Annual 2034 351.98 409.16 478.44 612.29 73.79 86.17 100.97 128.91 AD Shasta County AQMD Summer 2010 377.12 440.81 516.16 644.42 74.15 98.71 101.24 125.44 AD Shasta County AQMD Summer 2011 377.45 440.81 516.16 644.42 74.15 98.71 101.24 125.44 AD Shasta County AQMD Summer 2012 377.75 439.98 515.87 645.10 73.97 96.26 101.09 125.45 AD Shasta County AQMD Summer 2013 378.03 439.65 515.97 645.10 73.97 96.26 101.09 125.45 AD Shasta County AQMD Summer 2014 378.26 439.31 515.02 645.96 73.79 94.20 101.00 125.55 AD Shasta County AQMD Summer 2014 378.26 439.31 515.02 646.95 73.54 90.71 100.85 125.81 AD Shasta County AQMD Summer 2015 378.49 439.05 515.70 649.19 73.48 89.34 100.76 126.07 AD Shasta County AQMD Summer 2016 378.71 438.86 515.49 650.32 73.48 88.23 100.75 126.21 AD Shasta County AQMD Summer 2018 378.93 438.65 515.70 653.24 73.46 86.94 100.68 126.55 AD Shasta County AQMD Summer 2018 378.93 438.50 515.50 653.24 73.46 86.94 100.68 126.55 AD Shasta County AQMD Summer 2018 378.93 438.50 515.57 653.03 73.43 85.58 100.66 126.93 AD Shasta County AQMD Summer 2018 378.91 438.49 515.07 653.75 73.52 85.46 100.71 127.11 AD Shasta County AQMD Summer 2020 379.07 438.49 515.07 653.75 73.52 85.46 100.71 127.11 AD Shasta County AQMD Summer 2021 379.11 438.86 514.97 654.24 73.76 85.66 100.87 127.11 AD Shasta County AQMD Summer 2022 379.11 438.86 514.86 654.91 73.69 85.71 100.99 127.51 AD Shasta County AQMD Summer 2023 379.11 438.85 514.97 654.24 73.79 85.54 100.97 127.51 AD Shasta County AQMD Summer 2024 379.10 438.85 514.97 654.24 73.79 85.66 100.87 127.11 AD Shasta County AQMD	AD	Shasta County AQMD	Annual	2029	352.00	408.87	478.63	610.99	73.76	85.96	100.97	128.31
AD Shasta County AQMD	AD	Shasta County AQMD	Annual	2030		408.94					100.96	128.43
AD Shasta County AQMD Annual 2033 351.98 409.12 478.47 611.91 73.78 86.11 100.97 128.77 AD Shasta County AQMD Annual 2034 351.98 409.16 478.44 612.11 73.78 86.14 100.97 128.78 AD Shasta County AQMD Annual 2035 351.97 409.20 478.42 612.29 73.79 86.17 100.97 128.99 AD Shasta County AQMD Summer 2010 377.12 440.81 516.16 644.42 74.15 98.71 101.24 125.44 AD Shasta County AQMD Summer 2011 377.45 440.35 515.97 645.10 73.97 96.26 101.09 125.49 AD Shasta County AQMD Summer 2012 377.75 439.98 515.82 645.96 73.79 94.20 101.00 125.59 AD Shasta County AQMD Summer 2013 378.03 439.65 515.70 646.99 73.67 92.45 100.93 125.79 AD Shasta County AQMD Summer 2015 378.49 439.95 515.62 648.05 73.54 90.71 100.85 125.89 AD Shasta County AQMD Summer 2016 378.71 438.86 515.49 650.32 73.48 89.34 100.76 126.07 AD Shasta County AQMD Summer 2016 378.71 438.86 515.49 650.32 73.48 88.23 100.75 126.23 AD Shasta County AQMD Summer 2018 378.93 438.66 515.49 650.32 73.48 88.23 100.75 126.23 AD Shasta County AQMD Summer 2018 378.93 438.66 515.49 650.32 73.48 88.93 100.66 126.73 AD Shasta County AQMD Summer 2019 379.01 438.48 515.77 652.24 73.42 85.93 100.66 126.73 AD Shasta County AQMD Summer 2019 379.01 438.48 515.17 653.03 73.42 85.93 100.66 126.73 AD Shasta County AQMD Summer 2020 379.07 438.49 515.07 653.75 73.52 85.46 100.71 127.13 AD Shasta County AQMD Summer 2020 379.07 438.49 515.07 653.24 73.59 85.54 100.78 127.14 AD Shasta County AQMD Summer 2021 379.11 438.58 514.97 654.24 73.59 85.54 100.78 127.44 AD Shasta County AQMD Summer 2022 379.11 438.68 514.97 654.24 73.59 85.54 100.79 127.44 AD Shasta County AQMD Summer 2023 379.11 438.93 514.68 656.91 73.67 85.66 100.87 127.44 AD Shasta County AQMD Summer 2024 379.10 438.85 514.97 654.24 73.59 85.54 100.79 127.44 AD Shasta County AQMD Summer 2022 379.10 438.85 514.97 654.24 73.59 85.54 100.79 127.44 AD Shasta County AQMD Summer 2023 379.11 438.93 514.66 656.24 73.76 85.60 100.87 127.44 AD Shasta County AQMD Summer 2023 379.11 438.93 514.66 656.24 73.76 85.87 100.99 127.54 AD Shasta County AQMD	AD											128.55
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AD Shasta County AQMD			Annual									128.77
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D-151 September 2016

Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

Season Year LOA LOT		Location			(°O2 Punni	7	CO2 Starting (g/trip)					
AD Sharat County AOMD Summer 2002 379.17 499.59 614.90 677.05 73.78 86.10 00.98 128.80 AD Shasta County AOMD Summer 2003 379.16 439.64 514.97 657.55 73.78 86.11 00.97 128.80 AD Shasta County AOMD Summer 2003 379.16 439.64 514.97 657.55 73.78 86.11 00.97 128.80 AD Shasta County AOMD Winter 2010 339.84 401.24 467.15 582.88 77.77 78.78 86.11 00.97 128.80 AD Shasta County AOMD Winter 2011 339.24 401.24 467.15 582.88 73.79 94.20 101.09 128.40 AD Shasta County AOMD Winter 2011 339.34 401.24 467.45 585.88 73.79 94.20 101.09 128.40 AD Shasta County AOMD Winter 2011 339.39 399.10 466.34 563.46 73.97 94.20 101.09 128.40 AD Shasta County AOMD Winter 2014 339.39 399.10 466.34 563.46 73.97 94.20 101.09 128.40 AD Shasta County AOMD Winter 2014 339.39 399.10 466.46 569.50 564.17 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.50 569.50 564.5		Location	Socon	Voor									
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AD Shasta County AGMD Winter 2010 339.28 401.24 467.18 582.88 74.15 98.71 101.24 122.54 124.05 Shasta County AGMD Winter 2011 339.38 400.06 486.34 883.46 73.67 98.26 101.00 125.5 40.00 Shasta County AGMD Winter 2012 339.31 399.10 465.69 584.12 73.79 94.20 101.00 125.5 40.00 Shasta County AGMD Winter 2014 339.39 39.80 29 465.18 584.84 73.67 92.45 100.93 125.5 40.00 Shasta County AGMD Winter 2014 339.39 39.80 465.18 584.84 73.67 92.45 100.93 125.5 40.00 Shasta County AGMD Winter 2016 339.58 39.67 464.45 586.30 73.49 88.34 100.76 126.0 AD Shasta County AGMD Winter 2016 339.82 484.45 586.30 73.49 88.34 100.76 126.0 AD Shasta County AGMD Winter 2016 339.87 236.38 464.21 587.0 73.49 88.3 100.65 125.8 AD Shasta County AGMD Winter 2016 339.89 395.36 463.85 588.30 73.42 85.31 100.65 126.8 AD Shasta County AGMD Winter 2016 339.89 395.36 463.85 588.30 73.42 85.31 100.66 126.6 AD Shasta County AGMD Winter 2019 339.7 395.23 463.73 588.37 349 88.54 100.68 126.5 AD Shasta County AGMD Winter 2019 339.7 395.23 463.81 589.37 389.84 58.60 100.67 127.4 AD Shasta County AGMD Winter 2019 339.07 395.24 463.47 589.32 73.52 85.46 100.71 127.1 AD Shasta County AGMD Winter 2012 340.10 395.24 483.47 589.32 73.52 85.46 100.71 127.1 AD Shasta County AGMD Winter 2012 340.10 395.24 483.47 589.34 73.59 85.61 100.66 126.6 AD Shasta County AGMD Winter 2012 340.10 395.24 483.47 589.34 73.59 85.61 100.67 127.1 AD Shasta County AGMD Winter 2012 340.10 395.24 483.47 589.34 73.76 85.66 100.87 127.1 AD Shasta County AGMD Winter 2021 340.10 395.52 463.31 590.15 73.69 85.71 100.30 127.5 AD Shasta County AGMD Winter 2024 340.09 355.23 463.31 590.15 73.69 85.71 100.30 127.5 AD Shasta County AGMD Winter 2028 340.10 395.45 463.10 590.67 73.74 85.87 100.39 127.8 AD Shasta County AGMD Winter 2028 340.10 395.45 463.30 590.67 73.74 85.87 100.39 127.8 AD Shasta County AGMD Winter 2028 340.10 395.52 463.31 590.15 73.76 85.66 100.87 128.3 AD Shasta County AGMD Winter 2028 340.10 395.52 463.31 590.57 73.78 85.81 100.39 127.5 AD Shasta County AGMD Winter 2028 340.10		·										128.96	
AD Shasta County AGMD Winter 2011 339.28 400.06 486.34 583.46 73.67 96.26 101.09 125.5 AD Shasta County AGMD Winter 2012 339.31 399.10 486.80 584.12 73.79 96.26 101.09 125.5 AD Shasta County AGMD Winter 2013 339.39 398.29 465.18 584.49 73.67 92.26 100.39 125.7 AD Shasta County AGMD Winter 2014 339.47 397.49 464.78 585.66 73.54 90.71 100.86 125.5 AD Shasta County AGMD Winter 2016 339.72 396.39 485.11 587.49 73.49 88.21 00.76 125.0 AD Shasta County AGMD Winter 2016 339.72 396.39 485.21 587.07 73.46 86.94 100.65 125.5 AD Shasta County AGMD Winter 2018 339.97 395.30 480.31 588.30 73.49 89.31 89.50 100.65 125.5 AD Shasta County AGMD Winter 2018 339.97 395.30 480.31 588.30 73.42 85.39 100.65 125.7 AD Shasta County AGMD Winter 2018 339.97 395.23 463.73 588.83 73.43 85.50 100.66 125.7 AD Shasta County AGMD Winter 2019 339.97 395.23 463.73 588.83 73.42 85.39 100.65 125.7 AD Shasta County AGMD Winter 2019 339.97 395.23 463.73 588.83 73.42 85.59 100.66 125.7 AD Shasta County AGMD Winter 2012 340.09 395.20 463.55 588.61 73.59 85.4 100.07 127.1 AD Shasta County AGMD Winter 2012 340.13 395.20 463.35 589.61 73.59 85.4 100.07 127.1 AD Shasta County AGMD Winter 2022 340.11 395.24 463.47 589.84 73.64 85.60 100.67 127.4 AD Shasta County AGMD Winter 2023 340.11 395.24 463.47 589.84 73.64 85.60 100.67 127.4 AD Shasta County AGMD Winter 2023 340.11 395.52 463.31 590.15 73.69 85.66 100.67 127.4 AD Shasta County AGMD Winter 2023 340.10 395.25 463.30 590.17 3.75 85.66 100.87 127.4 AD Shasta County AGMD Winter 2026 340.10 395.54 463.10 590.15 73.69 85.71 100.90 127.7 AD Shasta County AGMD Winter 2026 340.10 395.54 463.10 590.15 73.69 85.66 100.87 127.4 AD Shasta County AGMD Winter 2026 340.10 395.56 482.95 591.18 73.78 85.81 100.90 127.7 AD Shasta County AGMD Winter 2023 340.09 395.67 482.25 591.61 73.77 85.64 100.97 128.1 AD Shasta County AGMD Winter 2031 340.09 395.67 482.25 591.61 73.77 85.64 100.97 128.1 AD Shasta County AGMD Winter 2031 340.09 395.67 482.27 591.61 73.78 85.81 100.99 127.7 AD Shasta County AGM												125.46	
AD Shasta County AOMD Winter 2012 339.31 399.01 465.69 584.12 73.79 94.20 101.00 125.5 AD Shasta County AOMD Winter 2013 339.33 38.29 465.18 584.84 73.67 92.45 100.33 125.7 AD Shasta County AOMD Winter 2016 339.87 397.49 464.75 585.56 73.54 9.71 100.85 125.8 AD Shasta County AOMD Winter 2016 339.87 397.49 464.75 585.56 73.49 89.34 100.76 126.8 AD Shasta County AOMD Winter 2016 339.87 398.87 464.45 586.30 73.48 88.34 100.76 126.8 AD Shasta County AOMD Winter 2016 339.87 395.81 464.01 587.71 73.46 86.94 100.68 126.5 AD Shasta County AOMD Winter 2018 339.87 395.23 463.37 588.37 349 88.24 100.66 126.8 AD Shasta County AOMD Winter 2019 339.97 395.23 463.73 588.37 349 88.24 100.66 126.8 AD Shasta County AOMD Winter 2019 339.97 395.23 463.73 588.37 343 85.61 00.66 126.8 AD Shasta County AOMD Winter 2019 339.97 395.23 463.73 588.37 343 85.61 00.66 126.8 AD Shasta County AOMD Winter 2019 339.97 395.23 463.73 588.37 343 85.61 00.66 126.8 AD Shasta County AOMD Winter 2019 339.97 395.23 463.75 589.84 73.64 85.60 100.67 127.7 AD Shasta County AOMD Winter 2019 339.97 395.24 463.47 589.84 73.64 85.60 100.63 127.2 AD Shasta County AOMD Winter 2019 390.09 395.52 463.39 590.01 73.67 85.66 100.67 127.4 AD Shasta County AOMD Winter 2019 390.09 395.52 463.31 590.01 73.67 85.66 100.67 127.7 AD Shasta County AOMD Winter 2019 390.09 395.51 463.31 590.01 73.67 85.66 100.67 127.7 AD Shasta County AOMD Winter 2019 390.09 395.51 463.31 590.07 73.76 85.66 100.67 127.7 AD Shasta County AOMD Winter 2019 390.09 395.51 463.31 590.07 73.76 85.66 100.67 127.8 AD Shasta County AOMD Winter 2019 390.09 395.51 463.31 590.07 73.76 85.61 100.90 127.5 AD Shasta County AOMD Winter 2019 390.09 395.51 463.31 590.07 73.76 85.61 100.90 127.5 AD Shasta County AOMD Winter 2019 390.09 395.51 463.80 590.07 73.76 85.61 100.90 127.5 AD Shasta County AOMD Winter 2019 390.09 395.51 462.70 591.30 73.79 85.91 100.90 127.5 AD Shasta County AOMD Winter 2019 390.09 395.70 462.81 590.09 73.76 85.91 100.90 127.5 AD Shasta County AOMD Winter 2019 390										96.26		125.49	
AD Shasta Country AQMD Winter 2016 339.73 397.49 464.78 585.66 73.44 90.71 100.85 125.8 AD Shasta Country AQMD Winter 2016 339.72 396.38 464.21 587.03 73.48 89.34 100.76 126.0 AD Shasta Country AQMD Winter 2016 339.72 396.38 464.21 587.03 73.48 89.34 100.76 126.0 AD Shasta Country AQMD Winter 2017 339.82 395.81 464.01 587.71 73.66 86.94 100.86 125.5 AD Shasta Country AQMD Winter 2018 339.89 395.81 464.01 587.71 73.66 86.94 100.86 125.5 AD Shasta Country AQMD Winter 2019 339.89 395.86 463.81 583.80 37.3.42 85.80 100.65 125.79 AD Shasta Country AQMD Winter 2019 339.89 395.81 464.01 587.71 73.66 86.94 100.76 125.74 AD Shasta Country AQMD Winter 2019 339.97 395.23 463.73 588.83 73.42 85.58 100.66 126.9 AD Shasta Country AQMD Winter 2020 340.04 395.15 463.64 589.32 73.52 65.46 100.71 127.1 AD Shasta Country AQMD Winter 2021 340.03 95.25 463.55 589.61 73.59 65.64 100.78 127.1 AD Shasta Country AQMD Winter 2022 340.12 395.24 463.47 589.84 73.64 85.60 100.83 127.2 AD Shasta Country AQMD Winter 2024 340.09 395.32 463.31 590.15 73.69 85.67 100.08 127.7 AD Shasta Country AQMD Winter 2024 340.09 395.32 463.31 590.15 73.69 85.67 100.08 127.7 AD Shasta Country AQMD Winter 2024 340.09 395.32 463.31 590.15 73.69 85.67 100.08 127.7 AD Shasta Country AQMD Winter 2024 340.09 395.32 463.31 590.15 73.69 85.67 100.08 127.7 AD Shasta Country AQMD Winter 2026 340.01 395.32 463.31 590.15 73.69 85.67 100.08 127.7 AD Shasta Country AQMD Winter 2026 340.10 395.44 463.18 590.55 73.73 85.67 100.09 127.5 AD Shasta Country AQMD Winter 2026 340.01 395.56 462.95 591.81 73.76 85.02 100.97 128.1 AD Shasta Country AQMD Winter 2028 340.10 395.56 462.95 591.81 73.76 85.02 100.97 128.1 AD Shasta Country AQMD Winter 2028 340.10 395.56 462.95 591.81 73.76 86.00 100.97 128.5 AD Shasta Country AQMD Winter 2030 340.09 395.62 462.87 591.39 73.76 86.00 100.97 128.5 AD Shasta Country AQMD Winter 2030 340.09 395.65 462.95 591.81 73.76 86.00 100.97 128.5 AD Shasta Country AQMD Winter 2030 340.09 395.55 462.95 591.81 73.76 86.00 100.97 128.5 AD Shasta Country A	AD		Winter							94.20		125.59	
AD Shasta Country AQMD Winter 2016 339.58 396.87 464.45 586.30 73.48 89.34 100.76 126.0 AD Shasta Country AQMD Winter 2016 339.72 386.38 464.21 587.03 73.48 88.23 100.56 126.2 AD Shasta Country AQMD Winter 2017 339.82 396.38 464.01 587.71 73.46 86.94 100.86 126.5 AD Shasta Country AQMD Winter 2018 339.97 395.36 463.85 588.30 73.42 85.33 100.65 126.7 AD Shasta Country AQMD Winter 2018 339.97 395.23 463.73 588.83 73.42 85.93 100.65 126.7 AD Shasta Country AQMD Winter 2020 340.04 396.51 483.65 588.30 73.42 85.93 100.65 126.7 AD Shasta Country AQMD Winter 2021 340.09 395.20 463.55 589.61 73.59 85.64 100.76 127.1 AD Shasta Country AQMD Winter 2021 340.09 395.20 463.55 589.61 73.59 85.64 100.78 127.1 AD Shasta Country AQMD Winter 2022 340.11 395.29 463.31 590.15 73.69 85.71 100.80 127.5 AD Shasta Country AQMD Winter 2022 340.12 395.24 463.47 88.84 73.64 85.66 100.87 127.4 AD Shasta Country AQMD Winter 2024 340.09 395.32 483.47 589.01 73.67 85.66 100.87 127.4 AD Shasta Country AQMD Winter 2026 340.01 395.43 463.21 590.95 73.73 85.66 100.87 127.4 AD Shasta Country AQMD Winter 2026 340.10 396.41 463.18 590.95 73.73 85.83 100.50 127.8 AD Shasta Country AQMD Winter 2026 340.11 395.49 463.10 590.75 73.78 85.87 100.90 127.5 AD Shasta Country AQMD Winter 2026 340.11 395.49 463.10 590.75 73.78 85.87 100.90 127.5 AD Shasta Country AQMD Winter 2026 340.10 395.45 463.01 590.75 73.78 85.87 100.90 127.5 AD Shasta Country AQMD Winter 2028 340.11 395.45 463.10 590.75 73.78 85.87 100.90 127.5 AD Shasta Country AQMD Winter 2028 340.11 395.45 463.10 590.75 73.78 85.87 100.90 127.5 AD Shasta Country AQMD Winter 2028 340.10 395.55 462.89 591.81 73.76 85.96 100.97 128.3 AD Shasta Country AQMD Winter 2029 340.10 395.56 462.89 591.81 73.76 85.96 100.97 128.3 AD Shasta Country AQMD Winter 2031 340.09 395.73 462.78 591.81 73.76 85.96 100.97 128.3 AD Shasta Country AQMD Winter 2031 340.09 395.75 462.78 591.81 73.76 85.91 100.90 122.5 AD Shasta Country AQMD Winter 2031 340.09 395.75 462.76 591.81 73.76 85.91 100.90 122.5 AD Shasta Country AQMD	AD	Shasta County AQMD	Winter	2013	339.39	398.29	465.18	584.84	73.67	92.45	100.93	125.73	
AD Shasta Country AQMD Wirner 2016 339.72 396.38 464.21 587.03 73.48 88.23 100.75 126.2 AD Shasta Country AQMD Wirner 2018 339.82 395.81 464.01 587.71 73.46 86.94 100.68 126.5 AD Shasta Country AQMD Wirner 2019 339.87 395.23 463.73 588.83 73.42 65.53 100.66 126.5 AD Shasta Country AQMD Wirner 2019 339.97 395.23 463.73 588.83 73.42 85.53 100.66 126.9 AD Shasta Country AQMD Wirner 2019 339.97 395.23 463.73 588.83 73.42 85.53 100.66 126.9 AD Shasta Country AQMD Wirner 2021 340.09 395.20 463.35 589.01 73.67 86.55 100.71 127.1 AD Shasta Country AQMD Wirner 2022 340.12 395.24 463.37 589.01 73.67 86.56 100.37 127.1 AD Shasta Country AQMD Wirner 2022 340.12 395.24 463.37 589.01 73.67 86.56 100.87 127.4 AD Shasta Country AQMD Wirner 2024 340.11 395.24 463.31 590.1 73.67 86.56 100.87 127.4 AD Shasta Country AQMD Wirner 2026 340.10 395.24 463.31 590.1 73.69 85.71 100.90 127.5 AD Shasta Country AQMD Wirner 2026 340.10 395.34 463.16 590.55 73.73 85.57 100.93 127.7 AD Shasta Country AQMD Wirner 2026 340.10 395.41 463.18 590.55 73.73 85.37 100.90 127.5 AD Shasta Country AQMD Wirner 2026 340.10 395.44 463.18 590.55 73.73 85.37 100.90 127.5 AD Shasta Country AQMD Wirner 2026 340.10 395.44 463.18 590.55 73.73 85.87 100.90 127.5 AD Shasta Country AQMD Wirner 2026 340.10 395.44 463.18 590.55 73.73 85.87 100.90 127.5 AD Shasta Country AQMD Wirner 2026 340.10 395.4 463.10 590.76 73.76 85.87 100.90 122.5 AD Shasta Country AQMD Wirner 2029 340.10 395.6 462.25 591.18 73.76 86.00 100.95 128.4 AD Shasta Country AQMD Wirner 2029 340.10 395.6 462.25 591.18 73.76 86.00 100.96 128.4 AD Shasta Country AQMD Wirner 2030 340.09 395.62 462.27 591.81 73.76 86.00 100.96 128.4 AD Shasta Country AQMD Wirner 2031 340.09 395.62 462.27 591.81 73.76 86.00 100.96 128.4 AD Shasta Country AQMD Wirner 2031 340.09 395.62 462.27 591.81 73.76 86.00 100.97 128.3 AD Shasta Country AQMD Wirner 2031 340.09 395.62 462.89 591.81 73.76 86.00 100.97 128.3 AD Shasta Country AQMD Wirner 2031 340.09 395.62 462.89 591.81 73.76 86.00 100.91 126.24 126.	AD	Shasta County AQMD	Winter	2014	339.47	397.49	464.78	585.56	73.54	90.71	100.85	125.88	
AD Shasta County AQMD Winter 2018 339.82 395.81 464.01 587.77 73.46 86.94 100.68 125.5 AD Shasta County AQMD Winter 2018 339.89 395.36 463.38 598.30 73.42 85.93 100.65 125.5 AD Shasta County AQMD Winter 2020 340.04 395.15 463.86 588.30 73.42 85.93 100.65 126.7 AD Shasta County AQMD Winter 2021 340.04 395.15 463.64 589.32 73.52 85.46 100.71 127.1 AD Shasta County AQMD Winter 2022 340.12 395.24 463.45 589.61 73.59 85.64 100.76 127.1 AD Shasta County AQMD Winter 2023 340.11 395.29 463.39 590.01 73.67 85.66 100.83 127.2 AD Shasta County AQMD Winter 2023 340.11 395.29 463.39 590.01 73.67 85.66 110.087 127.4 AD Shasta County AQMD Winter 2025 340.08 385.35 463.25 590.34 73.71 85.77 100.97 127.4 AD Shasta County AQMD Winter 2025 340.08 385.35 463.25 590.34 73.71 85.77 100.93 127.7 AD Shasta County AQMD Winter 2026 340.10 395.41 463.18 590.55 73.73 85.83 100.95 127.8 AD Shasta County AQMD Winter 2026 340.10 395.41 463.18 590.55 73.73 85.83 100.95 127.8 AD Shasta County AQMD Winter 2026 340.11 395.50 463.03 590.97 73.76 85.92 100.97 128.1 AD Shasta County AQMD Winter 2028 340.11 395.50 463.03 590.97 73.76 85.92 100.97 128.1 AD Shasta County AQMD Winter 2028 340.11 395.50 463.03 590.97 73.76 85.92 100.97 128.1 AD Shasta County AQMD Winter 2028 340.11 395.50 463.03 590.97 73.76 85.92 100.97 128.1 AD Shasta County AQMD Winter 2029 340.09 395.67 462.87 591.98 73.76 85.90 100.97 128.1 AD Shasta County AQMD Winter 2029 340.09 395.67 462.87 591.98 73.76 85.91 100.97 128.1 AD Shasta County AQMD Winter 2031 340.09 395.67 462.87 591.98 73.78 86.04 100.96 128.4 AD Shasta County AQMD Winter 2031 340.09 395.67 462.87 591.98 73.78 86.04 100.97 128.1 AD Shasta County AQMD Winter 2031 340.09 395.67 462.87 591.98 73.78 86.04 100.97 128.1 AD Shasta County AQMD Winter 2031 340.09 395.67 462.87 591.98 73.78 86.04 100.97 128.1 AD Shasta County AQMD Winter 2031 340.09 395.67 462.87 591.98 73.78 86.04 100.97 128.1 AD Shasta County AQMD Winter 2031 340.09 395.67 462.87 591.98 73.78 86.04 100.97 128.1 AD Shasta County AQMD	AD	Shasta County AQMD	Winter	2015	339.58	396.87	464.45	586.30	73.48	89.34	100.76	126.07	
AD Shasta County AQMD Winter 2018 339.89 395.36 463.85 588.30 73.42 85.93 100.65 126.7 AD Shasta County AQMD Winter 2019 339.87 395.23 463.73 588.83 73.43 85.58 100.66 126.7 AD Shasta County AQMD Winter 2021 340.09 395.20 463.75 588.83 73.43 85.58 100.78 127.1 AD Shasta County AQMD Winter 2021 340.09 395.20 463.55 589.61 73.59 85.64 100.78 127.1 AD Shasta County AQMD Winter 2022 340.11 395.29 463.35 589.61 73.59 85.64 100.78 127.1 AD Shasta County AQMD Winter 2023 340.11 395.29 463.37 589.84 73.64 85.60 100.87 127.4 AD Shasta County AQMD Winter 2024 340.09 395.32 463.31 590.15 73.69 85.61 100.90 127.5 AD Shasta County AQMD Winter 2026 340.10 395.41 463.15 590.55 73.73 85.81 100.93 127.7 AD Shasta County AQMD Winter 2026 340.10 395.41 463.15 590.55 73.73 85.83 100.95 127.8 AD Shasta County AQMD Winter 2027 340.11 395.50 463.01 590.76 73.74 85.87 100.93 127.8 AD Shasta County AQMD Winter 2029 340.10 395.45 463.10 590.76 73.74 85.87 100.93 127.8 AD Shasta County AQMD Winter 2029 340.10 395.62 463.01 590.76 73.74 85.87 100.96 128.0 AD Shasta County AQMD Winter 2029 340.10 395.65 462.95 591.89 73.76 85.00 100.97 128.1 AD Shasta County AQMD Winter 2029 340.10 395.62 462.87 591.93 73.76 85.00 100.97 128.1 AD Shasta County AQMD Winter 2030 340.09 395.62 462.87 591.93 73.76 85.00 100.97 128.3 AD Shasta County AQMD Winter 2030 340.09 395.62 462.87 591.93 73.76 85.00 100.97 128.3 AD Shasta County AQMD Winter 2031 340.08 395.73 462.75 591.61 73.77 86.00 100.96 128.4 AD Shasta County AQMD Winter 2031 340.09 395.73 462.75 591.61 73.77 86.00 100.96 128.4 AD Shasta County AQMD Winter 2031 340.09 395.73 462.75 591.61 73.77 86.00 100.96 128.4 AD Shasta County AQMD Winter 2031 340.09 395.73 462.75 591.61 73.77 86.00 100.96 128.4 AD Shasta County AQMD Winter 2031 340.09 395.73 462.75 591.61 73.77 86.01 100.97 128.3 AD Shasta County AQMD Winter 2031 340.09 395.73 462.75 591.61 73.77 86.01 100.97 128.3 AD Shasta County AQMD Winter 2031 340.09 395.73 462.75 591.61 73.77 86.00 100.96 128.4 AD Shasta County AQMD	AD	Shasta County AQMD	Winter	2016	339.72	396.38	464.21	587.03	73.48	88.23	100.75	126.28	
AD Shasta County AQMD Winter 2019 33.9.07 395.23 463.73 588.83 73.43 85.58 100.66 126.9 AD Shasta County AQMD Winter 2021 340.09 395.02 463.55 589.61 73.73 85.4 100.76 127.1 AD Shasta County AQMD Winter 2022 340.12 395.24 463.47 599.84 73.64 85.60 100.83 127.2 AD Shasta County AQMD Winter 2023 340.11 385.29 463.35 590.01 73.67 85.66 100.87 127.4 AD Shasta County AQMD Winter 2024 340.09 395.32 463.31 590.15 73.69 85.71 100.93 127.7 AD Shasta County AQMD Winter 2024 340.09 395.32 463.31 590.15 73.69 85.71 100.93 127.7 AD Shasta County AQMD Winter 2025 340.08 395.32 463.31 590.15 73.69 85.71 100.93 127.7 AD Shasta County AQMD Winter 2026 340.08 395.32 463.25 590.34 73.71 85.77 100.93 127.7 AD Shasta County AQMD Winter 2026 340.08 395.35 463.25 590.34 73.71 85.77 100.93 127.7 AD Shasta County AQMD Winter 2026 340.13 395.41 463.18 590.56 73.73 85.87 100.95 127.8 AD Shasta County AQMD Winter 2028 340.11 395.50 463.05 590.97 73.78 85.92 100.97 128.3 AD Shasta County AQMD Winter 2028 340.11 395.50 463.03 590.97 73.78 85.92 100.97 128.3 AD Shasta County AQMD Winter 2030 340.09 395.67 462.85 591.18 73.78 86.00 100.96 126.4 AD Shasta County AQMD Winter 2031 340.09 395.67 462.85 591.18 73.78 86.00 100.96 126.4 AD Shasta County AQMD Winter 2031 340.09 395.67 462.85 591.81 73.78 86.00 100.96 126.4 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.79 86.01 100.96 126.4 AD Shasta County AQMD Winter 2031 340.08 395.78 462.82 591.61 73.79 86.01 100.96 126.4 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.81 73.79 86.01 100.96 126.4 AD Shasta County AQMD Winter 2031 340.08 395.78 462.82 591.81 73.79 86.01 100.96 126.4 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.79 86.01 100.96 126.4 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.81 73.79 86.01 100.96 126.4 AD Shasta County AQMD Winter 2031 340.09 395.78 462.82 591.81 73.79 86.01 100.96 126.4 AD Shasta County AQMD Winter 2031 340.09 395.79 400.83 890.99 73.78 86.01 100.96 126.4 AD Shasta County AQMD	AD	Shasta County AQMD	Winter	2017	339.82	395.81	464.01	587.71	73.46	86.94	100.68	126.51	
AD Shasta County AOMD Winter 2020 340.04 395.15 463.64 589.32 73.52 85.46 100.71 127.1 AD Shasta County AOMD Winter 2021 340.09 395.20 463.55 580.61 73.59 85.64 100.78 127.1 AD Shasta County AOMD Winter 2022 340.12 395.24 463.47 589.84 73.64 85.60 100.83 127.2 AD Shasta County AOMD Winter 2023 340.11 395.29 463.31 590.01 73.67 85.66 100.87 127.4 AD Shasta County AOMD Winter 2024 340.09 395.52 463.31 590.01 73.67 85.66 100.87 127.4 AD Shasta County AOMD Winter 2025 340.08 395.35 463.31 590.01 73.67 85.66 100.87 127.4 AD Shasta County AOMD Winter 2025 340.08 395.35 463.31 590.01 73.67 85.67 100.90 127.7 AD Shasta County AOMD Winter 2026 340.01 395.41 463.18 590.55 73.71 85.77 100.90 127.7 AD Shasta County AOMD Winter 2028 340.11 395.50 463.10 590.76 73.74 85.67 100.90 127.8 AD Shasta County AOMD Winter 2028 340.11 395.50 463.03 590.97 73.76 85.92 100.97 128.1 AD Shasta County AOMD Winter 2028 340.11 395.50 463.03 590.97 73.76 85.92 100.97 128.1 AD Shasta County AOMD Winter 2028 340.10 395.62 462.87 591.18 73.76 86.00 100.96 128.5 AD Shasta County AOMD Winter 2031 340.09 395.62 462.87 591.39 73.76 86.00 100.96 128.5 AD Shasta County AOMD Winter 2031 340.09 395.67 462.82 591.61 73.77 86.04 100.96 128.5 AD Shasta County AOMD Winter 2031 340.09 395.78 462.74 592.20 73.78 86.01 100.96 128.5 AD Shasta County AOMD Winter 2034 340.08 395.78 462.74 592.20 73.78 86.14 100.97 128.3 AD Shasta County AOMD Winter 2034 340.08 395.78 462.74 592.20 73.78 86.14 100.97 128.3 AD Shasta County AOMD Winter 2034 340.08 395.78 462.74 592.20 73.78 86.14 100.97 128.3 AD Shasta County AOMD Winter 2034 340.08 395.78 462.74 592.20 73.78 86.14 100.97 128.3 AD Shasta County AOMD Winter 2034 340.08 395.78 462.74 592.22 73.78 86.14 100.97 128.3 AD Shasta County AOMD Winter 2034 340.08 395.78 462.74 592.22 73.78 86.14 100.97 128.3 AD Shasta County AOMD Winter 2034 340.08 395.78 462.74 592.20 73.78 86.14 100.97 128.3 AD Shasta County AOMD Winter 2034 340.08 395.78 462.74 592.29 73.78 86.14 100.97 128.3 AD Shasta County AOMD Winter 2034 340.08 395.	AD	Shasta County AQMD	Winter	2018	339.89	395.36	463.85	588.30	73.42	85.93	100.65	126.73	
AD Shasta County AQMD Winter 2021 340.09 395.20 463.55 589.61 73.59 85.54 100.78 127.1 AD Shasta County AQMD Winter 2022 340.12 395.24 463.37 589.84 73.64 85.60 100.83 127.1 AD Shasta County AQMD Winter 2023 340.11 395.29 463.39 590.01 73.69 85.71 100.90 127.5 AD Shasta County AQMD Winter 2024 340.09 395.32 463.31 590.15 73.69 85.71 100.90 127.5 AD Shasta County AQMD Winter 2025 340.08 395.35 463.25 590.34 73.71 85.77 100.93 127.5 AD Shasta County AQMD Winter 2026 340.08 395.35 463.25 590.34 73.71 85.77 100.93 127.5 AD Shasta County AQMD Winter 2027 340.11 395.45 463.10 590.76 73.74 85.67 100.96 122.6 AD Shasta County AQMD Winter 2028 340.11 395.45 463.10 590.76 73.74 85.67 100.96 128.0 AD Shasta County AQMD Winter 2029 340.11 395.50 463.03 590.97 73.75 85.92 100.97 128.3 AD Shasta County AQMD Winter 2039 340.10 395.56 462.95 591.18 73.76 86.00 100.96 128.4 AD Shasta County AQMD Winter 2030 340.09 395.66 462.95 591.39 73.76 86.00 100.96 128.4 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.77 86.04 100.96 128.4 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.77 86.04 100.96 128.5 AD Shasta County AQMD Winter 2033 340.09 395.67 462.82 591.61 73.77 86.04 100.96 128.6 AD Shasta County AQMD Winter 2033 340.09 395.67 462.82 591.80 73.78 86.81 100.97 128.6 AD Shasta County AQMD Winter 2034 340.09 395.67 462.80 592.38 73.79 86.01 100.97 128.6 AD Shasta County AQMD Winter 2034 340.08 395.83 462.74 592.24 73.78 86.81 100.97 128.6 AD Shasta County AQMD Winter 2034 340.08 395.85 462.69 592.38 73.79 86.01 100.97 128.6 AD Shasta County AQMD Winter 2034 340.08 395.85 462.69 592.38 73.79 86.01 100.97 128.6 AD Shasta County AQMD Winter 2034 340.08 395.85 462.69 592.38 73.79 86.01 100.97 128.6 AD Shasta County AQMD Winter 2034 340.08 395.85 462.69 592.38 73.79 86.01 100.97 128.6 AD Shasta County AQMD Winter 2034 340.08 395.85 462.69 592.38 73.79 86.01 100.97 128.6 AD Shastyou County APCD Annual 2010 378.80 442.25 110.66 651.35 73.86 86.01 100.97 128.6 AD Shastyou County APCD Annual 2013 378.80	AD	Shasta County AQMD	Winter	2019	339.97	395.23	463.73	588.83	73.43	85.58	100.66	126.93	
AD Shasta County AQMD Winter 2022 340.12 395.24 463.47 589.84 73.64 85.60 100.83 127.2 AD Shasta County AQMD Winter 2023 340.01 395.29 463.39 590.01 73.67 85.66 100.87 127.5 AD Shasta County AQMD Winter 2024 340.09 395.29 463.31 590.15 73.69 85.71 100.93 127.5 AD Shasta County AQMD Winter 2025 340.08 395.35 463.25 590.34 73.71 85.77 100.93 127.7 AD Shasta County AQMD Winter 2026 340.08 395.35 463.25 590.34 73.71 85.77 100.93 127.7 AD Shasta County AQMD Winter 2026 340.10 395.41 463.18 590.55 73.73 85.83 100.95 127.8 AD Shasta County AQMD Winter 2027 340.11 395.50 463.03 590.97 73.75 85.92 100.97 128.1 AD Shasta County AQMD Winter 2028 340.10 395.50 463.03 590.97 73.76 85.92 100.97 128.1 AD Shasta County AQMD Winter 2029 340.10 395.50 462.95 591.18 73.76 85.90 100.97 128.1 AD Shasta County AQMD Winter 2029 340.10 395.50 462.95 591.18 73.76 85.90 100.97 128.1 AD Shasta County AQMD Winter 2031 340.09 395.62 462.95 591.18 73.76 86.00 100.96 128.5 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.77 86.04 100.96 128.5 AD Shasta County AQMD Winter 2032 340.09 395.73 462.78 591.84 73.78 86.04 100.96 128.5 AD Shasta County AQMD Winter 2032 340.09 395.73 462.74 592.04 73.78 86.04 100.96 128.5 AD Shasta County AQMD Winter 2034 340.08 395.82 462.71 592.22 73.78 86.14 100.97 128.7 AD Shasta County AQMD Winter 2035 340.07 395.86 462.09 592.38 73.79 86.14 100.97 128.7 AD Shasta County AQMD Winter 2035 340.07 395.86 462.09 592.38 73.79 86.14 100.97 128.7 AD Shasta County AQMD Winter 2035 340.07 395.86 662.09 592.38 73.79 86.14 100.97 128.7 AD Shasta County AQMD Winter 2035 340.07 395.86 662.09 592.38 73.79 86.14 100.97 128.7 AD Shasta County AQMD Winter 2035 340.07 395.86 662.09 592.38 73.79 86.14 100.97 128.7 AD Shasta County APCD Annual 2011 378.73 443.52 519.19 649.07 74.04 92.11 102.01 125.2 AD Shaylou County APCD Annual 2013 378.70 442.85 519.19 649.07 74.04 92.11 102.01 125.2 AD Shaylou County APCD Annual 2013 378.70 442.85 519.19 649.07 74.04 92.11 102.01 125.2 AD Shaylou County APCD Annual 2013 378.70 4	AD	Shasta County AQMD	Winter	2020	340.04	395.15	463.64	589.32	73.52	85.46	100.71	127.12	
AD Shasta County AQMD Winter 2023 340.11 395.29 463.39 590.01 73.67 85.66 100.87 127.4 AD Shasta County AQMD Winter 2024 340.09 395.32 463.31 590.15 73.69 85.71 100.90 127.5 AD Shasta County AQMD Winter 2025 340.08 395.35 483.25 590.43 73.71 85.77 100.93 127.7 AD Shasta County AQMD Winter 2026 340.10 395.41 463.18 590.55 73.73 85.83 100.95 127.8 AD Shasta County AQMD Winter 2027 340.11 395.45 463.10 590.76 73.74 85.87 100.99 128.0 AD Shasta County AQMD Winter 2028 340.11 395.50 463.03 590.97 73.75 58.29 100.97 128.1 AD Shasta County AQMD Winter 2029 340.10 395.56 462.95 591.88 73.76 85.96 100.97 128.1 AD Shasta County AQMD Winter 2030 340.09 395.62 462.95 591.88 73.76 85.96 100.97 128.1 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.89 73.76 86.00 100.96 128.4 AD Shasta County AQMD Winter 2032 340.09 395.67 462.82 591.81 73.76 86.00 100.96 128.4 AD Shasta County AQMD Winter 2032 340.09 395.67 462.82 591.61 73.77 86.04 100.96 128.5 AD Shasta County AQMD Winter 2032 340.09 395.73 462.78 591.84 73.78 86.08 100.96 128.6 AD Shasta County AQMD Winter 2032 340.09 395.73 462.78 591.84 73.78 86.01 100.96 128.6 AD Shasta County AQMD Winter 2033 340.08 395.78 462.74 592.04 73.78 86.11 100.97 128.7 AD Shasta County AQMD Winter 2034 340.08 395.86 462.69 592.23 73.78 86.11 100.97 128.7 AD Shasta County ACMD Winter 2035 340.07 395.86 462.69 592.38 73.79 86.11 100.97 128.7 AD Shasta County APCD Annual 2010 378.80 444.35 519.95 649.03 74.19 33.66 102.24 128.1 AD Siskiyou County APCD Annual 2011 378.73 443.52 519.95 649.03 74.19 33.66 102.24 128.1 AD Siskiyou County APCD Annual 2012 378.70 442.82 518.58 650.49 73.88 90.89 101.82 125.3 AD Siskiyou County APCD Annual 2014 378.76 441.26 516.58 65.35 73.55 88.94 101.80 125.6 AD Siskiyou County APCD Annual 2015 378.86 441.26 516.58 65.37 73.39 8.65 100.99 128.2 AD Siskiyou County APCD Annual 2016 378.97 440.88 517.10 653.95 73.55 88.04 100.89 128.2 AD Siskiyou County APCD Annual 2021 379.07 440.15 1516.88 654.72 73.49 86.50 100.99 128.2 AD Siskiyou County APCD Annual 2022	AD	Shasta County AQMD	Winter	2021	340.09	395.20	463.55	589.61	73.59	85.54	100.78	127.19	
AD Shasta County AQMD Winter 2024 340.09 395.32 463.31 590.15 73.69 85.71 100.90 127.5 AD Shasta County AQMD Winter 2025 340.08 395.35 463.26 590.34 73.71 85.77 100.93 127.7 AD Shasta County AQMD Winter 2026 340.08 395.35 463.10 590.76 73.74 85.87 100.95 127.8 AD Shasta County AQMD Winter 2027 340.11 395.55 463.10 590.76 73.74 85.87 100.96 128.0 AD Shasta County AQMD Winter 2028 340.11 395.50 463.01 590.76 73.74 85.87 100.97 128.1 AD Shasta County AQMD Winter 2028 340.11 395.50 463.03 590.97 73.75 85.92 100.97 128.1 AD Shasta County AQMD Winter 2039 340.10 395.60 462.87 591.39 73.76 85.92 100.97 128.1 AD Shasta County AQMD Winter 2030 340.09 395.62 462.87 591.39 73.76 85.09 100.97 128.3 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.77 86.04 100.97 128.3 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.77 86.04 100.96 128.5 AD Shasta County AQMD Winter 2032 340.09 395.67 462.82 591.61 73.77 86.04 100.96 128.5 AD Shasta County AQMD Winter 2033 340.08 395.88 462.78 591.38 73.78 86.11 100.97 128.9 AD Shasta County AQMD Winter 2034 340.09 395.82 462.71 592.22 73.78 86.14 100.97 128.9 AD Shasta County AQMD Winter 2034 340.09 395.82 462.71 592.22 73.78 86.14 100.97 128.9 AD Shasta County AQMD Winter 2034 340.08 395.88 462.89 592.38 73.79 86.17 100.97 128.9 AD Shasta County AQMD Winter 2035 340.07 395.85 462.89 592.38 73.79 86.17 100.97 128.9 AD Shasta County APCD Annual 2011 378.73 443.52 519.19 649.67 74.04 92.11 102.01 125.2 AD Siskiyou County APCD Annual 2011 378.73 443.52 519.19 649.67 74.04 92.11 102.01 125.2 AD Siskiyou County APCD Annual 2014 378.66 441.72 517.67 652.21 73.60 88.98 101.82 125.3 AD Siskiyou County APCD Annual 2014 378.66 441.72 517.67 652.21 73.60 88.98 101.54 125.4 AD Siskiyou County APCD Annual 2014 378.66 441.72 517.67 652.21 73.60 88.98 101.54 125.4 AD Siskiyou County APCD Annual 2016 378.97 440.88 517.10 653.99 73.41 85.88 100.79 126.2 AD Siskiyou County APCD Annual 2014 378.76 441.72 517.67 652.21 73.60 88.99 10	AD	Shasta County AQMD	Winter	2022	340.12	395.24	463.47	589.84	73.64	85.60	100.83	127.24	
AD Shasta County AQMD Winter 2025 340.08 395.35 463.25 590.34 73.71 85.77 100.93 127.7 AD Shasta County AQMD Winter 2026 340.10 395.41 463.18 590.55 73.73 85.83 10.99 127.8 AD Shasta County AQMD Winter 2027 340.11 395.45 463.10 590.67 73.74 85.87 10.09.96 122.8 AD Shasta County AQMD Winter 2028 340.11 395.50 463.03 590.97 73.75 85.92 100.97 128.1 AD Shasta County AQMD Winter 2029 340.10 395.56 462.95 591.18 73.76 85.96 100.97 128.3 AD Shasta County AQMD Winter 2030 340.09 395.67 462.82 591.61 73.77 86.04 100.96 122.6 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.77 86.04 100.96 122.6 AD Shasta County AQMD Winter 2032 340.09 395.67 462.82 591.61 73.77 86.04 100.96 122.6 AD Shasta County AQMD Winter 2033 340.09 395.73 462.78 591.84 73.78 86.08 100.96 128.6 AD Shasta County AQMD Winter 2033 340.09 395.73 462.78 591.84 73.78 86.08 100.96 128.6 AD Shasta County AQMD Winter 2034 340.08 395.82 462.74 592.04 73.78 86.11 100.97 128.3 AD Shasta County AQMD Winter 2034 340.08 395.82 462.67 592.04 73.78 86.11 100.97 128.9 AD Shasta County AQMD Winter 2034 340.08 395.82 462.69 592.38 73.79 86.17 100.97 128.9 AD Shasta County APCD Annual 2010 378.80 444.35 519.95 649.03 74.19 36.61 102.24 125.1 AD Siskiyou County APCD Annual 2011 378.80 444.25 518.58 660.49 73.88 90.89 101.82 125.3 AD Siskiyou County APCD Annual 2011 378.79 442.82 518.58 660.49 73.88 90.89 101.52 125.3 AD Siskiyou County APCD Annual 2015 378.86 441.26 517.36 653.09 73.55 88.04 101.18 125.8 AD Siskiyou County APCD Annual 2015 378.86 441.26 517.36 653.09 73.55 88.04 101.18 125.8 AD Siskiyou County APCD Annual 2016 378.97 440.85 517.10 663.99 73.55 88.04 101.18 125.8 AD Siskiyou County APCD Annual 2016 378.97 440.85 517.10 663.99 73.55 88.04 101.18 125.8 AD Siskiyou County APCD Annual 2016 378.97 440.85 517.36 653.09 73.55 88.04 101.18 125.8 AD Siskiyou County APCD Annual 2017 378.07 440.15 516.86 650.97 73.39 85.68 100.09 125.6 AD Siskiyou County APCD Annual 2026 378.97 440.85 516.71 655.39 73.41 85.98 100.09 125.6 AD Siskiyou County APCD An	AD	Shasta County AQMD	Winter	2023	340.11	395.29	463.39	590.01	73.67	85.66	100.87	127.40	
AD Shasta County AQMD Winter 2026 340.10 395.41 463.18 590.55 73.73 85.83 100.95 127.8 AD Shasta County AQMD Winter 2027 340.11 395.50 463.10 590.76 73.74 85.87 100.96 128.0 AD Shasta County AQMD Winter 2028 340.11 395.50 463.03 590.97 73.75 85.92 100.97 128.1 AD Shasta County AQMD Winter 2029 340.10 395.56 462.95 591.18 73.76 85.96 100.97 128.1 AD Shasta County AQMD Winter 2030 340.09 395.62 462.87 591.39 73.76 86.00 100.96 128.6 AD Shasta County AQMD Winter 2031 340.09 395.62 462.87 591.39 73.76 86.00 100.96 128.6 AD Shasta County AQMD Winter 2032 340.09 395.73 462.78 591.84 73.78 86.08 100.97 128.3 AD Shasta County AQMD Winter 2032 340.09 395.78 462.78 591.84 73.78 86.08 100.96 128.6 AD Shasta County AQMD Winter 2033 340.08 395.78 462.74 592.04 73.78 86.11 100.97 128.7 AD Shasta County AQMD Winter 2034 340.08 395.82 462.71 592.22 73.78 86.14 100.97 128.7 AD Shasta County AQMD Winter 2035 340.07 395.85 462.69 592.38 73.79 86.17 100.97 128.8 AD Shasta County AQMD Winter 2035 340.07 395.85 462.69 592.38 73.79 86.17 100.97 128.8 AD Shasta County APCD Annual 2010 378.80 444.35 519.95 649.03 74.19 99.56 102.24 125.1 AD Siskiyou County APCD Annual 2012 378.70 442.82 518.56 650.49 73.88 90.89 101.54 125.4 AD Siskiyou County APCD Annual 2012 378.70 442.82 518.56 650.49 73.88 90.89 101.54 125.4 AD Siskiyou County APCD Annual 2013 378.69 442.25 518.06 651.35 73.66 89.89 101.54 125.4 AD Siskiyou County APCD Annual 2016 378.97 440.88 517.10 653.95 73.55 87.27 101.06 126.0 AD Siskiyou County APCD Annual 2016 378.97 440.85 516.10 653.95 73.55 87.27 101.06 126.0 AD Siskiyou County APCD Annual 2019 379.07 440.51 516.86 654.72 73.49 86.50 100.99 126.2 AD Siskiyou County APCD Annual 2019 379.07 440.51 516.86 654.72 73.49 86.50 100.99 126.2 AD Siskiyou County APCD Annual 2019 379.07 440.51 516.86 654.72 73.49 86.50 100.99 126.2 AD Siskiyou County APCD Annual 2020 379.12 439.89 516.07 655.97 73.59 86.80 100.99 126.2 AD Siskiyou County APCD Annual 2020 379.14 439.89 516.07 658.00 73.55 85.50 100.99 127.8 AD	AD	Shasta County AQMD		2024	340.09	395.32	463.31		73.69	85.71	100.90	127.56	
AD Shasta County AQMD Winter 2027 340.11 395.45 463.10 590.76 73.74 85.87 100.96 128.0 AD Shasta County AQMD Winter 2028 340.11 395.50 463.03 590.97 73.75 85.92 100.97 128.1 AD Shasta County AQMD Winter 2030 340.09 395.50 462.95 591.18 73.76 86.00 100.97 128.3 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.77 86.04 100.96 128.4 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.77 86.04 100.96 128.4 AD Shasta County AQMD Winter 2032 340.09 395.73 462.78 591.84 73.78 86.08 100.96 128.4 AD Shasta County AQMD Winter 2032 340.09 395.73 462.78 591.84 73.78 86.01 100.96 128.6 AD Shasta County AQMD Winter 2033 340.08 395.78 462.74 592.04 73.78 86.14 100.97 128.7 AD Shasta County AQMD Winter 2033 340.08 395.78 462.74 592.04 73.78 86.14 100.97 128.7 AD Shasta County AQMD Winter 2035 340.07 395.85 462.69 592.38 73.79 86.17 100.97 128.9 AD Shasta County APQD Annual 2010 378.80 444.35 519.95 649.03 74.19 93.56 102.24 125.1 AD Siskiyou County APCD Annual 2011 378.70 442.82 518.56 650.49 73.88 90.89 101.82 125.3 AD Siskiyou County APCD Annual 2014 378.76 441.72 517.67 652.21 73.60 89.99 101.82 125.3 AD Siskiyou County APCD Annual 2015 378.86 441.72 517.67 652.21 73.60 89.99 101.82 125.3 AD Siskiyou County APCD Annual 2015 378.96 441.02 518.56 650.49 73.88 90.89 101.54 125.4 AD Siskiyou County APCD Annual 2016 378.97 440.88 517.10 653.95 73.56 88.98 101.54 125.4 AD Siskiyou County APCD Annual 2016 378.97 440.88 517.10 653.95 73.55 87.27 101.06 126.0 AD Siskiyou County APCD Annual 2016 378.97 440.88 517.10 653.95 73.55 87.27 101.06 126.0 AD Siskiyou County APCD Annual 2016 378.97 440.88 517.10 653.95 73.55 87.27 101.06 126.0 AD Siskiyou County APCD Annual 2019 379.07 440.11 516.58 653.97 73.55 85.56 100.99 126.2 AD Siskiyou County APCD Annual 2020 379.14 439.98 516.47 656.46 73.48 85.56 100.99 126.2 AD Siskiyou County APCD Annual 2021 379.07 440.11 516.58 653.97 73.51 85.68 100.99 127.5 AD Siskiyou County APCD Annual 2022 378.87 439.89 515.59 657.44 73.49 85.56 100.99 127.5	AD	Shasta County AQMD		2025	340.08	395.35	463.25	590.34		85.77	100.93	127.72	
AD Shasta County AQMD Winter 2028 340.11 395.50 463.03 590.97 73.75 85.92 100.97 128.1 AD Shasta County AQMD Winter 2029 340.10 395.56 462.95 591.18 73.76 85.96 100.97 128.3 AD Shasta County AQMD Winter 2030 340.09 395.62 462.87 591.9 73.76 86.00 100.96 128.4 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.91 73.76 86.04 100.96 128.4 AD Shasta County AQMD Winter 2032 340.09 395.73 462.78 591.91 73.78 86.04 100.96 128.6 AD Shasta County AQMD Winter 2032 340.09 395.73 462.78 591.84 73.78 86.08 100.96 128.6 AD Shasta County AQMD Winter 2032 340.09 395.73 462.78 591.84 73.78 86.08 100.96 128.6 AD Shasta County AQMD Winter 2034 340.08 395.78 462.74 592.04 73.78 86.14 100.97 128.7 AD Shasta County AQMD Winter 2034 340.08 395.78 462.74 592.02 73.78 86.14 100.97 128.8 AD Shasta County AQMD Winter 2035 340.07 395.85 462.69 592.38 73.79 86.17 100.97 128.9 AD Siskiyou County APCD Annual 2010 378.80 444.35 519.95 649.03 74.19 39.56 102.24 125.1 AD Siskiyou County APCD Annual 2012 378.70 444.35 519.95 649.03 74.19 39.56 102.24 125.1 AD Siskiyou County APCD Annual 2012 378.70 442.82 518.58 660.49 73.88 90.89 101.52 125.3 AD Siskiyou County APCD Annual 2012 378.70 442.82 518.58 660.49 73.88 90.89 101.52 125.3 AD Siskiyou County APCD Annual 2014 378.76 441.72 517.67 652.21 73.60 88.92 101.36 125.8 AD Siskiyou County APCD Annual 2016 378.87 440.88 517.10 653.95 73.55 88.04 101.81 125.8 AD Siskiyou County APCD Annual 2016 378.97 440.88 517.10 653.95 73.55 88.04 101.18 125.8 AD Siskiyou County APCD Annual 2018 379.03 440.25 516.71 655.39 73.41 85.98 100.79 126.2 AD Siskiyou County APCD Annual 2019 379.07 440.51 516.88 654.72 73.49 86.50 100.90 126.2 AD Siskiyou County APCD Annual 2019 379.07 440.51 516.86 655.79 73.39 85.68 100.79 126.2 AD Siskiyou County APCD Annual 2020 379.14 439.99 516.47 656.40 73.48 85.54 100.80 126.2 AD Siskiyou County APCD Annual 2022 379.05 439.72 516.23 657.04 73.49 86.50 100.97 126.2 AD Siskiyou County APCD Annual 2022 379.57 439.85 516.02 657.33 73.	AD			2026		395.41	463.18			85.83	100.95	127.89	
AD Shasta County AQMD Winter 2029 340.10 395.56 462.95 591.18 73.76 85.96 100.97 128.3 AD Shasta County AQMD Winter 2030 340.09 395.62 462.87 591.39 73.76 86.00 100.96 128.5 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.77 86.00 100.96 128.5 AD Shasta County AQMD Winter 2032 340.09 395.73 462.78 591.84 73.78 86.08 100.96 128.5 AD Shasta County AQMD Winter 2033 340.08 395.73 462.78 591.84 73.78 86.08 100.96 128.5 AD Shasta County AQMD Winter 2033 340.08 395.78 462.74 592.04 73.78 86.11 100.97 128.7 AD Shasta County AQMD Winter 2034 340.08 395.82 462.71 592.02 73.78 86.11 100.97 128.7 AD Shasta County AQMD Winter 2035 340.07 395.85 462.69 592.8 73.78 86.17 100.97 128.7 AD Siskiyou County APCD Annual 2010 378.80 444.35 519.95 649.03 74.19 39.56 102.24 125.1 AD Siskiyou County APCD Annual 2011 378.73 443.52 519.19 649.67 74.04 92.11 102.01 125.2 AD Siskiyou County APCD Annual 2012 378.70 442.82 518.58 650.49 73.88 90.89 101.82 125.3 AD Siskiyou County APCD Annual 2014 378.76 441.72 517.67 663.21 73.60 88.92 101.54 125.3 AD Siskiyou County APCD Annual 2014 378.76 441.72 517.67 663.21 73.60 88.92 101.54 125.3 AD Siskiyou County APCD Annual 2016 378.87 440.81 517.10 653.95 73.55 88.04 101.18 125.8 AD Siskiyou County APCD Annual 2016 378.97 440.15 516.58 655.07 73.39 85.69 100.79 126.5 AD Siskiyou County APCD Annual 2018 379.07 440.11 516.58 655.97 73.39 85.69 100.79 126.5 AD Siskiyou County APCD Annual 2018 379.07 440.11 516.58 655.97 73.39 85.69 100.79 126.5 AD Siskiyou County APCD Annual 2020 379.10 440.51 516.58 655.07 73.59 85.51 100.80 127.3 AD Siskiyou County APCD Annual 2021 379.07 440.11 516.58 655.07 73.39 85.69 100.79 126.5 AD Siskiyou County APCD Annual 2029 379.07 440.11 516.58 655.07 73.39 85.69 100.79 126.5 AD Siskiyou County APCD Annual 2029 379.07 440.11 516.58 655.07 73.39 85.69 100.09 126.5 AD Siskiyou County APCD Annual 2029 379.07 440.10 516.58 655.07 73.59 85.51 100.80 127.3 AD Siskiyou County APCD Annual 2029 378.01 439.86 516.71 656.40 73.53 85.51 100.99	AD	Shasta County AQMD		2027	340.11	395.45	463.10		73.74	85.87	100.96	128.04	
AD Shasta County AQMD Winter 2030 340.09 395.62 462.87 591.39 73.76 86.00 100.96 128.4 AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.77 86.04 100.96 128.5 AD Shasta County AQMD Winter 2032 340.09 395.73 462.82 591.61 73.77 86.04 100.96 128.5 AD Shasta County AQMD Winter 2033 340.09 395.73 462.78 591.84 73.78 86.08 100.96 128.5 AD Shasta County AQMD Winter 2033 340.08 395.82 462.71 592.22 73.78 86.14 100.97 128.7 AD Shasta County AQMD Winter 2034 340.08 395.82 462.71 592.22 73.78 86.14 100.97 128.8 AD Shasta County AQMD Winter 2035 340.07 395.85 462.69 592.38 73.79 86.17 100.97 128.8 AD Shasta County AQMD Winter 2035 340.07 395.85 462.69 592.38 73.79 86.17 100.97 128.8 AD Shasta County APCD Annual 2010 378.80 444.35 519.95 649.03 74.19 93.56 102.24 125.1 AD Siskiyou County APCD Annual 2011 378.73 443.52 519.19 649.67 74.04 92.11 102.01 125.2 AD Siskiyou County APCD Annual 2012 378.70 442.82 518.56 650.49 73.88 90.89 101.82 125.3 AD Siskiyou County APCD Annual 2013 378.69 442.25 518.06 651.35 73.68 89.89 101.54 125.4 AD Siskiyou County APCD Annual 2014 378.76 441.72 517.67 652.21 73.60 88.92 101.36 125.6 AD Siskiyou County APCD Annual 2015 378.86 441.72 517.67 652.21 73.60 88.92 101.36 125.6 AD Siskiyou County APCD Annual 2016 378.97 440.88 517.10 653.95 73.55 87.27 101.06 126.0 AD Siskiyou County APCD Annual 2016 378.97 440.81 516.88 654.72 73.49 86.50 100.90 126.0 AD Siskiyou County APCD Annual 2019 379.07 440.11 516.58 655.97 73.39 85.66 100.79 126.5 AD Siskiyou County APCD Annual 2019 379.07 440.11 516.58 655.97 73.39 85.66 100.79 126.5 AD Siskiyou County APCD Annual 2019 379.07 440.11 516.58 655.97 73.39 85.66 100.79 126.5 AD Siskiyou County APCD Annual 2019 379.07 440.11 516.58 655.97 73.39 85.66 100.97 126.5 AD Siskiyou County APCD Annual 2023 378.90 439.60 516.12 657.19 73.51 85.48 100.89 127.3 AD Siskiyou County APCD Annual 2023 378.71 439.88 516.02 657.31 73.51 85.48 100.89 127.3 AD Siskiyou County APCD Annual 2026 378.77 439.85 515.95 657.47 73.59 85.50 100.87 127.2 AD Siskiyou Count	AD	Shasta County AQMD	Winter	2028	340.11	395.50	463.03	590.97	73.75	85.92	100.97	128.18	
AD Shasta County AQMD Winter 2031 340.09 395.67 462.82 591.61 73.77 86.04 100.96 128.5 AD Shasta County AQMD Winter 2032 340.09 395.73 462.78 591.84 73.78 86.08 100.96 128.6 AD Shasta County AQMD Winter 2033 340.08 395.78 462.74 592.04 73.78 86.11 100.97 128.8 AD Shasta County AQMD Winter 2034 340.08 395.82 462.71 592.22 73.78 86.14 100.97 128.8 AD Shasta County AQMD Winter 2034 340.08 395.82 462.71 592.22 73.78 86.14 100.97 128.9 AD Shasta County AQMD Winter 2036 340.07 395.85 462.69 592.38 73.79 86.17 100.97 128.9 AD Siskiyou County APCD Annual 2010 378.80 444.35 519.95 649.03 74.19 93.56 102.24 125.1 AD Siskiyou County APCD Annual 2011 378.73 443.52 519.95 649.03 74.19 93.56 102.24 125.1 AD Siskiyou County APCD Annual 2012 378.70 442.82 518.58 650.49 73.88 90.89 101.82 125.3 AD Siskiyou County APCD Annual 2013 378.69 442.25 518.06 651.35 73.68 89.89 101.54 125.4 AD Siskiyou County APCD Annual 2015 378.86 441.72 517.67 652.21 73.60 88.92 101.36 125.6 AD Siskiyou County APCD Annual 2015 378.86 441.26 517.36 653.09 73.55 88.04 101.18 125.8 AD Siskiyou County APCD Annual 2016 378.86 441.26 517.36 653.09 73.55 87.27 101.06 126.0 AD Siskiyou County APCD Annual 2017 379.02 440.51 516.88 654.72 73.49 86.50 100.90 126.5 AD Siskiyou County APCD Annual 2018 379.03 440.28 516.71 655.39 73.49 86.50 100.90 126.5 AD Siskiyou County APCD Annual 2019 379.07 440.11 516.58 655.97 73.39 85.68 100.76 126.7 AD Siskiyou County APCD Annual 2020 379.14 439.88 516.47 656.46 73.48 85.54 100.80 126.9 AD Siskiyou County APCD Annual 2020 379.14 439.88 516.47 656.86 73.34 85.56 100.97 126.5 AD Siskiyou County APCD Annual 2020 379.14 439.88 516.47 656.86 73.49 85.56 100.84 127.1 AD Siskiyou County APCD Annual 2020 379.14 439.88 516.47 656.86 73.49 85.56 100.89 127.3 AD Siskiyou County APCD Annual 2024 378.77 439.53 516.02 657.39 73.51 85.48 100.89 127.3 AD Siskiyou County APCD Annual 2024 378.77 439.53 516.02 657.39 73.51 85.48 100.89 127.3 AD Siskiyou County APCD Annual 2026 378.72 439.84 515.80 657.81 73.55 85.86 100.95 127.8 AD Siskiyou	AD	•	Winter	2029	340.10	395.56	462.95		73.76	85.96	100.97	128.31	
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AD ISBNIYOU COUNTY AMOD IANNALA I ANNALA I AUSSI STABI 440.541 515.401 ISS.ZUI 7.5.551 86.131 100 981 128 7	AD	Siskiyou County APCD	Annual	2032	378.66	440.54	515.46	659.20	73.55	86.13	100.98	128.73	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	CO2 Starting (g/trip)					
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
AD	Siskiyou County APCD	Annual	2034	378.65	440.63	515.42	659.41	73.56	86.18	100.98	128.83		
AD	Siskiyou County APCD	Annual	2035	378.64	440.70	515.40	659.60	73.56	86.22	100.99	128.93		
AD	Siskiyou County APCD	Summer	2010	393.78	458.70	539.46	673.02	74.19	93.56	102.24	125.12		
AD	Siskiyou County APCD	Summer	2011	393.90	458.44	538.93	673.75	74.04	92.11	102.01	125.20		
AD	Siskiyou County APCD	Summer	2012	394.02	458.19	538.51	674.72	73.88	90.89	101.82	125.30		
AD	Siskiyou County APCD	Summer	2013	394.12	457.97	538.18	675.77	73.68	89.89	101.54	125.46		
AD	Siskiyou County APCD	Summer	2014	394.26	457.73	537.93	676.82	73.60	88.92	101.36	125.61		
AD	Siskiyou County APCD	Summer	2015	394.41	457.52	537.74	677.91	73.55	88.04	101.18	125.82		
AD	Siskiyou County APCD	Summer	2016	394.55	457.35	537.58	678.96	73.55	87.27	101.06	126.05		
AD	Siskiyou County APCD	Summer	2017	394.62	457.17	537.43	679.91	73.49	86.50	100.90	126.29		
AD	Siskiyou County APCD	Summer	2018	394.63	457.04	537.29	680.74	73.41	85.98	100.79	126.52		
AD	Siskiyou County APCD	Summer	2019	394.66	457.01	537.18	681.46	73.39	85.68	100.76	126.74		
AD	Siskiyou County APCD	Summer	2020	394.72	456.98	537.09	682.06	73.48	85.54	100.80	126.95		
AD	Siskiyou County APCD	Summer	2021	394.69	456.95	536.97	682.49	73.52	85.53	100.84	127.11		
AD	Siskiyou County APCD	Summer	2022	394.62	456.88	536.86	682.82	73.53	85.50	100.87	127.20		
AD	Siskiyou County APCD	Summer	2023	394.48	456.83	536.76	683.03	73.51	85.48	100.89	127.36		
AD	Siskiyou County APCD	Summer	2024	394.35	456.84	536.67	683.22	73.48	85.50	100.91	127.52		
AD	Siskiyou County APCD	Summer	2025	394.30	456.94	536.61	683.38	73.49	85.56	100.93	127.67		
AD	Siskiyou County APCD	Summer	2026	394.32	457.11	536.53	683.57	73.51	85.65	100.95	127.82		
AD	Siskiyou County APCD	Summer	2027	394.33	457.28	536.46	683.78	73.52	85.73	100.97	127.97		
AD	Siskiyou County APCD	Summer	2028	394.34	457.44	536.40	684.00	73.53	85.81	100.98	128.11		
AD	Siskiyou County APCD	Summer	2029	394.33	457.61	536.34	684.23	73.53	85.88	100.98	128.23		
AD	Siskiyou County APCD	Summer	2030	394.32	457.77	536.26	684.47	73.54	85.95	100.97	128.36		
AD	Siskiyou County APCD	Summer	2031	394.32	457.91	536.23	684.79	73.54	86.01	100.97	128.49		
AD	Siskiyou County APCD	Summer	2032	394.32	458.04	536.21	685.10	73.55	86.07	100.98	128.62		
AD	Siskiyou County APCD	Summer	2033	394.31	458.15	536.18	685.38	73.55	86.13	100.98	128.73		
AD	Siskiyou County APCD	Summer	2034	394.30	458.25	536.16	685.63	73.56	86.18	100.98	128.83		
AD	Siskiyou County APCD	Summer	2035	394.29	458.31	536.14	685.85	73.56	86.22	100.99	128.93		
AD	Siskiyou County APCD	Winter	2010	373.71	439.47	513.32	640.88	74.19	93.56	102.24	125.12		
AD	Siskiyou County APCD	Winter	2011	373.57	438.45	512.48	641.49	74.04	92.11	102.01	125.20		
AD	Siskiyou County APCD	Winter	2012	373.50	437.60	511.81	642.25	73.88	90.89	101.82	125.30		
AD	Siskiyou County APCD	Winter	2013	373.45	436.91	511.23	643.06	73.68	89.89	101.54	125.46		
AD	Siskiyou County APCD	Winter	2014	373.49	436.28	510.79	643.86	73.60	88.92	101.36	125.61		
AD	Siskiyou County APCD	Winter	2015	373.58	435.74	510.43	644.66	73.55	88.04	101.18	125.82		
AD	Siskiyou County APCD	Winter	2016	373.68	435.28	510.15	645.45	73.55	87.27	101.06	126.05		
AD	Siskiyou County APCD	Winter	2017	373.73	434.85	509.90	646.16	73.49	86.50	100.90	126.29		
AD	Siskiyou County APCD	Winter	2018	373.74	434.55	509.71	646.78	73.41	85.98	100.79	126.52		
AD	Siskiyou County APCD	Winter	2019	373.78	434.37	509.58	647.31	73.39	85.68	100.76	126.74		
AD	Siskiyou County APCD	Winter	2020	373.85	434.21	509.47	647.77	73.48	85.54	100.80	126.95		
AD	Siskiyou County APCD	Winter	2021	373.83	434.08	509.34	648.08	73.52	85.53	100.84	127.11		
AD	Siskiyou County APCD	Winter	2022	373.76	433.89	509.22	648.29	73.53	85.50	100.87	127.20		
AD	Siskiyou County APCD	Winter	2023	373.61	433.74	509.10	648.41	73.51	85.48	100.89	127.36		
AD	Siskiyou County APCD	Winter	2024	373.47	433.65	509.00	648.53	73.48	85.50	100.91	127.52		
AD	Siskiyou County APCD	Winter	2025	373.42	433.68	508.93	648.63	73.49	85.56	100.93	127.67		
AD	Siskiyou County APCD	Winter	2026	373.42	433.81	508.85	648.81	73.51	85.65	100.95	127.82		
AD	Siskiyou County APCD	Winter	2027	373.42	433.92	508.79	648.99	73.52	85.73	100.97	127.97		
AD	Siskiyou County APCD	Winter	2028	373.41	434.03	508.72	649.17	73.53	85.81	100.98	128.11		
AD	Siskiyou County APCD	Winter	2029	373.39	434.14	508.65	649.35	73.53	85.88	100.98	128.23		
AD	Siskiyou County APCD	Winter	2030	373.36	434.25	508.56	649.55	73.54	85.95	100.97	128.36		
AD	Siskiyou County APCD	Winter	2031	373.36	434.37	508.50	649.81	73.54	86.01	100.97	128.49		
AD	Siskiyou County APCD	Winter	2032	373.35	434.47	508.45	650.08	73.55	86.07	100.98	128.62		
AD	Siskiyou County APCD	Winter	2033	373.34	434.56	508.42	650.30	73.55	86.13	100.98	128.73		
AD	Siskiyou County APCD	Winter	2034	373.34	434.64	508.38	650.51	73.56	86.18	100.98	128.83		
AD	Siskiyou County APCD	Winter	2035	373.33	434.71	508.36	650.69	73.56	86.22	100.99	128.93		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	7	CO2 Starting (g/trip)					
	Location	Cassan	Voor	LDA			MDV	LDA		LDT2	MDV		
AD	South Coast AQMD	Season Annual	Year 2010	358.02	LDT1 409.62	LDT2 488.99	615.32	73.21	LDT1 84.05	99.45	125.25		
AD AD				358.54	410.54		616.40	73.23		99.45	125.25		
AD AD	South Coast AQMD South Coast AQMD	Annual Annual	2011	358.67	410.92	489.35 489.13	616.69	73.23	84.00 83.99	99.67	125.44		
AD	South Coast AQMD	Annual	2012	358.87	411.39	488.96	617.06	73.33	84.01	99.79	125.87		
AD	South Coast AQMD	Annual	2013	359.01	411.72	488.78	617.39	73.38	84.02	99.90	126.09		
AD	South Coast AQMD	Annual	2014	359.50	412.41	489.04	618.24	73.44	84.08	100.01	126.32		
AD	South Coast AQMD	Annual	2013	359.61	412.41	488.91	618.65	73.51	84.14	100.01	126.52		
AD	South Coast AQMD	Annual	2017	359.68	413.00	488.78	619.05	73.56	84.22	100.13	126.80		
AD	South Coast AQMD	Annual	2017	359.73	413.00	488.67	619.36	73.60	84.30	100.22	127.02		
AD	South Coast AQMD	Annual	2019	359.09	412.70	487.70	618.61	73.64	84.46	100.39	127.02		
AD	South Coast AQMD	Annual	2020	359.10	412.90	487.57	618.81	73.73	84.62	100.49	127.42		
AD	South Coast AQMD	Annual	2021	359.90	414.07	488.59	620.47	73.80	84.79	100.43	127.58		
AD	South Coast AQMD	Annual	2021	359.87	414.07	488.50	620.64	73.85	84.93	100.66	127.72		
AD	South Coast AQMD	Annual	2023	359.81	414.36	488.41	620.74	73.88	85.06	100.72	127.88		
AD	South Coast AQMD	Annual	2024	361.75	416.75	490.99	624.15	73.90	85.17	100.72	128.02		
AD	South Coast AQMD	Annual	2025	361.67	416.81	490.90	624.21	73.92	85.28	100.82	128.15		
AD	South Coast AQMD	Annual	2026	361.63	416.90	490.79	624.27	73.94	85.38	100.85	128.28		
AD	South Coast AQMD	Annual	2027	361.58	416.99	490.68	624.32	73.95	85.47	100.88	128.40		
AD	South Coast AQMD	Annual	2028	361.52	417.07	490.57	624.36	73.96	85.56	100.90	128.50		
AD	South Coast AQMD	Annual	2029	361.45	417.16	490.46	624.40	73.97	85.64	100.92	128.60		
AD	South Coast AQMD	Annual	2030	361.38	417.24	490.34	624.44	73.97	85.72	100.93	128.69		
AD	South Coast AQMD	Annual	2031	361.74	417.83	490.77	625.15	73.98	85.80	100.94	128.78		
AD	South Coast AQMD	Annual	2032	361.68	417.92	490.68	625.19	73.98	85.87	100.95	128.87		
AD	South Coast AQMD	Annual	2033	361.62	417.98	490.58	625.22	73.99	85.93	100.96	128.95		
AD	South Coast AQMD	Annual	2034	361.55	418.03	490.49	625.24	73.99	85.99	100.96	129.02		
AD	South Coast AQMD	Annual	2035	361.48	418.05	490.39	625.25	73.99	86.05	100.97	129.09		
AD	South Coast AQMD	Summer	2010	376.35	428.81	513.13	646.58	73.21	84.05	99.45	125.25		
AD	South Coast AQMD	Summer	2011	376.97	430.12	513.62	647.72	73.23	84.00	99.55	125.44		
AD	South Coast AQMD	Summer	2012	377.16	430.78	513.49	648.06	73.27	83.99	99.67	125.65		
AD	South Coast AQMD	Summer	2013	377.42	431.49	513.42	648.53	73.33	84.01	99.79	125.87		
AD	South Coast AQMD	Summer	2014	377.59	432.01	513.33	648.98	73.38	84.02	99.90	126.09		
AD	South Coast AQMD	Summer	2015	378.15	432.89	513.72	650.01	73.44	84.08	100.01	126.32		
AD	South Coast AQMD	Summer	2016	378.30	433.33	513.68	650.59	73.51	84.14	100.13	126.56		
AD	South Coast AQMD	Summer	2017	378.41	433.75	513.63	651.14	73.56	84.22	100.22	126.80		
AD	South Coast AQMD	Summer	2018	378.49	434.09	513.58	651.59	73.60	84.30	100.30	127.02		
AD	South Coast AQMD	Summer	2019	377.86	433.63	512.63	650.96	73.64	84.46	100.39	127.22		
AD	South Coast AQMD	Summer	2020	377.91	433.94	512.56	651.31	73.73	84.62	100.49	127.42		
AD	South Coast AQMD	Summer	2021	378.79	435.26	513.67	653.16	73.80	84.79	100.58	127.58		
AD	South Coast AQMD	Summer	2022	378.78	435.52	513.61	653.41	73.85	84.93	100.66	127.72		
AD	South Coast AQMD	Summer	2023	378.75	435.72	513.53	653.58	73.88	85.06	100.72	127.88		
AD	South Coast AQMD	Summer	2024	380.85	438.35	516.31	657.27	73.90	85.17	100.77	128.02		
AD	South Coast AQMD	Summer	2025	380.80	438.49	516.23	657.36	73.92	85.28	100.82	128.15		
AD	South Coast AQMD	Summer	2026	380.78	438.66	516.15	657.45	73.94	85.38	100.85	128.28		
AD	South Coast AQMD	Summer	2027	380.75	438.81	516.07	657.53	73.95	85.47	100.88	128.40		
AD	South Coast AQMD	Summer	2028	380.72	438.96	515.99	657.60	73.96	85.56	100.90	128.50		
AD	South Coast AQMD	Summer	2029	380.68	439.12	515.91	657.67	73.97	85.64	100.92	128.60		
AD	South Coast AQMD	Summer	2030	380.64	439.28	515.83	657.75	73.97	85.72	100.93	128.69		
AD	South Coast AQMD	Summer	2031	381.06	439.99	516.35	658.58	73.98	85.80	100.94	128.78		
AD	South Coast AQMD	Summer	2032	381.02	440.15	516.29	658.68	73.98	85.87	100.95	128.87		
AD	South Coast AQMD	Summer	2033	380.98	440.27	516.23	658.77	73.99	85.93	100.96	128.95		
AD	South Coast AQMD	Summer	2034	380.94	440.37	516.16	658.85	73.99	85.99	100.96	129.02		
AD	South Coast AQMD	Summer	2035	380.89	440.43	516.10	658.92	73.99	86.05	100.97	129.09		
AD	South Coast AQMD	Winter	2010	352.29	403.80	481.47	605.90	73.21	84.05	99.45	125.25		
AD	South Coast AQMD	Winter	2011	352.78	404.63	481.81	606.99	73.23	84.00	99.55	125.44		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Star	ting (g/tri	(q
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	South Coast AQMD	Winter	2012	352.90	404.95	481.58	607.30	73.27	83.99	99.67	125.65
AD	South Coast AQMD	Winter	2013	353.09	405.36	481.40	607.67	73.33	84.01	99.79	125.87
AD	South Coast AQMD	Winter	2014	353.22	405.65	481.21	608.00	73.38	84.02	99.90	126.09
AD	South Coast AQMD	Winter	2015	353.70	406.30	481.45	608.82	73.44	84.08	100.01	126.32
AD	South Coast AQMD	Winter	2016	353.80	406.58	481.31	609.21	73.51	84.14	100.13	126.56
AD	South Coast AQMD	Winter	2017	353.87	406.84	481.17	609.58	73.56	84.22	100.22	126.80
AD	South Coast AQMD	Winter	2018	353.92	407.05	481.05	609.87	73.60	84.30	100.30	127.02
AD	South Coast AQMD	Winter	2019	353.29	406.51	480.09	609.12	73.64	84.46	100.39	127.22
AD	South Coast AQMD	Winter	2020	353.30	406.69	479.97	609.30	73.73	84.62	100.49	127.42
AD	South Coast AQMD	Winter	2021	354.09	407.83	480.97	610.93	73.80	84.79	100.58	127.58
AD	South Coast AQMD	Winter	2022	354.06	407.98	480.89	611.09	73.85	84.93	100.66	127.72
AD	South Coast AQMD	Winter	2023	354.00	408.09	480.80	611.19	73.88	85.06	100.72	127.88
AD	South Coast AQMD	Winter	2024	355.90	410.41	483.33	614.52	73.90	85.17	100.77	128.02
AD	South Coast AQMD	Winter	2025	355.82	410.46	483.24	614.58	73.92	85.28	100.82	128.15
AD	South Coast AQMD	Winter	2026	355.78	410.54	483.14	614.65	73.94	85.38	100.85	128.28
AD	South Coast AQMD	Winter	2027	355.73	410.61	483.03	614.70	73.95	85.47	100.88	128.40
AD	South Coast AQMD	Winter	2028	355.68	410.69	482.93	614.74	73.96	85.56	100.90	128.50
AD	South Coast AQMD	Winter	2029	355.61	410.76	482.82	614.79	73.97	85.64	100.92	128.60
AD	South Coast AQMD	Winter	2030	355.54	410.84	482.71	614.83	73.97	85.72	100.93	128.69
AD	South Coast AQMD	Winter	2031	355.89	411.39	483.12	615.52	73.98	85.80	100.94	128.78
AD	South Coast AQMD	Winter	2032	355.83	411.47	483.03	615.56	73.98	85.87	100.95	128.87
AD	South Coast AQMD	Winter	2033	355.77	411.53	482.94	615.59	73.99	85.93	100.96	128.95
AD	South Coast AQMD	Winter	2034	355.71	411.57	482.84	615.61	73.99	85.99	100.96	129.02
AD	South Coast AQMD	Winter	2035	355.64	411.60	482.75	615.61	73.99	86.05	100.97	129.09
AD	Tehama County APCD	Annual	2010	347.71	408.08	478.44	596.20	73.92	97.65	101.75	125.26
AD	Tehama County APCD	Annual	2011	347.75	407.21	477.63	596.79	73.75	95.12	101.53	125.31
AD	Tehama County APCD	Annual	2012	347.86	406.66	477.01	597.48	73.65	93.32	101.40	125.42
AD	Tehama County APCD	Annual	2013	347.97	406.10	476.53	598.29	73.54	91.52	101.28	125.55
AD	Tehama County APCD	Annual	2014	348.09	405.68	476.15	599.09	73.46	90.11	101.17	125.71
AD	Tehama County APCD	Annual	2015	348.24	405.38	475.85	599.96	73.44	88.97	101.03	125.89
AD	Tehama County APCD	Annual	2016	348.39	405.05	475.61	600.78	73.43	87.78	100.95	126.12
AD	Tehama County APCD	Annual	2017	348.50	404.72	475.41	601.55	73.42	86.61	100.84	126.35
AD	Tehama County APCD	Annual	2018	348.57	404.51	475.24	602.23	73.38	85.79	100.77	126.58
AD	Tehama County APCD	Annual	2019	348.67	404.46	475.11	602.83	73.42	85.46	100.74	126.78
AD	Tehama County APCD	Annual	2020	348.75	404.42	475.00	603.36	73.52	85.32	100.77	126.99
AD	Tehama County APCD	Annual	2021	348.82	404.51	474.91	603.73	73.60	85.40	100.84	127.12
AD	Tehama County APCD	Annual	2022	348.84	404.58	474.81	603.99	73.65	85.48	100.88	127.15
AD	Tehama County APCD	Annual	2023	348.83	404.65	474.72	604.17	73.68	85.54	100.91	127.32
AD	Tehama County APCD	Annual	2024	348.79	404.72	474.64	604.33	73.69	85.61	100.94	127.48
AD	Tehama County APCD	Annual	2025	348.78	404.78	474.58	604.54	73.71	85.67	100.96	127.66
AD	Tehama County APCD	Annual	2026	348.80	404.87	474.51	604.75	73.74	85.74	100.98	127.82
AD	Tehama County APCD	Annual	2027	348.82	404.95	474.43	604.97	73.75	85.80	100.99	127.98
AD	Tehama County APCD	Annual	2028	348.82	405.02	474.36	605.19	73.76	85.86	100.99	128.12
AD	Tehama County APCD	Annual	2029	348.82	405.11	474.28	605.40	73.77	85.91	100.98	128.26
AD	Tehama County APCD	Annual	2030	348.81	405.19	474.20	605.62	73.77	85.96	100.97	128.38
AD	Tehama County APCD	Annual	2031	348.81	405.27	474.16	605.87	73.78	86.01	100.97	128.51
AD	Tehama County APCD	Annual	2032	348.81	405.34	474.13	606.13	73.78	86.06	100.97	128.63
AD	Tehama County APCD	Annual	2033	348.80	405.40	474.10	606.35	73.79	86.10	100.97	128.74
AD	Tehama County APCD	Annual	2034	348.80	405.45	474.07	606.55	73.79	86.14	100.97	128.85
AD	Tehama County APCD	Annual	2035	348.79	405.50	474.05	606.73	73.80	86.17	100.98	128.94
AD	Tehama County APCD	Summer	2010	383.41	444.94	524.62	654.31	73.92	97.65	101.75	125.26
AD	Tehama County APCD	Summer	2011	383.77	445.00	524.52	654.97	73.75	95.12	101.53	125.31
AD	Tehama County APCD	Summer	2012	384.14	445.10	524.43	655.86	73.65	93.32	101.40	125.42
AD	Tehama County APCD	Summer	2013	384.45	445.13	524.35	656.99	73.54	91.52	101.28	125.55

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	ng (a/VMT)	CO2 Starting (g/trip)					
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
AD	Tehama County APCD	Summer	2014	384.73	445.13	524.29	658.11	73.46	90.11	101.17	125.71		
AD	Tehama County APCD	Summer	2015	385.00	445.18	524.25	659.39	73.44	88.97	101.03	125.89		
AD	Tehama County APCD	Summer	2016	385.23	445.19	524.18	660.60	73.43	87.78	100.95	126.12		
AD	Tehama County APCD	Summer	2017	385.39	445.19	524.07	661.71	73.42	86.61	100.84	126.35		
AD	Tehama County APCD	Summer	2018	385.47	445.18	523.93	662.69	73.38	85.79	100.77	126.58		
AD	Tehama County APCD	Summer	2019	385.58	445.24	523.81	663.55	73.42	85.46	100.74	126.78		
AD	Tehama County APCD	Summer	2020	385.65	445.32	523.70	664.29	73.52	85.32	100.77	126.99		
AD	Tehama County APCD	Summer	2021	385.70	445.43	523.58	664.83	73.60	85.40	100.84	127.12		
AD	Tehama County APCD	Summer	2022	385.72	445.55	523.48	665.26	73.65	85.48	100.88	127.15		
AD	Tehama County APCD	Summer	2023	385.71	445.67	523.40	665.55	73.68	85.54	100.91	127.32		
AD	Tehama County APCD	Summer	2024	385.66	445.84	523.33	665.79	73.69	85.61	100.94	127.48		
AD	Tehama County APCD	Summer	2025	385.66	445.99	523.29	666.03	73.71	85.67	100.96	127.66		
AD	Tehama County APCD	Summer	2026	385.69	446.14	523.22	666.24	73.74	85.74	100.98	127.82		
AD	Tehama County APCD	Summer	2027	385.72	446.27	523.16	666.46	73.75	85.80	100.99	127.98		
AD	Tehama County APCD	Summer	2028	385.74	446.39	523.12	666.69	73.76	85.86	100.99	128.12		
AD	Tehama County APCD	Summer	2029	385.76	446.52	523.06	666.94	73.77	85.91	100.98	128.26		
AD	Tehama County APCD	Summer	2030	385.77	446.65	523.02	667.20	73.77	85.96	100.97	128.38		
AD	Tehama County APCD	Summer	2031	385.77	446.77	523.01	667.51	73.78	86.01	100.97	128.51		
AD	Tehama County APCD	Summer	2032	385.77	446.86	523.00	667.82	73.78	86.06	100.97	128.63		
AD	Tehama County APCD	Summer	2033	385.77	446.94	522.99	668.11	73.79	86.10	100.97	128.74		
AD	Tehama County APCD	Summer	2034	385.77	447.00	522.97	668.39	73.79	86.14	100.97	128.85		
AD	Tehama County APCD	Summer	2035	385.76	447.05	522.96	668.63	73.80	86.17	100.98	128.94		
AD	Tehama County APCD	Winter	2010	339.88	399.98	468.30	583.44	73.92	97.65	101.75	125.26		
AD	Tehama County APCD	Winter	2011	339.84	398.91	467.33	584.01	73.75	95.12	101.53	125.31		
AD	Tehama County APCD	Winter	2012	339.89	398.22	466.60	584.66	73.65	93.32	101.40	125.42		
AD	Tehama County APCD	Winter	2013	339.96	397.53	466.03	585.41	73.54	91.52	101.28	125.55		
AD	Tehama County APCD	Winter	2014	340.05	397.02	465.58	586.13	73.46	90.11	101.17	125.71		
AD	Tehama County APCD	Winter	2015	340.18	396.64	465.23	586.91	73.44	88.97	101.03	125.89		
AD	Tehama County APCD	Winter	2016	340.30	396.23	464.95	587.65	73.43	87.78	100.95	126.12		
AD	Tehama County APCD	Winter	2017	340.40	395.84	464.72	588.34	73.42	86.61	100.84	126.35		
AD	Tehama County APCD	Winter	2018	340.46	395.57	464.55	588.96	73.38	85.79	100.77	126.58		
AD	Tehama County APCD	Winter	2019	340.57	395.50	464.42	589.50	73.42	85.46	100.74	126.78		
AD	Tehama County APCD	Winter	2020	340.65	395.45	464.31	589.99	73.52	85.32	100.77	126.99		
AD	Tehama County APCD	Winter	2021	340.72	395.53	464.22	590.32	73.60	85.40	100.84	127.12		
AD	Tehama County APCD	Winter	2022	340.75	395.59	464.13	590.54	73.65	85.48	100.88	127.15		
AD	Tehama County APCD	Winter	2023	340.74	395.64	464.04	590.70	73.68	85.54	100.91	127.32		
AD	Tehama County APCD	Winter	2024	340.69	395.69	463.95	590.84	73.69	85.61	100.94	127.48		
AD	Tehama County APCD	Winter	2025	340.69	395.73	463.89	591.04	73.71	85.67	100.96	127.66		
AD	Tehama County APCD	Winter	2026	340.71	395.81	463.81	591.25	73.74	85.74	100.98	127.82		
AD	Tehama County APCD	Winter	2027	340.72	395.87	463.73	591.47	73.75	85.80	100.99	127.98		
AD	Tehama County APCD	Winter	2028	340.72	395.94	463.66	591.68	73.76	85.86	100.99	128.12		
AD	Tehama County APCD	Winter	2029	340.71	396.01	463.57	591.89	73.77	85.91	100.98	128.26		
AD	Tehama County APCD	Winter	2030	340.70	396.08	463.49	592.11	73.77	85.96	100.97	128.38		
AD	Tehama County APCD	Winter	2031	340.69	396.15	463.44	592.34	73.78	86.01	100.97	128.51		
AD	Tehama County APCD	Winter	2032	340.69	396.22	463.40	592.58	73.78	86.06	100.97	128.63		
AD	Tehama County APCD	Winter	2033	340.69	396.28	463.36	592.79	73.79	86.10	100.97	128.74		
AD	Tehama County APCD	Winter	2034	340.68	396.33	463.33	592.98	73.79	86.14	100.97	128.85		
AD	Tehama County APCD	Winter	2035	340.68	396.38	463.31	593.14	73.80	86.17	100.98	128.94		
AD	Tuolomne County APCD	Annual	2010	351.80	409.05	482.29	602.53	74.53	90.23	101.65	124.41		
AD	Tuolomne County APCD	Annual	2011	351.82	408.95	481.75	603.20	74.32	89.28	101.47	124.55		
AD	Tuolomne County APCD	Annual	2012	351.88	408.91	481.33	604.01	74.15	88.59	101.37	124.74		
AD	Tuolomne County APCD	Annual	2013	351.99	408.83	480.99	604.89	74.02	87.89	101.25	124.97		
AD	Tuolomne County APCD	Annual	2014	352.09	408.75	480.72	605.77	73.90	87.27	101.07	125.20		
AD	Tuolomne County APCD	Annual	2015	352.23	408.71	480.51	606.66	73.86	86.74	100.95	125.47		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	ng (a/VMT	')	(CO2 Star	tina (a/tri	(qi
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Tuolomne County APCD	Annual	2016	352.33	408.71	480.34	607.53	73.81	86.35	100.89	125.75
AD	Tuolomne County APCD	Annual	2017	352.40	408.66	480.19	608.32	73.73	85.87	100.79	126.04
AD	Tuolomne County APCD	Annual	2018	352.44	408.65	480.07	609.00	73.66	85.55	100.74	126.32
AD	Tuolomne County APCD	Annual	2019	352.50	408.66	479.98	609.60	73.64	85.35	100.71	126.58
AD	Tuolomne County APCD	Annual	2020	352.53	408.71	479.91	610.12	73.71	85.33	100.75	126.82
AD	Tuolomne County APCD	Annual	2021	352.52	408.72	479.81	610.51	73.75	85.36	100.79	127.02
AD	Tuolomne County APCD	Annual	2022	352.49	408.72	479.74	610.83	73.77	85.39	100.83	127.18
AD	Tuolomne County APCD	Annual	2023	352.42	408.71	479.67	611.05	73.77	85.42	100.87	127.37
AD	Tuolomne County APCD	Annual	2024	352.35	408.71	479.60	611.23	73.76	85.46	100.89	127.55
AD	Tuolomne County APCD	Annual	2025	352.30	408.78	479.56	611.41	73.76	85.53	100.93	127.72
AD	Tuolomne County APCD	Annual	2026	352.31	408.91	479.51	611.58	73.78	85.63	100.95	127.88
AD	Tuolomne County APCD	Annual	2027	352.31	409.03	479.46	611.78	73.79	85.72	100.97	128.03
AD	Tuolomne County APCD	Annual	2028	352.31	409.16	479.41	611.96	73.80	85.80	100.98	128.17
AD	Tuolomne County APCD	Annual	2029	352.30	409.28	479.35	612.15	73.80	85.87	100.98	128.30
AD	Tuolomne County APCD	Annual	2030	352.29	409.39	479.30	612.34	73.81	85.94	100.98	128.42
AD	Tuolomne County APCD	Annual	2031	352.28	409.51	479.27	612.58	73.81	86.01	100.98	128.55
AD	Tuolomne County APCD	Annual	2032	352.28	409.62	479.24	612.83	73.82	86.08	100.98	128.67
AD	Tuolomne County APCD	Annual	2033	352.28	409.71	479.22	613.04	73.82	86.13	100.99	128.78
AD	Tuolomne County APCD	Annual	2034	352.28	409.79	479.20	613.24	73.83	86.19	100.99	128.88
AD	Tuolomne County APCD	Annual	2035	352.27	409.86	479.19	613.41	73.83	86.23	101.00	128.97
AD	Tuolomne County APCD	Summer	2010	379.58	436.17	518.68	647.34	74.53	90.23	101.65	124.41
AD	Tuolomne County APCD	Summer	2011	379.89	437.05	518.44	648.13	74.32	89.28	101.47	124.55
AD	Tuolomne County APCD	Summer	2012	380.18	437.74	518.26	649.15	74.15	88.59	101.37	124.74
AD	Tuolomne County APCD	Summer	2013	380.45	438.26	518.15	650.32	74.02	87.89	101.25	124.97
AD	Tuolomne County APCD	Summer	2014	380.68	438.66	518.10	651.50	73.90	87.27	101.07	125.20
AD	Tuolomne County APCD	Summer	2015	380.90	439.01	518.08	652.73	73.86	86.74	100.95	125.47
AD	Tuolomne County APCD	Summer	2016	381.07	439.30	518.06	653.92	73.81	86.35	100.89	125.75
AD	Tuolomne County APCD	Summer	2017	381.16	439.53	518.01	654.99	73.73	85.87	100.79	126.04
AD	Tuolomne County APCD	Summer	2018	381.20	439.71	517.96	655.91	73.66	85.55	100.74	126.32
AD	Tuolomne County APCD	Summer	2019	381.25	439.89	517.91	656.72	73.64	85.35	100.71	126.58
AD	Tuolomne County APCD	Summer	2020	381.27	440.08	517.84	657.42	73.71	85.33	100.75	126.82
AD	Tuolomne County APCD	Summer	2021	381.25	440.21	517.77	657.94	73.75	85.36	100.79	127.02
AD	Tuolomne County APCD	Summer	2022	381.21	440.34	517.69	658.37	73.77	85.39	100.83	127.18
AD	Tuolomne County APCD	Summer	2023	381.14	440.44	517.62	658.69	73.77	85.42	100.87	127.37
AD	Tuolomne County APCD	Summer	2024	381.08	440.54	517.57	658.94	73.76	85.46	100.89	127.55
AD	Tuolomne County APCD	Summer	2025	381.03	440.66	517.52	659.17	73.76	85.53	100.93	127.72
AD	Tuolomne County APCD	Summer	2026	381.05	440.87	517.48	659.35	73.78	85.63	100.95	127.88
AD	Tuolomne County APCD	Summer	2027	381.07	441.05	517.44	659.54	73.79	85.72	100.97	128.03
AD	Tuolomne County APCD	Summer	2028	381.08	441.24	517.40	659.75	73.80	85.80	100.98	128.17
AD	Tuolomne County APCD	Summer	2029	381.09	441.43	517.36	659.96	73.80	85.87	100.98	128.30
AD	Tuolomne County APCD	Summer	2030	381.09	441.61	517.32	660.19	73.81	85.94	100.98	128.42
AD	Tuolomne County APCD	Summer	2031	381.10	441.78	517.30	660.50	73.81	86.01	100.98	128.55
AD	Tuolomne County APCD	Summer	2032	381.10	441.93	517.28	660.80	73.82	86.08	100.98	128.67
AD	Tuolomne County APCD	Summer	2033	381.09	442.04	517.26	661.07	73.82	86.13	100.99	128.78
AD	Tuolomne County APCD	Summer	2034	381.09	442.15	517.24	661.33	73.83	86.19	100.99	128.88
AD	Tuolomne County APCD	Summer	2035	381.08	442.22	517.22	661.55	73.83	86.23	101.00	128.97
AD	Tuolomne County APCD	Winter	2010	345.75	403.14	474.37	592.78	74.53	90.23	101.65	124.41
AD	Tuolomne County APCD	Winter	2011	345.71	402.84	473.77	593.43	74.32	89.28	101.47	124.55
AD	Tuolomne County APCD	Winter	2012	345.72	402.64	473.30	594.19	74.15	88.59	101.37	124.74
AD	Tuolomne County APCD	Winter	2013	345.79	402.42	472.91	595.00	74.02	87.89	101.25	124.97
AD	Tuolomne County APCD	Winter	2014	345.87	402.24	472.59	595.82	73.90	87.27	101.07	125.20
AD	Tuolomne County APCD	Winter	2015	345.99	402.12	472.33	596.64	73.86	86.74	100.95	125.47
AD	Tuolomne County APCD	Winter	2016	346.08	402.05	472.13	597.43	73.81	86.35	100.89	125.75
AD	Tuolomne County APCD	Winter	2017	346.14	401.95	471.96	598.16	73.73	85.87	100.79	126.04

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT)	(CO2 Star	ting (g/tri	n)
	20041011	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Tuolomne County APCD	Winter	2018	346.19	401.89	471.83	598.79	73.66	85.55	100.74	126.32
AD	Tuolomne County APCD	Winter	2019	346.24	401.87	471.73	599.34	73.64	85.35	100.74	126.58
AD	Tuolomne County APCD	Winter	2020	346.28	401.88	471.65	599.83	73.71	85.33	100.71	126.82
AD	Tuolomne County APCD	Winter	2021	346.27	401.86	471.55	600.19	73.75	85.36	100.79	127.02
AD	Tuolomne County APCD	Winter	2022	346.24	401.84	471.48	600.48	73.77	85.39	100.73	127.18
AD	Tuolomne County APCD	Winter	2023	346.16	401.81	471.41	600.69	73.77	85.42	100.87	127.37
AD	Tuolomne County APCD	Winter	2024	346.10	401.78	471.34	600.85	73.76	85.46	100.89	127.55
AD	Tuolomne County APCD	Winter	2025	346.04	401.84	471.30	601.01	73.76	85.53	100.93	127.72
AD	Tuolomne County APCD	Winter	2026	346.05	401.96	471.25	601.19	73.78	85.63	100.95	127.88
AD	Tuolomne County APCD	Winter	2027	346.05	402.06	471.20	601.38	73.79	85.72	100.97	128.03
AD	Tuolomne County APCD	Winter	2028	346.04	402.17	471.14	601.56	73.80	85.80	100.98	128.17
AD	Tuolomne County APCD	Winter	2029	346.03	402.28	471.08	601.74	73.80	85.87	100.98	128.30
AD	Tuolomne County APCD	Winter	2030	346.02	402.38	471.02	601.93	73.81	85.94	100.98	128.42
AD	Tuolomne County APCD	Winter	2031	346.01	402.49	470.99	602.16	73.81	86.01	100.98	128.55
AD	Tuolomne County APCD	Winter	2032	346.01	402.59	470.97	602.39	73.82	86.08	100.98	128.67
AD	Tuolomne County APCD	Winter	2033	346.01	402.67	470.95	602.59	73.82	86.13	100.99	128.78
AD	Tuolomne County APCD	Winter	2034	346.01	402.75	470.93	602.77	73.83	86.19	100.99	128.88
AD	Tuolomne County APCD	Winter	2035	346.00	402.81	470.91	602.93	73.83	86.23	101.00	128.97
AD	Ventura County APCD	Annual	2010	333.21	383.06	456.23	576.41	73.39	83.96	99.49	125.11
AD	Ventura County APCD	Annual	2011	334.06	384.40	457.06	578.10	73.37	83.90	99.58	125.31
AD	Ventura County APCD	Annual	2012	334.23	384.93	456.97	578.64	73.35	83.91	99.69	125.52
AD	Ventura County APCD	Annual	2013	334.46	385.44	456.97	579.27	73.37	83.94	99.80	125.74
AD	Ventura County APCD	Annual	2014	334.61	385.87	456.92	579.81	73.35	83.96	99.91	125.96
AD	Ventura County APCD	Annual	2015	336.96	388.79	459.88	584.16	73.37	84.01	100.00	126.20
AD	Ventura County APCD	Annual	2016	337.13	389.18	459.85	584.69	73.42	84.08	100.11	126.44
AD	Ventura County APCD	Annual	2017	337.26	389.54	459.83	585.20	73.44	84.15	100.20	126.68
AD	Ventura County APCD	Annual	2018	337.37	389.86	459.82	585.65	73.47	84.25	100.29	126.90
AD	Ventura County APCD	Annual	2019	338.59	391.47	461.34	587.98	73.51	84.41	100.38	127.11
AD	Ventura County APCD	Annual	2020	338.68	391.75	461.34	588.35	73.61	84.58	100.48	127.31
AD	Ventura County APCD	Annual	2021	340.62	394.18	463.90	591.89	73.68	84.75	100.57	127.48
AD	Ventura County APCD	Annual	2022	340.66	394.41	463.89	592.14	73.73	84.90	100.65	127.62
AD	Ventura County APCD	Annual	2023	340.67	394.58	463.88	592.33	73.77	85.03	100.71	127.78
AD	Ventura County APCD	Annual	2024	342.13	396.43	465.87	595.04	73.79	85.15	100.77	127.93
AD	Ventura County APCD	Annual	2025	342.13	396.57	465.87	595.19	73.81	85.26	100.81	128.07
AD	Ventura County APCD	Annual	2026	342.15	396.72	465.85	595.36	73.83	85.37	100.85	128.21
AD	Ventura County APCD	Annual	2027	342.16	396.87	465.84	595.51	73.84	85.46	100.88	128.33
AD	Ventura County APCD	Annual	2028	342.17	397.01	465.82	595.67	73.85	85.55	100.90	128.45
AD	Ventura County APCD	Annual	2029	342.17	397.16	465.80	595.81	73.86	85.64	100.92	128.55
AD	Ventura County APCD	Annual	2030	342.17	397.31	465.79	595.97	73.86	85.72	100.93	128.65
AD	Ventura County APCD	Annual	2031	343.80	399.36	468.01	598.97	73.87	85.80	100.94	128.74
AD	Ventura County APCD	Annual	2032	343.79	399.50	468.00	599.13	73.88	85.87	100.95	128.83
AD	Ventura County APCD	Annual	2033	343.79	399.63	467.99	599.27	73.88	85.94	100.96	128.92
AD	Ventura County APCD	Annual	2034	343.79	399.74	467.98	599.40	73.88	86.00	100.96	128.99
AD	Ventura County APCD	Annual	2035	343.79	399.84	467.97	599.52	73.89	86.06	100.97	129.06
AD	Ventura County APCD	Summer	2010	347.83	398.15	475.58	600.79	73.39	83.96	99.49	125.11
AD	Ventura County APCD	Summer	2011	348.77	399.76	476.48	602.48	73.37	83.90	99.58	125.31
AD	Ventura County APCD	Summer	2012	348.98	400.46	476.42	602.99	73.35	83.91	99.69	125.52
AD	Ventura County APCD	Summer	2013	349.27	401.14	476.48	603.66	73.37	83.94	99.80	125.74
AD	Ventura County APCD	Summer	2014	349.45	401.68	476.48	604.24	73.35	83.96	99.91	125.96
AD	Ventura County APCD	Summer	2015	351.94	404.82	479.63	608.85	73.37	84.01	100.00	126.20
AD	Ventura County APCD	Summer	2016	352.14	405.30	479.65	609.45	73.42	84.08	100.11	126.44
AD	Ventura County APCD	Summer	2017	352.28	405.73	479.66	610.04	73.44	84.15	100.20	126.68
AD	Ventura County APCD	Summer	2018	352.41	406.11	479.66	610.55	73.47	84.25	100.29	126.90
AD	Ventura County APCD	Summer	2019	353.67	407.82	481.25	613.02	73.51	84.41	100.38	127.11

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	<u> </u>		CO2 Star	Starting (g/trip)						
	Location	Season	Year	LDA	O2 Runni LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Ventura County APCD	Summer	2020	353.77	408.15	481.25	613.43	73.61	84.58	100.48	127.31
AD	Ventura County APCD	Summer	2020	355.80	410.74	483.94	617.18	73.68	84.75	100.40	127.48
AD	Ventura County APCD	Summer	2022	355.84	411.01	483.93	617.47	73.73	84.90	100.65	127.62
AD	Ventura County APCD	Summer	2023	355.85	411.23	483.92	617.68	73.77	85.03	100.71	127.78
AD	Ventura County APCD	Summer	2024	357.40	413.22	486.02	620.55	73.79	85.15	100.77	127.93
AD	Ventura County APCD	Summer	2025	357.40	413.40	486.01	620.72	73.81	85.26	100.81	128.07
AD	Ventura County APCD	Summer	2026	357.42	413.59	486.00	620.90	73.83	85.37	100.85	128.21
AD	Ventura County APCD	Summer	2027	357.43	413.77	485.98	621.06	73.84	85.46	100.88	128.33
AD	Ventura County APCD	Summer	2028	357.44	413.94	485.96	621.21	73.85	85.55	100.90	128.45
AD	Ventura County APCD	Summer	2029	357.45	414.12	485.94	621.36	73.86	85.64	100.92	128.55
AD	Ventura County APCD	Summer	2030	357.45	414.30	485.93	621.52	73.86	85.72	100.93	128.65
AD	Ventura County APCD	Summer	2031	359.14	416.47	488.25	624.65	73.87	85.80	100.94	128.74
AD	Ventura County APCD	Summer	2032	359.14	416.64	488.24	624.81	73.88	85.87	100.95	128.83
AD	Ventura County APCD	Summer	2033	359.14	416.79	488.23	624.96	73.88	85.94	100.96	128.92
AD	Ventura County APCD	Summer	2034	359.13	416.92	488.22	625.10	73.88	86.00	100.96	128.99
AD	Ventura County APCD	Summer	2035	359.13	417.02	488.21	625.23	73.89	86.06	100.97	129.06
AD	Ventura County APCD	Winter	2010	330.44	380.19	452.56	571.78	73.39	83.96	99.49	125.11
AD	Ventura County APCD	Winter	2011	331.27	381.49	453.38	573.48	73.37	83.90	99.58	125.31
AD	Ventura County APCD	Winter	2012	331.43	381.98	453.29	574.02	73.35	83.91	99.69	125.52
AD	Ventura County APCD	Winter	2013	331.65	382.46	453.27	574.64	73.37	83.94	99.80	125.74
AD	Ventura County APCD	Winter	2014	331.80	382.87	453.21	575.18	73.35	83.96	99.91	125.96
AD	Ventura County APCD	Winter	2015	334.12	385.75	456.13	579.48	73.37	84.01	100.00	126.20
AD	Ventura County APCD	Winter	2016	334.29	386.12	456.10	579.99	73.42	84.08	100.11	126.44
AD	Ventura County APCD	Winter	2017	334.41	386.47	456.07	580.49	73.44	84.15	100.20	126.68
AD	Ventura County APCD	Winter	2018	334.52	386.78	456.06	580.93	73.47	84.25	100.29	126.90
AD	Ventura County APCD	Winter	2019	335.73	388.37	457.57	583.24	73.51	84.41	100.38	127.11
AD	Ventura County APCD	Winter	2020	335.82	388.65	457.57	583.59	73.61	84.58	100.48	127.31
AD	Ventura County APCD	Winter	2021	337.74	391.05	460.10	587.10	73.68	84.75	100.57	127.48
AD	Ventura County APCD	Winter	2022	337.78	391.26	460.10	587.34	73.73	84.90	100.65	127.62
AD	Ventura County APCD	Winter	2023	337.80	391.43	460.09	587.53	73.77	85.03	100.71	127.78
AD	Ventura County APCD	Winter	2024	339.24	393.25	462.06	590.20	73.79	85.15	100.77	127.93
AD	Ventura County APCD	Winter	2025	339.24	393.38	462.05	590.36	73.81	85.26	100.81	128.07
AD	Ventura County APCD	Winter	2026	339.26	393.53	462.04	590.52	73.83	85.37	100.85	128.21
AD	Ventura County APCD	Winter	2027	339.27	393.67	462.02	590.68	73.84	85.46	100.88	128.33
AD	Ventura County APCD	Winter	2028	339.28	393.81	462.01	590.83	73.85	85.55	100.90	128.45
AD	Ventura County APCD	Winter	2029	339.28	393.95	461.99	590.98	73.86	85.64	100.92	128.55
AD	Ventura County APCD	Winter	2030	339.28	394.09	461.98	591.13	73.86	85.72	100.93	128.65
AD	Ventura County APCD	Winter	2031	340.89	396.12	464.18	594.11	73.87	85.80	100.94	128.74
AD	Ventura County APCD	Winter	2032	340.89	396.26	464.17	594.27	73.88	85.87	100.95	128.83
AD	Ventura County APCD	Winter	2033	340.89	396.38	464.16	594.41	73.88	85.94	100.96	128.92
AD	Ventura County APCD	Winter	2034	340.89	396.49	464.15	594.54	73.88	86.00	100.96	128.99
AD	Ventura County APCD	Winter	2035	340.88	396.58	464.14	594.65	73.89	86.06	100.97	129.06
AD	Yolo/Solano AQMD	Annual	2010	348.81	400.50	478.26	603.67	73.04	85.15	99.95	124.98
AD	Yolo/Solano AQMD	Annual	2011	348.99	401.18	477.99	604.06	73.05	84.88	99.97	125.17
AD	Yolo/Solano AQMD	Annual	2012	349.17	401.79	477.76	604.52	73.06	84.74	100.04	125.39
AD	Yolo/Solano AQMD	Annual	2013	349.34	402.29	477.57	605.02	73.08	84.59	100.09	125.62
AD	Yolo/Solano AQMD	Annual	2014	349.51	402.73	477.42	605.55	73.11	84.49	100.15	125.86
AD	Yolo/Solano AQMD	Annual	2015	349.67	403.13	477.29	606.07	73.16	84.45	100.19	126.11
AD	Yolo/Solano AQMD	Annual	2016	353.97	408.29	483.02	614.15	73.24	84.45	100.26	126.36
AD	Yolo/Solano AQMD	Annual	2017	354.05	408.52	482.92	614.62	73.29	84.39	100.28	126.61
AD	Yolo/Solano AQMD	Annual	2018	354.10	408.72	482.83	615.03	73.36	84.42	100.33	126.85
AD	Yolo/Solano AQMD	Annual	2019	353.42	408.16	481.76	614.16	73.42	84.51	100.39	127.06
AD	Yolo/Solano AQMD	Annual	2020	353.47	408.43	481.69	614.50	73.52	84.64	100.48	127.26
AD	Yolo/Solano AQMD	Annual	2021	353.51	408.63	481.65	614.75	73.60	84.80	100.57	127.42

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	I			CO2 Runni	CO2 Starting (g/trip)					
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Yolo/Solano AQMD	Annual	2022	353.51	408.79	481.60	614.94	73.65	84.93	100.65	127.57
AD	Yolo/Solano AQMD	Annual	2023	353.48	408.91	481.54	615.07	73.69	85.05	100.71	127.73
AD	Yolo/Solano AQMD	Annual	2024	353.46	409.04	481.46	615.10	73.72	85.17	100.76	127.87
AD	Yolo/Solano AQMD	Annual	2025	353.44	409.16	481.39	615.14	73.74	85.26	100.81	128.01
AD	Yolo/Solano AQMD	Annual	2026	354.57	410.57	482.91	617.16	73.77	85.36	100.84	128.15
AD	Yolo/Solano AQMD	Annual	2027	354.57	410.67	482.84	617.13	73.78	85.45	100.87	128.27
AD	Yolo/Solano AQMD	Annual	2028	354.56	410.76	482.78	617.10	73.79	85.53	100.90	128.39
AD	Yolo/Solano AQMD	Annual	2029	354.54	410.86	482.71	617.07	73.80	85.61	100.91	128.49
AD	Yolo/Solano AQMD	Annual	2030	354.51	410.96	482.64	617.06	73.80	85.69	100.92	128.59
AD	Yolo/Solano AQMD	Annual	2031	354.46	411.07	482.56	617.24	73.81	85.76	100.94	128.69
AD	Yolo/Solano AQMD	Annual	2032	354.41	411.16	482.49	617.41	73.81	85.83	100.94	128.79
AD	Yolo/Solano AQMD	Annual	2033	354.36	411.24	482.41	617.56	73.82	85.89	100.95	128.88
AD	Yolo/Solano AQMD	Annual	2034	354.31	411.30	482.34	617.69	73.82	85.95	100.96	128.96
AD	Yolo/Solano AQMD	Annual	2035	354.26	411.34	482.27	617.80	73.82	86.00	100.96	129.03
AD	Yolo/Solano AQMD	Summer	2010	384.05	437.08	524.93	662.32	73.04	85.15	99.95	124.98
AD	Yolo/Solano AQMD	Summer	2011	384.41	438.40	524.78	662.58	73.05	84.88	99.97	125.17
AD	Yolo/Solano AQMD	Summer	2012	384.74	439.53	524.67	663.02	73.06	84.74	100.04	125.39
AD	Yolo/Solano AQMD	Summer	2013	385.03	440.45	524.60	663.61	73.08	84.59	100.09	125.62
AD	Yolo/Solano AQMD	Summer	2014	385.29	441.23	524.61	664.29	73.11	84.49	100.15	125.86
AD	Yolo/Solano AQMD	Summer	2015	385.53	441.88	524.63	665.02	73.16	84.45	100.19	126.11
AD	Yolo/Solano AQMD	Summer	2016	390.28	447.65	531.00	673.98	73.24	84.45	100.26	126.36
AD	Yolo/Solano AQMD	Summer	2017	390.39	448.07	531.01	674.67	73.29	84.39	100.28	126.61
AD	Yolo/Solano AQMD	Summer	2018	390.46	448.37	530.97	675.24	73.36	84.42	100.33	126.85
AD	Yolo/Solano AQMD	Summer	2019	389.67	447.80	529.75	674.33	73.42	84.51	100.39	127.06
AD	Yolo/Solano AQMD	Summer	2020	389.71	448.17	529.67	674.78	73.52	84.64	100.48	127.26
AD	Yolo/Solano AQMD	Summer	2021	389.75	448.46	529.61	675.11	73.60	84.80	100.57	127.42
AD	Yolo/Solano AQMD	Summer	2022	389.75	448.70	529.53	675.38	73.65	84.93	100.65	127.57
AD	Yolo/Solano AQMD	Summer	2023	389.71	448.91	529.44	675.56	73.69	85.05	100.71	127.73
AD	Yolo/Solano AQMD	Summer	2024	389.70	449.12	529.33	675.60	73.72	85.17	100.76	127.87
AD	Yolo/Solano AQMD	Summer	2025	389.68	449.31	529.24	675.64	73.74	85.26	100.81	128.01
AD	Yolo/Solano AQMD	Summer	2026	390.91	450.90	530.91	677.83	73.77	85.36	100.84	128.15
AD	Yolo/Solano AQMD	Summer	2027	390.91	451.05	530.86	677.80	73.78	85.45	100.87	128.27
AD	Yolo/Solano AQMD	Summer	2028	390.90	451.20	530.81	677.78	73.79	85.53	100.90	128.39
AD	Yolo/Solano AQMD	Summer	2029	390.89	451.36	530.75	677.76	73.80	85.61	100.91	128.49
AD	Yolo/Solano AQMD	Summer	2030	390.87	451.53	530.69	677.75	73.80	85.69	100.92	128.59
AD	Yolo/Solano AQMD	Summer	2031	390.81	451.70	530.61	677.97	73.81	85.76	100.94	128.69
AD	Yolo/Solano AQMD	Summer	2032	390.76	451.83	530.54	678.19	73.81	85.83	100.94	128.79
AD	Yolo/Solano AQMD	Summer	2033	390.71	451.94	530.46	678.37	73.82	85.89	100.95	128.88
AD	Yolo/Solano AQMD	Summer	2034	390.67	452.04	530.39	678.55	73.82	85.95	100.96	128.96
AD	Yolo/Solano AQMD	Summer	2035	390.62	452.10	530.31	678.71	73.82	86.00	100.96	129.03
AD	Yolo/Solano AQMD	Winter	2010	339.81	391.18	466.38	588.76	73.04	85.15	99.95	124.98
AD	Yolo/Solano AQMD	Winter	2011	339.95	391.68	466.07	589.17	73.05	84.88	99.97	125.17
AD	Yolo/Solano AQMD	Winter	2012	340.09	392.16	465.81	589.62	73.06	84.74	100.04	125.39
AD	Yolo/Solano AQMD	Winter	2013	340.23	392.54	465.57	590.10	73.08	84.59	100.09	125.62
AD	Yolo/Solano AQMD	Winter	2014	340.36	392.90	465.38	590.58	73.11	84.49	100.15	125.86
AD	Yolo/Solano AQMD	Winter	2015	340.50	393.23	465.21	591.05	73.16	84.45	100.19	126.11
AD	Yolo/Solano AQMD	Winter	2016	344.68	398.23	470.76	598.89	73.24	84.45	100.26	126.36
AD	Yolo/Solano AQMD	Winter	2017	344.76	398.41	470.64	599.30	73.29	84.39	100.28	126.61
AD	Yolo/Solano AQMD	Winter	2018	344.80	398.57	470.54	599.66	73.36	84.42	100.33	126.85
AD	Yolo/Solano AQMD	Winter	2019	344.16	398.04	469.52	598.83	73.42	84.51	100.39	127.06
AD	Yolo/Solano AQMD	Winter	2020	344.20	398.28	469.45	599.14	73.52	84.64	100.48	127.26
AD	Yolo/Solano AQMD	Winter	2021	344.25	398.45	469.41	599.36	73.60	84.80	100.57	127.42
AD	Yolo/Solano AQMD	Winter	2022	344.25	398.59	469.37	599.54	73.65	84.93	100.65	127.57
AD	Yolo/Solano AQMD	Winter	2023	344.21	398.69	469.31	599.65	73.69	85.05	100.71	127.73

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Star	ting (g/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
AD	Yolo/Solano AQMD	Winter	2024	344.19	398.80	469.24	599.67	73.72	85.17	100.76	127.87
AD	Yolo/Solano AQMD	Winter	2025	344.17	398.89	469.17	599.71	73.74	85.26	100.70	128.01
AD	Yolo/Solano AQMD	Winter	2026	345.28	400.27	470.65	601.67	73.77	85.36	100.84	128.15
AD	Yolo/Solano AQMD	Winter	2027	345.27	400.35	470.58	601.64	73.78	85.45	100.87	128.27
AD	Yolo/Solano AQMD	Winter	2028	345.26	400.42	470.51	601.60	73.79	85.53	100.90	128.39
AD	Yolo/Solano AQMD	Winter	2029	345.24	400.50	470.43	601.57	73.80	85.61	100.91	128.49
AD	Yolo/Solano AQMD	Winter	2030	345.21	400.59	470.36	601.54	73.80	85.69	100.92	128.59
AD	Yolo/Solano AQMD	Winter	2031	345.15	400.68	470.28	601.72	73.81	85.76	100.94	128.69
AD	Yolo/Solano AQMD	Winter	2032	345.10	400.75	470.21	601.88	73.81	85.83	100.94	128.79
AD	Yolo/Solano AQMD	Winter	2033	345.05	400.82	470.13	602.01	73.82	85.89	100.95	128.88
AD	Yolo/Solano AQMD	Winter	2034	345.00	400.87	470.05	602.13	73.82	85.95	100.96	128.96
AD	Yolo/Solano AQMD	Winter	2035	344.95	400.90	469.98	602.23	73.82	86.00	100.96	129.03
С	Alameda (SF)	Annual	2010	339.24	389.56	464.06	585.20	72.90	84.16	99.41	124.70
С	Alameda (SF)	Annual	2011	339.37	390.02	463.94	585.71	72.95	84.06	99.50	124.89
С	Alameda (SF)	Annual	2012	339.53	390.50	463.85	586.29	73.01	84.04	99.62	125.11
С	Alameda (SF)	Annual	2013	339.73	390.93	463.79	586.90	73.09	84.03	99.75	125.34
С	Alameda (SF)	Annual	2014	339.91	391.34	463.74	587.52	73.16	84.04	99.85	125.58
С	Alameda (SF)	Annual	2015	340.11	391.74	463.71	588.15	73.24	84.08	99.96	125.84
С	Alameda (SF)	Annual	2016	340.29	392.13	463.69	588.75	73.33	84.14	100.07	126.09
С	Alameda (SF)	Annual	2017	340.43	392.49	463.67	589.32	73.39	84.20	100.16	126.35
С	Alameda (SF)	Annual	2018	340.55	392.81	463.66	589.82	73.43	84.28	100.25	126.59
С	Alameda (SF)	Annual	2019	340.66	393.13	463.66	590.26	73.49	84.42	100.34	126.81
С	Alameda (SF)	Annual	2020	340.77	393.43	463.66	590.66	73.60	84.58	100.44	127.03
С	Alameda (SF)	Annual	2021	340.84	393.69	463.67	590.99	73.67	84.75	100.53	127.21
С	Alameda (SF)	Annual	2022	340.88	393.91	463.66	591.27	73.73	84.89	100.62	127.35
С	Alameda (SF)	Annual	2023	340.88	394.08	463.65	591.48	73.77	85.02	100.68	127.52
С	Alameda (SF)	Annual	2024	340.86	394.22	463.64	591.66	73.79	85.14	100.74	127.68
С	Alameda (SF)	Annual	2025	340.85	394.35	463.64	591.84	73.81	85.24	100.79	127.84
С	Alameda (SF)	Annual	2026	340.87	394.50	463.62	592.03	73.83	85.34	100.83	127.99
С	Alameda (SF)	Annual	2027	340.88	394.65	463.61	592.20	73.85	85.44	100.86	128.12
С	Alameda (SF)	Annual	2028	340.88	394.80	463.59	592.38	73.86	85.52	100.89	128.25
С	Alameda (SF)	Annual	2029	340.88	394.96	463.57	592.55	73.87	85.61	100.90	128.36
С	Alameda (SF)	Annual	2030	340.87	395.12	463.56	592.72	73.87	85.69	100.92	128.47
С	Alameda (SF)	Annual	2031	340.87	395.28	463.55	592.91	73.88	85.76	100.93	128.58
С	Alameda (SF)	Annual	2032	340.87	395.44	463.54	593.10	73.88	85.84	100.94	128.68
С	Alameda (SF)	Annual	2033	340.86	395.58	463.53	593.27	73.89	85.90	100.95	128.77
С	Alameda (SF)	Annual	2034	340.86	395.71	463.52	593.42	73.89	85.97	100.95	128.86
С	Alameda (SF)	Annual	2035	340.85	395.82	463.51	593.56	73.89	86.02	100.96	128.94
С	Alameda (SF)	Summer	2010	366.44	417.66	500.31	630.82	72.90	84.16	99.41	124.70
С	Alameda (SF)	Summer	2011	366.76	418.54	500.25	631.22	72.95	84.06	99.50	124.89
С	Alameda (SF)	Summer	2012	367.07	419.37	500.24	631.77	73.01	84.04	99.62	125.11
С	Alameda (SF)	Summer	2013	367.38	420.09	500.26	632.43	73.09	84.03	99.75	125.34
С	Alameda (SF)	Summer	2014	367.65	420.75	500.31	633.13	73.16	84.04	99.85	125.58
С	Alameda (SF)	Summer	2015	367.91	421.35	500.37	633.90	73.24	84.08	99.96	125.84
С	Alameda (SF)	Summer	2016	368.14	421.93	500.44	634.66	73.33	84.14	100.07	126.09
С	Alameda (SF)	Summer	2017	368.30	422.46	500.49	635.39	73.39	84.20	100.16	126.35
С	Alameda (SF)	Summer	2018	368.43	422.93	500.51	636.01	73.43		100.25	126.59
С	Alameda (SF)	Summer	2019	368.55	423.36	500.53	636.55	73.49	84.42	100.34	126.81
С	Alameda (SF)	Summer	2020	368.65	423.76	500.53	637.05	73.60	84.58	100.44	127.03
С	Alameda (SF)	Summer	2021	368.73	424.11	500.53	637.46	73.67	84.75	100.53	127.21
C	Alameda (SF)	Summer	2022	368.76	424.41	500.53	637.82	73.73	84.89	100.62	127.35
C	Alameda (SF)	Summer	2023	368.76	424.66	500.51	638.09	73.77	85.02	100.68	127.52
С	Alameda (SF)	Summer	2024	368.74	424.87	500.49	638.33	73.79	85.14	100.74	127.68
С	Alameda (SF)	Summer	2025	368.73	425.06	500.48	638.54	73.81	85.24	100.79	127.84

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(O2 Runni	ng (a/VMT	-)	(CO2 Sta	rting (g/tr	ip)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Alameda (SF)	Summer	2026	368.75	425.27	500.46	638.75	73.83	85.34	100.83	127.99
С	Alameda (SF)	Summer	2027	368.77	425.48	500.44	638.94	73.85	85.44	100.86	128.12
С	Alameda (SF)	Summer	2028	368.78	425.70	500.42	639.12	73.86	85.52	100.89	128.25
С	Alameda (SF)	Summer	2029	368.78	425.92	500.39	639.31	73.87	85.61	100.90	128.36
С	Alameda (SF)	Summer	2030	368.78	426.15	500.38	639.50	73.87	85.69	100.92	128.47
С	Alameda (SF)	Summer	2031	368.79	426.39	500.37	639.69	73.88	85.76	100.93	128.58
С	Alameda (SF)	Summer	2032	368.79	426.60	500.36	639.89	73.88	85.84	100.94	128.68
С	Alameda (SF)	Summer	2033	368.80	426.78	500.35	640.08	73.89	85.90	100.95	128.77
С	Alameda (SF)	Summer	2034	368.80	426.95	500.35	640.26	73.89	85.97	100.95	128.86
С	Alameda (SF)	Summer	2035	368.79	427.08	500.34	640.42	73.89	86.02	100.96	128.94
С	Alameda (SF)	Winter	2010	336.52	386.75	460.43	580.64	72.90	84.16	99.41	124.70
С	Alameda (SF)	Winter	2011	336.63	387.17	460.31	581.17	72.95	84.06	99.50	124.89
С	Alameda (SF)	Winter	2012	336.78	387.61	460.22	581.74	73.01	84.04	99.62	125.11
С	Alameda (SF)	Winter	2013	336.96	388.01	460.15	582.35	73.09	84.03	99.75	125.34
С	Alameda (SF)	Winter	2014	337.14	388.40	460.09	582.96	73.16	84.04	99.85	125.58
С	Alameda (SF)	Winter	2015	337.33	388.78	460.05	583.58	73.24	84.08	99.96	125.84
С	Alameda (SF)	Winter	2016	337.51	389.15	460.02	584.16	73.33	84.14	100.07	126.09
С	Alameda (SF)	Winter	2017	337.65	389.50	459.99	584.72	73.39	84.20	100.16	126.35
С	Alameda (SF)	Winter	2018	337.76	389.80	459.98	585.20	73.43	84.28	100.25	126.59
С	Alameda (SF)	Winter	2019	337.87	390.11	459.98	585.63	73.49	84.42	100.34	126.81
С	Alameda (SF)	Winter	2020	337.98	390.40	459.98	586.02	73.60	84.58	100.44	127.03
С	Alameda (SF)	Winter	2021	338.06	390.65	459.98	586.34	73.67	84.75	100.53	127.21
С	Alameda (SF)	Winter	2022	338.09	390.86	459.98	586.61	73.73	84.89	100.62	127.35
С	Alameda (SF)	Winter	2023	338.09	391.02	459.97	586.82	73.77	85.02	100.68	127.52
С	Alameda (SF)	Winter	2024	338.07	391.15	459.96	586.99	73.79	85.14	100.74	127.68
С	Alameda (SF)	Winter	2025	338.07	391.28	459.95	587.17	73.81	85.24	100.79	127.84
С	Alameda (SF)	Winter	2026	338.08	391.42	459.94	587.36	73.83	85.34	100.83	127.99
С	Alameda (SF)	Winter	2027	338.09	391.57	459.93	587.53	73.85	85.44	100.86	128.12
С	Alameda (SF)	Winter	2028	338.10	391.72	459.91	587.71	73.86	85.52	100.89	128.25
С	Alameda (SF)	Winter	2029	338.09	391.87	459.89	587.88	73.87	85.61	100.90	128.36
С	Alameda (SF)	Winter	2030	338.08	392.02	459.87	588.05	73.87	85.69	100.92	128.47
С	Alameda (SF)	Winter	2031	338.08	392.17	459.87	588.23	73.88	85.76	100.93	128.58
С	Alameda (SF)	Winter	2032	338.07	392.33	459.86	588.42	73.88	85.84		128.68
	Alameda (SF)	Winter	2033	338.07	392.47	459.85		73.89		100.95	
С	Alameda (SF)	Winter	2034	338.07	392.59	459.84	588.74	73.89	85.97	100.95	128.86
С	Alameda (SF)	Winter	2035	338.06	392.70	459.83	588.87	73.89	86.02		128.94
С	Alpine (GBV)	Annual	2010	319.94	373.91	436.04	546.24	77.24			125.68
С	Alpine (GBV)	Annual	2011	319.54	373.51	435.72	546.98	76.26		100.32	125.51
С	Alpine (GBV)	Annual	2012	319.25	372.89	435.50	547.57	75.15	89.58		125.56
С	Alpine (GBV)	Annual	2013	319.18	372.57	435.22	548.28	74.57	89.04		125.68
С	Alpine (GBV)	Annual	2014	319.32	372.32	435.07	548.95	74.52	88.58		125.82
С	Alpine (GBV)	Annual	2015	319.45	372.11	434.95	549.66	74.47		100.23	126.00
С	Alpine (GBV)	Annual	2016	319.56	371.52	434.86	550.33	74.44	87.12		126.21
C	Alpine (GBV)	Annual	2017	319.49	371.33	434.79	550.99	73.94	86.73		126.44
C	Alpine (GBV)	Annual	2018	319.46	370.85	434.73	551.66	73.66	85.86 95.27		126.58
C	Alpine (GBV)	Annual	2019	319.51	370.58	434.66	552.11	73.60	85.37 85.36		126.79
C	Alpine (GBV)	Annual	2020	319.52	370.53	434.63	552.59 552.76	73.65		100.64	126.94
C	Alpine (GBV)	Annual	2021	319.35	370.39	434.54	552.76	73.53	85.37 85.30	100.70	126.88
C C	Alpine (GBV)	Annual	2022	319.41	370.29	434.41	553.01 553.19	73.61	85.39 85.30		126.98
C	Alpine (GBV)	Annual	2023	319.45	370.13	434.39	553.18	73.67	85.39 85.44		127.17
_	Alpine (GBV)	Annual	2024	319.20	370.08	434.37	553.31	73.50	85.44 85.51		127.34
С	Alpine (GBV)	Annual	2025	319.16	370.11	434.34	553.52 553.65	73.49	85.51	100.88	127.53
C C	Alpine (GBV)	Annual	2026	319.16	370.24	434.32	553.65	73.52	85.61	100.91	127.67 127.83
\circ	Alpine (GBV)	Annual	2027	319.16	370.37	434.30	553.84	73.53	85.71	100.94	127.83

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/\/MT)	(CO2 Star	tina (a/tri	(a
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Alpine (GBV)	Annual	2028	319.14	370.50	434.23	554.01	73.53	85.80	100.95	127.98
C			2028	319.14		434.21	554.25	73.54	85.89		128.13
C	Alpine (GBV) Alpine (GBV)	Annual		319.14	370.62 370.74	434.16	554.47	73.55	85.96	100.97 100.97	128.27
	,	Annual	2030								
C C	Alpine (GBV)	Annual	2031	319.13	370.85	434.14	554.72	73.56	86.04	100.98	128.41
	Alpine (GBV)	Annual	2032	319.13	370.96	434.12	554.98	73.56	86.10	100.99	128.55
C_	Alpine (GBV)	Annual	2033	319.13	371.06	434.10	555.21	73.57	86.17	100.99	128.68
C	Alpine (GBV)	Annual	2034	319.13	371.14	434.09	555.41	73.57	86.23	101.00	128.80
С	Alpine (GBV)	Annual	2035	319.12	371.21	434.06	555.61	73.58	86.27	101.00	128.90
С	Alpine (GBV)	Summer	2010	322.05	375.88	438.84	549.63	77.24	91.37	100.57	125.68
С	Alpine (GBV)	Summer	2011	321.67	375.54	438.54	550.39	76.26	90.65	100.32	125.51
С	Alpine (GBV)	Summer	2012	321.42	374.98	438.32	550.99	75.15	89.58	100.40	125.56
С	Alpine (GBV)	Summer	2013	321.36	374.72	438.06	551.73	74.57	89.04	99.96	125.68
С	Alpine (GBV)	Summer	2014	321.50	374.50	437.93	552.42	74.52	88.58	100.09	125.82
С	Alpine (GBV)	Summer	2015	321.64	374.32	437.81	553.16	74.47	88.18	100.23	126.00
С	Alpine (GBV)	Summer	2016	321.76	373.78	437.73	553.86	74.44	87.12	100.36	126.21
С	Alpine (GBV)	Summer	2017	321.69	373.61	437.66	554.54	73.94	86.73	100.49	126.44
С	Alpine (GBV)	Summer	2018	321.65	373.16	437.61	555.23	73.66	85.86	100.61	126.58
С	Alpine (GBV)	Summer	2019	321.70	372.92	437.55	555.70	73.60	85.37	100.54	126.79
С	Alpine (GBV)	Summer	2020	321.71	372.88	437.52	556.20	73.65	85.36	100.64	126.94
С	Alpine (GBV)	Summer	2021	321.54	372.76	437.44	556.38	73.53	85.37	100.70	126.88
С	Alpine (GBV)	Summer	2022	321.60	372.67	437.31	556.63	73.61	85.39	100.71	126.98
С	Alpine (GBV)	Summer	2023	321.64	372.52	437.29	556.81	73.67	85.39	100.78	127.17
С	Alpine (GBV)	Summer	2024	321.39	372.48	437.27	556.95	73.50	85.44	100.83	127.34
С	Alpine (GBV)	Summer	2025	321.35	372.52	437.24	557.16	73.49	85.51	100.88	127.53
С	Alpine (GBV)	Summer	2026	321.36	372.65	437.22	557.29	73.52	85.61	100.91	127.67
C	Alpine (GBV)	Summer	2027	321.36	372.79	437.20	557.48	73.53	85.71	100.94	127.83
C	Alpine (GBV)	Summer	2028	321.34	372.93	437.12	557.66	73.53	85.80	100.95	127.98
C	Alpine (GBV)	Summer	2029	321.34	373.07	437.11	557.90	73.54	85.89	100.97	128.13
C	Alpine (GBV)	Summer	2030	321.34	373.19	437.06	558.13	73.55	85.96	100.97	128.27
C	Alpine (GBV)	Summer	2031	321.34	373.31	437.04	558.38	73.56	86.04	100.98	128.41
C	Alpine (GBV)	Summer	2032	321.33	373.42	437.02	558.64	73.56	86.10	100.99	128.55
C	Alpine (GBV)	Summer	2032	321.33	373.52	437.00	558.87	73.57	86.17	100.99	128.68
C	Alpine (GBV)	Summer	2034	321.33	373.61	436.99	559.09	73.57	86.23	101.00	128.80
C	Alpine (GBV)	Summer	2035	321.32	373.68	436.96	559.29	73.58		101.00	128.90
<u>с</u>	Alpine (GBV)	Winter		321.45	375.32		548.67	77.24	91.37	100.57	125.68
	1 (/		2010			438.05					
C C	Alpine (GBV)	Winter	2011	321.07	374.96	437.74	549.42	76.26	90.65	100.32	125.51
C	Alpine (GBV)	Winter	2012	320.80	374.39	437.52	550.02	75.15	89.58	100.40	125.56
C	Alpine (GBV)	Winter	2013	320.74	374.11	437.26	550.75	74.57	89.04	99.96	125.68
C	Alpine (GBV)	Winter	2014	320.88	373.88	437.12	551.43	74.52	88.58	100.09	125.82
C	Alpine (GBV)	Winter	2015	321.02	373.69	437.00	552.16	74.47	88.18	100.23	126.00
С	Alpine (GBV)	Winter	2016	321.14	373.14	436.91	552.86	74.44	87.12	100.36	126.21
C	Alpine (GBV)	Winter	2017	321.06	372.96	436.85	553.53	73.94	86.73	100.49	126.44
С	Alpine (GBV)	Winter	2018	321.03	372.51	436.79	554.22	73.66	85.86	100.61	126.58
С	Alpine (GBV)	Winter	2019	321.08	372.25	436.73	554.68	73.60	85.37	100.54	126.79
С	Alpine (GBV)	Winter	2020	321.09	372.21	436.70	555.17	73.65	85.36	100.64	126.94
С	Alpine (GBV)	Winter	2021	320.92	372.08	436.62	555.35	73.53	85.37	100.70	126.88
С	Alpine (GBV)	Winter	2022	320.98	371.99	436.49	555.60	73.61	85.39	100.71	126.98
С	Alpine (GBV)	Winter	2023	321.02	371.84	436.47	555.78	73.67	85.39	100.78	127.17
С	Alpine (GBV)	Winter	2024	320.77	371.80	436.44	555.92	73.50	85.44	100.83	127.34
С	Alpine (GBV)	Winter	2025	320.73	371.84	436.42	556.12	73.49	85.51	100.88	127.53
С	Alpine (GBV)	Winter	2026	320.74	371.97	436.40	556.26	73.52	85.61	100.91	127.67
С	Alpine (GBV)	Winter	2027	320.74	372.11	436.38	556.45	73.53	85.71	100.94	127.83
С	Alpine (GBV)	Winter	2028	320.71	372.24	436.30	556.62	73.53	85.80	100.95	127.98
С	Alpine (GBV)	Winter	2029	320.71	372.37	436.29	556.87	73.54	85.89	100.97	128.13

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1			CO2 Runni	na (a/\/MT	7		73.55 85.96 100.97 1 73.56 86.04 100.98 1 73.56 86.10 100.99 1			
	Location	Casasa	V									
_	Alaina (CDV)	Season	Year	LDA	LDT1	LDT2	MDV				MDV	
С	Alpine (GBV)	Winter	2030	320.71	372.49	436.23	557.09				128.27	
С	Alpine (GBV)	Winter	2031	320.71	372.61	436.21	557.34			- 1	128.41	
С	Alpine (GBV)	Winter	2032	320.71	372.72	436.20	557.60				128.55	
C	Alpine (GBV)	Winter	2033	320.71	372.82	436.18	557.83	73.57	86.17	100.99	128.68	
C	Alpine (GBV)	Winter	2034	320.70	372.91	436.17	558.05	73.57	86.23	101.00	128.80	
C	Alpine (GBV)	Winter	2035	320.70	372.98	436.14	558.25	73.58	86.27	101.00	128.90	
С	Amador (MC)	Annual	2010	304.65	351.36	416.56	520.77	74.42	88.71	101.28	124.30	
С	Amador (MC)	Annual	2011	304.66	351.60	416.18	521.37	74.22	87.90	101.12	124.48	
С	Amador (MC)	Annual	2012	304.71	351.83	415.89	522.08	74.04	87.30	101.03	124.70	
С	Amador (MC)	Annual	2013	304.79	351.99	415.66	522.86	73.92	86.76	100.95	124.94	
С	Amador (MC)	Annual	2014	304.86	352.15	415.48	523.60	73.78	86.37	100.90	125.21	
С	Amador (MC)	Annual	2015	304.98	352.29	415.35	524.39	73.76	85.97	100.78	125.49	
С	Amador (MC)	Annual	2016	305.08	352.44	415.24	525.15	73.74	85.71	100.76	125.78	
С	Amador (MC)	Annual	2017	305.13	352.54	415.14	525.85	73.67	85.39	100.65	126.08	
С	Amador (MC)	Annual	2018	305.17	352.64	415.05	526.46	73.63	85.21	100.62	126.36	
С	Amador (MC)	Annual	2019	305.20	352.73	414.99	526.98	73.61	85.07	100.64	126.62	
С	Amador (MC)	Annual	2020	305.25	352.84	414.93	527.43	73.70	85.10	100.70	126.87	
С	Amador (MC)	Annual	2021	305.27	352.92	414.87	527.78	73.76	85.17	100.76	127.07	
С	Amador (MC)	Annual	2022	305.25	352.98	414.81	528.07	73.79	85.24	100.80	127.21	
С	Amador (MC)	Annual	2023	305.17	353.01	414.75	528.29	73.79	85.29	100.83	127.40	
С	Amador (MC)	Annual	2024	305.08	353.05	414.70	528.47	73.77	85.35	100.86	127.58	
С	Amador (MC)	Annual	2025	305.03	353.13	414.66	528.63	73.78	85.43	100.90	127.75	
С	Amador (MC)	Annual	2026	305.04	353.24	414.62	528.79	73.80	85.53	100.92	127.91	
С	Amador (MC)	Annual	2027	305.05	353.36	414.57	528.95	73.81	85.62	100.94	128.05	
С	Amador (MC)	Annual	2028	305.05	353.48	414.54	529.12	73.82	85.70	100.96	128.19	
С	Amador (MC)	Annual	2029	305.04	353.60	414.51	529.29	73.83	85.78	100.96	128.32	
C	Amador (MC)	Annual	2030	305.03	353.72	414.47	529.46	73.83	85.85	100.96	128.44	
C	Amador (MC)	Annual	2031	305.02	353.84	414.44	529.67	73.83	85.93	100.97	128.56	
C	Amador (MC)	Annual	2032	305.02	353.95	414.42	529.88	73.84	85.99	100.97	128.68	
C	Amador (MC)	Annual	2033	305.01	354.05	414.40	530.07	73.84	86.06	100.98	128.78	
c	Amador (MC)	Annual	2034	305.01	354.14	414.39	530.24	73.85	86.11	100.98	128.88	
C	Amador (MC)	Annual	2035	305.01	354.21	414.37	530.39	73.85	86.16	100.98	128.97	
С	Amador (MC)	Summer	2010	335.39	381.81	456.97	570.78	74.42	88.71	101.28	124.30	
С	Amador (MC)	Summer	2011	335.69		456.90	571.49			101.12		
С	Amador (MC)	Summer	2012	335.97	384.03	456.85	572.39	74.04	87.30	101.03	124.70	
C	Amador (MC)	Summer	2012	336.23	384.81	456.85	573.45	73.92		100.95	124.70	
C	Amador (MC)	Summer	2013	336.43	385.43	456.87	574.47	73.78	86.37		125.21	
C C	Amador (MC)	Summer	2014	336.65	385.97	456.94	575.58	73.76	85.97	100.90	125.21	
C	Amador (MC)		2015	336.82	386.42		576.67	73.76	85.71	100.76	125.49	
C	, ,	Summer				456.98 457.00	576.67					
	Amador (MC)	Summer	2017	336.90	386.79	457.00		73.67	85.39	100.65	126.08	
C C	Amador (MC)	Summer	2018	336.95	387.08	456.98	578.50	73.63	85.21	100.62	126.36	
C	Amador (MC)	Summer	2019	336.99	387.35	456.95	579.23	73.61	85.07	100.64	126.62	
<u>C</u>	Amador (MC)	Summer	2020	337.02	387.58	456.90	579.85	73.70		100.70	126.87	
C	Amador (MC)	Summer	2021	337.03	387.78	456.85	580.34	73.76	85.17	100.76	127.07	
C	Amador (MC)	Summer	2022	337.01	387.96	456.79	580.75	73.79	85.24		127.21	
C	Amador (MC)	Summer	2023	336.93	388.10	456.74	581.05	73.79			127.40	
C	Amador (MC)	Summer	2024	336.85	388.24	456.69	581.30	73.77	85.35	100.86	127.58	
C	Amador (MC)	Summer	2025	336.80	388.38	456.65	581.51	73.78	85.43	100.90	127.75	
С	Amador (MC)	Summer	2026	336.83	388.54	456.62	581.67	73.80	85.53	100.92	127.91	
С	Amador (MC)	Summer	2027	336.85	388.70	456.59	581.84	73.81	85.62	100.94	128.05	
С	Amador (MC)	Summer	2028	336.86	388.88	456.57	582.04	73.82	85.70	100.96	128.19	
С	Amador (MC)	Summer	2029	336.87	389.06	456.55	582.24	73.83	85.78	100.96	128.32	
С	Amador (MC)	Summer	2030	336.87	389.25	456.52	582.44	73.83	85.85	100.96	128.44	
С	Amador (MC)	Summer	2031	336.87	389.46	456.50	582.71	73.83	85.93	100.97	128.56	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

		1			200 D		n		200 04	4: (/4i	\
	Location	_			O2 Runni					ting (g/tri	
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
C_	Amador (MC)	Summer	2032	336.87	389.62	456.48	582.98	73.84	85.99	100.97	128.68
С	Amador (MC)	Summer	2033	336.86	389.77	456.47	583.23	73.84	86.06		128.78
С	Amador (MC)	Summer	2034	336.85	389.90	456.45	583.45	73.85	86.11	100.98	128.88
С	Amador (MC)	Summer	2035	336.85	389.98	456.44	583.66	73.85	86.16		128.97
С	Amador (MC)	Winter	2010	295.29	342.08	404.24	505.53	74.42	88.71	101.28	124.30
С	Amador (MC)	Winter	2011	295.21	342.02	403.78	506.10	74.22	87.90	101.12	124.48
С	Amador (MC)	Winter	2012	295.18	342.01	403.41	506.75	74.04	87.30	101.03	124.70
С	Amador (MC)	Winter	2013	295.22	341.99	403.11	507.45	73.92	86.76	100.95	124.94
С	Amador (MC)	Winter	2014	295.24	342.01	402.87	508.11	73.78	86.37	100.90	125.21
С	Amador (MC)	Winter	2015	295.33	342.02	402.67	508.79	73.76	85.97	100.78	125.49
С	Amador (MC)	Winter	2016	295.41	342.08	402.52	509.45	73.74	85.71	100.76	125.78
С	Amador (MC)	Winter	2017	295.45	342.10	402.38	510.06	73.67	85.39	100.65	126.08
С	Amador (MC)	Winter	2018	295.49	342.14	402.28	510.60	73.63	85.21	100.62	126.36
С	Amador (MC)	Winter	2019	295.52	342.18	402.21	511.06	73.61	85.07	100.64	126.62
С	Amador (MC)	Winter	2020	295.57	342.25	402.15	511.46	73.70	85.10	100.70	126.87
С	Amador (MC)	Winter	2021	295.59	342.29	402.08	511.77	73.76	85.17	100.76	127.07
С	Amador (MC)	Winter	2022	295.58	342.32	402.02	512.02	73.79	85.24	100.80	127.21
С	Amador (MC)	Winter	2023	295.49	342.32	401.95	512.21	73.79	85.29	100.83	127.40
С	Amador (MC)	Winter	2024	295.40	342.33	401.90	512.37	73.77	85.35	100.86	127.58
С	Amador (MC)	Winter	2025	295.35	342.39	401.87	512.52	73.78	85.43	100.90	127.75
С	Amador (MC)	Winter	2026	295.36	342.49	401.82	512.68	73.80	85.53	100.92	127.91
С	Amador (MC)	Winter	2027	295.36	342.59	401.77	512.84	73.81	85.62		128.05
С	Amador (MC)	Winter	2028	295.35	342.69	401.74	513.00	73.82	85.70		128.19
С	Amador (MC)	Winter	2029	295.34	342.79	401.70	513.16	73.83	85.78	100.96	128.32
С	Amador (MC)	Winter	2030	295.32	342.89	401.65	513.32	73.83	85.85	100.96	128.44
С	Amador (MC)	Winter	2031	295.32	342.99	401.63	513.51	73.83	85.93	100.97	128.56
С	Amador (MC)	Winter	2032	295.32	343.09	401.61	513.70	73.84	85.99	100.97	128.68
C	Amador (MC)	Winter	2033	295.31	343.17	401.59	513.88	73.84	86.06	100.98	128.78
С	Amador (MC)	Winter	2034	295.31	343.24	401.57	514.03	73.85	86.11	100.98	128.88
C	Amador (MC)	Winter	2035	295.30	343.31	401.56	514.17	73.85	86.16	100.98	128.97
C	Butte (SV)	Annual	2010	339.87	396.33	466.79	582.59	73.74	93.40	101.05	125.37
C	Butte (SV)	Annual	2011	340.16	396.11	466.41	583.82	73.64	91.64	100.92	125.50
C	Butte (SV)	Annual	2011	340.10	395.85	465.90	584.74	73.58	90.38	100.92	125.67
C	Butte (SV)	Annual	2012	340.39			585.71	73.53		100.81	125.88
o O	Butte (SV)		2013	340.47	395.32	465.20	586.62	73.46	88.16		126.08
C C	Butte (SV)	Annual	2014	340.47	395.32	464.96	587.52	73.45		100.77	126.06
	, ,	Annual									
C C	Butte (SV) Butte (SV)	Annual	2016	342.35	396.92	466.99	591.13	73.49 73.48			126.57
	` '	Annual	2017	342.42	396.78	466.81	591.87		85.98		126.82
C	Butte (SV)	Annual	2018	342.44	396.68	466.66	592.50	73.44	85.49		127.05
C	Butte (SV)	Annual	2019	342.48	396.71	466.54	593.04	73.45	85.31	100.70	127.27
С	Butte (SV)	Annual	2020	342.53	396.78	466.44	593.51	73.54	85.30		127.47
С	Butte (SV)	Annual	2021	343.10	397.55	467.11	594.81	73.60	85.41		127.57
С	Butte (SV)	Annual	2022	343.10	397.67	467.03	595.07	73.64		100.87	127.65
С	Butte (SV)	Annual	2023	343.08	397.75	466.95	595.27	73.67	85.58		127.82
С	Butte (SV)	Annual	2024	343.02	397.84	466.88	595.42	73.68	85.66		127.97
С	Butte (SV)	Annual	2025	343.01	397.92	466.82	595.60	73.70			128.12
C	Butte (SV)	Annual	2026	343.02	398.03	466.75	595.77	73.72	85.80		128.26
С	Butte (SV)	Annual	2027	343.02	398.12	466.69	595.94	73.73	85.86	100.98	128.39
С	Butte (SV)	Annual	2028	343.02	398.22	466.63	596.11	73.74	85.92	100.99	128.51
С	Butte (SV)	Annual	2029	343.02	398.31	466.55	596.28	73.74	85.97	100.99	128.62
С	Butte (SV)	Annual	2030	343.01	398.40	466.48	596.45	73.75	86.02	100.98	128.72
С	Butte (SV)	Annual	2031	343.01	398.49	466.45	596.62	73.75	86.07	100.98	128.82
С	Butte (SV)	Annual	2032	343.01	398.57	466.42	596.79	73.76	86.12	100.99	128.91
С	Butte (SV)	Annual	2033	343.00	398.64	466.40	596.95	73.76	86.15	100.99	128.99

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		I	(CO2 Runni	na (a/\/MT)		CO2 Star	tina (a/tri	n)
	20041011	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Butte (SV)	Annual	2034	343.00	398.69	466.38	597.09	73.76	86.19	100.99	129.06
C				342.99		466.36	597.09	73.77	86.22	100.99	129.13
C	Butte (SV) Butte (SV)	Annual Summer	2035	378.25	398.74	516.75	645.70	73.74			125.37
c C	Butte (SV)	Summer	2010 2011	379.01	435.25 436.21		647.27	73.64	93.40 91.64	100.92	125.50
C	,					517.19					
	Butte (SV)	Summer	2012	379.48	436.79	517.26	648.57	73.58	90.38	100.87	125.67
C	Butte (SV)	Summer	2013	379.86	437.26	517.34	649.98	73.53	89.20	100.81	125.88
С	Butte (SV)	Summer	2014	380.14	437.60	517.39	651.33	73.46	88.16	100.77	126.08
С	Butte (SV)	Summer	2015	380.40	437.90	517.40	652.65	73.45	87.30	100.75	126.32
С	Butte (SV)	Summer	2016	382.44	440.27	519.84	656.95	73.49	86.64	100.74	126.57
С	Butte (SV)	Summer	2017	382.54	440.50	519.76	658.01	73.48	85.98	100.71	126.82
С	Butte (SV)	Summer	2018	382.56	440.67	519.63	658.88	73.44	85.49	100.70	127.05
С	Butte (SV)	Summer	2019	382.59	440.87	519.51	659.62	73.45	85.31	100.70	127.27
С	Butte (SV)	Summer	2020	382.63	441.06	519.39	660.26	73.54	85.30	100.76	127.47
С	Butte (SV)	Summer	2021	383.24	442.01	520.14	661.82	73.60	85.41	100.82	127.57
С	Butte (SV)	Summer	2022	383.23	442.21	520.05	662.21	73.64	85.50	100.87	127.65
С	Butte (SV)	Summer	2023	383.21	442.39	519.98	662.50	73.67	85.58	100.90	127.82
С	Butte (SV)	Summer	2024	383.15	442.57	519.92	662.70	73.68	85.66	100.93	127.97
С	Butte (SV)	Summer	2025	383.13	442.73	519.88	662.89	73.70	85.73	100.96	128.12
С	Butte (SV)	Summer	2026	383.15	442.89	519.81	663.05	73.72	85.80	100.97	128.26
С	Butte (SV)	Summer	2027	383.17	443.04	519.76	663.21	73.73	85.86	100.98	128.39
С	Butte (SV)	Summer	2028	383.19	443.19	519.72	663.40	73.74	85.92	100.99	128.51
С	Butte (SV)	Summer	2029	383.21	443.35	519.67	663.59	73.74	85.97	100.99	128.62
С	Butte (SV)	Summer	2030	383.22	443.50	519.63	663.79	73.75	86.02	100.98	128.72
С	Butte (SV)	Summer	2031	383.22	443.64	519.62	663.97	73.75	86.07	100.98	128.82
С	Butte (SV)	Summer	2032	383.22	443.74	519.61	664.16	73.76	86.12	100.99	128.91
С	Butte (SV)	Summer	2033	383.22	443.83	519.60	664.35	73.76	86.15	100.99	128.99
С	Butte (SV)	Summer	2034	383.22	443.91	519.59	664.54	73.76	86.19	100.99	129.06
С	Butte (SV)	Summer	2035	383.21	443.96	519.58	664.71	73.77	86.22	100.99	129.13
С	Butte (SV)	Winter	2010	328.68	384.98	452.21	564.18	73.74	93.40	101.05	125.37
С	Butte (SV)	Winter	2011	328.82	384.41	451.61	565.32	73.64	91.64	100.92	125.50
С	Butte (SV)	Winter	2012	328.84	383.90	450.92	566.13	73.58	90.38	100.87	125.67
С	Butte (SV)	Winter	2013	328.87	383.41	450.39	566.96	73.53	89.20	100.81	125.88
С	Butte (SV)	Winter	2014	328.90	382.99	449.98	567.75	73.46	88.16	100.77	126.08
C	Butte (SV)	Winter	2015	328.99		449.66	568.52	73.45		100.75	126.32
C	Butte (SV)	Winter	2016	330.67	384.27	451.57	571.94	73.49	86.64	100.74	126.57
С	Butte (SV)	Winter	2017	330.72	384.03	451.37	572.58	73.48	_	100.71	126.82
С	Butte (SV)	Winter	2018	330.74	383.86	451.21	573.14	73.44		100.70	127.05
C	Butte (SV)	Winter	2019	330.78	383.84	451.09	573.62	73.45	85.31		127.03
C	Butte (SV)	Winter	2020	330.84	383.86	450.99	574.04	73.54	85.30	100.76	127.47
C	Butte (SV)	Winter	2020	331.40	384.59	451.65	575.26	73.60	85.41	100.76	127.47
C	Butte (SV)	Winter	2021	331.39	384.68	451.56	575.49	73.64	85.50	100.82	127.65
C	Butte (SV)	Winter	2022	331.38	384.73	451.48	575.49	73.67	85.58	100.87	127.82
	\ /										
C	Butte (SV)	Winter	2024	331.32	384.80	451.41	575.80	73.68		100.93	127.97
С	Butte (SV)	Winter	2025	331.30	384.86	451.35	575.97	73.70	85.73	100.96	128.12
С	Butte (SV)	Winter	2026	331.31	384.94	451.28	576.14	73.72	85.80		128.26
С	Butte (SV)	Winter	2027	331.31	385.02	451.21	576.32	73.73	85.86	100.98	128.39
<u>C</u>	Butte (SV)	Winter	2028	331.31	385.10	451.14	576.48	73.74		100.99	128.51
C	Butte (SV)	Winter	2029	331.30	385.18	451.06	576.65	73.74	85.97	100.99	128.62
С	Butte (SV)	Winter	2030	331.28	385.25	450.98	576.81	73.75	86.02	100.98	128.72
C	Butte (SV)	Winter	2031	331.28	385.33	450.94	576.98	73.75	86.07	100.98	128.82
С	Butte (SV)	Winter	2032	331.28	385.40	450.91	577.14	73.76	86.12	100.99	128.91
С	Butte (SV)	Winter	2033	331.27	385.45	450.88	577.29	73.76	86.15	100.99	128.99
С	Butte (SV)	Winter	2034	331.27	385.51	450.86	577.42	73.76	86.19		129.06
С	Butte (SV)	Winter	2035	331.26	385.55	450.84	577.54	73.77	86.22	100.99	129.13

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	1	ī			200 D		, I		200 04	4:	
	Location		.,		O2 Runni				CO2 Star		• /
	Colorina (MC)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
C	Calaveras (MC)	Annual	2010	339.15	393.21	464.59	580.79	74.52	89.63	101.49	124.52
С	Calaveras (MC)	Annual	2011	339.17	393.31	464.13	581.44	74.31	88.76	101.30	124.68
С	Calaveras (MC)	Annual	2012	339.22	393.39	463.78	582.21	74.10	88.01	101.21	124.87
С	Calaveras (MC)	Annual	2013	339.30	393.43	463.49	583.06	73.93	87.36	101.13	125.10
С	Calaveras (MC)	Annual	2014	339.36	393.46	463.27	583.88	73.74	86.82	101.00	125.34
С	Calaveras (MC)	Annual	2015	339.48	393.52	463.10	584.75	73.70	86.38	100.93	125.59
С	Calaveras (MC)	Annual	2016	339.59	393.59	462.96	585.57	73.69	86.07	100.88	125.88
С	Calaveras (MC)	Annual	2017	339.64	393.63	462.83	586.35	73.61	85.70	100.81	126.15
С	Calaveras (MC)	Annual	2018	339.66	393.65	462.73	587.01	73.51	85.38	100.75	126.42
C	Calaveras (MC)	Annual	2019	339.69	393.73	462.65	587.57	73.48	85.28	100.71	126.69
С	Calaveras (MC)	Annual	2020	339.72	393.81	462.58	588.07	73.55	85.28	100.76	126.92
С	Calaveras (MC)	Annual	2021	339.70	393.86	462.51	588.43	73.59	85.33	100.81	127.08
С	Calaveras (MC)	Annual	2022	339.67	393.90	462.43	588.75	73.61	85.38	100.85	127.26
С	Calaveras (MC)	Annual	2023	339.61	393.93	462.36	588.97	73.61	85.43	100.87	127.44
С	Calaveras (MC)	Annual	2024	339.52	393.92	462.29	589.14	73.58	85.45	100.89	127.61
С	Calaveras (MC)	Annual	2025	339.50	393.98	462.24	589.30	73.59	85.52	100.92	127.77
С	Calaveras (MC)	Annual	2026	339.51	394.11	462.19	589.48	73.61	85.62	100.94	127.93
С	Calaveras (MC)	Annual	2027	339.51	394.23	462.13	589.67	73.62	85.70	100.96	128.08
С	Calaveras (MC)	Annual	2028	339.51	394.36	462.10	589.86	73.63	85.78	100.97	128.21
С	Calaveras (MC)	Annual	2029	339.50	394.48	462.05	590.05	73.64	85.86	100.97	128.34
С	Calaveras (MC)	Annual	2030	339.49	394.60	462.00	590.25	73.64	85.93	100.97	128.46
С	Calaveras (MC)	Annual	2031	339.49	394.71	461.98	590.48	73.65	86.00	100.98	128.58
С	Calaveras (MC)	Annual	2032	339.49	394.82	461.96	590.71	73.65	86.06	100.98	128.70
С	Calaveras (MC)	Annual	2033	339.49	394.90	461.94	590.91	73.65	86.12	100.98	128.81
C	Calaveras (MC)	Annual	2034	339.48	394.98	461.92	591.10	73.66	86.17	100.99	128.90
С	Calaveras (MC)	Annual	2035	339.48	395.05	461.91	591.26	73.66	86.21	100.99	128.99
C	Calaveras (MC)	Summer	2010	371.79	425.53	507.37	633.67	74.52	89.63	101.49	124.52
С	Calaveras (MC)	Summer	2011	372.10	426.67	507.24	634.43	74.31	88.76	101.30	124.68
С	Calaveras (MC)	Summer	2012	372.38	427.56	507.15	635.42	74.10	88.01	101.21	124.87
С	Calaveras (MC)	Summer	2013	372.63	428.25	507.10	636.56	73.93	87.36	101.13	125.10
С	Calaveras (MC)	Summer	2014	372.82	428.79	507.12	637.70	73.74	86.82	101.00	125.34
С	Calaveras (MC)	Summer	2015	373.03	429.26	507.15	638.94	73.70	86.38	100.93	125.59
С	Calaveras (MC)	Summer	2016	373.20	429.64	507.18	640.12	73.69	86.07	100.88	125.88
C	Calaveras (MC)	Summer	2017	373.29	429.96	507.18	641.21	73.61		100.81	126.15
С	Calaveras (MC)	Summer	2018	373.31	430.20	507.15	642.13	73.51	85.38		126.42
C	Calaveras (MC)	Summer	2019	373.34	430.44	507.12	642.91	73.48	85.28	100.71	126.69
С	Calaveras (MC)	Summer	2020	373.36	430.67	507.07	643.60	73.55	85.28		126.92
C	Calaveras (MC)	Summer	2021	373.33	430.84	507.00	644.13	73.59	85.33		127.08
C	Calaveras (MC)	Summer	2022	373.30	431.01	506.94	644.57	73.61	85.38		127.26
С	Calaveras (MC)	Summer	2023	373.24	431.15	506.88	644.89	73.61	85.43		127.44
С	Calaveras (MC)	Summer	2024	373.18	431.27	506.81	645.12	73.58		100.89	127.61
C	Calaveras (MC)	Summer	2025	373.16	431.40	506.76	645.32	73.59		100.92	127.77
C	Calaveras (MC)	Summer	2026	373.18	431.61	506.71	645.52	73.61		100.94	127.93
С	Calaveras (MC)	Summer	2027	373.19	431.81	506.66	645.72	73.62		100.96	128.08
С	Calaveras (MC)	Summer	2028	373.20	432.01	506.63	645.94	73.63	85.78		128.21
C	Calaveras (MC)	Summer	2029	373.21	432.20	506.60	646.17	73.64		100.97	128.34
C	Calaveras (MC)	Summer	2030	373.22	432.39	506.57	646.41	73.64	85.93	- 1	128.46
C	Calaveras (MC)	Summer	2031	373.22	432.56	506.56	646.71	73.65	86.00		128.58
С	Calaveras (MC)	Summer	2032	373.21	432.71	506.56	646.99	73.65	86.06		128.70
C	Calaveras (MC)	Summer	2033	373.21	432.83	506.55	647.26	73.65		100.98	128.81
C	Calaveras (MC)	Summer	2034	373.20	432.93	506.54	647.51	73.66	86.17	100.99	128.90
С	Calaveras (MC)	Summer	2035	373.19	433.00	506.53	647.73	73.66	86.21	100.99	128.99
С	Calaveras (MC)	Winter	2010	329.78	383.93	452.30	565.59	74.52	89.63	101.49	124.52
С	Calaveras (MC)	Winter	2011	329.72	383.73	451.75	566.21	74.31	88.76	101.30	124.68

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Lacation	ı			CO2 Runni	na (a/\/NAT	`		CO2 Star	tina (a/tri	in)
	Location	0									
С	Calaveras (MC)	Season Winter	Year 2012	LDA 329.69	LDT1 383.57	LDT2 451.31	MDV 566.92	LDA 74.10	LDT1 88.01	LDT2 101.21	MDV 124.87
C	Calaveras (MC)	Winter	2012	329.72	383.42	450.96	567.68	73.93	87.36	101.21	125.10
C	Calaveras (MC)	Winter	2013	329.75	383.31	450.67	568.42	73.74	86.82	101.13	125.10
C	Calaveras (MC)	Winter	2014	329.84	383.25	450.44	569.19	73.70	86.38	100.93	125.59
С	Calaveras (MC)	Winter	2016	329.93	383.24	450.25	569.90	73.69	86.07	100.88	125.88
С	Calaveras (MC)	Winter	2017	329.98	383.20	450.09	570.59	73.61	85.70	100.81	126.15
С	Calaveras (MC)	Winter	2018	329.99	383.15	449.97	571.17	73.51	85.38	100.75	126.42
С	Calaveras (MC)	Winter	2019	330.02	383.18	449.87	571.67	73.48	85.28	100.71	126.69
С	Calaveras (MC)	Winter	2020	330.05	383.22	449.80	572.12	73.55	85.28	100.76	126.92
C	Calaveras (MC)	Winter	2021	330.04	383.24	449.72	572.43	73.59	85.33	100.81	127.08
С	Calaveras (MC)	Winter	2022	330.01	383.24	449.64	572.72	73.61	85.38	100.85	127.26
С	Calaveras (MC)	Winter	2023	329.94	383.24	449.56	572.90	73.61	85.43	100.87	127.44
С	Calaveras (MC)	Winter	2024	329.85	383.19	449.49	573.05	73.58	85.45	100.89	127.61
С	Calaveras (MC)	Winter	2025	329.83	383.23	449.45	573.20	73.59	85.52	100.92	127.77
С	Calaveras (MC)	Winter	2026	329.84	383.34	449.40	573.38	73.61	85.62	100.94	127.93
С	Calaveras (MC)	Winter	2027	329.84	383.44	449.34	573.56	73.62	85.70	100.96	128.08
С	Calaveras (MC)	Winter	2028	329.83	383.54	449.30	573.75	73.63	85.78	100.97	128.21
С	Calaveras (MC)	Winter	2029	329.82	383.64	449.25	573.93	73.64	85.86	100.97	128.34
С	Calaveras (MC)	Winter	2030	329.81	383.74	449.19	574.11	73.64	85.93	100.97	128.46
С	Calaveras (MC)	Winter	2031	329.80	383.84	449.17	574.32	73.65	86.00	100.98	128.58
С	Calaveras (MC)	Winter	2032	329.80	383.93	449.14	574.54	73.65	86.06	100.98	128.70
С	Calaveras (MC)	Winter	2033	329.80	384.01	449.12	574.73	73.65	86.12	100.98	128.81
С	Calaveras (MC)	Winter	2034	329.80	384.08	449.11	574.89	73.66	86.17	100.99	128.90
С	Calaveras (MC)	Winter	2035	329.79	384.14	449.09	575.04	73.66	86.21	100.99	128.99
С	Colusa (SV)	Annual	2010	336.15	393.71	462.59	577.05	73.02	94.44	100.85	124.61
С	Colusa (SV)	Annual	2011	336.30	393.20	461.94	577.64	73.01	92.76	100.79	124.78
С	Colusa (SV)	Annual	2012	336.46	392.86	461.43	578.32	73.01	91.49	100.76	124.99
С	Colusa (SV)	Annual	2013	336.61	392.53	461.04	579.07	73.01	90.33	100.78	125.24
С	Colusa (SV)	Annual	2014	336.76	392.14	460.74	579.85	73.01	89.10	100.78	125.48
С	Colusa (SV)	Annual	2015	336.94	391.90	460.48	580.66	73.07	88.20	100.70	125.75
С	Colusa (SV)	Annual	2016	337.08	391.55	460.28	581.44	73.11	87.13	100.69	126.03
С	Colusa (SV)	Annual	2017	337.18	391.40	460.11	582.19	73.11	86.50	100.69	126.31
С	Colusa (SV)	Annual	2018	337.27	391.20	459.97	582.84	73.14	85.83	100.67	126.58
С	Colusa (SV)	Annual	2019	337.32	391.11	459.85	583.42	73.14	85.43	100.69	126.82
С	Colusa (SV)	Annual	2020	337.37	391.06	459.75	583.92	73.23	85.29	100.77	127.05
С	Colusa (SV)	Annual	2021	337.43	391.13	459.66	584.31	73.30	85.37	100.83	127.21
С	Colusa (SV)	Annual	2022	337.40	391.19	459.57	584.63	73.33	85.43	100.88	127.34
С	Colusa (SV)	Annual	2023	337.39	391.29	459.49	584.89	73.36	85.52	100.91	127.52
С	Colusa (SV)	Annual	2024	337.37	391.34	459.41	585.10	73.37	85.59	100.94	127.69
С	Colusa (SV)	Annual	2025	337.36	391.40	459.36	585.31	73.39	85.65	100.97	127.86
С	Colusa (SV)	Annual	2026	337.37	391.51	459.27	585.53	73.41	_	100.99	128.02
С	Colusa (SV)	Annual	2027	337.38	391.61	459.21	585.75	73.42		101.00	128.16
С	Colusa (SV)	Annual	2028	337.39	391.73	459.15	585.97	73.43		101.01	128.30
С	Colusa (SV)	Annual	2029	337.40	391.84	459.07	586.18	73.44	85.92		128.42
С	Colusa (SV)	Annual	2030	337.38	391.95	458.99	586.40	73.44	85.97	101.00	128.54
С	Colusa (SV)	Annual	2031	337.38	392.05	458.95	586.61	73.45			128.66
С	Colusa (SV)	Annual	2032	337.38	392.15	458.92	586.83	73.45			128.77
С	Colusa (SV)	Annual	2033	337.38	392.24	458.89	587.03	73.46		101.01	128.87
С	Colusa (SV)	Annual	2034	337.37	392.31	458.85	587.21	73.46	86.17		128.96
С	Colusa (SV)	Annual	2035	337.36	392.37	458.83	587.37	73.47	86.21	101.01	129.05
C	Colusa (SV)	Summer	2010	369.11	427.03	505.43	632.25	73.02	94.44		124.61
C	Colusa (SV)	Summer	2011	369.53	427.36	505.34	632.77	73.01	92.76	100.79	124.78
C	Colusa (SV)	Summer	2012	369.90	427.67	505.27	633.46	73.01	91.49	100.76	124.99
С	Colusa (SV)	Summer	2013	370.21	427.88	505.20	634.32	73.01	90.33	100.78	125.24

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	<u> </u>	Ι	(CO2 Runni	na (a/\/MT	<u>, l</u>		CO2 Star	ting (a/tri	n)
	Location	Cassan	Voor	LDA	LDT1		MDV	LDA	LDT1		MDV
	Calves (C)()	Season	Year			LDT2		73.01		LDT2	
C C	Colusa (SV)	Summer	2014	370.47	427.99	505.17	635.26		89.10	100.78	125.48
C	Colusa (SV)	Summer	2015	370.74	428.12	505.15	636.30	73.07	88.20		125.75
С	Colusa (SV)	Summer	2016	370.94	428.19	505.10	637.33	73.11	87.13		126.03
C	Colusa (SV)	Summer	2017	371.07	428.29	505.00	638.32	73.11	86.50		126.31
C	Colusa (SV)	Summer	2018	371.17	428.34	504.89	639.18	73.14	85.83	100.67	126.58
C	Colusa (SV)	Summer	2019	371.22	428.46	504.77	639.93	73.14	85.43	100.69	126.82
С	Colusa (SV)	Summer	2020	371.26	428.58	504.65	640.57	73.23	85.29	100.77	127.05
С	Colusa (SV)	Summer	2021	371.31	428.73	504.55	641.07	73.30	85.37	100.83	127.21
С	Colusa (SV)	Summer	2022	371.28	428.87	504.46	641.49	73.33	85.43	100.88	127.34
С	Colusa (SV)	Summer	2023	371.27	429.02	504.39	641.81	73.36	85.52	100.91	127.52
С	Colusa (SV)	Summer	2024	371.27	429.15	504.32	642.06	73.37	85.59	100.94	127.69
С	Colusa (SV)	Summer	2025	371.27	429.27	504.27	642.28	73.39	85.65	100.97	127.86
С	Colusa (SV)	Summer	2026	371.29	429.45	504.21	642.53	73.41	85.73	100.99	128.02
С	Colusa (SV)	Summer	2027	371.32	429.59	504.17	642.78	73.42	85.79	101.00	128.16
С	Colusa (SV)	Summer	2028	371.34	429.79	504.14	643.02	73.43	85.86	101.01	128.30
С	Colusa (SV)	Summer	2029	371.35	429.96	504.09	643.27	73.44	85.92	101.01	128.42
С	Colusa (SV)	Summer	2030	371.36	430.13	504.04	643.51	73.44	85.97	101.00	128.54
С	Colusa (SV)	Summer	2031	371.36	430.29	504.05	643.74	73.45	86.03	101.00	128.66
С	Colusa (SV)	Summer	2032	371.36	430.43	504.04	643.98	73.45	86.08	101.00	128.77
С	Colusa (SV)	Summer	2033	371.36	430.55	504.04	644.21	73.46	86.13	101.01	128.87
С	Colusa (SV)	Summer	2034	371.36	430.64	504.02	644.42	73.46	86.17	101.01	128.96
С	Colusa (SV)	Summer	2035	371.35	430.71	504.00	644.62	73.47	86.21	101.01	129.05
С	Colusa (SV)	Winter	2010	325.06	382.50	448.17	558.47	73.02	94.44	100.85	124.61
С	Colusa (SV)	Winter	2011	325.11	381.70	447.33	559.09	73.01	92.76	100.79	124.78
С	Colusa (SV)	Winter	2012	325.20	381.15	446.68	559.76	73.01	91.49	100.76	124.99
С	Colusa (SV)	Winter	2013	325.30	380.64	446.18	560.48	73.01	90.33	100.78	125.24
С	Colusa (SV)	Winter	2014	325.41	380.08	445.78	561.20	73.01	89.10	100.78	125.48
С	Colusa (SV)	Winter	2015	325.57	379.70	445.45	561.93	73.07	88.20	100.70	125.75
С	Colusa (SV)	Winter	2016	325.69	379.22	445.20	562.63	73.11	87.13	100.69	126.03
С	Colusa (SV)	Winter	2017	325.77	378.98	445.00	563.29	73.11	86.50	100.69	126.31
С	Colusa (SV)	Winter	2018	325.86	378.69	444.85	563.88	73.14	85.83	100.67	126.58
С	Colusa (SV)	Winter	2019	325.91	378.54	444.73	564.40	73.14	85.43	100.69	126.82
С	Colusa (SV)	Winter	2020	325.96	378.43	444.64	564.86	73.23	85.29	100.77	127.05
С	Colusa (SV)	Winter	2021	326.03			565.20	73.30		100.83	127.21
С	Colusa (SV)	Winter	2022	326.00	378.50	444.46	565.49	73.33	85.43		127.34
С	Colusa (SV)	Winter	2023	325.99	378.59	444.38	565.73	73.36			127.52
С	Colusa (SV)	Winter	2024	325.96	378.62	444.30	565.93	73.37		100.94	127.69
С	Colusa (SV)	Winter	2025	325.94	378.65	444.24	566.14	73.39	85.65		127.86
С	Colusa (SV)	Winter	2026	325.95	378.74	444.15	566.35	73.41	85.73	100.99	128.02
С	Colusa (SV)	Winter	2027	325.96	378.83	444.08	566.56	73.42	85.79		128.16
C	Colusa (SV)	Winter	2028	325.96	378.92	444.01	566.77	73.43	85.86		128.30
C	Colusa (SV)	Winter	2029	325.97	379.01	443.92	566.97	73.44	85.92		128.42
С	Colusa (SV)	Winter	2030	325.95	379.10	443.83	567.18	73.44	85.97	101.00	128.54
С	Colusa (SV)	Winter	2031	325.95	379.18	443.78	567.38	73.45	86.03		128.66
С	Colusa (SV)	Winter	2032	325.95	379.27	443.73	567.59	73.45	86.08		128.77
С	Colusa (SV)	Winter	2032	325.94	379.34	443.70	567.78	73.46			128.87
С	Colusa (SV)	Winter	2034	325.93	379.41	443.65	567.75	73.46	86.17	101.01	128.96
C	Colusa (SV)	Winter	2034	325.92	379.46	443.62	568.10	73.47	86.21	101.01	129.05
C	Contra Costa (SF)	Annual	2033	337.72	388.00	461.97	582.83	73.47	84.25	99.46	124.66
c C	Contra Costa (SF)	Annual	2010	337.88	388.46	461.87	583.33	73.09	84.14	99.46	124.86
C	Contra Costa (SF)	Annual	2011	338.04	388.95	461.80	583.91	73.11	84.12	99.66	125.09
<u>с</u> С	· ·			338.24		461.74	584.52			99.88	
	Contra Costa (SF)	Annual	2013		389.39			73.18	84.12		125.33
C C	Contra Costa (SF)	Annual	2014	338.41	389.81	461.71	585.13	73.21	84.13	99.88	125.58
С	Contra Costa (SF)	Annual	2015	338.60	390.21	461.69	585.76	73.27	84.16	99.98	125.84

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	7		CO2 Starting (g/trip) LDA LDT1 LDT2 73.35 84.23 100.09 73.40 84.27 100.17 73.45 84.35 100.26 73.51 84.48 100.35 73.61 84.63 100.45		
	Location	0	V								
_	Contro Conto (CF)	Season	Year	LDA	LDT1	LDT2	MDV				MDV
C	Contra Costa (SF)	Annual	2016	338.79	390.60	461.68	586.37				126.11
C	Contra Costa (SF)	Annual	2017	338.93	390.94	461.67	586.95				126.37
C	Contra Costa (SF)	Annual	2018	339.06	391.27	461.66	587.46				126.62
C_	Contra Costa (SF)	Annual	2019	339.18	391.60	461.67	587.90				126.86
C_	Contra Costa (SF)	Annual	2020	339.28	391.89	461.67	588.30				127.08
С	Contra Costa (SF)	Annual	2021	339.36	392.15	461.67	588.63	73.69	84.80	100.54	127.27
С	Contra Costa (SF)	Annual	2022	339.41	392.38	461.67	588.91	73.75	84.95	100.62	127.42
С	Contra Costa (SF)	Annual	2023	339.42	392.56	461.66	589.13	73.79	85.08	100.69	127.59
С	Contra Costa (SF)	Annual	2024	339.40	392.71	461.65	589.30	73.81	85.19	100.75	127.75
С	Contra Costa (SF)	Annual	2025	339.41	392.84	461.65	589.47	73.84	85.30	100.80	127.91
С	Contra Costa (SF)	Annual	2026	339.43	393.00	461.64	589.64	73.86	85.40		128.05
С	Contra Costa (SF)	Annual	2027	339.44	393.15	461.62	589.81	73.88	85.49	100.87	128.18
С	Contra Costa (SF)	Annual	2028	339.44	393.31	461.61	589.98	73.89	85.58	100.89	128.30
С	Contra Costa (SF)	Annual	2029	339.44	393.47	461.59	590.14	73.90	85.66	100.91	128.41
С	Contra Costa (SF)	Annual	2030	339.44	393.63	461.58	590.31	73.90	85.74	100.92	128.52
С	Contra Costa (SF)	Annual	2031	339.44	393.80	461.57	590.49	73.91	85.82	100.93	128.62
С	Contra Costa (SF)	Annual	2032	339.44	393.97	461.56	590.67	73.91	85.89	100.94	128.72
С	Contra Costa (SF)	Annual	2033	339.44	394.11	461.55	590.84	73.92	85.96	100.95	128.82
С	Contra Costa (SF)	Annual	2034	339.43	394.24	461.54	590.99	73.92	86.02	100.96	128.90
С	Contra Costa (SF)	Annual	2035	339.43	394.36	461.53	591.12	73.92	86.08	100.96	128.98
С	Contra Costa (SF)	Summer	2010	368.96	420.20	503.53	635.26	73.09	84.25	99.46	124.66
С	Contra Costa (SF)	Summer	2011	369.30	421.14	503.46	635.62	73.11	84.14	99.56	124.86
С	Contra Costa (SF)	Summer	2012	369.63	422.03	503.44	636.15	73.13	84.12	99.66	125.09
С	Contra Costa (SF)	Summer	2013	369.95	422.81	503.47	636.80	73.18	84.12	99.78	125.33
С	Contra Costa (SF)	Summer	2014	370.23	423.51	503.55	637.51	73.21	84.13	99.88	125.58
С	Contra Costa (SF)	Summer	2015	370.49	424.14	503.64	638.30	73.27	84.16	99.98	125.84
С	Contra Costa (SF)	Summer	2016	370.73	424.73	503.73	639.09	73.35	84.23	100.09	126.11
С	Contra Costa (SF)	Summer	2017	370.91	425.27	503.81	639.85	73.40	84.27	100.17	126.37
С	Contra Costa (SF)	Summer	2018	371.04	425.77	503.86	640.51	73.45	84.35	100.26	126.62
С	Contra Costa (SF)	Summer	2019	371.16	426.23	503.89	641.07	73.51	84.48	100.35	126.86
С	Contra Costa (SF)	Summer	2020	371.26	426.65	503.90	641.58	73.61	84.63	100.45	127.08
С	Contra Costa (SF)	Summer	2021	371.34	427.00	503.90	641.99	73.69	84.80	100.54	127.27
С	Contra Costa (SF)	Summer	2022	371.39	427.32	503.89	642.34	73.75	84.95	100.62	127.42
С	Contra Costa (SF)	Summer	2023	371.40			642.59			100.69	
С	Contra Costa (SF)	Summer	2024	371.39	427.81	503.84	642.79	73.81	85.19	100.75	127.75
С	Contra Costa (SF)	Summer	2025	371.39	428.02	503.82	642.98	73.84	_	100.80	127.91
С	Contra Costa (SF)	Summer	2026	371.41	428.24	503.80	643.16	73.86		100.84	128.05
C	Contra Costa (SF)	Summer	2027	371.43	428.46	503.77	643.33	73.88		100.87	128.18
C	Contra Costa (SF)	Summer	2028	371.44	428.69	503.76	643.49	73.89	85.58	100.89	128.30
С	Contra Costa (SF)	Summer	2029	371.45	428.93	503.74	643.66	73.90	85.66		128.41
C	Contra Costa (SF)	Summer	2030	371.45	429.16	503.72	643.84	73.90	85.74		128.52
C	Contra Costa (SF)	Summer	2031	371.45	429.42	503.72	644.04	73.91	85.82	100.93	128.62
C	Contra Costa (SF)	Summer	2032	371.46	429.42	503.71	644.25	73.91	85.89		128.72
С	Contra Costa (SF)	Summer	2032	371.46	429.83	503.71	644.45	73.91	85.96		128.82
C	Contra Costa (SF) Contra Costa (SF)	Summer	2033	371.46	430.01	503.70	644.64	73.92	86.02	100.95	128.90
С	` '	Summer	2034	371.46	430.01	503.69	644.81	73.92	86.08	100.96	128.98
C C	Contra Costa (SF)	Winter	2035	333.44	383.59	456.28		73.92	84.25	99.46	124.66
C	Contra Costa (SF)		1				575.64 576.17				
	Contra Costa (SF)	Winter	2011	333.57	383.99	456.17	576.17	73.11	84.14	99.56	124.86
C	Contra Costa (SF)	Winter	2012	333.71	384.41	456.09	576.75	73.13	84.12	99.66	125.09
C C	Contra Costa (SF)	Winter	2013	333.89	384.81	456.03	577.35	73.18	84.12	99.78	125.33
C	Contra Costa (SF)	Winter	2014	334.06	385.19	455.97	577.95	73.21	84.13	99.88	125.58
C	Contra Costa (SF)	Winter	2015	334.23	385.56	455.94	578.56	73.27	84.16	99.98	125.84
C	Contra Costa (SF)	Winter	2016	334.42	385.92	455.91	579.14	73.35	84.23	100.09	126.11
C	Contra Costa (SF)	Winter	2017	334.55	386.24	455.89	579.70	73.40	84.27	100.17	126.37

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	ı			CO2 Dunni	na (a/\/NAT	`		CO2 Star	tina (altri	(n)
-	Location	0	\/		O2 Runni						
С	Contra Costa (SF)	Season Winter	Year 2018	LDA 334.68	LDT1 386.55	LDT2 455.88	MDV 580.19	LDA 73.45	LDT1 84.35	LDT2 100.26	MDV 126.62
c C	Contra Costa (SF)	Winter	2019	334.80	386.85	455.88	580.19	73.45	84.48	100.26	126.86
c C	Contra Costa (SF)	Winter	2019	334.90	387.12	455.88	581.00	73.61	84.63	100.35	127.08
C	Contra Costa (SF)	Winter	2020	334.98	387.38	455.89	581.32	73.69	84.80	100.43	127.00
C	Contra Costa (SF)	Winter	2021	335.03	387.59	455.89	581.59	73.75	84.95	100.54	127.42
С	Contra Costa (SF)	Winter	2022	335.03	387.76	455.88	581.80	73.79	85.08	100.62	127.42
С	Contra Costa (SF)	Winter	2023	335.04	387.90	455.87	581.97	73.79	85.19	100.89	127.39
<u>с</u> С	Contra Costa (SF)	Winter	2024	335.02	388.02	455.87	582.14	73.84	85.30	100.73	127.73
С	Contra Costa (SF)	Winter	2025	335.02	388.17	455.86	582.31	73.86	85.40	100.84	128.05
С	Contra Costa (SF)	Winter	2027	335.06	388.31	455.85	582.48	73.88	85.49	100.87	128.18
С	Contra Costa (SF)	Winter	2028	335.06	388.46	455.84	582.64	73.89	85.58	100.89	128.30
С	Contra Costa (SF)	Winter	2029	335.06	388.61	455.82	582.81	73.90	85.66	100.03	128.41
С	Contra Costa (SF)	Winter	2030	335.05	388.77	455.80	582.97	73.90	85.74	100.92	128.52
С	Contra Costa (SF)	Winter	2031	335.05	388.93	455.80	583.15	73.91	85.82	100.93	128.62
C	Contra Costa (SF)	Winter	2032	335.05	389.08	455.79	583.33	73.91	85.89	100.94	128.72
С	Contra Costa (SF)	Winter	2033	335.05	389.22	455.78	583.49	73.92	85.96	100.95	128.82
C	Contra Costa (SF)	Winter	2034	335.04	389.34	455.77	583.64	73.92	86.02	100.96	128.90
С	Contra Costa (SF)	Winter	2035	335.04	389.45	455.76	583.77	73.92	86.08	100.96	128.98
С	Del Norte (NC)	Annual	2010	353.30	405.98	485.33	605.59	73.80	85.57	100.54	124.43
C	Del Norte (NC)	Annual	2011	353.26	406.47	484.59	606.29	73.68	85.27	100.49	124.61
C	Del Norte (NC)	Annual	2012	353.28	406.97	484.01	607.12	73.58	85.14	100.48	124.82
С	Del Norte (NC)	Annual	2013	353.37	407.31	483.54	607.97	73.54	84.86	100.50	125.08
С	Del Norte (NC)	Annual	2014	353.52	407.69	483.17	608.82	73.58	84.78	100.50	125.32
С	Del Norte (NC)	Annual	2015	353.58	408.04	482.87	609.68	73.49	84.68	100.48	125.58
С	Del Norte (NC)	Annual	2016	353.72	408.34	482.64	610.47	73.52	84.60	100.54	125.88
С	Del Norte (NC)	Annual	2017	353.79	408.62	482.46	611.23	73.50	84.54	100.61	126.18
C	Del Norte (NC)	Annual	2018	353.86	408.91	482.31	611.89	73.48	84.59	100.64	126.45
С	Del Norte (NC)	Annual	2019	353.93	409.17	482.19	612.44	73.50	84.69	100.67	126.70
C	Del Norte (NC)	Annual	2020	354.00	409.40	482.10	612.93	73.59	84.81	100.74	126.94
С	Del Norte (NC)	Annual	2021	354.01	409.58	482.02	613.29	73.64	84.94	100.81	127.14
С	Del Norte (NC)	Annual	2022	353.98	409.71	481.94	613.59	73.67	85.06	100.86	127.30
С	Del Norte (NC)	Annual	2023	353.92	409.83	481.85	613.81	73.68	85.17	100.89	127.49
С	Del Norte (NC)	Annual	2024	353.85	409.93	481.77	613.99	73.68	85.27	100.92	127.66
С	Del Norte (NC)	Annual	2025	353.80	410.06	481.71	614.17	73.69		100.96	127.83
С	Del Norte (NC)	Annual	2026	353.81	410.21	481.63	614.35	73.71	85.49	100.97	127.98
С	Del Norte (NC)	Annual	2027	353.82	410.35	481.57	614.55	73.72	85.59	100.99	128.13
С	Del Norte (NC)	Annual	2028	353.82	410.50	481.51	614.76	73.73	85.68	101.00	128.27
С	Del Norte (NC)	Annual	2029	353.81	410.65	481.44	614.96	73.74	85.77	101.00	128.39
С	Del Norte (NC)	Annual	2030	353.79	410.80	481.36	615.16	73.74	85.86		128.51
С	Del Norte (NC)	Annual	2031	353.79	410.94	481.32	615.37	73.75	85.94		128.63
С	Del Norte (NC)	Annual	2032	353.79	411.09	481.28	615.58	73.75	86.02	101.01	128.74
С	Del Norte (NC)	Annual	2033	353.78	411.21	481.24	615.77	73.76		101.01	128.84
С	Del Norte (NC)	Annual	2034	353.78	411.32	481.21	615.94	73.76	86.15	101.01	128.93
С	Del Norte (NC)	Annual	2035	353.77	411.41	481.19	616.08	73.77	86.20	101.02	129.01
С	Del Norte (NC)	Summer	2010	356.62	409.26	489.68	611.00	73.80	85.57	100.54	124.43
С	Del Norte (NC)	Summer	2011	356.62	409.85	488.99	611.70	73.68	85.27	100.49	124.61
С	Del Norte (NC)	Summer	2012	356.66	410.43	488.44	612.56	73.58	85.14	100.48	124.82
С	Del Norte (NC)	Summer	2013	356.78	410.84	488.01	613.44	73.54	84.86	100.50	125.08
С	Del Norte (NC)	Summer	2014	356.95	411.27	487.66	614.32	73.58	84.78	100.50	125.32
С	Del Norte (NC)	Summer	2015	357.01	411.66	487.38	615.22	73.49	84.68	100.48	125.58
С	Del Norte (NC)	Summer	2016	357.16	412.00	487.17	616.05	73.52	84.60	100.54	125.88
С	Del Norte (NC)	Summer	2017	357.24	412.31	487.00	616.84	73.50	84.54	100.61	126.18
С	Del Norte (NC)	Summer	2018	357.30	412.61	486.86	617.53	73.48	84.59	100.64	126.45
С	Del Norte (NC)	Summer	2019	357.37	412.90	486.74	618.11	73.50	84.69	100.67	126.70

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

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-	Location		.,		O2 Runni				CO2 Star		
_	Dal Nama (NO)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
C	Del Norte (NC)	Summer	2020	357.44	413.14	486.65	618.61	73.59	84.81	100.74	126.94
С	Del Norte (NC)	Summer	2021	357.45	413.33	486.57	618.99	73.64	84.94	100.81	127.14
С	Del Norte (NC)	Summer	2022	357.42	413.48	486.48	619.30	73.67	85.06	100.86	127.30
С	Del Norte (NC)	Summer	2023	357.36	413.62	486.39	619.53	73.68	85.17	100.89	127.49
С	Del Norte (NC)	Summer	2024	357.29	413.72	486.32	619.72	73.68	85.27	100.92	127.66
С	Del Norte (NC)	Summer	2025	357.24	413.86	486.26	619.90	73.69	85.38	100.96	127.83
С	Del Norte (NC)	Summer	2026	357.26	414.02	486.18	620.09	73.71	85.49	100.97	127.98
С	Del Norte (NC)	Summer	2027	357.26	414.18	486.12	620.29	73.72	85.59	100.99	128.13
С	Del Norte (NC)	Summer	2028	357.27	414.33	486.06	620.50	73.73	85.68	101.00	128.27
С	Del Norte (NC)	Summer	2029	357.26	414.49	485.99	620.71	73.74	85.77	101.00	128.39
С	Del Norte (NC)	Summer	2030	357.24	414.65	485.91	620.91	73.74	85.86	101.00	128.51
С	Del Norte (NC)	Summer	2031	357.24	414.80	485.87	621.13	73.75	85.94	101.00	128.63
С	Del Norte (NC)	Summer	2032	357.24	414.95	485.84	621.34	73.75	86.02	101.01	128.74
С	Del Norte (NC)	Summer	2033	357.23	415.08	485.80	621.53	73.76	86.09	101.01	128.84
С	Del Norte (NC)	Summer	2034	357.23	415.20	485.78	621.71	73.76	86.15	101.01	128.93
С	Del Norte (NC)	Summer	2035	357.22	415.29	485.75	621.85	73.77	86.20	101.02	129.01
С	Del Norte (NC)	Winter	2010	351.96	404.67	483.59	603.42	73.80	85.57	100.54	124.43
С	Del Norte (NC)	Winter	2011	351.91	405.12	482.83	604.11	73.68	85.27	100.49	124.61
C	Del Norte (NC)	Winter	2012	351.92	405.58	482.23	604.93	73.58	85.14	100.48	124.82
С	Del Norte (NC)	Winter	2013	352.00	405.90	481.75	605.77	73.54	84.86	100.50	125.08
С	Del Norte (NC)	Winter	2014	352.15	406.26	481.37	606.61	73.58	84.78	100.50	125.32
С	Del Norte (NC)	Winter	2015	352.20	406.58	481.06	607.45	73.49	84.68	100.48	125.58
С	Del Norte (NC)	Winter	2016	352.34	406.87	480.82	608.23	73.52	84.60	100.54	125.88
С	Del Norte (NC)	Winter	2017	352.41	407.14	480.64	608.97	73.50	84.54	100.61	126.18
С	Del Norte (NC)	Winter	2018	352.47	407.42	480.49	609.63	73.48	84.59	100.64	126.45
С	Del Norte (NC)	Winter	2019	352.55	407.68	480.37	610.17	73.50	84.69	100.67	126.70
С	Del Norte (NC)	Winter	2020	352.62	407.90	480.28	610.65	73.59	84.81	100.74	126.94
С	Del Norte (NC)	Winter	2021	352.63	408.07	480.20	611.00	73.64	84.94	100.81	127.14
С	Del Norte (NC)	Winter	2022	352.60	408.20	480.11	611.29	73.67	85.06	100.86	127.30
С	Del Norte (NC)	Winter	2023	352.53	408.31	480.02	611.52	73.68	85.17	100.89	127.49
С	Del Norte (NC)	Winter	2024	352.46	408.40	479.94	611.69	73.68	85.27	100.92	127.66
С	Del Norte (NC)	Winter	2025	352.42	408.53	479.89	611.86	73.69	85.38	100.96	127.83
С	Del Norte (NC)	Winter	2026	352.43	408.68	479.81	612.05	73.71	85.49	100.97	127.98
С	Del Norte (NC)	Winter	2027	352.43	408.82	479.75	612.25	73.72		100.99	128.13
С	Del Norte (NC)	Winter	2028	352.44	408.96	479.68	612.45	73.73	85.68	101.00	128.27
С	Del Norte (NC)	Winter	2029	352.43	409.11	479.61	612.65	73.74	85.77	101.00	128.39
С	Del Norte (NC)	Winter	2030	352.41	409.25	479.53	612.85	73.74	85.86		128.51
С	Del Norte (NC)	Winter	2031	352.41	409.39	479.49	613.06	73.75	85.94		128.63
С	Del Norte (NC)	Winter	2032	352.40	409.53	479.45	613.27	73.75	86.02	101.01	128.74
С	Del Norte (NC)	Winter	2033	352.40	409.66	479.41	613.45	73.76	86.09		128.84
С	Del Norte (NC)	Winter	2034	352.39	409.77	479.38	613.62	73.76	86.15		128.93
C	Del Norte (NC)	Winter	2035	352.38	409.86	479.36	613.76	73.77	86.20	101.02	129.01
С	El Dorado (LT)	Annual	2010	363.47	420.59	499.06	619.88	74.08	86.91	99.84	122.94
С	El Dorado (LT)	Annual	2011	363.51	420.75	498.59	620.83	73.91	86.42	99.87	123.15
С	El Dorado (LT)	Annual	2012	363.61	420.94	498.22	621.97	73.79	86.06	99.97	123.43
С	El Dorado (LT)	Annual	2013	363.76	421.15	497.91	623.17	73.76	85.79	100.05	123.76
C	El Dorado (LT)	Annual	2014	363.85	421.29	497.66	624.33	73.56	85.48	100.11	124.10
C	El Dorado (LT)	Annual	2015	363.99	421.51	497.47	625.56	73.53	85.30		124.47
С	El Dorado (LT)	Annual	2016	364.13	421.67	497.31	626.72	73.54	85.07	100.27	124.86
С	El Dorado (LT)	Annual	2017	364.23	421.87	497.19	627.80	73.55	84.93	100.33	125.23
С	El Dorado (LT)	Annual	2018	364.27	422.03	497.10	628.75	73.43	84.84	100.40	125.59
С	El Dorado (LT)	Annual	2019	364.31	422.23	497.04	629.59	73.36	84.85	100.48	125.93
С	El Dorado (LT)	Annual	2020	364.34	422.39	496.99	630.30	73.43	84.91	100.58	126.25
С	El Dorado (LT)	Annual	2021	364.31	422.53	496.95	630.87	73.45	85.03	100.67	126.51

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1			CO2 Bunni	na (a/\/NAT	\		CO2 Star	tina (altri	(n)
	Location	Casasa	V		CO2 Runni						
С	El Dorado (LT)	Season Annual	Year 2022	LDA 364.27	LDT1 422.64	LDT2 496.89	MDV 631.38	LDA 73.45	LDT1 85.13	LDT2 100.74	MDV 126.75
C	El Dorado (LT)	Annual	2022	364.23	422.72	496.84	631.78	73.45	85.22	100.74	120.73
c C	El Dorado (LT)	Annual	2023	364.12	422.72	496.80	632.08	73.43	85.30	100.79	127.00
C	El Dorado (LT)	Annual	2025	364.10	422.70	496.76	632.37	73.40	85.40	100.89	127.42
C	El Dorado (LT)	Annual	2026	364.10	423.07	496.72	632.65	73.42	85.51	100.92	127.42
С	El Dorado (LT)	Annual	2027	364.11	423.22	496.68	632.93	73.43	85.61	100.94	127.79
С	El Dorado (LT)	Annual	2028	364.11	423.39	496.64	633.22	73.44	85.71	100.96	127.95
С	El Dorado (LT)	Annual	2029	364.10	423.55	496.60	633.51	73.44	85.80	100.98	128.11
С	El Dorado (LT)	Annual	2030	364.09	423.70	496.55	633.80	73.44	85.88	100.98	128.26
C	El Dorado (LT)	Annual	2031	364.10	423.86	496.51	634.10	73.45	85.96	100.99	128.40
С	El Dorado (LT)	Annual	2032	364.10	424.01	496.48	634.41	73.45	86.03	101.00	128.54
С	El Dorado (LT)	Annual	2033	364.10	424.14	496.46	634.69	73.46	86.10	101.00	128.66
С	El Dorado (LT)	Annual	2034	364.10	424.26	496.43	634.93	73.46	86.16	101.01	128.78
С	El Dorado (LT)	Annual	2035	364.09	424.36	496.41	635.15	73.47	86.21	101.01	128.88
С	El Dorado (LT)	Summer	2010	362.83	419.96	498.22	618.85	74.08	86.91	99.84	122.94
С	El Dorado (LT)	Summer	2011	362.86	420.10	497.75	619.79	73.91	86.42	99.87	123.15
С	El Dorado (LT)	Summer	2012	362.96	420.28	497.37	620.93	73.79	86.06	99.97	123.43
С	El Dorado (LT)	Summer	2013	363.10	420.47	497.05	622.12	73.76	85.79	100.05	123.76
С	El Dorado (LT)	Summer	2014	363.19	420.61	496.80	623.28	73.56	85.48	100.11	124.10
С	El Dorado (LT)	Summer	2015	363.33	420.82	496.60	624.50	73.53	85.30	100.19	124.47
С	El Dorado (LT)	Summer	2016	363.47	420.97	496.44	625.65	73.54	85.07	100.27	124.86
С	El Dorado (LT)	Summer	2017	363.57	421.16	496.32	626.72	73.55	84.93	100.33	125.23
С	El Dorado (LT)	Summer	2018	363.61	421.32	496.23	627.67	73.43	84.84	100.40	125.59
С	El Dorado (LT)	Summer	2019	363.65	421.51	496.16	628.50	73.36	84.85	100.48	125.93
С	El Dorado (LT)	Summer	2020	363.67	421.67	496.12	629.21	73.43	84.91	100.58	126.25
С	El Dorado (LT)	Summer	2021	363.65	421.81	496.07	629.78	73.45	85.03	100.67	126.51
С	El Dorado (LT)	Summer	2022	363.61	421.92	496.02	630.28	73.45	85.13	100.74	126.75
С	El Dorado (LT)	Summer	2023	363.57	421.99	495.97	630.68	73.45	85.22	100.79	127.00
С	El Dorado (LT)	Summer	2024	363.46	422.03	495.92	630.99	73.39	85.30	100.84	127.22
С	El Dorado (LT)	Summer	2025	363.44	422.16	495.89	631.27	73.40	85.40	100.89	127.42
С	El Dorado (LT)	Summer	2026	363.44	422.33	495.85	631.55	73.42	85.51	100.92	127.61
С	El Dorado (LT)	Summer	2027	363.45	422.49	495.80	631.83	73.43	85.61	100.94	127.79
С	El Dorado (LT)	Summer	2028	363.44	422.65	495.77	632.12	73.44	85.71	100.96	127.95
С	El Dorado (LT)	Summer	2029	363.44	422.81	495.73	632.41	73.44	85.80	100.98	128.11
С	El Dorado (LT)	Summer	2030	363.43	422.96	495.68	632.70	73.44	85.88	100.98	128.26
С	El Dorado (LT)	Summer	2031	363.43	423.12	495.64	633.00	73.45	85.96	100.99	128.40
С	El Dorado (LT)	Summer	2032	363.43	423.26	495.61	633.31	73.45	86.03		128.54
С	El Dorado (LT)	Summer	2033	363.43	423.40	495.58	633.58	73.46	86.10		128.66
С	El Dorado (LT)	Summer	2034	363.43	423.51	495.56	633.82	73.46	86.16		128.78
С	El Dorado (LT)	Summer	2035	363.43	423.62	495.53	634.04	73.47	86.21	101.01	128.88
С	El Dorado (LT)	Winter	2010	362.83	419.96	498.22	618.85	74.08	86.91	99.84	122.94
С	El Dorado (LT)	Winter	2011	362.86	420.10	497.75	619.79	73.91	86.42	99.87	123.15
С	El Dorado (LT)	Winter	2012	362.96	420.28	497.37	620.93	73.79	86.06	99.97	123.43
С	El Dorado (LT)	Winter	2013	363.10	420.47	497.05	622.12	73.76	85.79	100.05	123.76
С	El Dorado (LT)	Winter	2014	363.19	420.61	496.80	623.28	73.56	85.48	100.11	124.10
С	El Dorado (LT)	Winter	2015	363.33	420.82	496.60	624.50	73.53	85.30		124.47
С	El Dorado (LT)	Winter	2016	363.47	420.97	496.44	625.65	73.54	85.07	100.27	124.86
С	El Dorado (LT)	Winter	2017	363.57	421.16	496.32	626.72	73.55	84.93	100.33	125.23
C	El Dorado (LT)	Winter	2018	363.61	421.32	496.23	627.67	73.43	84.84		125.59
C	El Dorado (LT)	Winter	2019	363.65	421.51	496.16	628.50	73.36	84.85	100.48	125.93
C	El Dorado (LT)	Winter	2020	363.67	421.67	496.12	629.21	73.43	84.91	100.58	126.25
C	El Dorado (LT)	Winter	2021	363.65	421.81	496.07	629.78	73.45	85.03	100.67	126.51
C	El Dorado (LT)	Winter	2022	363.61	421.92	496.02	630.28	73.45	85.13	100.74	126.75
С	El Dorado (LT)	Winter	2023	363.57	421.99	495.97	630.68	73.45	85.22	100.79	127.00

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT	7)	(CO2 Sta	rting (g/tr	ip)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	El Dorado (LT)	Winter	2024	363.46	422.03	495.92	630.99	73.39	85.30	100.84	127.22
C	El Dorado (LT)	Winter	2025	363.44	422.16	495.89	631.27	73.40	85.40		127.42
С	El Dorado (LT)	Winter	2026	363.44	422.33	495.85	631.55	73.42	85.51	100.92	127.61
С	El Dorado (LT)	Winter	2027	363.45	422.49	495.80	631.83	73.43	85.61	100.94	127.79
C	El Dorado (LT)	Winter	2028	363.44	422.65	495.77	632.12	73.44	85.71	100.96	127.75
С	El Dorado (LT)	Winter	2029	363.44	422.81	495.73	632.41	73.44	85.80	100.98	128.11
С	El Dorado (LT)	Winter	2030	363.43	422.96	495.68	632.70	73.44	85.88	100.98	128.26
С	El Dorado (LT)	Winter	2031	363.43	423.12	495.64	633.00	73.45	85.96		128.40
С	El Dorado (LT)	Winter	2032	363.43	423.26	495.61	633.31	73.45	86.03	101.00	128.54
С	El Dorado (LT)	Winter	2033	363.43	423.40	495.58	633.58	73.46	86.10		128.66
С	El Dorado (LT)	Winter	2034	363.43	423.51	495.56	633.82	73.46	86.16		128.78
С	El Dorado (LT)	Winter	2035	363.43	423.62	495.53	634.04	73.47	86.21	101.01	128.88
С	El Dorado (MC)	Annual	2010	341.76	395.46	468.95	590.66	73.77	88.15		125.49
С	El Dorado (MC)	Annual	2011	342.05	395.72	468.70	591.19	73.66	87.38		125.61
C	El Dorado (MC)	Annual	2011	342.34	396.02	468.51	591.78	73.58	86.83	100.12	125.76
C	El Dorado (MC)	Annual	2012	342.60	396.02	468.36	592.41	73.49	86.35	100.17	125.70
C	El Dorado (MC)	Annual	2013	342.84	396.49	468.26	593.06	73.40	85.94	100.21	126.13
С	El Dorado (MC)	Annual	2015	343.06	396.70	468.18	593.72	73.38	85.57	100.28	126.34
С	El Dorado (MC)	Annual	2016	343.27	396.90	468.13	594.34	73.40	85.26		126.56
С	El Dorado (MC)	Annual	2017	343.44	397.07	468.08	594.94	73.42	84.99		126.78
С	El Dorado (MC)	Annual	2018	343.57	397.22	468.03	595.46	73.41	84.78		126.99
С	El Dorado (MC)	Annual	2019	339.95	393.13	462.91	589.40	73.43	84.80		127.18
С	El Dorado (MC)	Annual	2020	340.04	393.35	462.88	589.78	73.52	84.89	100.54	127.35
С	El Dorado (MC)	Annual	2021	340.11	393.57	462.85	590.02	73.60	85.04	100.62	127.46
С	El Dorado (MC)	Annual	2022	340.16	393.76	462.81	590.22	73.66	85.17	100.69	127.54
С	El Dorado (MC)	Annual	2023	340.19	393.90	462.78	590.36	73.70	85.27	100.74	127.69
С	El Dorado (MC)	Annual	2024	340.20	394.02	462.75	590.47	73.72	85.37	100.79	127.82
С	El Dorado (MC)	Annual	2025	340.22	394.12	462.73	590.61	73.75	85.46	100.83	127.96
С	El Dorado (MC)	Annual	2026	340.23	394.26	462.70	590.76	73.77	85.55	100.87	128.09
С	El Dorado (MC)	Annual	2027	340.24	394.39	462.67	590.90	73.78	85.64	100.89	128.21
С	El Dorado (MC)	Annual	2028	340.25	394.53	462.65	591.06	73.79	85.72	100.91	128.32
С	El Dorado (MC)	Annual	2029	340.25	394.66	462.61	591.21	73.80	85.79	100.92	128.43
С	El Dorado (MC)	Annual	2030	340.25	394.80	462.58	591.37	73.81	85.86	100.93	128.53
С	El Dorado (MC)	Annual	2031	340.26	394.95	462.56	591.56	73.81	85.93	100.94	128.63
С	El Dorado (MC)	Annual	2032	340.26	395.08	462.54	591.75	73.82	86.00	100.94	128.73
С	El Dorado (MC)	Annual	2033	340.26	395.20	462.53	591.93	73.82	86.06	100.95	128.82
С	El Dorado (MC)	Annual	2034	340.26	395.30	462.51	592.08	73.82	86.11	100.96	128.91
С	El Dorado (MC)	Annual	2035	340.26	395.39	462.50	592.22	73.83	86.16	100.96	128.99
С	El Dorado (MC)	Summer	2010	375.93	429.67	513.60	646.77	73.77	88.15	100.13	125.49
С	El Dorado (MC)	Summer	2011	376.40	430.73	513.53	647.24	73.66	87.38	100.12	125.61
С	El Dorado (MC)	Summer	2012	376.82	431.64	513.49	647.88	73.58	86.83	100.17	125.76
С	El Dorado (MC)	Summer	2013	377.19	432.39	513.51	648.63	73.49	86.35	100.21	125.94
С	El Dorado (MC)	Summer	2014	377.52	433.03	513.58	649.46	73.40	85.94	100.24	126.13
С	El Dorado (MC)	Summer	2015	377.80	433.58	513.65	650.36	73.38	85.57	100.28	126.34
С	El Dorado (MC)	Summer	2016	378.06	434.07	513.72	651.21	73.40	85.26	100.33	126.56
С	El Dorado (MC)	Summer	2017	378.25	434.50	513.77	652.04	73.42	84.99	100.35	126.78
С	El Dorado (MC)	Summer	2018	378.38	434.84	513.78	652.74	73.41	84.78	100.39	126.99
С	El Dorado (MC)	Summer	2019	374.39	430.51	508.19	646.23	73.43	84.80	100.45	127.18
С	El Dorado (MC)	Summer	2020	374.46	430.84	508.14	646.71	73.52	84.89	100.54	127.35
С	El Dorado (MC)	Summer	2021	374.53	431.14	508.05	646.99	73.60	85.04	100.62	127.46
С	El Dorado (MC)	Summer	2022	374.58	431.41	507.98	647.24	73.66	85.17	100.69	127.54
С	El Dorado (MC)	Summer	2023	374.61	431.64	507.91	647.42	73.70	85.27	100.74	127.69
С	El Dorado (MC)	Summer	2024	374.62	431.82	507.88	647.54	73.72	85.37	100.79	127.82
С	El Dorado (MC)	Summer	2025	374.63	432.00	507.85	647.66	73.75	85.46	100.83	127.96

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Lagation	1			200 D	(\	N		-\		
	Location		.,		O2 Runni				CO2 Star		
_	El Darrada (MC)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
C	El Dorado (MC)	Summer	2026	374.64	432.19	507.84	647.82	73.77	85.55	100.87	128.09
C	El Dorado (MC)	Summer	2027	374.65	432.39	507.84	647.97	73.78	85.64 85.72	100.89	128.21
C C	El Dorado (MC)	Summer	2028 2029	374.65	432.59	507.83	648.14 648.31	73.79		100.91	128.32
υ U	El Dorado (MC) El Dorado (MC)	Summer Summer	2029	374.66 374.67	432.80 433.02	507.82 507.80	648.50	73.80 73.81	85.79 85.86	100.92 100.93	128.43 128.53
o O	El Dorado (MC)										
C		Summer	2031	374.67	433.23	507.79	648.74	73.81	85.93	100.94	128.63
C	El Dorado (MC)	Summer Summer	2032 2033	374.68 374.68	433.42 433.57	507.77 507.76	648.97 649.20	73.82 73.82	86.00 86.06	100.94 100.95	128.73 128.82
C	El Dorado (MC)	Summer	2033	374.68	433.70	507.74	649.41	73.82	86.11	100.95	128.91
C	El Dorado (MC) El Dorado (MC)	Summer	2034	374.68	433.70	507.74	649.41	73.83	86.16	100.96	128.99
C	El Dorado (MC)	Winter	2010	333.35	387.05	457.96	576.85	73.77	88.15	100.30	125.49
C	El Dorado (MC)	Winter	2010	333.60	387.11	457.67	577.39	73.66	87.38	100.13	125.49
C	El Dorado (MC)	Winter	2011	333.85	387.25	457.44	577.98	73.58	86.83	100.12	125.76
C	El Dorado (MC)	Winter	2012	334.09	387.38	457.26	578.58	73.49	86.35	100.17	125.76
C	El Dorado (MC)	Winter	2013	334.30	387.50	457.20	579.18	73.40	85.94	100.21	126.13
	El Dorado (MC)	Winter	2014	334.51	387.62	457.11	579.79	73.40	85.57	100.24	126.13
С	El Dorado (MC)	Winter	2013	334.71	387.75	456.91	580.35	73.40	85.26	100.28	126.54
С	El Dorado (MC)	Winter	2017	334.88	387.86	456.83	580.89	73.42	84.99	100.35	126.78
c C	El Dorado (MC)	Winter	2017	335.00	387.97	456.78	581.36	73.42	84.78	100.33	126.76
С	El Dorado (MC)	Winter	2019	331.47	383.93	451.76	575.41	73.43	84.80	100.45	127.18
С	El Dorado (MC)	Winter	2020	331.56	384.12	451.74	575.77	73.52	84.89	100.43	127.15
С	El Dorado (MC)	Winter	2021	331.64	384.32	451.72	575.99	73.60	85.04	100.62	127.46
C	El Dorado (MC)	Winter	2022	331.69	384.49	451.69	576.18	73.66	85.17	100.69	127.54
C	El Dorado (MC)	Winter	2023	331.72	384.61	451.67	576.32	73.70	85.27	100.74	127.69
С	El Dorado (MC)	Winter	2024	331.73	384.71	451.64	576.42	73.72	85.37	100.79	127.82
С	El Dorado (MC)	Winter	2025	331.74	384.80	451.62	576.56	73.75	85.46	100.73	127.96
С	El Dorado (MC)	Winter	2026	331.76	384.92	451.58	576.71	73.77	85.55	100.87	128.09
С	El Dorado (MC)	Winter	2027	331.77	385.03	451.55	576.86	73.78	85.64	100.89	128.21
C	El Dorado (MC)	Winter	2028	331.78	385.15	451.52	577.01	73.79	85.72	100.91	128.32
C	El Dorado (MC)	Winter	2029	331.78	385.27	451.48	577.15	73.80	85.79	100.92	128.43
С	El Dorado (MC)	Winter	2030	331.78	385.40	451.44	577.31	73.81	85.86	100.93	128.53
C	El Dorado (MC)	Winter	2031	331.78	385.52	451.42	577.49	73.81	85.93	100.94	128.63
C	El Dorado (MC)	Winter	2032	331.78	385.64	451.41	577.67	73.82	86.00	100.94	128.73
С	El Dorado (MC)	Winter	2033	331.78	385.75	451.39	577.83	73.82		100.95	128.82
C	El Dorado (MC)	Winter	2034	331.79	385.85	451.38	577.97	73.82	86.11	100.96	128.91
C	El Dorado (MC)	Winter	2035	331.78	385.93	451.36	578.10	73.83			128.99
C	Fresno (SJV)	Annual	2010	332.59	381.43	455.63	572.39	73.33		100.40	124.69
C	Fresno (SJV)	Annual	2011	332.92	382.33	455.40	573.13	73.36			124.93
С	Fresno (SJV)	Annual	2012	333.28	383.14	455.34	574.01	73.39	84.78	100.39	125.18
С	Fresno (SJV)	Annual	2013	333.73	383.96	455.45	575.09	73.44	84.70		125.46
С	Fresno (SJV)	Annual	2014	333.96	384.49	455.36	575.85	73.49	84.64		125.73
C	Fresno (SJV)	Annual	2015	334.75	385.63	456.06	577.60	73.55	84.63		126.02
С	Fresno (SJV)	Annual	2016	334.94	386.04	456.00	578.34	73.62		100.47	126.31
С	Fresno (SJV)	Annual	2017	335.07	386.40	455.95	579.02	73.64		100.48	126.59
С	Fresno (SJV)	Annual	2018	336.24	387.94	457.37	581.46	73.67		100.50	126.85
С	Fresno (SJV)	Annual	2019	336.33	388.23	457.33	581.97	73.72	84.71	100.53	127.09
С	Fresno (SJV)	Annual	2020	336.41	388.50	457.29	582.43	73.81	84.86		127.31
С	Fresno (SJV)	Annual	2021	336.48	388.79	457.28	582.85	73.87	85.02	100.68	127.50
С	Fresno (SJV)	Annual	2022	336.50	389.03	457.25	583.19	73.92	85.17	100.74	127.66
С	Fresno (SJV)	Annual	2023	336.51	389.23	457.23	583.46	73.95	85.29	100.80	127.85
С	Fresno (SJV)	Annual	2024	336.38	389.25	457.03	583.43	73.97			128.01
С	Fresno (SJV)	Annual	2025	336.38	389.39	457.00	583.60	73.99	85.50	100.87	128.16
С	Fresno (SJV)	Annual	2026	338.35	391.81	459.63	587.16	74.01	85.60	100.90	128.30
С	Fresno (SJV)	Annual	2027	338.36	391.96	459.61	587.32	74.02	85.68	100.92	128.43

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	II	ī			200 D	(D /B AT	2		(-)		
	Location		.,		O2 Runni				CO2 Star		
_	France (C.IV)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С С	Fresno (SJV)	Annual Annual	2028 2029	338.36 338.36	392.10 392.24	459.58 459.56	587.48 587.63	74.03 74.04	85.76 85.84	100.94 100.95	128.54 128.65
С	Fresno (SJV) Fresno (SJV)	Annual	2029	338.36	392.24	459.53	587.79	74.04	85.91	100.95	128.75
C	Fresno (SJV)	Annual	2030	338.36	392.50	459.52	587.96	74.05	85.98	100.96	128.84
С	Fresno (SJV)	Annual	2032	338.36	392.62	459.51	588.13	74.05	86.04	100.97	128.93
С	Fresno (SJV)	Annual	2033	338.36	392.72	459.49	588.28	74.05	86.09	100.97	129.01
С	Fresno (SJV)	Annual	2034	338.36	392.81	459.48	588.42	74.06	86.14	100.98	129.09
C	Fresno (SJV)	Annual	2035	338.35	392.88	459.47	588.54	74.06	86.18	100.98	129.16
С	Fresno (SJV)	Summer	2010	365.89	415.42	499.30	627.61	73.33	85.16	100.40	124.69
С	Fresno (SJV)	Summer	2011	366.50	417.15	499.37	628.38	73.36	84.93	100.38	124.93
С	Fresno (SJV)	Summer	2012	367.06	418.57	499.55	629.35	73.39	84.78	100.39	125.18
С	Fresno (SJV)	Summer	2013	367.66	419.86	499.87	630.59	73.44	84.70	100.41	125.46
С	Fresno (SJV)	Summer	2014	368.00	420.76	499.96	631.54	73.49	84.64	100.42	125.73
С	Fresno (SJV)	Summer	2015	368.92	422.24	500.90	633.61	73.55	84.63	100.44	126.02
С	Fresno (SJV)	Summer	2016	369.16	422.88	500.97	634.57	73.62	84.61	100.47	126.31
С	Fresno (SJV)	Summer	2017	369.31	423.43	501.00	635.46	73.64	84.59	100.48	126.59
С	Fresno (SJV)	Summer	2018	370.58	425.21	502.58	638.22	73.67	84.60	100.50	126.85
С	Fresno (SJV)	Summer	2019	370.66	425.60	502.55	638.86	73.72	84.71	100.53	127.09
С	Fresno (SJV)	Summer	2020	370.71	425.96	502.50	639.43	73.81	84.86	100.60	127.31
С	Fresno (SJV)	Summer	2021	370.80	426.40	502.51	640.00	73.87	85.02	100.68	127.50
С	Fresno (SJV)	Summer	2022	370.85	426.76	502.50	640.46	73.92	85.17	100.74	127.66
С	Fresno (SJV)	Summer	2023	370.87	427.06	502.48	640.80	73.95	85.29	100.80	127.85
С	Fresno (SJV)	Summer	2024	370.73	427.16	502.25	640.76	73.97	85.40	100.84	128.01
С	Fresno (SJV)	Summer	2025	370.73	427.39	502.21	640.93	73.99	85.50	100.87	128.16
С	Fresno (SJV)	Summer	2026	372.91	430.11	505.12	644.84	74.01	85.60	100.90	128.30
С	Fresno (SJV)	Summer	2027	372.92	430.32	505.10	644.98	74.02	85.68	100.92	128.43
С	Fresno (SJV)	Summer	2028	372.93	430.52	505.08	645.13	74.03	85.76	100.94	128.54
С	Fresno (SJV)	Summer	2029	372.94	430.72	505.05	645.28	74.04	85.84	100.95	128.65
С	Fresno (SJV)	Summer	2030	372.94	430.92	505.03	645.45	74.04	85.91	100.96	128.75
С	Fresno (SJV)	Summer	2031	372.93	431.10	505.02	645.63	74.05	85.98	100.96	128.84
C	Fresno (SJV)	Summer	2032	372.93	431.26	505.01	645.82	74.05	86.04	100.97	128.93
C C	Fresno (SJV)	Summer Summer	2033 2034	372.93 372.93	431.39 431.50	505.00 504.99	646.00 646.18	74.05 74.06	86.09 86.14	100.97 100.98	129.01 129.09
C C	Fresno (SJV) Fresno (SJV)	Summer	2034	372.93	431.58	504.99	646.33	74.06		100.98	129.09
o O	Fresno (SJV)	Winter	2010	319.21	367.78	438.09	550.22	73.33		100.98	124.69
C	Fresno (SJV)	Winter	2010	319.43	368.35	437.74	550.95	73.36	84.93		124.03
C	Fresno (SJV)	Winter	2012	319.71	368.92	437.59	551.79	73.39			125.18
C	Fresno (SJV)	Winter	2013	320.09	369.54	437.61	552.79	73.44	84.70	100.41	125.46
С	Fresno (SJV)	Winter	2014	320.29	369.93	437.44	553.49	73.49	84.64	100.42	125.73
C	Fresno (SJV)	Winter	2015	321.02	370.92	438.04	555.11	73.55	84.63	100.44	126.02
С	Fresno (SJV)	Winter	2016	321.20	371.25	437.94	555.75	73.62	84.61		126.31
С	Fresno (SJV)	Winter	2017	321.32	371.53	437.86	556.36	73.64		100.48	126.59
С	Fresno (SJV)	Winter	2018	322.45	372.96	439.21	558.66	73.67		100.50	126.85
С	Fresno (SJV)	Winter	2019	322.55	373.22	439.16	559.12	73.72	84.71	100.53	127.09
С	Fresno (SJV)	Winter	2020	322.63	373.45	439.13	559.54	73.81	84.86		127.31
С	Fresno (SJV)	Winter	2021	322.69	373.69	439.11	559.90	73.87	85.02	100.68	127.50
С	Fresno (SJV)	Winter	2022	322.71	373.88	439.08	560.19	73.92	85.17	100.74	127.66
С	Fresno (SJV)	Winter	2023	322.72	374.03	439.05	560.43	73.95	85.29	100.80	127.85
С	Fresno (SJV)	Winter	2024	322.58	374.02	438.86	560.40	73.97	85.40	100.84	128.01
С	Fresno (SJV)	Winter	2025	322.58	374.13	438.84	560.57	73.99	85.50	100.87	128.16
С	Fresno (SJV)	Winter	2026	324.46	376.42	441.35	563.99	74.01	85.60	100.90	128.30
С	Fresno (SJV)	Winter	2027	324.47	376.54	441.33	564.15	74.02	85.68	100.92	128.43
С	Fresno (SJV)	Winter	2028	324.47	376.66	441.30	564.31	74.03	85.76	100.94	128.54
С	Fresno (SJV)	Winter	2029	324.47	376.77	441.27	564.47	74.04	85.84	100.95	128.65

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	I a anti-an	1			200 D	(\) (NAT	1		>		
	Location				O2 Runni				CO2 Star		
_	- (2.11.1)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Fresno (SJV)	Winter	2030	324.46	376.88	441.25	564.63	74.04	85.91	100.96	128.75
С	Fresno (SJV)	Winter	2031	324.47	376.99	441.24	564.79	74.05	85.98		128.84
С	Fresno (SJV)	Winter	2032	324.46	377.09	441.22	564.95	74.05	86.04		128.93
С	Fresno (SJV)	Winter	2033	324.46	377.18	441.21	565.09	74.05	86.09	100.97	129.01
С	Fresno (SJV)	Winter	2034	324.46	377.26	441.20	565.21	74.06	86.14	100.98	129.09
С	Fresno (SJV)	Winter	2035	324.46	377.33	441.18	565.32	74.06	86.18	100.98	129.16
С	Glenn (SV)	Annual	2010	347.61	407.24	479.18	597.47	73.80	101.05	102.36	125.05
С	Glenn (SV)	Annual	2011	347.94	406.83	478.46	597.84	73.70	98.07	102.06	125.06
С	Glenn (SV)	Annual	2012	348.25	406.57	477.93	598.43	73.59	95.83	101.82	125.13
С	Glenn (SV)	Annual	2013	348.56	406.34	477.52	599.20	73.54	93.69	101.62	125.27
С	Glenn (SV)	Annual	2014	348.81	406.16	477.20	600.00	73.43	91.83	101.37	125.43
С	Glenn (SV)	Annual	2015	349.05	406.03	476.95	600.89	73.38	90.19	101.22	125.64
С	Glenn (SV)	Annual	2016	349.27	405.92	476.74	601.81	73.41	88.68	101.09	125.88
С	Glenn (SV)	Annual	2017	349.44	405.85	476.57	602.68	73.41	87.43	101.01	126.13
С	Glenn (SV)	Annual	2018	349.58	405.77	476.41	603.43	73.43	86.26	100.91	126.38
С	Glenn (SV)	Annual	2019	349.68	405.76	476.29	604.10	73.46	85.63	100.80	126.62
С	Glenn (SV)	Annual	2020	349.77	405.79	476.19	604.70	73.56	85.43	100.85	126.85
С	Glenn (SV)	Annual	2021	349.82	405.88	476.10	605.14	73.62	85.50	100.90	126.97
С	Glenn (SV)	Annual	2022	349.86	405.97	476.01	605.47	73.68	85.55	100.94	127.04
С	Glenn (SV)	Annual	2023	349.88	406.04	475.94	605.72	73.71	85.61	100.98	127.23
С	Glenn (SV)	Annual	2024	349.89	406.11	475.87	605.91	73.71	85.66	101.00	127.41
С	Glenn (SV)	Annual	2025	349.89	406.19	475.82	606.12	73.72	85.74		127.59
С	Glenn (SV)	Annual	2026	349.91	406.27	475.76	606.32	73.75	85.81	101.03	127.77
С	Glenn (SV)	Annual	2027	349.93	406.34	475.71	606.53	73.76	85.87	101.03	127.93
С	Glenn (SV)	Annual	2028	349.94	406.42	475.66	606.74	73.77	85.93	101.03	128.07
C	Glenn (SV)	Annual	2029	349.94	406.49	475.61	606.94	73.78	85.99	101.02	128.21
C	Glenn (SV)	Annual	2030	349.94	406.57	475.56	607.16	73.78	86.04		128.34
С	Glenn (SV)	Annual	2031	349.94	406.64	475.55	607.42	73.79	86.10	101.01	128.47
С	Glenn (SV)	Annual	2032	349.94	406.69	475.53	607.68	73.79	86.15		128.60
С	Glenn (SV)	Annual	2033	349.94	406.75	475.52	607.92	73.80	86.19		128.71
С	Glenn (SV)	Annual	2034	349.94	406.79	475.50	608.14	73.80	86.23	101.01	128.82
С	Glenn (SV)	Annual	2035	349.93	406.82	475.49	608.33	73.81	86.26	101.01	128.92
C	Glenn (SV)	Summer	2010	384.83	445.81	527.20	657.56	73.80		102.36	125.05
С	Glenn (SV)	Summer	2010	385.51	446.50		657.84			102.06	125.06
С	Glenn (SV)	Summer	2011	386.08	446.98	527.28	658.52	73.59	95.83		125.00
C	Glenn (SV)	Summer	2012	386.56	447.34		659.58	73.54		101.62	125.13
C	, ,					527.28		73.43			
C	Glenn (SV)	Summer	2014	386.94	447.60 447.83	527.29	660.69		_	101.37	125.43 125.64
	Glenn (SV)	Summer	2015	387.27		527.25	661.99	73.38		101.22	
С	Glenn (SV)	Summer	2016	387.55	448.01	527.19	663.37	73.41	88.68		125.88
С	Glenn (SV)	Summer	2017	387.74	448.13	527.06	664.65	73.41	87.43		126.13
С	Glenn (SV)	Summer	2018	387.86	448.22	526.91	665.76	73.43	86.26		126.38
С	Glenn (SV)	Summer	2019	387.96	448.30	526.79	666.74	73.46			126.62
С	Glenn (SV)	Summer	2020	388.02	448.37	526.65	667.59	73.56		100.85	126.85
C	Glenn (SV)	Summer	2021	388.06	448.51	526.53	668.25	73.62		100.90	126.97
C	Glenn (SV)	Summer	2022	388.09	448.64	526.43	668.76	73.68	85.55		127.04
С	Glenn (SV)	Summer	2023	388.10	448.75	526.35	669.12	73.71		100.98	127.23
С	Glenn (SV)	Summer	2024	388.12	448.88	526.29	669.37	73.71		101.00	127.41
С	Glenn (SV)	Summer	2025	388.13	449.00	526.24	669.61	73.72	85.74		127.59
С	Glenn (SV)	Summer	2026	388.17	449.13	526.19	669.78	73.75	85.81	101.03	127.77
С	Glenn (SV)	Summer	2027	388.21	449.21	526.15	669.97	73.76		101.03	127.93
С	Glenn (SV)	Summer	2028	388.24	449.33	526.12	670.17	73.77	85.93	101.03	128.07
С	Glenn (SV)	Summer	2029	388.26	449.45	526.10	670.39	73.78	85.99	101.02	128.21
С	Glenn (SV)	Summer	2030	388.28	449.57	526.08	670.64	73.78		101.01	128.34
С	Glenn (SV)	Summer	2031	388.27	449.67	526.12	670.94	73.79	86.10	101.01	128.47

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1			CO2 Runni	na (a/\/MT	7		CO2 Starting (g/trip) LDA LDT1 LDT2				
	Location						,						
_	01 (01)	Season	Year	LDA	LDT1	LDT2	MDV				MDV		
С	Glenn (SV)	Summer	2032	388.27	449.74	526.13	671.26	73.79	86.15	101.01	128.60		
С	Glenn (SV)	Summer	2033	388.26	449.81	526.14	671.55	73.80	86.19		128.71		
С	Glenn (SV)	Summer	2034	388.25	449.85	526.14	671.85	73.80	86.23	101.01	128.82		
С	Glenn (SV)	Summer	2035	388.24	449.87	526.13	672.11	73.81	86.26		128.92		
С	Glenn (SV)	Winter	2010	335.44	394.64	463.49	577.83	73.80		102.36	125.05		
С	Glenn (SV)	Winter	2011	335.66	393.87	462.51	578.23	73.70	98.07	102.06	125.06		
С	Glenn (SV)	Winter	2012	335.89	393.37	461.80	578.79	73.59	95.83	101.82	125.13		
С	Glenn (SV)	Winter	2013	336.14	392.94	461.25	579.47	73.54	93.69	101.62	125.27		
С	Glenn (SV)	Winter	2014	336.35	392.62	460.83	580.17	73.43	91.83	101.37	125.43		
С	Glenn (SV)	Winter	2015	336.56	392.37	460.51	580.92	73.38	90.19	101.22	125.64		
С	Glenn (SV)	Winter	2016	336.76	392.17	460.25	581.69	73.41	88.68	101.09	125.88		
C	Glenn (SV)	Winter	2017	336.93	392.03	460.06	582.43	73.41	87.43	101.01	126.13		
С	Glenn (SV)	Winter	2018	337.06	391.89	459.91	583.06	73.43	86.26	100.91	126.38		
С	Glenn (SV)	Winter	2019	337.18	391.86	459.79	583.63	73.46	85.63	100.80	126.62		
С	Glenn (SV)	Winter	2020	337.27	391.87	459.70	584.15	73.56	85.43	100.85	126.85		
С	Glenn (SV)	Winter	2021	337.33	391.95	459.61	584.51	73.62	85.50	100.90	126.97		
С	Glenn (SV)	Winter	2022	337.37	392.02	459.54	584.78	73.68	85.55	100.94	127.04		
С	Glenn (SV)	Winter	2023	337.39	392.08	459.47	585.00	73.71	85.61	100.98	127.23		
С	Glenn (SV)	Winter	2024	337.39	392.13	459.40	585.17	73.71	85.66	101.00	127.41		
С	Glenn (SV)	Winter	2025	337.39	392.20	459.34	585.37	73.72	85.74	101.02	127.59		
С	Glenn (SV)	Winter	2026	337.41	392.27	459.27	585.58	73.75	85.81		127.77		
С	Glenn (SV)	Winter	2027	337.42	392.32	459.22	585.80	73.76	85.87	101.03	127.93		
С	Glenn (SV)	Winter	2028	337.42	392.39	459.16	586.00	73.77	85.93	101.03	128.07		
С	Glenn (SV)	Winter	2029	337.42	392.46	459.10	586.21	73.78	85.99	101.02	128.21		
С	Glenn (SV)	Winter	2030	337.42	392.52	459.05	586.42	73.78	86.04	101.02	128.34		
C	Glenn (SV)	Winter	2030	337.42	392.58	459.02	586.66	73.79	86.10	101.01	128.47		
C	Glenn (SV)	Winter	2031	337.42	392.63	459.02	586.91	73.79	86.15	101.01	128.60		
С	Glenn (SV)	Winter	2032		392.67	458.97	587.13	73.80	86.19	101.01	128.71		
C	,	Winter	2033	337.41		458.95		73.80	86.23	101.01	128.82		
C	Glenn (SV) Glenn (SV)	Winter	2034	337.41 337.41	392.71 392.75	458.94	587.32 587.49	73.81	86.26	101.01	128.92		
	,												
С	Humboldt (NC)	Annual	2010	328.57	377.52	451.16	562.78	72.92	85.59	100.40	123.74		
С	Humboldt (NC)	Annual	2011	328.60	377.95	450.57	563.46	72.88	85.26	100.35	123.95		
С	Humboldt (NC)	Annual	2012	328.67	378.37	450.10	564.24	72.86	85.04	100.37	124.22		
С	Humboldt (NC)	Annual	2013	328.79		449.73	565.09	72.87		100.40			
С	Humboldt (NC)	Annual	2014	328.88	379.06	449.44	565.92	72.82	84.72	100.41	124.81		
С	Humboldt (NC)	Annual	2015	329.00	379.39	449.21	566.76	72.83	84.63	100.44	125.14		
С	Humboldt (NC)	Annual	2016	329.16	379.71	449.03	567.57	72.89	84.61	100.49	125.48		
С	Humboldt (NC)	Annual	2017	329.26	379.97	448.88	568.32	72.91	84.54	100.52	125.81		
С	Humboldt (NC)	Annual	2018	329.35	380.20	448.76	568.98	72.94	84.52	100.55	126.12		
С	Humboldt (NC)	Annual	2019	329.43	380.44	448.67	569.54	72.98	84.60	100.61	126.42		
С	Humboldt (NC)	Annual	2020	329.49	380.65	448.59	570.03	73.07	84.71	100.67	126.69		
С	Humboldt (NC)	Annual	2021	329.54	380.81	448.52	570.42	73.13	84.84	100.74	126.93		
С	Humboldt (NC)	Annual	2022	329.54	380.94	448.44	570.75	73.18	84.95	100.79	127.13		
С	Humboldt (NC)	Annual	2023	329.49	381.04	448.37	571.00	73.20	85.06	100.83	127.34		
С	Humboldt (NC)	Annual	2024	329.42	381.10	448.30	571.20	73.19	85.15	100.87	127.53		
С	Humboldt (NC)	Annual	2025	329.38	381.21	448.25	571.38	73.20	85.25	100.90	127.70		
С	Humboldt (NC)	Annual	2026	329.39	381.36	448.19	571.56	73.22	85.36	100.92	127.86		
С	Humboldt (NC)	Annual	2027	329.39	381.51	448.13	571.75	73.24	85.47	100.94	128.01		
С	Humboldt (NC)	Annual	2028	329.39	381.66	448.08	571.95	73.25	85.56	100.95	128.15		
С	Humboldt (NC)	Annual	2029	329.38	381.80	448.02	572.14	73.25	85.65	100.96	128.28		
С	Humboldt (NC)	Annual	2030	329.36	381.95	447.93	572.34	73.25	85.74	100.95	128.41		
С	Humboldt (NC)	Annual	2031	329.35	382.09	447.90	572.56	73.26	85.82	100.95	128.53		
С	Humboldt (NC)	Annual	2032	329.34	382.22	447.86	572.78	73.27	85.90	100.96	128.65		
С	Humboldt (NC)	Annual	2033	329.34	382.34	447.84	572.97	73.27	85.97	100.96	128.76		
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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	ı			CO2 Bunni	na (a/\/NAT	`						
	Location				CO2 Runni								
_	Lhorada a late (NIO)	Season	Year	LDA	LDT1	LDT2	MDV				MDV		
<u>C</u>	Humboldt (NC)	Annual	2034	329.33	382.45	447.82	573.15	73.28	86.03	100.97	128.86		
С	Humboldt (NC)	Annual	2035	329.32	382.53	447.80	573.30	73.28	86.09	100.97	128.95		
С	Humboldt (NC)	Summer	2010	328.37	377.33	450.90	562.46	72.92	85.59	100.40	123.74		
C	Humboldt (NC)	Summer	2011	328.40	377.76	450.31	563.15	72.88	85.26	100.35	123.95		
С	Humboldt (NC)	Summer	2012	328.47	378.17	449.85	563.92	72.86	85.04	100.37	124.22		
C	Humboldt (NC)	Summer	2013	328.60	378.54	449.48	564.78	72.87	84.87	100.40	124.52		
С	Humboldt (NC)	Summer	2014	328.68	378.86	449.18	565.60	72.82	84.72	100.41	124.81		
С	Humboldt (NC)	Summer	2015	328.81	379.18	448.95	566.44	72.83	84.63	100.44	125.14		
С	Humboldt (NC)	Summer	2016	328.96	379.50	448.77	567.25	72.89	84.61	100.49	125.48		
С	Humboldt (NC)	Summer	2017	329.06	379.76	448.61	568.00	72.91	84.54	100.52	125.81		
С	Humboldt (NC)	Summer	2018	329.15	379.99	448.50	568.65	72.94	84.52	100.55	126.12		
С	Humboldt (NC)	Summer	2019	329.23	380.22	448.41	569.21	72.98	84.60	100.61	126.42		
С	Humboldt (NC)	Summer	2020	329.30	380.43	448.33	569.70	73.07	84.71	100.67	126.69		
С	Humboldt (NC)	Summer	2021	329.34	380.59	448.26	570.09	73.13	84.84	100.74	126.93		
С	Humboldt (NC)	Summer	2022	329.34	380.72	448.18	570.42	73.18	84.95	100.79	127.13		
С	Humboldt (NC)	Summer	2023	329.30	380.82	448.11	570.67	73.20	85.06	100.83	127.34		
С	Humboldt (NC)	Summer	2024	329.22	380.89	448.04	570.87	73.19	85.15	100.87	127.53		
С	Humboldt (NC)	Summer	2025	329.18	380.99	447.99	571.05	73.20	85.25	100.90	127.70		
С	Humboldt (NC)	Summer	2026	329.19	381.14	447.93	571.23	73.22	85.36	100.92	127.86		
С	Humboldt (NC)	Summer	2027	329.20	381.29	447.87	571.42	73.24	85.47	100.94	128.01		
С	Humboldt (NC)	Summer	2028	329.19	381.43	447.82	571.62	73.25	85.56	100.95	128.15		
С	Humboldt (NC)	Summer	2029	329.18	381.58	447.75	571.81	73.25	85.65	100.96	128.28		
С	Humboldt (NC)	Summer	2030	329.16	381.72	447.67	572.00	73.25	85.74	100.95	128.41		
С	Humboldt (NC)	Summer	2031	329.15	381.87	447.63	572.23	73.26	85.82	100.95	128.53		
С	Humboldt (NC)	Summer	2032	329.15	382.00	447.60	572.45	73.27	85.90	100.96	128.65		
С	Humboldt (NC)	Summer	2033	329.14	382.12	447.58	572.64	73.27	85.97	100.96	128.76		
С	Humboldt (NC)	Summer	2034	329.13	382.22	447.55	572.81	73.28	86.03	100.97	128.86		
С	Humboldt (NC)	Summer	2035	329.13	382.31	447.53	572.97	73.28	86.09	100.97	128.95		
С	Humboldt (NC)	Winter	2010	327.32	376.27	449.51	560.73	72.92	85.59	100.40	123.74		
С	Humboldt (NC)	Winter	2011	327.34	376.67	448.90	561.41	72.88	85.26	100.35	123.95		
С	Humboldt (NC)	Winter	2012	327.40	377.05	448.43	562.18	72.86	85.04	100.37	124.22		
С	Humboldt (NC)	Winter	2013	327.52	377.40	448.05	563.02	72.87	84.87	100.40	124.52		
С	Humboldt (NC)	Winter	2014	327.59	377.71	447.75	563.84	72.82	84.72	100.41	124.81		
С	Humboldt (NC)	Winter	2015	327.71	378.02	447.51	564.67	72.83	84.63	100.44	125.14		
С	Humboldt (NC)	Winter	2016	327.86	378.33	447.32	565.46	72.89	84.61	100.49	125.48		
С	Humboldt (NC)	Winter	2017	327.97	378.58	447.16	566.20	72.91	84.54	100.52	125.81		
С	Humboldt (NC)	Winter	2018	328.06	378.80	447.04	566.84	72.94	84.52	100.55	126.12		
С	Humboldt (NC)	Winter	2019	328.14	379.03	446.95	567.40	72.98	84.60	100.61	126.42		
С	Humboldt (NC)	Winter	2020	328.20	379.23	446.88	567.88	73.07	84.71	100.67	126.69		
С	Humboldt (NC)	Winter	2021	328.25	379.39	446.80	568.27	73.13	84.84	100.74	126.93		
C	Humboldt (NC)	Winter	2022	328.25	379.51	446.73	568.60	73.18	84.95	100.79	127.13		
C	Humboldt (NC)	Winter	2023	328.20	379.61	446.65	568.84	73.20	85.06	100.83	127.34		
С	Humboldt (NC)	Winter	2024	328.13	379.67	446.58	569.04	73.19	85.15		127.53		
C	Humboldt (NC)	Winter	2025	328.09	379.77	446.53	569.21	73.20	85.25	100.90	127.70		
С	Humboldt (NC)	Winter	2026	328.10	379.92	446.47	569.40	73.22	85.36	100.92	127.86		
С	Humboldt (NC)	Winter	2027	328.10	380.06	446.42	569.59	73.24	85.47	100.94	128.01		
С	Humboldt (NC)	Winter	2028	328.10	380.21	446.36	569.78	73.25	85.56	100.95	128.15		
С	Humboldt (NC)	Winter	2029	328.08	380.35	446.30	569.97	73.25	85.65	100.96	128.28		
C	Humboldt (NC)	Winter	2030	328.06	380.49	446.22	570.17	73.25	85.74	100.95	128.41		
<u>с</u>	Humboldt (NC)	Winter	2030	328.06	380.63	446.18	570.17	73.26	85.82	100.95	128.53		
C	Humboldt (NC)	Winter	2031	328.05	380.76	446.14	570.61	73.27	85.90	100.96	128.65		
C	Humboldt (NC)	Winter	2032	328.04	380.88	446.12	570.80	73.27	85.97	100.96	128.76		
C	Humboldt (NC)	Winter	2033	328.04	380.98	446.12	570.80	73.28	86.03	100.96	128.86		
С	Humboldt (NC)	Winter	2034	328.03	381.07	446.10	571.12	73.28	86.09	100.97	128.95		
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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		1		O2 Runni	na (a/\/MT)		CO2 Star	tina (a/tr	in)
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Imperial (SS)	Annual	2010	333.06	382.51	456.21	575.78	72.99	86.06	100.65	125.48
	Imperial (SS)	Annual	2011	332.74	382.65	455.12	575.21	73.04	85.73	100.60	125.71
	Imperial (SS)	Annual	2012	333.03	383.36	454.93	575.79	73.14	85.50	100.60	125.97
h +	Imperial (SS)	Annual	2012	331.75	382.30	452.68	573.90	73.23	85.37	100.58	126.29
	Imperial (SS)	Annual	2014	331.98	382.91	452.61	574.66	73.31	85.29	100.59	126.61
	Imperial (SS)	Annual	2015	327.26	377.77	445.90	566.93	73.39	85.24	100.62	126.91
	Imperial (SS)	Annual	2016	327.26	378.16	445.86	567.56	73.41	85.18	100.65	127.20
	Imperial (SS)	Annual	2017	327.39	378.50	445.81	568.11	73.41	85.15	100.65	127.47
	Imperial (SS)	Annual	2017	327.40	378.76	445.76	568.55	73.39	85.16	100.65	127.47
	Imperial (SS)	Annual	2019	327.23	378.80	445.47	568.62	73.39	85.24	100.69	127.71
	Imperial (SS)	Annual	2020	327.21	379.01	445.41	568.92	73.41	85.34	100.76	128.13
	Imperial (SS)	Annual	2020	327.21	379.11	445.34	569.08	73.42	85.44	100.70	128.28
	Imperial (SS)	Annual	2021	327.13	379.11	445.26	569.20	73.42	85.52	100.84	128.40
	Imperial (SS)	Annual	2023 2024	326.91 329.56	379.26 382.51	445.18 448.87	569.30 574.16	73.35 73.32	85.60 85.66	100.87	128.53 128.63
-	Imperial (SS)	Annual									
	Imperial (SS)	Annual	2025	329.46	382.58	448.83	574.22	73.28	85.73	100.92	128.73
	Imperial (SS)	Annual	2026	329.42 329.39	382.67	448.77 448.73	574.27	73.26	85.80	100.94	128.82 128.90
	Imperial (SS)	Annual	2027		382.76		574.32	73.24	85.86	100.95	
1	Imperial (SS)	Annual	2028	329.37	382.86	448.71	574.39	73.23	85.92	100.96	128.97
	Imperial (SS)	Annual	2029	329.36	382.96	448.68	574.47	73.21	85.97	100.96	129.04
-	Imperial (SS)	Annual	2030	329.34	383.07	448.66	574.55	73.20	86.02	100.97	129.10
	Imperial (SS)	Annual	2031	329.66	383.57	449.13	575.24	73.19	86.07	100.97	129.15
	Imperial (SS)	Annual	2032	329.64	383.67	449.12	575.31	73.18	86.11	100.97	129.21
	Imperial (SS)	Annual	2033	329.63	383.75	449.11	575.38	73.18	86.15	100.98	129.26
	Imperial (SS)	Annual	2034	329.63	383.82	449.11	575.45	73.18	86.19		129.30
	Imperial (SS)	Annual	2035	329.62	383.88	449.10	575.52	73.18	86.22	100.98	129.34
	Imperial (SS)	Summer	2010	341.49	391.06	467.38	590.08	72.99	86.06		125.48
	Imperial (SS)	Summer	2011	341.29	391.47	466.40	589.55	73.04	85.73	100.60	125.71
	Imperial (SS)	Summer	2012	341.64	392.37	466.28	590.14	73.14	85.50	100.60	125.97
-	Imperial (SS)	Summer	2013	340.37	391.46	464.05	588.24	73.23	85.37	100.58	126.29
	Imperial (SS)	Summer	2014	340.64	392.20	464.05	589.07	73.31	85.29	100.59	126.61
	Imperial (SS)	Summer	2015	335.82	387.05	457.23	581.20	73.39	85.24	100.62	126.91
-	Imperial (SS)	Summer	2016	335.93	387.53	457.23	581.90	73.41	85.18	100.65	127.20
	Imperial (SS)	Summer	2017	335.98	387.93	457.21	582.52	73.41		100.65	
	Imperial (SS)	Summer	2018	335.99	388.23	457.17	583.00	73.39		100.65	127.71
	Imperial (SS)	Summer	2019	335.83	388.32	456.89	583.10	73.39	85.24		127.93
	Imperial (SS)	Summer	2020	335.80	388.55	456.83	583.42	73.41	85.34		
-	Imperial (SS)	Summer	2021	335.69	388.62	456.70	583.51	73.42	85.44		128.28
	Imperial (SS)	Summer	2022	335.56	388.70	456.60	583.62	73.39	85.52	100.84	128.40
	Imperial (SS)	Summer	2023	335.42	388.78	456.51	583.70	73.35		100.87	128.53
	Imperial (SS)	Summer	2024	338.10	392.07	460.23	588.61	73.32		100.89	128.63
	Imperial (SS)	Summer	2025	338.00	392.15	460.18	588.66	73.28		100.92	128.73
	Imperial (SS)	Summer	2026	337.95	392.24	460.11	588.69	73.26		100.94	128.82
	Imperial (SS)	Summer	2027	337.92	392.33	460.07	588.73	73.24		100.95	128.90
	Imperial (SS)	Summer	2028	337.91	392.44	460.04	588.80	73.23	85.92		128.97
	Imperial (SS)	Summer	2029	337.90	392.56	460.02	588.88	73.21	85.97	100.96	129.04
	Imperial (SS)	Summer	2030	337.89	392.68	460.00	588.96	73.20	86.02	100.97	129.10
	Imperial (SS)	Summer	2031	338.20	393.18	460.46	589.62	73.19	86.07		129.15
	Imperial (SS)	Summer	2032	338.17	393.28	460.45	589.69	73.18	86.11		129.21
-	Imperial (SS)	Summer	2033	338.16	393.37	460.44	589.76	73.18		100.98	129.26
	Imperial (SS)	Summer	2034	338.16	393.45	460.44	589.84	73.18		100.98	129.30
	Imperial (SS)	Summer	2035	338.15	393.51	460.44	589.91	73.18	86.22		129.34
_	Imperial (SS)	Winter	2010	314.45	363.62	431.53	544.19	72.99		100.65	125.48
С	Imperial (SS)	Winter	2011	313.97 D-180	363.27	430.33	543.72	73.04	85.73	100.60	125.71

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		<u> </u>	(CO2 Runni	na (a/\/MT	7		CO2 Starting (g/tri LDA LDT1 LDT2 73.14 85.50 100.60				
	Location	Cassan	Voor	LDA	LDT1		MDV				MDV		
С	Imporial (SS)	Season Winter	Year 2012	314.13	363.55	LDT2 430.01	544.27				125.97		
c C	Imperial (SS)	Winter											
_	Imperial (SS)		2013	312.79	362.16	427.68	542.37	73.23	85.37	100.58	126.29		
C C	Imperial (SS)	Winter	2014	312.93	362.45	427.46	542.97	73.31	85.29	100.59	126.61		
C C	Imperial (SS)	Winter	2015	308.44	357.38	421.00	535.54	73.39	85.24	100.62	126.91		
C	Imperial (SS)	Winter	2016	308.50	357.58	420.87	536.02	73.41	85.18	100.65	127.20		
C	Imperial (SS)	Winter	2017	308.52	357.77	420.75	536.45	73.41	85.15	100.65	127.47		
С	Imperial (SS)	Winter	2018	308.53	357.93	420.67	536.81	73.39	85.16	100.65	127.71		
C	Imperial (SS)	Winter	2019	308.38	357.91	420.39	536.83	73.39	85.24	100.69	127.93		
C	Imperial (SS)	Winter	2020	308.36	358.06	420.34	537.09	73.41	85.34	100.76	128.13		
С	Imperial (SS)	Winter	2021	308.33	358.16	420.31	537.29	73.42	85.44	100.80	128.28		
С	Imperial (SS)	Winter	2022	308.24	358.22	420.27	537.43	73.39	85.52	100.84	128.40		
С	Imperial (SS)	Winter	2023	308.13	358.28	420.22	537.54	73.35	85.60	100.87	128.53		
С	Imperial (SS)	Winter	2024	310.65	361.33	423.72	542.17	73.32	85.66	100.89	128.63		
С	Imperial (SS)	Winter	2025	310.55	361.39	423.70	542.25	73.28	85.73	100.92	128.73		
С	Imperial (SS)	Winter	2026	310.52	361.47	423.66	542.33	73.26	85.80	100.94	128.82		
С	Imperial (SS)	Winter	2027	310.48	361.55	423.63	542.41	73.24	85.86	100.95	128.90		
С	Imperial (SS)	Winter	2028	310.46	361.64	423.61	542.49	73.23	85.92	100.96	128.97		
С	Imperial (SS)	Winter	2029	310.44	361.71	423.57	542.57	73.21	85.97	100.96	129.04		
С	Imperial (SS)	Winter	2030	310.42	361.79	423.54	542.64	73.20	86.02	100.97	129.10		
С	Imperial (SS)	Winter	2031	310.73	362.26	423.98	543.31	73.19	86.07	100.97	129.15		
С	Imperial (SS)	Winter	2032	310.71	362.33	423.97	543.39	73.18	86.11	100.97	129.21		
С	Imperial (SS)	Winter	2033	310.71	362.40	423.97	543.46	73.18	86.15	100.98	129.26		
С	Imperial (SS)	Winter	2034	310.70	362.46	423.96	543.52	73.18	86.19	100.98	129.30		
С	Imperial (SS)	Winter	2035	310.70	362.51	423.95	543.58	73.18	86.22	100.98	129.34		
С	Inyo (GBV)	Annual	2010	356.66	415.27	486.92	609.08	74.86	92.72	102.09	125.24		
С	Inyo (GBV)	Annual	2011	356.50	414.78	486.39	609.72	74.57	91.41	101.86	125.33		
С	Inyo (GBV)	Annual	2012	356.50	414.32	485.97	610.47	74.43	90.24	101.67	125.47		
С	Inyo (GBV)	Annual	2013	356.41	413.93	485.65	611.26	74.15	89.28	101.48	125.65		
С	Inyo (GBV)	Annual	2014	356.31	413.56	485.39	612.03	73.85	88.38	101.20	125.84		
С	Inyo (GBV)	Annual	2015	356.32	413.22	485.18	612.87	73.72	87.54	101.16	126.06		
С	Inyo (GBV)	Annual	2016	356.43	413.02	485.02	613.71	73.74	86.96	101.06	126.28		
С	Inyo (GBV)	Annual	2017	356.44	412.83	484.88	614.47	73.66	86.43	100.99	126.51		
С	Inyo (GBV)	Annual	2018	356.41	412.64	484.77	615.10	73.56	85.95	100.90	126.74		
C	Inyo (GBV)	Annual	2019	356.43			615.66	73.55		100.82	126.95		
C	Inyo (GBV)	Annual	2020	356.41	412.45	484.57	616.15	73.60	85.52	100.83	127.15		
c	Inyo (GBV)	Annual	2021	356.36	412.35	484.47	616.45	73.62	85.52		127.29		
C	Inyo (GBV)	Annual	2022	356.25	412.28	484.37	616.71	73.62	85.52		127.41		
C	Inyo (GBV)	Annual	2023	356.15		484.26	616.90	73.62	85.53		127.57		
C	Inyo (GBV)	Annual	2024	356.06	412.13	484.17	617.04	73.61	85.55	100.93	127.72		
С	Inyo (GBV)	Annual	2025	355.99	412.20	484.11	617.17	73.61	85.62	100.96	127.86		
C	Inyo (GBV)	Annual	2026	356.00	412.34	484.04	617.36	73.63	85.70		128.02		
c C	, , ,		2027	356.00	412.49	483.97		73.64	85.78		128.16		
C	Inyo (GBV)	Annual	2027	355.00	412.49		617.56 617.74				128.16		
	Inyo (GBV)	Annual				483.91		73.64	85.86	101.00	128.29		
C C	Inyo (GBV)	Annual	2029	355.98	412.78	483.84	617.93	73.65					
C C	Inyo (GBV)	Annual	2030	355.96	412.92	483.77	618.12	73.65		101.00	128.52		
C C	Inyo (GBV)	Annual	2031	355.95	413.07	483.74	618.34	73.65		101.01	128.63		
<u>C</u>	Inyo (GBV)	Annual	2032	355.94	413.20	483.70	618.56	73.66	86.12		128.75		
C	Inyo (GBV)	Annual	2033	355.94	413.32	483.67	618.76	73.66	86.17	101.01	128.85		
C	Inyo (GBV)	Annual	2034	355.93	413.42	483.64	618.94	73.67	86.22	101.02	128.94		
C	Inyo (GBV)	Annual	2035	355.93	413.51	483.62	619.10	73.67	86.27	101.02	129.02		
C	Inyo (GBV)	Summer	2010	381.10	438.56	518.79	649.11	74.86	92.72	102.09	125.24		
C	Inyo (GBV)	Summer	2011	381.22	438.92	518.54	649.84	74.57	91.41		125.33		
С	Inyo (GBV)	Summer	2012	381.40	439.18	518.36	650.75	74.43	90.24		125.47		
С	Inyo (GBV)	Summer	2013	381.47	439.37	518.27	651.73	74.15	89.28	101.48	125.65		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	l		-	CO2 Runni	na (a/\/MT)		CO2 Star	tina (a/tri	n)
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Inyo (GBV)	Summer	2014	381.49	439.47	518.25	652.71	73.85	88.38	101.20	125.84
C	Inyo (GBV)	Summer	2014	381.58	439.47	518.19	653.82	73.72	87.54		126.06
C	, , ,	Summer	2016	381.72	439.71	518.18	654.92	73.74		101.16	126.28
c C	Inyo (GBV)	Summer	2016	381.76	439.71	518.15	655.93	73.66	86.96 86.43		126.20
	, ,										126.74
С	Inyo (GBV)	Summer	2018	381.73	439.85	518.11	656.75	73.56	85.95	100.90	
С	Inyo (GBV)	Summer	2019	381.76	439.93	518.07	657.48	73.55	85.62	100.82	126.95
С	Inyo (GBV)	Summer	2020	381.74	440.02	518.02	658.12	73.60	85.52	100.83	127.15
С	Inyo (GBV)	Summer	2021	381.69	440.06	517.94	658.52	73.62	85.52	100.87	127.29
С	Inyo (GBV)	Summer	2022	381.59	440.10	517.85	658.87	73.62	85.52	100.90	127.41
С	Inyo (GBV)	Summer	2023	381.50	440.13	517.78	659.12	73.62	85.53	100.92	127.57
С	Inyo (GBV)	Summer	2024	381.41	440.18	517.72	659.32	73.61	85.55	100.93	127.72
С	Inyo (GBV)	Summer	2025	381.36	440.29	517.67	659.49	73.61	85.62	100.96	127.86
С	Inyo (GBV)	Summer	2026	381.37	440.49	517.60	659.72	73.63	85.70	100.98	128.02
С	Inyo (GBV)	Summer	2027	381.38	440.72	517.54	659.94	73.64	85.78	101.00	128.16
С	Inyo (GBV)	Summer	2028	381.39	440.92	517.49	660.17	73.64	85.86	101.00	128.29
С	Inyo (GBV)	Summer	2029	381.39	441.13	517.43	660.40	73.65	85.93	101.01	128.40
С	Inyo (GBV)	Summer	2030	381.38	441.32	517.38	660.64	73.65	85.99	101.00	128.52
С	Inyo (GBV)	Summer	2031	381.38	441.54	517.35	660.90	73.65	86.06	101.01	128.63
С	Inyo (GBV)	Summer	2032	381.38	441.71	517.32	661.15	73.66	86.12	101.01	128.75
С	Inyo (GBV)	Summer	2033	381.37	441.88	517.29	661.39	73.66	86.17	101.01	128.85
С	Inyo (GBV)	Summer	2034	381.37	442.01	517.27	661.61	73.67	86.22	101.02	128.94
С	Inyo (GBV)	Summer	2035	381.36	442.11	517.25	661.80	73.67	86.27	101.02	129.02
С	Inyo (GBV)	Winter	2010	379.51	437.04	516.71	646.50	74.86	92.72	102.09	125.24
С	Inyo (GBV)	Winter	2011	379.61	437.35	516.44	647.23	74.57	91.41	101.86	125.33
С	Inyo (GBV)	Winter	2012	379.78	437.56	516.26	648.13	74.43	90.24	101.67	125.47
С	Inyo (GBV)	Winter	2013	379.84	437.71	516.14	649.10	74.15	89.28	101.48	125.65
С	Inyo (GBV)	Winter	2014	379.85	437.79	516.11	650.06	73.85	88.38	101.20	125.84
С	Inyo (GBV)	Winter	2015	379.93	437.87	516.04	651.15	73.72	87.54	101.16	126.06
С	Inyo (GBV)	Winter	2016	380.08	437.97	516.02	652.24	73.74	86.96	101.06	126.28
С	Inyo (GBV)	Winter	2017	380.11	438.05	515.98	653.23	73.66	86.43	100.99	126.51
С	Inyo (GBV)	Winter	2018	380.09	438.08	515.94	654.04	73.56	85.95	100.90	126.74
C	Inyo (GBV)	Winter	2019	380.11	438.15	515.90	654.76	73.55	85.62	100.82	126.95
C	Inyo (GBV)	Winter	2020	380.09	438.23	515.84	655.39	73.60	85.52	100.83	127.15
С	Inyo (GBV)	Winter	2021	380.04			655.79	73.62		100.87	127.29
С	Inyo (GBV)	Winter	2022	379.94	438.29	515.68	656.13	73.62	85.52	100.90	127.41
С	Inyo (GBV)	Winter	2023	379.85	438.32	515.60	656.37	73.62	85.53		127.57
С	Inyo (GBV)	Winter	2024	379.76	438.35	515.54	656.57	73.61			127.72
С	Inyo (GBV)	Winter	2025	379.71	438.46	515.49	656.74	73.61	85.62		127.86
C	Inyo (GBV)	Winter	2026	379.72	438.66	515.42	656.96	73.63	85.70		128.02
C	Inyo (GBV)	Winter	2026	379.72	438.88	515.42	657.18	73.64	85.78		128.16
C	Inyo (GBV)		2027	379.73	430.00	515.30	657.16	73.64	85.86		128.29
	, , ,	Winter									
С	Inyo (GBV)	Winter	2029	379.73	439.29	515.25	657.64	73.65	85.93		128.40
С	Inyo (GBV)	Winter	2030	379.72	439.47	515.19	657.87	73.65	85.99		128.52
С	Inyo (GBV)	Winter	2031	379.72	439.68	515.16	658.13	73.65	86.06		128.63
С	Inyo (GBV)	Winter	2032	379.72	439.86	515.13	658.38	73.66	86.12		128.75
С	Inyo (GBV)	Winter	2033	379.72	440.02	515.11	658.62	73.66	86.17	101.01	128.85
C	Inyo (GBV)	Winter	2034	379.71	440.15	515.08	658.83	73.67	86.22	101.02	128.94
С	Inyo (GBV)	Winter	2035	379.71	440.25	515.06	659.02	73.67	86.27	101.02	129.02
С	Kern (MD)	Annual	2010	336.08	392.10	460.74	577.53	74.06	93.66	100.99	125.79
С	Kern (MD)	Annual	2011	336.60	392.15	460.74	578.88	73.94	91.90		125.91
С	Kern (MD)	Annual	2012	336.72	391.78	460.32	579.53	73.83	90.38		126.04
С	Kern (MD)	Annual	2013	336.85	391.46	460.00	580.23	73.76	89.06	100.75	126.20
С	Kern (MD)	Annual	2014	336.97	391.23	459.75	580.93	73.68	88.03		126.38
С	Kern (MD)	Annual	2015	337.07	391.05	459.55	581.63	73.61	87.19	100.70	126.58

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	Ī		-	CO2 Runni	na (a/\/MT	7		CO2 Star	ting (g/tri	n)
	Location	Cassan	Veer	LDA			MDV	LDA			MDV
	Korn (MD)	Season	Year		LDT1	LDT2			LDT1	LDT2	
C C	Kern (MD)	Annual	2016	337.08	390.85	459.24	582.18	73.59	86.61	100.72	126.80
C	Kern (MD)	Annual	2017	337.18	390.73	459.10	582.87	73.57	85.95		127.03
C	Kern (MD)	Annual	2018	337.24	390.67	458.98	583.45	73.54	85.51	100.67	127.24
С	Kern (MD)	Annual	2019	337.31	390.73	458.89	583.95	73.55	85.38	100.69	127.44
С	Kern (MD)	Annual	2020	337.37	390.79	458.81	584.40	73.62	85.36	100.74	127.63
C	Kern (MD)	Annual	2021	338.50	392.19	460.25	586.62	73.68	85.47	100.80	127.74
С	Kern (MD)	Annual	2022	338.52	392.29	460.18	586.87	73.72	85.56	100.85	127.82
С	Kern (MD)	Annual	2023	338.51	392.38	460.12	587.07	73.75	85.64	100.89	127.98
С	Kern (MD)	Annual	2024	338.48	392.46	460.06	587.20	73.76	85.71	100.92	128.12
С	Kern (MD)	Annual	2025	338.48	392.53	460.01	587.35	73.78	85.78	100.95	128.26
С	Kern (MD)	Annual	2026	338.50	392.63	459.97	587.56	73.79	85.84	100.97	128.40
С	Kern (MD)	Annual	2027	338.52	392.72	459.92	587.75	73.81	85.90	100.98	128.53
С	Kern (MD)	Annual	2028	338.53	392.80	459.88	587.93	73.82	85.95	100.99	128.65
С	Kern (MD)	Annual	2029	338.53	392.88	459.83	588.10	73.82	86.00	100.99	128.75
С	Kern (MD)	Annual	2030	338.52	392.95	459.78	588.27	73.82	86.04	100.98	128.85
С	Kern (MD)	Annual	2031	338.52	393.02	459.75	588.42	73.83	86.08	100.99	128.94
С	Kern (MD)	Annual	2032	338.52	393.08	459.73	588.57	73.83	86.12	100.99	129.02
С	Kern (MD)	Annual	2033	338.52	393.13	459.71	588.70	73.84	86.16	100.99	129.09
С	Kern (MD)	Annual	2034	338.52	393.17	459.69	588.81	73.84	86.19	101.00	129.16
С	Kern (MD)	Annual	2035	338.52	393.20	459.67	588.91	73.84	86.21	101.00	129.22
С	Kern (MD)	Summer	2010	370.45	428.06	505.41	634.10	74.06	93.66	100.99	125.79
С	Kern (MD)	Summer	2011	371.25	428.88	505.98	635.59	73.94	91.90	100.87	125.91
С	Kern (MD)	Summer	2012	371.53	429.08	505.93	636.35	73.83	90.38	100.77	126.04
С	Kern (MD)	Summer	2013	371.80	429.22	505.88	637.24	73.76	89.06	100.75	126.20
С	Kern (MD)	Summer	2014	372.02	429.32	505.86	638.18	73.68	88.03	100.72	126.38
С	Kern (MD)	Summer	2015	372.21	429.42	505.83	639.13	73.61	87.19	100.70	126.58
С	Kern (MD)	Summer	2016	372.30	429.42	505.66	640.02	73.59	86.61	100.72	126.80
С	Kern (MD)	Summer	2017	372.46	429.55	505.63	641.01	73.57	85.95	100.70	127.03
С	Kern (MD)	Summer	2018	372.55	429.66	505.57	641.83	73.54	85.51	100.67	127.24
С	Kern (MD)	Summer	2019	372.63	429.83	505.50	642.53	73.55	85.38	100.69	127.44
С	Kern (MD)	Summer	2020	372.70	430.00	505.43	643.14	73.62	85.36	100.74	127.63
C	Kern (MD)	Summer	2021	373.95	431.58	507.02	645.71	73.68	85.47	100.80	127.74
C	Kern (MD)	Summer	2022	373.96	431.73	506.96	646.06	73.72	85.56	100.85	127.82
С	Kern (MD)	Summer	2023	373.95			646.33			100.89	
C	Kern (MD)	Summer	2024	373.93	431.99	506.83	646.50	73.76	85.71	100.92	128.12
С	Kern (MD)	Summer	2025	373.93	432.11	506.78	646.66	73.78		100.95	128.26
С	Kern (MD)	Summer	2026	373.97	432.28	506.79	646.94	73.79		100.97	128.40
C	Kern (MD)	Summer	2027	374.00	432.43	506.79	647.19	73.81	85.90		128.53
C	Kern (MD)	Summer	2028	374.00	432.56	506.79	647.41	73.82	85.95	100.99	128.65
C	Kern (MD)	Summer	2029	374.02	432.69	506.79	647.62	73.82	86.00	100.99	128.75
C	Kern (MD)	Summer	2030	374.04	432.80	506.77	647.82	73.82	86.04		128.85
C	Kern (MD)	Summer	2030	374.04	432.90	506.73	647.98	73.83	86.08		128.94
C	,		2031	374.04	432.90		648.14	73.83	86.08		128.94
	Kern (MD)	Summer				506.71					
C	Kern (MD)	Summer	2033	374.04	433.05	506.68	648.28	73.84		100.99	129.09
С	Kern (MD)	Summer	2034	374.04	433.09	506.66	648.41	73.84		101.00	129.16
C	Kern (MD)	Summer	2035	374.03	433.12	506.63	648.53	73.84			129.22
C	Kern (MD)	Winter	2010	325.30	380.82	446.72	559.78	74.06	93.66		125.79
C	Kern (MD)	Winter	2011	325.73	380.63	446.54	561.09	73.94	91.90	100.87	125.91
C	Kern (MD)	Winter	2012	325.80	380.08	446.01	561.70	73.83	90.38	100.77	126.04
C	Kern (MD)	Winter	2013	325.89	379.61	445.61	562.35	73.76	89.06		126.20
C	Kern (MD)	Winter	2014	325.97	379.28	445.29	562.97	73.68	88.03		126.38
С	Kern (MD)	Winter	2015	326.05	379.02	445.03	563.59	73.61	87.19		126.58
С	Kern (MD)	Winter	2016	326.03	378.75	444.68	564.04	73.59	86.61		126.80
С	Kern (MD)	Winter	2017	326.12	378.55	444.51	564.64	73.57	85.95	100.70	127.03

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	l			CO2 Runni	na (a/\/MT	7		CO2 Star	tina (a/tri	n)
	Location	Season	Voor	LDA			MDV	LDA	LDT1		MDV
	Korn (MD)	Winter	Year		LDT1	LDT2				LDT2	
C C	Kern (MD)		2018	326.17	378.44	444.37	565.14	73.54	85.51	100.67	127.24
_	Kern (MD)	Winter	2019	326.23	378.47	444.27	565.58	73.55	85.38		127.44
C C	Kern (MD)	Winter	2020	326.29	378.49	444.19	565.97	73.62	85.36		127.63
C C	Kern (MD)	Winter	2021	327.38	379.84	445.58	568.09	73.68	85.47	100.80	127.74
C	Kern (MD)	Winter	2022	327.40	379.92	445.51	568.30	73.72	85.56	100.85	127.82
C	Kern (MD)	Winter	2023	327.39	379.99	445.45	568.48	73.75	85.64	100.89	127.98
C	Kern (MD)	Winter	2024	327.36	380.05	445.39	568.60	73.76	85.71	100.92	128.12
C	Kern (MD)	Winter	2025	327.36	380.12	445.34	568.75	73.78	85.78	100.95	128.26
C	Kern (MD)	Winter	2026	327.38	380.19	445.29	568.94	73.79	85.84	100.97	128.40
C	Kern (MD)	Winter	2027	327.39	380.27	445.22	569.11	73.81	85.90	100.98	128.53
С	Kern (MD)	Winter	2028	327.39	380.33	445.17	569.28	73.82	85.95	100.99	128.65
С	Kern (MD)	Winter	2029	327.39	380.39	445.11	569.43	73.82	86.00	100.99	128.75
С	Kern (MD)	Winter	2030	327.38	380.45	445.05	569.59	73.82	86.04	100.98	128.85
С	Kern (MD)	Winter	2031	327.38	380.51	445.02	569.73	73.83	86.08	100.99	128.94
С	Kern (MD)	Winter	2032	327.38	380.56	445.00	569.88	73.83	86.12	100.99	129.02
С	Kern (MD)	Winter	2033	327.38	380.61	444.98	570.01	73.84	86.16	100.99	129.09
С	Kern (MD)	Winter	2034	327.38	380.65	444.96	570.12	73.84	86.19	101.00	129.16
С	Kern (MD)	Winter	2035	327.38	380.68	444.94	570.22	73.84	86.21	101.00	129.22
С	Kern (SJV)	Annual	2010	372.18	426.19	509.12	641.67	73.42	84.89	100.24	125.09
С	Kern (SJV)	Annual	2011	372.44	427.30	508.94	642.35	73.43	84.72	100.24	125.33
С	Kern (SJV)	Annual	2012	372.69	428.18	508.79	643.02	73.45	84.62	100.27	125.57
С	Kern (SJV)	Annual	2013	372.35	428.23	507.88	642.72	73.49	84.53	100.30	125.82
С	Kern (SJV)	Annual	2014	372.56	428.86	507.81	643.44	73.51	84.49	100.33	126.07
С	Kern (SJV)	Annual	2015	373.51	430.29	508.76	645.47	73.56	84.48	100.37	126.34
С	Kern (SJV)	Annual	2016	373.71	430.80	508.73	646.20	73.62	84.50	100.43	126.61
С	Kern (SJV)	Annual	2017	373.86	431.24	508.70	646.89	73.66	84.50	100.45	126.87
С	Kern (SJV)	Annual	2018	373.04	430.53	507.39	645.86	73.69	84.54	100.48	127.12
С	Kern (SJV)	Annual	2019	373.15	430.90	507.37	646.40	73.74	84.68	100.53	127.34
С	Kern (SJV)	Annual	2020	373.24	431.23	507.35	646.87	73.83	84.85	100.60	127.55
С	Kern (SJV)	Annual	2021	373.14	431.29	507.08	646.94	73.89	85.01	100.67	127.72
С	Kern (SJV)	Annual	2022	373.18	431.51	507.05	647.25	73.94	85.15	100.74	127.87
С	Kern (SJV)	Annual	2023	373.19	431.70	507.02	647.49	73.97	85.27	100.79	128.04
С	Kern (SJV)	Annual	2024	373.41	432.15	507.32	648.08	73.99	85.38	100.83	128.18
С	Kern (SJV)	Annual	2025	373.41	432.31	507.30	648.26	74.01	85.48	100.87	128.32
С	Kern (SJV)	Annual	2026	371.83	430.65	505.11	645.67	74.03	85.58		128.45
С	Kern (SJV)	Annual	2027	371.84	430.82	505.09	645.83	74.04		100.92	128.57
c	Kern (SJV)	Annual	2028	371.85	430.99	505.08	645.99	74.05		100.93	128.67
c	Kern (SJV)	Annual	2029	371.85	431.15	505.06	646.15	74.05			128.77
C	Kern (SJV)	Annual	2030	371.85	431.30	505.04	646.31	74.06	85.90	100.95	128.86
C	Kern (SJV)	Annual	2031	371.85	431.44	505.03	646.46	74.06	85.96		128.95
С	Kern (SJV)	Annual	2032	371.85	431.57	505.02	646.61	74.07	86.03		129.03
c C	Kern (SJV)	Annual	2032	371.85	431.68	505.02	646.74	74.07	86.08		129.00
C	Kern (SJV)		2033	371.85	431.78	505.01	646.87	74.07		100.97	129.10
C	Kern (SJV)	Annual Annual	2034	371.83	431.85	504.99	646.98	74.07		100.97	129.10
<u>с</u> С	Kern (SJV)	Summer	2035	412.69	467.79	562.40	709.14	73.42		100.98	
C	,	Summer	2010	412.69		562.48	709.14	73.42			125.09
	Kern (SJV)										125.33
C C	Kern (SJV)	Summer	2012	413.59	471.41	562.52	710.40	73.45		100.27	125.57
C C	Kern (SJV)	Summer	2013	413.29	471.91	561.69	710.05	73.49		100.30	125.82
<u>C</u>	Kern (SJV)	Summer	2014	413.60	472.94	561.79	710.92	73.51	84.49		126.07
C C	Kern (SJV)	Summer	2015	414.72	474.79	563.00	713.30	73.56	84.48		126.34
С	Kern (SJV)	Summer	2016	414.99	475.56	563.10	714.28	73.62	84.50		126.61
С	Kern (SJV)	Summer	2017	415.18	476.21	563.17	715.20	73.66	84.50		126.87
C	Kern (SJV)	Summer	2018	414.27	475.56	561.78	714.21	73.69	84.54		127.12
С	Kern (SJV)	Summer	2019	414.39	476.05	561.78	714.92	73.74	84.68	100.53	127.34

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	I	1		CO2 Bunni	na (a/\/NAT	`		CO2 Ctor	tina (altri	n\
	Location		.,		CO2 Runni				CO2 Star		
_	14 (0.10.0)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Kern (SJV)	Summer	2020	414.49	476.49	561.77	715.54	73.83	84.85	100.60	127.55
С	Kern (SJV)	Summer	2021	414.38	476.59	561.45	715.68	73.89	85.01		127.72
C	Kern (SJV)	Summer	2022	414.42	476.88	561.40	716.07	73.94	85.15		127.87
С	Kern (SJV)	Summer	2023	414.43	477.14	561.35	716.37	73.97	85.27	100.79	128.04
С	Kern (SJV)	Summer	2024	414.68	477.72	561.68	717.04	73.99	85.38	100.83	128.18
С	Kern (SJV)	Summer	2025	414.69	477.97	561.66	717.23	74.01	85.48	100.87	128.32
С	Kern (SJV)	Summer	2026	412.93	476.21	559.25	714.34	74.03	85.58	100.89	128.45
С	Kern (SJV)	Summer	2027	412.94	476.48	559.24	714.51	74.04	85.67	100.92	128.57
С	Kern (SJV)	Summer	2028	412.95	476.73	559.24	714.67	74.05	85.75	100.93	128.67
С	Kern (SJV)	Summer	2029	412.96	476.98	559.23	714.83	74.05	85.83	100.94	128.77
С	Kern (SJV)	Summer	2030	412.96	477.21	559.23	715.00	74.06	85.90	100.95	128.86
С	Kern (SJV)	Summer	2031	412.96	477.42	559.21	715.15	74.06	85.96	100.96	128.95
С	Kern (SJV)	Summer	2032	412.95	477.60	559.19	715.31	74.07	86.03	100.96	129.03
С	Kern (SJV)	Summer	2033	412.95	477.75	559.18	715.46	74.07	86.08	100.97	129.10
С	Kern (SJV)	Summer	2034	412.95	477.86	559.17	715.61	74.07	86.13	100.97	129.16
С	Kern (SJV)	Summer	2035	412.95	477.95	559.16	715.75	74.07	86.18	100.98	129.22
С	Kern (SJV)	Winter	2010	356.46	410.05	488.44	615.49	73.42	84.89	100.24	125.09
c	Kern (SJV)	Winter	2011	356.63	410.79	488.16	616.20	73.43	84.72	100.24	125.33
C	Kern (SJV)	Winter	2012	356.82	411.41	487.95	616.88	73.45	84.62	100.27	125.57
C	Kern (SJV)	Winter	2013	356.46	411.28	487.00	616.59	73.49	84.53	100.30	125.82
C	Kern (SJV)	Winter	2014	356.64	411.75	486.87	617.26	73.51	84.49		126.07
C	Kern (SJV)	Winter	2014	357.52	413.02	487.71	619.15	73.56	84.48		126.34
	` '										
C C	Kern (SJV)	Winter	2016	357.70	413.43	487.64	619.79	73.62	84.50		126.61
C C	Kern (SJV)	Winter	2017	357.83	413.79	487.57	620.38	73.66	84.50	100.45	126.87
C	Kern (SJV)	Winter	2018	357.04	413.06	486.29	619.34	73.69	84.54	100.48	127.12
<u>C</u>	Kern (SJV)	Winter	2019	357.14	413.38	486.26	619.81	73.74	84.68	100.53	127.34
C	Kern (SJV)	Winter	2020	357.23	413.67	486.23	620.23	73.83	84.85	100.60	127.55
C	Kern (SJV)	Winter	2021	357.14	413.71	485.99	620.27	73.89	85.01	100.67	127.72
C	Kern (SJV)	Winter	2022	357.17	413.91	485.97	620.54	73.94	85.15	100.74	127.87
C	Kern (SJV)	Winter	2023	357.18	414.07	485.95	620.76	73.97	85.27	100.79	128.04
C	Kern (SJV)	Winter	2024	357.39	414.47	486.23	621.33	73.99	85.38	100.83	128.18
С	Kern (SJV)	Winter	2025	357.39	414.59	486.21	621.50	74.01	85.48	100.87	128.32
С	Kern (SJV)	Winter	2026	355.88	412.97	484.11	619.02	74.03	85.58	100.89	128.45
С	Kern (SJV)	Winter	2027	355.89		484.08	619.19			100.92	
С	Kern (SJV)	Winter	2028	355.90	413.24	484.06	619.35	74.05	85.75	100.93	128.67
С	Kern (SJV)	Winter	2029	355.90	413.37	484.04	619.50	74.05	85.83	100.94	128.77
С	Kern (SJV)	Winter	2030	355.90	413.49	484.02	619.65	74.06	85.90	100.95	128.86
С	Kern (SJV)	Winter	2031	355.90	413.60	484.01	619.80	74.06	85.96	100.96	128.95
С	Kern (SJV)	Winter	2032	355.90	413.71	484.00	619.95	74.07	86.03	100.96	129.03
С	Kern (SJV)	Winter	2033	355.90	413.81	483.99	620.08	74.07	86.08	100.97	129.10
С	Kern (SJV)	Winter	2034	355.90	413.89	483.98	620.20	74.07	86.13	100.97	129.16
С	Kern (SJV)	Winter	2035	355.89	413.96	483.97	620.30	74.07	86.18	100.98	129.22
С	Kings (SJV)	Annual	2010	334.26	384.18	458.54	576.15	73.37	85.91	100.56	124.91
С	Kings (SJV)	Annual	2011	334.55	384.83	458.24	576.82	73.38	85.51	100.52	125.14
С	Kings (SJV)	Annual	2012	335.48	386.17	458.92	578.63	73.41	85.28	100.50	125.38
С	Kings (SJV)	Annual	2013	335.97	386.90	459.08	579.74	73.44		100.49	125.62
С	Kings (SJV)	Annual	2014	336.19	387.33	458.94	580.41	73.47	84.93	100.47	125.88
С	Kings (SJV)	Annual	2015	335.98	387.22	458.26	580.38	73.53	84.82	100.48	126.14
c	Kings (SJV)	Annual	2016	336.16	387.56	458.18	581.05	73.58	84.77	100.51	126.40
C	Kings (SJV)	Annual	2017	336.30	387.85	458.10	581.67	73.62	84.69	100.52	126.66
C	Kings (SJV)	Annual	2018	332.59	383.72	452.87	575.68	73.63	84.63	100.54	126.91
C	Kings (SJV)	Annual	2019	332.68	384.00	452.82	576.19	73.68	84.71	100.55	127.14
c C				332.75	384.27	452.62	576.19	73.76			
C	Kings (SJV)	Annual	2020						84.84		127.35 127.52
\sim	Kings (SJV)	Annual	2021	334.26	386.18	454.72	579.52	73.83	04.98	100.69	127.52

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(O2 Runni	TT) CO2 Starting (g/trip)					
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Kings (SJV)	Annual	2022	334.29	386.41	454.68	579.81	73.88	85.12	100.75	
-	Kings (SJV)	Annual	2023	334.30	386.59	454.64	580.04	73.91	85.24	100.80	
	Kings (SJV)	Annual	2024	334.92	387.49	455.46	581.31	73.93	85.35	100.84	127.99
-	Kings (SJV)	Annual	2025	334.93	387.63	455.43	581.48	73.95	85.45	100.87	128.14
	Kings (SJV)	Annual	2026	337.32	390.57	458.64	585.81	73.97	85.55	100.90	128.28
-	Kings (SJV)	Annual	2027	337.33	390.73	458.61	585.98	73.98	85.64	100.92	128.41
	Kings (SJV)	Annual	2028	337.33	390.90	458.57	586.15	73.99	85.73	100.94	128.53
	Kings (SJV)	Annual	2029	337.33	391.07	458.54	586.31	74.00		100.95	128.63
-	Kings (SJV)	Annual	2030	337.33	391.23	458.51	586.48	74.00	85.88	100.95	128.74
-	Kings (SJV)	Annual	2030	337.33	391.39	458.49	586.65	74.01	85.95	100.96	128.83
-	Kings (SJV)	Annual	2031	337.33	391.54	458.47	586.81	74.01	86.02	100.90	128.92
-	Kings (SJV)		2032	337.33	391.67	458.45	586.96	74.01	86.08		129.01
-		Annual						74.02			
	Kings (SJV)	Annual	2034	337.33	391.78	458.43	587.10		86.13		129.08
-	Kings (SJV)	Annual	2035	337.33	391.87	458.41	587.22	74.02	86.17	100.98	129.15
	Kings (SJV)	Summer	2010	367.72	417.56	501.93	631.65	73.37	85.91	100.56	124.91
	Kings (SJV)	Summer	2011	368.24	419.09	501.96	632.31	73.38	85.51	100.52	125.14
	Kings (SJV)	Summer	2012	369.40	421.14	502.98	634.26	73.41	85.28	100.50	
	Kings (SJV)	Summer	2013	370.02	422.41	503.38	635.49	73.44		100.49	
	Kings (SJV)	Summer	2014	370.32	423.21	503.44	636.29	73.47	84.93	100.47	125.88
	Kings (SJV)	Summer	2015	370.13	423.37	502.86	636.36	73.53	84.82	100.48	126.14
	Kings (SJV)	Summer	2016	370.35	423.95	502.90	637.22	73.58		100.51	126.40
	Kings (SJV)	Summer	2017	370.51	424.45	502.92	638.03	73.62	84.69	100.52	126.66
	Kings (SJV)	Summer	2018	366.42	420.10	497.24	631.57	73.63	84.63	100.54	
	Kings (SJV)	Summer	2019	366.52	420.52	497.24	632.24	73.68		100.55	127.14
	Kings (SJV)	Summer	2020	366.59	420.92	497.21	632.82	73.76			127.35
	Kings (SJV)	Summer	2021	368.26	423.12	499.35	636.05	73.83	84.98		127.52
	Kings (SJV)	Summer	2022	368.30	423.46	499.31	636.43	73.88	85.12		127.67
	Kings (SJV)	Summer	2023	368.32	423.74	499.27	636.71	73.91	85.24	100.80	127.84
-	Kings (SJV)	Summer	2024	369.01	424.82	500.17	638.12	73.93	85.35		127.99
	Kings (SJV)	Summer	2025	369.02	425.07	500.14	638.31	73.95			128.14
	Kings (SJV)	Summer	2026	371.65	428.36	503.68	643.07	73.97	85.55		
	Kings (SJV)	Summer	2027	371.66	428.60	503.66	643.25	73.98		100.92	128.41
С	Kings (SJV)	Summer	2028	371.66	428.85	503.63	643.43	73.99	85.73	100.94	128.53
С	Kings (SJV)	Summer	2029	371.66	429.09	503.61	643.61	74.00	85.80	100.95	128.63
С	Kings (SJV)	Summer	2030	371.67	429.33	503.59	643.80	74.01	85.88		128.74
С	Kings (SJV)	Summer	2031	371.67	429.58	503.58	643.97	74.01	85.95	100.96	128.83
С	Kings (SJV)	Summer	2032	371.67	429.79	503.57	644.15	74.01	86.02	100.97	128.92
-	Kings (SJV)	Summer	2033	371.67	429.97	503.55	644.32	74.02	86.08	100.97	129.01
-	Kings (SJV)	Summer	2034	371.67	430.11	503.54	644.49	74.02	86.13		
-	Kings (SJV)	Summer	2035	371.67	430.22	503.52	644.64	74.02	86.17	100.98	129.15
	Kings (SJV)	Winter	2010	320.60	370.56	440.84	553.50	73.37	85.91	100.56	124.91
	Kings (SJV)	Winter	2011	320.80	370.85	440.40	554.17	73.38	85.51	100.52	125.14
С	Kings (SJV)	Winter	2012	321.64	371.90	440.94	555.92	73.41	85.28	100.50	125.38
С	Kings (SJV)	Winter	2013	322.08	372.41	441.00	556.98	73.44	85.03	100.49	125.62
С	Kings (SJV)	Winter	2014	322.26	372.69	440.78	557.60	73.47	84.93	100.47	125.88
С	Kings (SJV)	Winter	2015	322.05	372.46	440.06	557.54	73.53	84.82	100.48	126.14
С	Kings (SJV)	Winter	2016	322.20	372.71	439.92	558.12	73.58	84.77	100.51	126.40
С	Kings (SJV)	Winter	2017	322.34	372.91	439.81	558.67	73.62	84.69	100.52	126.66
С	Kings (SJV)	Winter	2018	318.78	368.87	434.77	552.87	73.63	84.63	100.54	126.91
С	Kings (SJV)	Winter	2019	318.87	369.09	434.70	553.31	73.68	84.71	100.55	127.14
С	Kings (SJV)	Winter	2020	318.94	369.31	434.65	553.71	73.76	84.84	100.62	127.35
С	Kings (SJV)	Winter	2021	320.39	371.11	436.51	556.44	73.83	84.98	100.69	127.52
	Kings (SJV)	Winter	2022	320.42	371.30	436.47	556.70	73.88			1
	Kings (SJV)	Winter	2023	320.42	371.43	436.43	556.91	73.91	85.24	100.80	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	<u> </u>	Γ		CO2 Bunni	na (a/\/NAT	`	CO2 Starting (g/trip)					
	Location		.,		CO2 Runni								
	144 (O.N.)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
С	Kings (SJV)	Winter	2024	321.01	372.25	437.21	558.12	73.93	85.35	100.84	127.99		
C	Kings (SJV)	Winter	2025	321.02	372.35	437.18	558.28	73.95	85.45		128.14		
C	Kings (SJV)	Winter	2026	323.31	375.15	440.26	562.45	73.97	85.55	100.90	128.28		
С	Kings (SJV)	Winter	2027	323.32	375.28	440.22	562.61	73.98	85.64	100.92	128.41		
С	Kings (SJV)	Winter	2028	323.32	375.41	440.18	562.78	73.99	85.73	100.94	128.53		
С	Kings (SJV)	Winter	2029	323.32	375.55	440.15	562.93	74.00	85.80	100.95	128.63		
С	Kings (SJV)	Winter	2030	323.32	375.68	440.11	563.09	74.01	85.88	100.95	128.74		
С	Kings (SJV)	Winter	2031	323.32	375.81	440.09	563.25	74.01	85.95	100.96	128.83		
С	Kings (SJV)	Winter	2032	323.32	375.94	440.07	563.41	74.01	86.02	100.97	128.92		
С	Kings (SJV)	Winter	2033	323.32	376.05	440.04	563.56	74.02	86.08	100.97	129.01		
С	Kings (SJV)	Winter	2034	323.32	376.14	440.02	563.68	74.02	86.13	100.98	129.08		
С	Kings (SJV)	Winter	2035	323.32	376.23	440.00	563.79	74.02	86.17	100.98	129.15		
С	Lake (LC)	Annual	2010	342.07	393.50	467.77	584.22	74.77	89.34	101.91	124.46		
С	Lake (LC)	Annual	2011	342.02	394.05	467.30	584.79	74.52	88.47	101.71	124.54		
С	Lake (LC)	Annual	2012	342.06	394.51	466.93	585.54	74.36	87.81	101.56	124.69		
С	Lake (LC)	Annual	2013	342.12	394.89	466.63	586.41	74.20	87.25	101.40	124.90		
С	Lake (LC)	Annual	2014	342.14	395.21	466.41	587.25	73.98	86.77	101.22	125.12		
С	Lake (LC)	Annual	2015	342.23	395.51	466.24	588.17	73.90	86.33	101.09	125.37		
С	Lake (LC)	Annual	2016	342.33	395.78	466.10	589.06	73.88	85.99	101.00	125.66		
С	Lake (LC)	Annual	2017	342.36	396.00	465.97	589.89	73.79	85.60	100.88	125.95		
С	Lake (LC)	Annual	2018	342.39	396.17	465.87	590.62	73.73	85.27	100.83	126.22		
С	Lake (LC)	Annual	2019	342.41	396.35	465.79	591.26	73.69	85.13	100.79	126.48		
С	Lake (LC)	Annual	2020	342.44	396.52	465.72	591.82	73.77	85.14	100.79	126.73		
С	Lake (LC)	Annual	2021	342.39	396.64	465.65	592.21	73.79	85.21	100.84	126.90		
С	Lake (LC)	Annual	2022	342.31	396.75	465.57	592.55	73.78	85.27	100.85	127.07		
С	Lake (LC)	Annual	2023	342.19	396.83	465.51	592.77	73.76	85.32	100.87	127.26		
С	Lake (LC)	Annual	2024	342.07	396.89	465.44	592.97	73.71	85.36	100.88	127.45		
С	Lake (LC)	Annual	2025	342.01	396.99	465.40	593.14	73.71	85.45	100.91	127.61		
С	Lake (LC)	Annual	2026	342.02	397.10	465.36	593.32	73.73	85.55	100.93	127.78		
С	Lake (LC)	Annual	2027	342.03	397.21	465.31	593.53	73.74	85.64	100.94	127.94		
С	Lake (LC)	Annual	2028	342.03	397.32	465.27	593.73	73.75	85.72	100.95	128.09		
С	Lake (LC)	Annual	2029	342.02	397.43	465.24	593.93	73.75	85.80	100.96	128.22		
С	Lake (LC)	Annual	2030	342.00	397.54	465.21	594.14	73.75	85.88	100.95	128.35		
С	Lake (LC)	Annual	2031	342.00	397.66	465.19	594.38	73.76	85.96	100.95	128.48		
С	Lake (LC)	Annual	2032	341.99	397.76	465.18	594.62	73.76	86.03	100.96	128.61		
С	Lake (LC)	Annual	2033	341.99	397.84	465.18	594.84	73.77	86.09	100.96	128.72		
С	Lake (LC)	Annual	2034	341.98	397.92	465.17	595.03	73.77	86.15	100.97	128.82		
С	Lake (LC)	Annual	2035	341.97	397.97	465.16	595.21	73.78	86.20	100.97	128.92		
С	Lake (LC)	Summer	2010	365.54	417.38	498.77	621.97	74.77	89.34	101.91	124.46		
С	Lake (LC)	Summer	2011	365.78	418.72	498.60	622.61	74.52	88.47	101.71	124.54		
С	Lake (LC)	Summer	2012	366.03	419.77	498.49	623.54	74.36	87.81		124.69		
С	Lake (LC)	Summer	2013	366.25	420.60	498.41	624.68	74.20	87.25		124.90		
С	Lake (LC)	Summer	2014	366.39	421.26	498.37	625.78	73.98	86.77	101.22	125.12		
С	Lake (LC)	Summer	2015	366.55	421.85	498.36	627.02	73.90	86.33		125.37		
С	Lake (LC)	Summer	2016	366.69	422.33	498.33	628.23	73.88		101.00	125.66		
С	Lake (LC)	Summer	2017	366.75	422.72	498.28	629.33	73.79		100.88	125.95		
C	Lake (LC)	Summer	2018	366.77	423.03	498.21	630.31	73.73	85.27	100.83	126.22		
C	Lake (LC)	Summer	2019	366.79	423.31	498.14	631.16	73.69	85.13	100.79	126.48		
C	Lake (LC)	Summer	2020	366.81	423.55	498.08	631.89	73.77	85.14	100.79	126.73		
c C	Lake (LC)	Summer	2021	366.76	423.74	498.00	632.43	73.79	85.21	100.73	126.90		
C	Lake (LC)	Summer	2022	366.67	423.91	497.93	632.88	73.78	85.27	100.85	127.07		
C	Lake (LC)	Summer	2023	366.57	424.04	497.87	633.19	73.76	85.32	100.87	127.26		
C	Lake (LC)	Summer	2023	366.46	424.16	497.81	633.47	73.71		100.88	127.45		
C	Lake (LC)	Summer	2025	366.41	424.10	497.76	633.69	73.71		100.00	127.43		
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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Bunni	na (a/\/MT	`	CO2 Starting (g/trip)					
	Location	0			CO2 Runni								
_	L -1 (LO)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
С	Lake (LC)	Summer	2026	366.43	424.42	497.70	633.89	73.73	85.55	100.93	127.78		
C	Lake (LC)	Summer	2027	366.46	424.56	497.65	634.10	73.74	85.64		127.94		
C	Lake (LC)	Summer	2028	366.47	424.70	497.62	634.32	73.75	85.72	100.95	128.09		
С	Lake (LC)	Summer	2029	366.48	424.86	497.59	634.55	73.75	85.80		128.22		
С	Lake (LC)	Summer	2030	366.48	425.00	497.56	634.80	73.75	85.88	100.95	128.35		
С	Lake (LC)	Summer	2031	366.48	425.18	497.58	635.06	73.76	85.96	100.95	128.48		
С	Lake (LC)	Summer	2032	366.47	425.33	497.59	635.34	73.76	86.03	100.96	128.61		
С	Lake (LC)	Summer	2033	366.46	425.44	497.60	635.60	73.77	86.09	100.96	128.72		
С	Lake (LC)	Summer	2034	366.45	425.54	497.60	635.84	73.77	86.15	100.97	128.82		
С	Lake (LC)	Summer	2035	366.44	425.60	497.60	636.06	73.78	86.20	100.97	128.92		
С	Lake (LC)	Winter	2010	355.28	406.94	485.21	605.47	74.77	89.34		124.46		
С	Lake (LC)	Winter	2011	355.39	407.93	484.91	606.07	74.52	88.47	101.71	124.54		
С	Lake (LC)	Winter	2012	355.55	408.73	484.69	606.93	74.36	87.81	101.56	124.69		
С	Lake (LC)	Winter	2013	355.70	409.36	484.52	607.95	74.20	87.25	101.40	124.90		
С	Lake (LC)	Winter	2014	355.79	409.87	484.39	608.93	73.98	86.77	101.22	125.12		
С	Lake (LC)	Winter	2015	355.91	410.33	484.31	610.03	73.90	86.33	101.09	125.37		
С	Lake (LC)	Winter	2016	356.04	410.72	484.24	611.10	73.88	85.99	101.00	125.66		
С	Lake (LC)	Winter	2017	356.08	411.04	484.15	612.08	73.79	85.60	100.88	125.95		
С	Lake (LC)	Winter	2018	356.11	411.29	484.07	612.96	73.73	85.27	100.83	126.22		
С	Lake (LC)	Winter	2019	356.13	411.52	484.00	613.71	73.69	85.13	100.79	126.48		
С	Lake (LC)	Winter	2020	356.15	411.73	483.93	614.36	73.77	85.14	100.79	126.73		
С	Lake (LC)	Winter	2021	356.11	411.89	483.85	614.84	73.79	85.21	100.84	126.90		
С	Lake (LC)	Winter	2022	356.02	412.03	483.78	615.25	73.78	85.27	100.85	127.07		
С	Lake (LC)	Winter	2023	355.91	412.15	483.72	615.52	73.76	85.32	100.87	127.26		
С	Lake (LC)	Winter	2024	355.79	412.24	483.66	615.76	73.71	85.36	100.88	127.45		
С	Lake (LC)	Winter	2025	355.74	412.35	483.61	615.96	73.71	85.45	100.91	127.61		
С	Lake (LC)	Winter	2026	355.76	412.47	483.56	616.15	73.73	85.55	100.93	127.78		
С	Lake (LC)	Winter	2027	355.78	412.60	483.51	616.36	73.74	85.64	100.94	127.94		
С	Lake (LC)	Winter	2028	355.78	412.73	483.47	616.58	73.75	85.72	100.95	128.09		
С	Lake (LC)	Winter	2029	355.78	412.87	483.44	616.79	73.75	85.80	100.96	128.22		
С	Lake (LC)	Winter	2030	355.78	412.99	483.41	617.02	73.75	85.88	100.95	128.35		
С	Lake (LC)	Winter	2031	355.77	413.15	483.42	617.27	73.76	85.96	100.95	128.48		
С	Lake (LC)	Winter	2032	355.77	413.27	483.42	617.53	73.76	86.03	100.96	128.61		
С	Lake (LC)	Winter	2033	355.76		483.42	617.77	73.77	86.09	100.96	128.72		
C	Lake (LC)	Winter	2034	355.75	413.46	483.42	618.00	73.77	86.15		128.82		
C	Lake (LC)	Winter	2035	355.74	413.52	483.42	618.20	73.78		100.97	128.92		
С	Lassen (NEP)	Annual	2010	366.63	428.55	501.21	626.78	75.03		101.72	124.85		
С	Lassen (NEP)	Annual	2011	366.52	427.89	500.66	627.52	74.78	92.04		124.99		
С	Lassen (NEP)	Annual	2012	366.51	427.37	500.23	628.37	74.62	90.87	101.30	125.17		
C	Lassen (NEP)	Annual	2012	366.45	426.93	499.88	629.27	74.35	89.90	101.18	125.38		
C	Lassen (NEP)	Annual	2013	366.47	426.50	499.61	630.13	74.18	88.91	101.10	125.60		
C	Lassen (NEP)	Annual	2014	366.54	426.15	499.39	631.03	74.10	88.06		125.84		
С	Lassen (NEP)	Annual	2016	366.63	425.82	499.23	631.85	74.11	87.24		126.11		
C	Lassen (NEP)	Annual	2017	366.62	425.58	499.23	632.62	73.95	86.60		126.11		
C	Lassen (NEP)	Annual	2017	366.60	425.38	499.09	633.29	73.84	86.10		126.62		
C	,		2018	366.62	425.36	498.88	633.88	73.84	85.71		126.84		
C C	Lassen (NEP)	Annual	2019	366.64	425.22	498.80	634.35	73.88	85.60		120.04		
	Lassen (NEP)	Annual											
C	Lassen (NEP)	Annual	2021	366.58	425.05	498.73	634.71	73.90	85.58	100.85	127.25		
С	Lassen (NEP)	Annual	2022	366.46	424.97	498.64	635.00	73.88	85.58	100.88	127.38		
С	Lassen (NEP)	Annual	2023	366.37	424.91	498.56	635.19	73.88	85.59	100.91	127.55		
C	Lassen (NEP)	Annual	2024	366.23	424.85	498.49	635.34	73.85	85.60		127.70		
C	Lassen (NEP)	Annual	2025	366.17	424.91	498.44	635.47	73.85	85.67	100.96	127.84		
C	Lassen (NEP)	Annual	2026	366.19	425.03	498.40	635.65	73.87	85.75		127.99		
С	Lassen (NEP)	Annual	2027	366.19	425.15	498.34	635.84	73.88	85.83	101.00	128.13		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1			CO2 Bunni	na (a/\/NAT	`	CO2 Starting (g/trip)					
	Location	0	\/		CO2 Runni								
-	Laccar (NED)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
С	Lassen (NEP)	Annual	2028	366.19	425.28	498.29	636.04	73.89	85.91	101.01	128.26		
С	Lassen (NEP)	Annual	2029	366.17	425.41	498.23	636.23	73.89	85.98		128.38		
C	Lassen (NEP)	Annual	2030	366.16	425.52	498.17	636.41	73.89	86.04		128.49		
C	Lassen (NEP)	Annual	2031	366.15	425.65	498.14	636.65	73.90		101.01	128.61		
С	Lassen (NEP)	Annual	2032	366.15	425.76	498.12	636.90	73.90	86.16		128.73		
С	Lassen (NEP)	Annual	2033	366.15	425.86	498.09	637.12	73.91	86.22	101.02	128.83		
С	Lassen (NEP)	Annual	2034	366.14	425.94	498.07	637.31	73.91	86.26	101.02	128.92		
С	Lassen (NEP)	Annual	2035	366.13	426.00	498.05	637.48	73.92	86.30	101.02	129.01		
С	Lassen (NEP)	Summer	2010	385.95	446.82	526.65	657.83	75.03	93.49	101.72	124.85		
С	Lassen (NEP)	Summer	2011	386.07	446.99	526.29	658.69	74.78	92.04	101.44	124.99		
С	Lassen (NEP)	Summer	2012	386.23	447.10	526.01	659.72	74.62	90.87	101.30	125.17		
С	Lassen (NEP)	Summer	2013	386.31	447.13	525.80	660.84	74.35	89.90	101.18	125.38		
С	Lassen (NEP)	Summer	2014	386.41	447.10	525.66	661.92	74.18	88.91	101.02	125.60		
С	Lassen (NEP)	Summer	2015	386.54	447.07	525.57	663.05	74.11	88.06	100.90	125.84		
С	Lassen (NEP)	Summer	2016	386.67	447.02	525.50	664.09	74.09	87.24	100.87	126.11		
С	Lassen (NEP)	Summer	2017	386.67	446.98	525.44	665.06	73.95	86.60	100.80	126.37		
С	Lassen (NEP)	Summer	2018	386.66	446.94	525.37	665.90	73.84	86.10	100.79	126.62		
С	Lassen (NEP)	Summer	2019	386.67	446.92	525.31	666.64	73.81	85.71	100.76	126.84		
С	Lassen (NEP)	Summer	2020	386.68	446.95	525.25	667.23	73.88	85.60	100.80	127.07		
С	Lassen (NEP)	Summer	2021	386.62	446.96	525.18	667.70	73.90	85.58	100.85	127.25		
С	Lassen (NEP)	Summer	2022	386.49	446.97	525.10	668.07	73.88	85.58	100.88	127.38		
С	Lassen (NEP)	Summer	2023	386.41	446.99	525.03	668.33	73.88	85.59	100.91	127.55		
С	Lassen (NEP)	Summer	2024	386.28	447.01	524.97	668.54	73.85	85.60	100.93	127.70		
С	Lassen (NEP)	Summer	2025	386.22	447.11	524.92	668.73	73.85	85.67	100.96	127.84		
С	Lassen (NEP)	Summer	2026	386.24	447.28	524.88	668.93	73.87	85.75	100.99	127.99		
С	Lassen (NEP)	Summer	2027	386.26	447.44	524.83	669.14	73.88	85.83	101.00	128.13		
С	Lassen (NEP)	Summer	2028	386.27	447.61	524.79	669.37	73.89	85.91	101.01	128.26		
С	Lassen (NEP)	Summer	2029	386.27	447.79	524.74	669.59	73.89	85.98	101.01	128.38		
С	Lassen (NEP)	Summer	2030	386.26	447.96	524.69	669.81	73.89	86.04	101.01	128.49		
С	Lassen (NEP)	Summer	2031	386.26	448.12	524.66	670.10	73.90	86.10	101.01	128.61		
С	Lassen (NEP)	Summer	2032	386.26	448.27	524.64	670.38	73.90	86.16	101.01	128.73		
С	Lassen (NEP)	Summer	2033	386.25	448.40	524.62	670.64	73.91	86.22	101.02	128.83		
С	Lassen (NEP)	Summer	2034	386.25	448.50	524.60	670.87	73.91	86.26	101.02	128.92		
С	Lassen (NEP)	Summer	2035	386.24	448.57	524.58	671.07	73.92	86.30	101.02	129.01		
С	Lassen (NEP)	Winter	2010	359.88	422.17	492.33	615.94	75.03	93.49	101.72	124.85		
С	Lassen (NEP)	Winter	2011	359.69	421.22	491.71	616.64	74.78	92.04		124.99		
С	Lassen (NEP)	Winter	2012	359.63	420.48	491.23	617.43	74.62	90.87		125.17		
С	Lassen (NEP)	Winter	2013	359.52	419.89	490.84	618.25	74.35	89.90		125.38		
C	Lassen (NEP)	Winter	2014	359.51	419.32	490.52	619.04	74.18	88.91	101.02	125.60		
С	Lassen (NEP)	Winter	2015	359.57	418.85	490.26	619.85	74.11	88.06	100.90	125.84		
C	Lassen (NEP)	Winter	2016	359.64	418.43	490.06	620.60	74.09	87.24		126.11		
C	Lassen (NEP)	Winter	2017	359.62	418.11	489.89	621.30	73.95	86.60		126.37		
С	Lassen (NEP)	Winter	2018	359.60	417.85	489.77	621.91	73.84		100.79	126.62		
С	Lassen (NEP)	Winter	2019	359.62	417.65	489.66	622.44	73.81	85.71	100.76	126.84		
С	Lassen (NEP)	Winter	2020	359.65	417.54	489.58	622.88	73.88	85.60		127.07		
C	Lassen (NEP)	Winter	2021	359.59	417.41	489.50	623.21	73.90	85.58		127.07		
C	Lassen (NEP)	Winter	2021	359.47	417.41	489.40	623.46	73.88	85.58		127.23		
C	Lassen (NEP)	Winter	2022	359.38	417.29	489.33	623.63	73.88	85.59	100.88	127.55		
c C	Lassen (NEP)	Winter	2023	359.36	417.21	489.25	623.75	73.85	85.60	100.91	127.55		
<u>с</u> С	Lassen (NEP)	Winter	2024	359.24	417.11	489.20	623.86	73.85	85.67	100.93	127.70		
<u>с</u> С	,	Winter	2025	359.18	417.16		624.04	73.87	85.75		127.04		
C C	Lassen (NEP)					489.16							
_	Lassen (NEP)	Winter	2027	359.18	417.38	489.10	624.22	73.88	85.83		128.13		
C C	Lassen (NEP)	Winter	2028	359.18	417.49	489.05	624.41	73.89	85.91		128.26		
С	Lassen (NEP)	Winter	2029	359.16	417.59	488.98	624.59	73.89	d5.98	101.01	128.38		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	`	CO2 Starting (g/trip)					
	Location	0	\/										
_	Longon (NED)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
C C	Lassen (NEP)	Winter	2030	359.14	417.70	488.92	624.75	73.89	86.04	101.01	128.49		
C	Lassen (NEP)	Winter	2031	359.14	417.80	488.89	624.98	73.90	86.10	101.01	128.61		
С	Lassen (NEP)	Winter	2032	359.14	417.90	488.86	625.22	73.90	86.16	101.01	128.73		
C	Lassen (NEP)	Winter	2033	359.13	417.99	488.84	625.43	73.91	86.22	101.02	128.83		
С	Lassen (NEP)	Winter	2034	359.13	418.06	488.82	625.61	73.91	86.26	101.02	128.92		
С	Lassen (NEP)	Winter	2035	359.12	418.13	488.80	625.76	73.92	86.30	101.02	129.01		
С	Los Angeles (MD)	Annual	2010	345.89	395.46	472.51	595.78	73.36	84.38	99.72	125.11		
С	Los Angeles (MD)	Annual	2011	348.87	399.45	476.26	601.40	73.38	84.28	99.78	125.35		
С	Los Angeles (MD)	Annual	2012	349.04	400.17	476.18	602.17	73.40	84.27	99.87	125.60		
С	Los Angeles (MD)	Annual	2013	350.49	402.29	477.89	605.21	73.42	84.25	99.97	125.87		
С	Los Angeles (MD)	Annual	2014	350.66	402.85	477.86	605.99	73.46	84.24	100.05	126.14		
С	Los Angeles (MD)	Annual	2015	355.63	408.92	484.44	615.13	73.50	84.26	100.16	126.42		
С	Los Angeles (MD)	Annual	2016	355.79	409.41	484.43	615.82	73.56	84.33	100.25	126.69		
С	Los Angeles (MD)	Annual	2017	355.91	409.84	484.42	616.46	73.60	84.36	100.32	126.95		
С	Los Angeles (MD)	Annual	2018	356.00	410.20	484.40	617.00	73.63	84.42	100.38	127.20		
С	Los Angeles (MD)	Annual	2019	357.84	412.61	486.79	620.54	73.67	84.58	100.46	127.42		
С	Los Angeles (MD)	Annual	2020	357.92	412.97	486.78	620.97	73.75	84.76	100.55	127.62		
С	Los Angeles (MD)	Annual	2021	360.97	416.79	490.85	626.51	73.82	84.94	100.64	127.79		
С	Los Angeles (MD)	Annual	2022	361.00	417.09	490.84	626.80	73.87	85.10	100.71	127.92		
С	Los Angeles (MD)	Annual	2023	361.00	417.34	490.82	627.02	73.90	85.24	100.77	128.08		
С	Los Angeles (MD)	Annual	2024	361.28	417.87	491.15	627.65	73.91	85.37	100.81	128.23		
С	Los Angeles (MD)	Annual	2025	361.29	418.06	491.14	627.84	73.93	85.48	100.86	128.37		
С	Los Angeles (MD)	Annual	2026	361.30	418.26	491.12	628.01	73.95	85.58	100.89	128.50		
С	Los Angeles (MD)	Annual	2027	361.31	418.44	491.10	628.17	73.97	85.67	100.91	128.62		
С	Los Angeles (MD)	Annual	2028	361.32	418.63	491.09	628.32	73.97	85.76	100.93	128.72		
С	Los Angeles (MD)	Annual	2029	361.32	418.81	491.07	628.47	73.98	85.84	100.94	128.81		
С	Los Angeles (MD)	Annual	2030	361.31	418.99	491.06	628.62	73.98	85.91	100.95	128.90		
С	Los Angeles (MD)	Annual	2031	366.94	425.72	498.73	638.58	73.99	85.98	100.96	128.98		
С	Los Angeles (MD)	Annual	2032	366.93	425.88	498.72	638.71	73.99	86.05	100.97	129.05		
С	Los Angeles (MD)	Annual	2033	366.93	426.03	498.71	638.83	74.00	86.10	100.98	129.12		
С	Los Angeles (MD)	Annual	2034	366.92	426.15	498.70	638.94	74.00	86.15	100.98	129.18		
С	Los Angeles (MD)	Annual	2035	366.92	426.26	498.69	639.04	74.00	86.20	100.99	129.24		
С	Los Angeles (MD)	Summer	2010	381.87	431.89	519.76	655.58	73.36	84.38	99.72	125.11		
С	Los Angeles (MD)	Summer	2011	385.34	436.89	524.09	661.69	73.38	84.28	99.78	125.35		
С	Los Angeles (MD)	Summer	2012	385.66	438.19	524.18	662.56	73.40	84.27	99.87	125.60		
С	Los Angeles (MD)	Summer	2013	387.37	440.97	526.26	666.03	73.42	84.25	99.97	125.87		
С	Los Angeles (MD)	Summer	2014	387.63	441.94	526.42	667.04	73.46	84.24	100.05	126.14		
С	Los Angeles (MD)	Summer	2015	393.20	448.92	533.87	677.32	73.50	84.26	100.16	126.42		
С	Los Angeles (MD)	Summer	2016	393.41	449.67	534.00	678.24	73.56	84.33	100.25	126.69		
С	Los Angeles (MD)	Summer	2017	393.56	450.33	534.08	679.07	73.60	84.36	100.32	126.95		
C	Los Angeles (MD)	Summer	2018	393.65	450.86	534.11	679.75	73.63	84.42	100.38	127.20		
C	Los Angeles (MD)	Summer	2019	395.68	453.61	536.75	683.71	73.67	84.58	100.46	127.42		
C	Los Angeles (MD)	Summer	2020	395.75	454.07	536.73	684.25	73.75	84.76	100.55	127.62		
С	Los Angeles (MD)	Summer	2021	399.16	458.42	541.24	690.46	73.82	84.94	100.64	127.79		
C	Los Angeles (MD)	Summer	2022	399.20	458.86	541.22	690.83	73.87	85.10	100.71	127.92		
С	Los Angeles (MD)	Summer	2023	399.21	459.24	541.20	691.10	73.90	85.24	100.77	128.08		
С	Los Angeles (MD)	Summer	2024	399.46	459.85	541.48	691.72	73.91	85.37	100.77	128.23		
С	Los Angeles (MD)	Summer	2025	399.48	460.16	541.47	691.93	73.93	85.48	100.86	128.37		
C	Los Angeles (MD)	Summer	2026	399.50	460.45	541.44	692.11	73.95	85.58	100.89	128.50		
c C	Los Angeles (MD)	Summer	2027	399.52	460.43	541.42	692.11	73.97	85.67	100.89	128.62		
C	Los Angeles (MD)	Summer	2027	399.53	461.00	541.41	692.44	73.97	85.76	100.91	128.72		
c C	Los Angeles (MD)	Summer	2029	399.53	461.26	541.39	692.59	73.98	85.84	100.93	128.81		
C C	Los Angeles (MD)	Summer	2029	399.53	461.50	541.38	692.75	73.98	85.91	100.94	128.90		
С	Los Angeles (MD)	Summer	2030	405.74	468.99	549.84	703.69	73.98	85.98	100.95	128.98		
\sim	LOS ALIGEIES (INID)	Summer	∠U3 I	400.74	+00.99	J 4 3.04	100.09	13.99	00.90	100.90	120.90		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1			CO2 Runni	na (a/\/MT	1	CO2 Starting (g/trip)					
	Location	Cassan	Voor			,,,	·						
_	Landania (MD)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
<u>C</u>	Los Angeles (MD)	Summer	2032	405.72	469.23	549.82	703.80	73.99	86.05	100.97	129.05		
C	Los Angeles (MD)	Summer	2033	405.71	469.41	549.81	703.92	74.00	86.10	100.98	129.12		
С	Los Angeles (MD)	Summer	2034	405.70	469.58	549.80	704.05	74.00	86.15	100.98	129.18		
C	Los Angeles (MD)	Summer	2035	405.69	469.70	549.79	704.16	74.00	86.20	100.99	129.24		
С	Los Angeles (MD)	Winter	2010	335.14	384.58	458.40	577.92	73.36	84.38	99.72	125.11		
С	Los Angeles (MD)	Winter	2011	337.98	388.27	461.98	583.39	73.38	84.28	99.78	125.35		
С	Los Angeles (MD)	Winter	2012	338.10	388.82	461.84	584.13	73.40	84.27	99.87	125.60		
С	Los Angeles (MD)	Winter	2013	339.47	390.73	463.43	587.03	73.42	84.25	99.97	125.87		
С	Los Angeles (MD)	Winter	2014	339.61	391.17	463.35	587.75	73.46	84.24	100.05	126.14		
С	Los Angeles (MD)	Winter	2015	344.39	396.95	469.65	596.52	73.50	84.26	100.16	126.42		
С	Los Angeles (MD)	Winter	2016	344.53	397.37	469.60	597.15	73.56	84.33	100.25	126.69		
С	Los Angeles (MD)	Winter	2017	344.65	397.72	469.56	597.73	73.60	84.36	100.32	126.95		
С	Los Angeles (MD)	Winter	2018	344.74	398.03	469.53	598.23	73.63	84.42	100.38	127.20		
С	Los Angeles (MD)	Winter	2019	346.52	400.35	471.84	601.64	73.67	84.58	100.46	127.42		
С	Los Angeles (MD)	Winter	2020	346.60	400.67	471.84	602.04	73.75	84.76	100.55	127.62		
С	Los Angeles (MD)	Winter	2021	349.54	404.32	475.76	607.37	73.82	84.94	100.64	127.79		
С	Los Angeles (MD)	Winter	2022	349.57	404.59	475.75	607.63	73.87	85.10	100.71	127.92		
С	Los Angeles (MD)	Winter	2023	349.56	404.80	475.74	607.83	73.90	85.24	100.77	128.08		
С	Los Angeles (MD)	Winter	2024	349.86	405.31	476.10	608.49	73.91	85.37	100.81	128.23		
С	Los Angeles (MD)	Winter	2025	349.87	405.47	476.09	608.67	73.93	85.48	100.86	128.37		
С	Los Angeles (MD)	Winter	2026	349.88	405.64	476.07	608.84	73.95	85.58	100.89	128.50		
С	Los Angeles (MD)	Winter	2027	349.89	405.80	476.06	609.00	73.97	85.67	100.91	128.62		
С	Los Angeles (MD)	Winter	2028	349.89	405.96	476.04	609.15	73.97	85.76	100.93	128.72		
С	Los Angeles (MD)	Winter	2029	349.89	406.12	476.02	609.30	73.98	85.84	100.94	128.81		
С	Los Angeles (MD)	Winter	2030	349.88	406.27	476.01	609.44	73.98	85.91	100.95	128.90		
С	Los Angeles (MD)	Winter	2031	355.33	412.77	483.44	619.10	73.99	85.98	100.96	128.98		
С	Los Angeles (MD)	Winter	2032	355.33	412.92	483.43	619.24	73.99	86.05	100.97	129.05		
С	Los Angeles (MD)	Winter	2033	355.33	413.05	483.42	619.36	74.00	86.10	100.98	129.12		
С	Los Angeles (MD)	Winter	2034	355.32	413.16	483.41	619.46	74.00	86.15	100.98	129.18		
С	Los Angeles (MD)	Winter	2035	355.32	413.26	483.40	619.56	74.00	86.20	100.99	129.24		
С	Los Angeles (SC)	Annual	2010	368.81	423.35	504.31	636.79	73.23	84.17	99.44	125.24		
С	Los Angeles (SC)	Annual	2011	369.19	424.14	504.55	637.78	73.25	84.09	99.54	125.41		
С	Los Angeles (SC)	Annual	2012	369.32	424.57	504.44	638.29	73.29	84.06	99.65	125.59		
С	Los Angeles (SC)	Annual	2013		425.46	504.92	639.56	73.35	84.06		125.78		
С	Los Angeles (SC)	Annual	2014	370.06	425.83	504.86	640.12	73.40	84.06	99.88	125.98		
С	Los Angeles (SC)	Annual	2015	371.03	427.14	505.91	642.13	73.46	84.09	99.99	126.20		
C	Los Angeles (SC)	Annual	2016	371.20	427.50	505.88	642.73	73.53	84.14	100.10	126.42		
C	Los Angeles (SC)	Annual	2017	371.33	427.85	505.86	643.32	73.57	84.19	100.20	126.66		
С	Los Angeles (SC)	Annual	2018	371.43	428.15	505.85	643.83	73.60	84.26	100.28	126.87		
С	Los Angeles (SC)	Annual	2019	370.16	426.91	503.97	641.92	73.64	84.41	100.20	127.07		
C	Los Angeles (SC)	Annual	2020	370.10	427.21	503.98	642.35	73.73	84.57	100.47	127.26		
C	Los Angeles (SC)	Annual	2021	371.05	428.35	504.98	643.97	73.79	84.73	100.47	127.42		
С	Los Angeles (SC)	Annual	2021	371.07	428.59	504.97	644.26	73.84	84.87	100.64	127.56		
C	Los Angeles (SC)	Annual	2023	371.07	428.78	504.96	644.47	73.87	84.99	100.04	127.72		
C	Los Angeles (SC)	Annual	2023	373.71	432.03	504.96	649.29	73.88	85.10	100.76	127.72		
С			2024			508.58	649.46	73.90	85.21	100.76	128.00		
C C	Los Angeles (SC)	Annual	2025	373.69 373.71	432.17	508.56	649.46	73.90	85.31	100.80	128.14		
C	Los Angeles (SC)	Annual			432.36								
	Los Angeles (SC)	Annual	2027	373.72	432.53	508.54	649.80	73.93	85.40	100.87	128.26		
С	Los Angeles (SC)	Annual	2028	373.72	432.70	508.51	649.97	73.94	85.49	100.89	128.37		
C C	Los Angeles (SC)	Annual	2029	373.72	432.89	508.49	650.13	73.95	85.57	100.91	128.48		
C	Los Angeles (SC)	Annual	2030	373.71	433.07	508.47	650.30	73.95	85.65	100.92	128.58		
C	Los Angeles (SC)	Annual	2031	374.43	434.12	509.44	651.74	73.96	85.73	100.93	128.68		
С	Los Angeles (SC)	Annual	2032	374.42	434.31	509.43	651.93	73.96	85.81	100.94	128.77		
С	Los Angeles (SC)	Annual	2033	374.42	434.47	509.42	652.10	73.97	85.88	100.95	128.86		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

Sesson Year LDA LDT		Location	I			°∩2 Punni	na (a/\/MT	1	CO2 Starting (g/trip)					
Color Angeles (SC)		Location	Socoon	Voor										
Color Angeles (SC)		Las Assalas (CC)												
Colorangeles (SC)	_													
Summer 2011 386.73 441.75 526.25 666.613 73.25 84.00 99.64 125.4	_	• '												
Color Angeles (SC)		• '	1											
Color Angeles (SC)	С	, , ,												
Cous Angeles (SC) Summer 2016 386.73 443.32 526.74 667.48 73.40 84.06 99.88 125.2 Los Angeles (SC) Summer 2016 387.96 444.78 527.89 669.62 73.46 84.09 99.99 126.2 Los Angeles (SC) Summer 2016 387.94 445.24 527.91 670.32 73.53 84.14 100.10 126.4 Los Angeles (SC) Summer 2017 388.08 445.88 527.93 671.01 73.57 84.19 100.20 126.6 Los Angeles (SC) Summer 2018 388.19 446.07 527.94 671.04 73.60 84.19 100.20 126.6 Los Angeles (SC) Summer 2019 386.86 444.82 526.01 669.67 73.64 84.41 100.37 127.0 Los Angeles (SC) Summer 2020 386.96 445.19 526.01 670.16 73.73 84.77 100.47 127.2 Los Angeles (SC) Summer 2021 387.82 446.75 527.09 670.12 73.79 84.78 100.07 127.7 Los Angeles (SC) Summer 2022 387.82 446.75 527.09 670.25 73.84 84.87 100.47 127.2 Los Angeles (SC) Summer 2023 389.81 447.00 527.06 672.25 73.84 84.87 100.04 127.5 Los Angeles (SC) Summer 2024 390.60 450.47 530.86 677.57 73.88 85.10 100.76 127.4 Los Angeles (SC) Summer 2024 390.61 450.90 39.82 677.67 73.93 85.10 100.87 127.8 Los Angeles (SC) Summer 2026 390.61 450.90 39.82 677.67 73.93 85.10 100.87 127.8 Los Angeles (SC) Summer 2026 390.62 451.11 530.79 678.11 73.93 85.40 100.84 128.1 Los Angeles (SC) Summer 2026 390.63 451.34 530.77 678.27 73.94 86.44 100.82 128.3 Los Angeles (SC) Summer 2028 390.63 451.37 530.77 678.27 73.94 86.44 100.89 122.8 Los Angeles (SC) Summer 2028 390.63 451.80 530.77 678.27 73.94 86.84 100.89 122.8 Los Angeles (SC) Summer 2028 390.63 451.80 530.77 678.27 73.94 86.44 100.80 122.8 Los Angeles (SC) Summer 2028 390.63 451.80 530.77 678.27 73.94 86.44 100.80 122.8 Los Angeles (SC) Summer 2028 390.63 451.80 530.77 678.27 73.94 86.84 100.89 122.8 Los Angeles (SC) Summer 2028 390.63 451.80 530.77 678.27 73.94 86.84 100.89 122.8 Los Angeles (SC) Summer 2028 390.63 451.80 530.77 678.27 73.94 86.84 100.80 122.8 Los Angeles (SC) Summer 2026 390.63 451.80 530.77 678.27 73.94 86.84 100.80 122.8 Los Angeles (SC) Summer 2026 390.63 451.80 530.77 678.27 73.94 86.84 100.80 122.8 Los Angeles (SC) Summer 2026 390	С													
Columb Summer 2015 387.76 444.76 527.86 669.62 73.46 84.09 99.99 1262.	С			-										
Colora Angeles (SC) Summer 2016 387.94 445.24 527.91 670.32 73.53 84.14 100.10 126.4	С									_				
Colora Angeles (SC)	С											126.20		
C. Los Angeles (SC) Summer 2018 388.19 446.07 527.94 671.60 73.60 84.26 100.28 126.8 Los Angeles (SC) Summer 2020 386.96 44.519 526.01 669.67 73.64 84.41 100.37 127.0 C. Los Angeles (SC) Summer 2020 386.96 44.519 526.01 670.16 73.73 84.57 100.47 127.2 C. Los Angeles (SC) Summer 2021 387.79 446.44 527.07 671.91 73.79 84.73 100.56 127.4 C. Los Angeles (SC) Summer 2022 387.89 446.44 527.07 671.91 73.79 84.73 100.56 127.4 C. Los Angeles (SC) Summer 2022 387.89 446.44 527.07 671.91 73.79 84.73 100.56 127.4 C. Los Angeles (SC) Summer 2022 387.81 447.00 527.05 672.49 73.87 84.99 100.70 127.7 C. Los Angeles (SC) Summer 2024 390.60 450.47 530.86 677.57 73.88 85.10 100.76 127.8 C. Los Angeles (SC) Summer 2025 390.59 450.66 530.84 677.57 73.88 85.10 100.76 127.8 C. Los Angeles (SC) Summer 2026 390.61 450.90 530.62 677.94 73.92 85.31 100.84 128.1 C. Los Angeles (SC) Summer 2026 390.61 450.90 530.62 677.94 73.92 85.31 100.80 128.0 C. Los Angeles (SC) Summer 2028 390.63 451.34 530.77 678.27 73.94 85.49 100.87 128.2 C. Los Angeles (SC) Summer 2028 390.63 451.34 530.77 678.27 73.90 85.40 100.87 128.2 C. Los Angeles (SC) Summer 2028 390.63 451.34 530.77 678.27 73.94 85.49 100.89 128.3 C. Los Angeles (SC) Summer 2028 390.63 451.34 530.77 678.27 73.94 85.49 100.89 128.3 C. Los Angeles (SC) Summer 2028 390.62 451.91 530.77 678.27 73.94 85.49 100.89 128.3 C. Los Angeles (SC) Summer 2031 391.38 452.94 531.76 680.13 73.96 85.57 100.91 128.4 C. Los Angeles (SC) Summer 2031 391.37 453.75 531.74 680.51 73.96 85.81 100.94 128.7 C. Los Angeles (SC) Summer 2031 391.37 453.75 531.73 680.67 73.97 85.94 100.95 128.0 C. Los Angeles (SC) Summer 2031 391.37 453.75 531.73 680.67 73.97 85.94 100.95 128.0 C. Los Angeles (SC) Winter 2010 362.71 477.15 486.28 626.64 73.23 84.01 99.95 126.0 C. Los Angeles (SC) Winter 2011 363.06 417.84 496.50 626.64 73.23 84.01 99.95 126.0 C. Los Angeles (SC) Winter 2013 363.74 419.03 496.84 629.47 73.35 84.09 99.97 126.7 C. Los Angeles (SC) Winter 2021 363.91 473.84 496.80 623.55 73.60 84.09 99.97 126.7 C. Los Angele	С		Summer									126.42		
Color	С	Los Angeles (SC)		2017	388.08		527.93	671.01		84.19		126.66		
C. Los Angeles (SC) Summer 2020 386.96 445.19 526.01 670.16 73.73 84.57 100.47 127.2 C. Los Angeles (SC) Summer 2021 387.82 446.45 527.07 671.91 73.79 84.73 100.56 127.4 C. Los Angeles (SC) Summer 2023 387.81 447.00 527.05 672.45 73.87 84.97 100.67 127.7 C. Los Angeles (SC) Summer 2024 390.60 450.47 530.86 677.57 73.88 45.71 100.70 127.7 C. Los Angeles (SC) Summer 2024 390.60 450.47 530.86 677.57 73.88 65.10 100.70 127.7 C. Los Angeles (SC) Summer 2024 390.61 450.90 530.86 677.67 73.90 85.21 100.80 128.0 C. Los Angeles (SC) Summer 2026 390.61 450.90 530.82 677.64 73.92 85.31 100.84 128.1 C. Los Angeles (SC) Summer 2027 390.62 451.11 530.79 678.11 73.93 85.40 100.87 128.2 C. Los Angeles (SC) Summer 2028 390.63 451.34 530.77 678.27 73.94 85.49 100.89 128.3 C. Los Angeles (SC) Summer 2029 390.63 451.34 530.77 678.27 73.94 85.49 100.89 128.3 C. Los Angeles (SC) Summer 2029 390.63 451.35 530.74 678.61 73.95 85.57 100.91 128.4 C. Los Angeles (SC) Summer 2029 390.63 451.37 530.74 678.61 73.95 85.57 100.91 128.4 C. Los Angeles (SC) Summer 2030 390.62 451.80 530.72 678.61 73.95 85.57 100.91 128.4 C. Los Angeles (SC) Summer 2031 391.38 452.94 531.76 880.32 73.96 85.81 100.94 128.7 C. Los Angeles (SC) Summer 2032 391.37 453.18 531.75 880.52 73.96 85.81 100.94 128.7 C. Los Angeles (SC) Summer 2034 391.37 453.18 531.75 880.82 73.96 85.81 100.94 128.7 C. Los Angeles (SC) Summer 2034 391.37 453.58 531.75 880.80 73.97 85.94 100.96 128.9 C. Los Angeles (SC) Summer 2034 391.37 453.58 531.75 880.80 73.97 85.94 100.96 128.9 C. Los Angeles (SC) Summer 2034 391.37 453.85 531.75 880.80 73.97 85.94 100.96 128.9 C. Los Angeles (SC) Winter 2013 383.84 419.30 496.75 629.99 73.40 84.00 99.75 125.7 C. Los Angeles (SC) Winter 2014 363.89 419.30 496.75 629.99 73.40 84.00 99.86 125.0 C. Los Angeles (SC) Winter 2014 363.89 419.30 496.75 629.99 73.40 84.00 99.86 125.0 C. Los Angeles (SC) Winter 2013 363.84 420.60 497.77 631.94 73.86 86.0 99.90 122.0 C. Los Angeles (SC) Winter 2034 364.86 422.52 497.	С	Los Angeles (SC)	Summer	2018	388.19	446.07	527.94	671.60	73.60	84.26	100.28	126.87		
C. Los Angeles (SC) Summer 2021 387.73 446.44 527.07 671.91 73.79 84.73 100.56 127.4 C. Los Angeles (SC) Summer 2022 387.81 446.75 527.06 672.25 73.84 84.87 100.56 127.4 C. Los Angeles (SC) Summer 2024 390.60 450.47 530.86 677.57 73.88 85.10 100.76 127.8 C. Los Angeles (SC) Summer 2024 390.60 450.47 530.86 677.57 73.88 85.10 100.76 127.8 C. Los Angeles (SC) Summer 2025 390.59 450.66 530.84 677.76 73.90 85.21 100.80 128.0 C. Los Angeles (SC) Summer 2026 390.61 450.99 530.82 677.94 73.92 85.31 100.84 128.1 C. Los Angeles (SC) Summer 2027 390.62 451.11 530.79 678.11 73.92 85.31 100.84 128.1 C. Los Angeles (SC) Summer 2028 390.63 451.57 530.79 678.11 73.92 85.31 100.84 128.1 C. Los Angeles (SC) Summer 2029 390.63 451.57 530.74 678.44 73.96 85.57 100.91 128.4 C. Los Angeles (SC) Summer 2030 390.62 451.80 530.72 678.61 73.96 85.57 100.91 128.4 C. Los Angeles (SC) Summer 2030 390.63 451.57 530.74 678.44 73.96 85.57 100.91 128.4 C. Los Angeles (SC) Summer 2030 390.63 451.57 680.32 73.96 85.81 100.92 128.5 C. Los Angeles (SC) Summer 2031 391.38 453.45 631.75 680.32 73.96 85.81 100.92 128.5 C. Los Angeles (SC) Summer 2031 391.37 453.16 531.75 680.32 73.96 85.81 100.92 128.5 C. Los Angeles (SC) Summer 2033 391.37 453.16 531.75 680.32 73.96 85.81 100.94 128.7 C. Los Angeles (SC) Summer 2031 391.37 453.85 531.72 680.83 73.97 85.89 100.96 128.9 C. Los Angeles (SC) Summer 2035 391.36 453.68 531.72 680.83 73.97 85.89 100.96 128.9 C. Los Angeles (SC) Winter 2010 362.71 417.15 496.26 626.64 73.23 84.17 994.41 125.2 C. Los Angeles (SC) Winter 2013 363.74 419.03 496.84 629.44 73.33 64.00 99.95 125.5 C. Los Angeles (SC) Winter 2013 365.04 420.93 497.77 631.94 73.46 80.09 99.97 125.2 C. Los Angeles (SC) Winter 2013 365.04 420.93 497.72 631.94 73.48 80.09 99.99 126.2 C. Los Angeles (SC) Winter 2013 365.04 420.93 497.76 633.55 73.60 84.26 100.02 8126.5 C. Los Angeles (SC) Winter 2013 365.94 420.25 495.81 631.65 73.69 84.99 100.70 127.7 C. Los Angeles (SC) Winter 2024 364.86 422.03 496.78 6	С	Los Angeles (SC)	Summer	2019	386.86	444.82	526.01	669.67	73.64	84.41	100.37	127.07		
C. Los Angeles (SC)	С	Los Angeles (SC)	Summer	2020	386.96	445.19	526.01	670.16	73.73	84.57	100.47	127.26		
C Los Angeles (SC) Summer 2023 387.81 447.00 527.05 672.49 73.87 84.99 100.70 127.7 C Los Angeles (SC) Summer 2024 390.60 450.47 530.86 677.57 73.88 85.10 100.76 127.8 C Los Angeles (SC) Summer 2026 390.59 450.66 530.84 677.76 73.89 85.21 100.80 128.0 C Los Angeles (SC) Summer 2026 390.59 450.66 530.84 677.76 73.29 85.31 100.84 128.1 C Los Angeles (SC) Summer 2027 390.62 451.11 530.79 678.21 73.93 85.40 100.87 128.2 C Los Angeles (SC) Summer 2027 390.62 451.11 530.79 678.21 73.93 85.40 100.87 128.2 C Los Angeles (SC) Summer 2029 390.63 451.57 530.74 678.47 73.95 85.57 100.91 128.4 C Los Angeles (SC) Summer 2029 390.63 451.57 530.74 678.47 73.95 85.57 100.91 128.4 C Los Angeles (SC) Summer 2031 391.38 125.94 531.76 680.13 73.66 85.73 100.91 128.4 C Los Angeles (SC) Summer 2031 391.38 125.94 531.76 680.13 73.66 85.73 100.91 128.4 C Los Angeles (SC) Summer 2032 391.37 453.18 531.75 680.32 73.96 85.81 100.94 128.7 C Los Angeles (SC) Summer 2032 391.37 453.18 531.75 680.37 73.97 85.86 100.95 128.8 C Los Angeles (SC) Summer 2034 391.37 453.37 531.74 680.50 73.97 85.86 100.95 128.8 C Los Angeles (SC) Summer 2034 391.37 453.37 531.74 680.50 73.97 85.89 100.96 128.0 C Los Angeles (SC) Summer 2034 391.37 453.35 531.73 680.67 73.97 85.89 100.96 128.0 C Los Angeles (SC) Winter 2010 362.71 417.15 496.28 626.64 73.23 84.17 99.44 125.4 C Los Angeles (SC) Winter 2011 363.74 419.03 496.84 629.44 73.35 84.09 99.77 125.7 C Los Angeles (SC) Winter 2012 363.18 418.21 496.59 628.99 73.40 84.06 99.66 125.5 C Los Angeles (SC) Winter 2014 363.89 419.30 496.77 68.30 73.79 85.89 100.96 128.0 C Los Angeles (SC) Winter 2014 363.89 419.30 496.77 63.99 73.40 84.06 99.66 125.5 C Los Angeles (SC) Winter 2014 363.89 419.30 496.77 63.99 73.40 84.06 99.77 125.7 C Los Angeles (SC) Winter 2014 363.69 47.78 496.59 633.55 73.40 84.06 99.77 125.7 C Los Angeles (SC) Winter 2014 363.89 419.30 496.79 633.80 73.99 85.41 100.00 126.7 C Los Angeles (SC) Winter 2021 364.87 421.87 496.79 633.89 73.40 84.09 99.99 125.2 C Los Angeles (SC) Winter 2024 364.86 622	С	Los Angeles (SC)	Summer	2021	387.79	446.44	527.07	671.91	73.79	84.73	100.56	127.42		
C Los Angeles (SC) Summer 2024 390.60 450.47 530.86 677.57 73.88 85.10 100.76 127.8 C Los Angeles (SC) Summer 2025 390.59 450.66 530.84 677.67 73.90 85.21 100.80 128.8 C Los Angeles (SC) Summer 2026 390.61 450.90 530.82 677.94 73.30 85.21 100.80 128.1 C Los Angeles (SC) Summer 2027 390.62 451.11 530.79 678.11 73.93 85.40 100.87 128.2 C Los Angeles (SC) Summer 2028 390.63 451.34 530.77 678.27 73.94 85.49 100.89 128.3 C Los Angeles (SC) Summer 2029 390.63 451.34 530.77 678.27 73.94 85.49 100.89 128.4 C Los Angeles (SC) Summer 2030 390.62 451.80 530.72 678.61 73.95 85.65 100.92 128.5 C Los Angeles (SC) Summer 2031 391.38 452.94 531.76 680.13 73.96 85.73 100.93 128.6 C Los Angeles (SC) Summer 2031 391.38 452.94 531.76 680.13 73.96 85.81 100.94 128.7 C Los Angeles (SC) Summer 2033 391.37 453.37 531.74 680.50 73.97 85.88 100.95 128.8 C Los Angeles (SC) Summer 2033 391.37 453.37 531.74 680.50 73.97 85.88 100.95 128.8 C Los Angeles (SC) Summer 2033 391.37 453.37 531.74 680.35 73.97 85.98 100.95 128.8 C Los Angeles (SC) Summer 2033 391.37 453.37 531.74 680.37 73.97 85.99 100.96 128.9 C Los Angeles (SC) Summer 2034 391.37 453.56 531.73 680.67 73.27 85.99 100.96 128.9 C Los Angeles (SC) Winter 2010 362.71 417.15 496.28 626.64 73.23 84.17 99.44 125.2 C Los Angeles (SC) Winter 2011 363.06 417.84 496.50 627.65 73.25 84.09 99.54 125.4 C Los Angeles (SC) Winter 2013 363.74 419.03 496.84 629.44 73.35 84.06 99.77 125.7 C Los Angeles (SC) Winter 2014 363.89 419.36 496.75 629.99 73.40 84.06 99.81 125.4 C Los Angeles (SC) Winter 2016 365.00 420.93 497.72 632.51 73.53 84.06 99.77 125.7 C Los Angeles (SC) Winter 2019 363.74 419.03 496.84 629.44 73.35 84.06 99.77 125.7 C Los Angeles (SC) Winter 2019 363.79 420.27 495.81 633.65 73.69 84.14 100.01 126.4 C Los Angeles (SC) Winter 2019 363.79 420.27 495.81 633.65 73.69 84.19 100.02 126.6 C Los Angeles (SC) Winter 2029 364.87 421.87 496.79 633.89 73.9 85.91 100.04 122.5 C Los Angeles (SC) Winter 2023 364.86 422.03 500.31 633.15 73.9 85.91 100.0	С	Los Angeles (SC)	Summer	2022	387.82	446.75	527.06	672.25	73.84	84.87	100.64	127.56		
C Los Angeles (SC) Summer 2025 390.59 450.66 530.84 677.76 73.90 85.21 100.80 128.0 C Los Angeles (SC) Summer 2026 390.61 450.90 530.82 677.94 73.92 85.31 100.84 128.1 C Los Angeles (SC) Summer 2027 390.62 451.11 530.79 678.17 73.94 85.49 100.89 128.3 C Los Angeles (SC) Summer 2028 390.63 451.34 530.77 678.27 73.94 85.49 100.89 128.3 C Los Angeles (SC) Summer 2029 390.63 451.57 530.74 678.44 73.95 85.57 100.91 128.4 C Los Angeles (SC) Summer 2030 390.62 451.80 530.72 678.61 73.95 85.65 100.92 128.5 C Los Angeles (SC) Summer 2031 391.38 452.94 531.76 680.13 73.96 85.81 100.94 128.7 C Los Angeles (SC) Summer 2032 391.37 453.18 531.75 680.32 73.96 85.81 100.94 128.7 C Los Angeles (SC) Summer 2033 391.37 453.18 531.75 680.32 73.96 85.81 100.94 128.7 C Los Angeles (SC) Summer 2033 391.37 453.38 531.75 680.50 73.97 85.84 100.96 128.9 C Los Angeles (SC) Summer 2034 391.37 453.85 531.73 680.57 73.97 85.84 100.96 128.9 C Los Angeles (SC) Summer 2034 391.37 453.85 531.73 680.57 73.97 85.94 100.96 128.9 C Los Angeles (SC) Summer 2034 391.37 453.85 531.73 680.57 73.97 85.94 100.96 128.9 C Los Angeles (SC) Winter 2034 391.37 453.85 531.73 680.57 73.97 85.94 100.96 128.9 C Los Angeles (SC) Winter 2011 363.06 417.84 496.50 627.65 73.25 84.09 99.54 125.4 C Los Angeles (SC) Winter 2011 363.06 417.84 496.50 627.65 73.25 84.09 99.54 125.4 C Los Angeles (SC) Winter 2011 363.64 418.21 496.38 628.18 73.29 84.06 99.65 125.5 C Los Angeles (SC) Winter 2013 365.74 419.03 496.64 629.44 73.35 84.06 99.77 125.7 C Los Angeles (SC) Winter 2013 365.74 419.03 496.64 629.44 73.35 84.06 99.77 125.7 C Los Angeles (SC) Winter 2013 365.74 419.03 496.56 627.65 73.25 84.09 99.88 125.9 C Los Angeles (SC) Winter 2013 365.74 419.03 496.64 629.44 73.35 84.06 99.77 125.7 C Los Angeles (SC) Winter 2013 365.74 419.03 496.69 627.65 73.25 84.09 99.98 126.2 C Los Angeles (SC) Winter 2024 367.45 425.20 500.34 638.81 73.89 85.91 100.00 126.4 C Los Angeles (SC) Winter 2023 364.84 422.60 497.77 631.94 73.46 84.06 99.88	С	Los Angeles (SC)	Summer	2023	387.81	447.00	527.05	672.49	73.87	84.99	100.70	127.72		
C Los Angeles (SC) Summer 2026 390.61 450.90 530.82 677.94 73.92 85.31 100.84 128.1 C Los Angeles (SC) Summer 2027 390.62 451.11 530.79 678.11 73.93 85.40 100.87 128.2 C Los Angeles (SC) Summer 2028 390.63 451.34 53.077 678.27 73.94 85.49 100.89 128.3 C Los Angeles (SC) Summer 2029 390.63 451.57 530.74 678.27 73.98 85.57 100.91 128.2 C Los Angeles (SC) Summer 2030 390.62 451.80 530.72 678.61 73.95 85.65 100.92 128.5 C Los Angeles (SC) Summer 2031 391.38 452.94 531.76 680.13 73.96 85.65 100.92 128.5 C Los Angeles (SC) Summer 2032 391.37 453.18 531.75 680.27 73.97 85.88 100.93 128.6 C Los Angeles (SC) Summer 2033 391.37 453.35 531.74 680.50 73.97 85.88 100.95 128.8 C Los Angeles (SC) Summer 2034 391.37 453.55 531.73 680.67 73.97 85.88 100.95 128.8 C Los Angeles (SC) Summer 2035 391.36 453.88 531.72 680.33 73.97 85.98 100.96 128.9 C Los Angeles (SC) Summer 2035 391.36 453.88 531.72 680.37 397 85.94 100.96 128.9 C Los Angeles (SC) Summer 2035 391.36 453.88 531.72 680.37 397 85.99 100.96 128.0 C Los Angeles (SC) Winter 2010 362.71 417.15 496.28 626.64 73.23 84.17 99.44 125.2 C Los Angeles (SC) Winter 2011 363.76 418.21 496.38 628.18 73.29 84.09 99.54 125.4 C Los Angeles (SC) Winter 2013 363.74 419.03 496.50 627.65 73.25 84.09 99.56 125.5 C Los Angeles (SC) Winter 2013 363.78 419.03 496.84 629.44 73.35 84.06 99.77 125.7 C Los Angeles (SC) Winter 2013 363.78 418.21 496.38 628.18 73.35 84.40 99.96 61 125.5 C Los Angeles (SC) Winter 2013 363.74 419.03 496.84 629.94 73.35 84.06 99.77 125.7 C Los Angeles (SC) Winter 2014 363.89 419.36 496.75 629.99 73.40 84.06 99.77 125.7 C Los Angeles (SC) Winter 2013 363.74 419.03 496.84 629.94 73.39 84.09 99.95 126.2 C Los Angeles (SC) Winter 2015 364.87 420.27 495.81 633.65 73.80 84.09 99.96 126.2 C Los Angeles (SC) Winter 2015 364.87 420.27 495.81 633.65 73.80 84.09 99.96 126.2 C Los Angeles (SC) Winter 2013 363.74 420.27 495.81 633.65 73.79 84.79 100.07 127.7 C Los Angeles (SC) Winter 2023 364.87 420.27 495.81 633.65 73.80 83.91 100.08 1	С	Los Angeles (SC)	Summer	2024	390.60	450.47	530.86	677.57	73.88	85.10	100.76	127.86		
C. Los Angeles (SC) Summer 2027 390.62 451.11 530.79 678.11 73.93 85.40 100.87 128.2 C. Los Angeles (SC) Summer 2028 390.63 451.34 530.77 678.27 73.94 85.49 100.89 128.3 C. Los Angeles (SC) Summer 2030 390.62 451.80 530.72 678.61 73.95 85.65 100.92 128.5 C. Los Angeles (SC) Summer 2031 391.38 45.94 530.72 678.61 73.95 85.65 100.92 128.5 C. Los Angeles (SC) Summer 2031 391.38 45.94 531.76 680.13 73.96 85.73 100.93 128.6 C. Los Angeles (SC) Summer 2033 391.37 453.37 5680.37 73.97 85.88 100.99 128.5 C. Los Angeles (SC) Summer 2033 391.37 453.55 531.73 680.67 73.97 85.88 100.99 128.5 C. Los Angeles (SC) Summer 2034 391.37 453.55 531.73 680.67 73.97 85.84 100.96 128.9 C. Los Angeles (SC) Summer 2034 391.37 453.55 531.73 680.67 73.97 85.94 100.96 128.9 C. Los Angeles (SC) Summer 2034 391.37 453.55 531.73 680.67 73.97 85.94 100.96 128.9 C. Los Angeles (SC) Summer 2034 391.36 453.68 531.72 680.83 73.97 85.94 100.96 128.9 C. Los Angeles (SC) Winter 2010 362.71 417.15 496.28 626.64 73.23 84.17 99.44 125.2 C. Los Angeles (SC) Winter 2011 363.06 417.84 496.50 627.65 73.25 84.09 99.54 125.4 C. Los Angeles (SC) Winter 2012 363.18 418.21 496.38 628.18 73.29 84.06 99.68 125.5 C. Los Angeles (SC) Winter 2013 363.74 419.03 496.87 629.99 73.40 84.06 99.88 125.5 C. Los Angeles (SC) Winter 2014 363.89 419.36 496.75 629.99 73.40 84.06 99.87 125.7 C. Los Angeles (SC) Winter 2015 364.84 420.00 497.77 631.94 73.46 84.09 99.97 125.2 C. Los Angeles (SC) Winter 2016 365.00 420.93 497.72 633.51 73.58 84.19 100.20 126.6 C. Los Angeles (SC) Winter 2016 365.00 420.93 497.72 633.51 73.58 84.09 99.97 125.2 C. Los Angeles (SC) Winter 2018 363.67 420.93 497.72 633.51 73.58 84.19 100.20 126.6 C. Los Angeles (SC) Winter 2018 365.27 420.27 495.81 632.05 73.79 85.94 100.80 125.6 C. Los Angeles (SC) Winter 2020 364.06 420.56 495.81 632.05 73.79 85.94 100.80 125.0 C. Los Angeles (SC) Winter 2021 364.85 421.65 496.80 633.65 73.79 84.79 100.64 127.5 C. Los Angeles (SC) Winter 2023 364.87 425.95 500.34 633.89	С	Los Angeles (SC)	Summer	2025	390.59	450.66	530.84	677.76	73.90	85.21	100.80	128.00		
C. Los Angeles (SC) Summer 2027 390.62 451.11 530.79 678.11 73.93 85.40 100.87 128.2 C. Los Angeles (SC) Summer 2028 390.63 451.34 530.77 678.27 73.94 85.49 100.89 128.3 C. Los Angeles (SC) Summer 2030 390.62 451.80 530.72 678.61 73.95 85.65 100.92 128.5 C. Los Angeles (SC) Summer 2031 391.38 45.94 530.72 678.61 73.95 85.65 100.92 128.5 C. Los Angeles (SC) Summer 2031 391.38 45.94 531.76 680.13 73.96 85.73 100.93 128.6 C. Los Angeles (SC) Summer 2033 391.37 453.37 5680.37 73.97 85.88 100.99 128.5 C. Los Angeles (SC) Summer 2033 391.37 453.55 531.73 680.67 73.97 85.88 100.99 128.5 C. Los Angeles (SC) Summer 2034 391.37 453.55 531.73 680.67 73.97 85.84 100.96 128.9 C. Los Angeles (SC) Summer 2034 391.37 453.55 531.73 680.67 73.97 85.94 100.96 128.9 C. Los Angeles (SC) Summer 2034 391.37 453.55 531.73 680.67 73.97 85.94 100.96 128.9 C. Los Angeles (SC) Summer 2034 391.36 453.68 531.72 680.83 73.97 85.94 100.96 128.9 C. Los Angeles (SC) Winter 2010 362.71 417.15 496.28 626.64 73.23 84.17 99.44 125.2 C. Los Angeles (SC) Winter 2011 363.06 417.84 496.50 627.65 73.25 84.09 99.54 125.4 C. Los Angeles (SC) Winter 2012 363.18 418.21 496.38 628.18 73.29 84.06 99.68 125.5 C. Los Angeles (SC) Winter 2013 363.74 419.03 496.87 629.99 73.40 84.06 99.88 125.5 C. Los Angeles (SC) Winter 2014 363.89 419.36 496.75 629.99 73.40 84.06 99.87 125.7 C. Los Angeles (SC) Winter 2015 364.84 420.00 497.77 631.94 73.46 84.09 99.97 125.2 C. Los Angeles (SC) Winter 2016 365.00 420.93 497.72 633.51 73.58 84.19 100.20 126.6 C. Los Angeles (SC) Winter 2016 365.00 420.93 497.72 633.51 73.58 84.09 99.97 125.2 C. Los Angeles (SC) Winter 2018 363.67 420.93 497.72 633.51 73.58 84.19 100.20 126.6 C. Los Angeles (SC) Winter 2018 365.27 420.27 495.81 632.05 73.79 85.94 100.80 125.6 C. Los Angeles (SC) Winter 2020 364.06 420.56 495.81 632.05 73.79 85.94 100.80 125.0 C. Los Angeles (SC) Winter 2021 364.85 421.65 496.80 633.65 73.79 84.79 100.64 127.5 C. Los Angeles (SC) Winter 2023 364.87 425.95 500.34 633.89	С	Los Angeles (SC)	Summer	2026	390.61	450.90	530.82	677.94		85.31	100.84	128.14		
C Los Angeles (SC) Summer 2029 390.63 451.57 530.74 678.44 73.95 85.57 100.91 128.4 C Los Angeles (SC) Summer 2030 390.62 451.80 530.72 678.61 73.95 85.65 100.92 128.5 C Los Angeles (SC) Summer 2031 391.38 452.94 531.76 680.13 73.96 85.73 100.93 128.6 C Los Angeles (SC) Summer 2032 391.37 453.18 531.75 680.32 73.96 85.81 100.94 128.7 C Los Angeles (SC) Summer 2033 391.37 453.18 531.75 680.32 73.96 85.81 100.94 128.7 C Los Angeles (SC) Summer 2034 391.37 453.37 531.74 680.50 73.97 85.88 100.95 128.8 C Los Angeles (SC) Summer 2034 391.37 453.55 531.73 680.67 73.97 85.94 100.96 128.9 C Los Angeles (SC) Summer 2035 391.36 453.68 531.72 680.83 73.97 85.94 100.96 128.9 C Los Angeles (SC) Winter 2010 362.71 417.15 496.28 626.64 73.23 84.17 99.44 125.2 C Los Angeles (SC) Winter 2011 363.06 417.84 496.50 627.65 73.25 84.09 99.54 125.4 C Los Angeles (SC) Winter 2012 363.18 418.21 496.38 628.18 73.29 84.06 99.65 125.5 C Los Angeles (SC) Winter 2013 363.74 419.03 496.84 629.44 73.35 84.06 99.65 125.5 C Los Angeles (SC) Winter 2016 366.89 419.36 496.75 629.99 73.40 84.06 99.88 125.9 C Los Angeles (SC) Winter 2016 366.00 420.93 497.77 631.94 73.46 84.09 99.99 126.2 C Los Angeles (SC) Winter 2017 365.12 421.25 497.66 633.05 73.57 84.19 100.20 126.6 C Los Angeles (SC) Winter 2019 363.97 420.27 495.81 631.65 73.64 84.41 100.37 127.0 C Los Angeles (SC) Winter 2019 363.97 420.27 495.81 631.65 73.64 84.41 100.37 127.0 C Los Angeles (SC) Winter 2023 364.86 422.03 496.76 633.89 73.94 84.96 100.28 126.8 C Los Angeles (SC) Winter 2023 364.86 422.03 496.76 633.89 73.94 84.96 100.28 126.8 C Los Angeles (SC) Winter 2019 363.97 420.27 495.81 631.65 73.64 84.41 100.37 127.0 C Los Angeles (SC) Winter 2029 364.06 420.56 495.81 632.05 73.79 84.79 100.00 126.6 C Los Angeles (SC) Winter 2029 364.06 420.56 495.81 632.05 73.79 84.79 100.00 127.7 C Los Angeles (SC) Winter 2021 368.87 421.65 406.80 633.65 73.99 88.29 100.07 127.7 C Los Angeles (SC) Winter 2023 364.86 522.05 500.34 638.81 73.89 85.10 100	С	Los Angeles (SC)		2027	390.62	451.11	530.79	678.11	73.93	85.40	100.87	128.26		
C Los Angeles (SC) Summer 2029 390.63 451.57 530.74 678.44 73.95 85.57 100.91 128.4 C Los Angeles (SC) Summer 2030 390.62 451.80 530.72 678.61 73.95 85.65 100.92 128.5 C Los Angeles (SC) Summer 2031 391.38 452.94 531.76 680.13 73.96 85.73 100.93 128.6 C Los Angeles (SC) Summer 2032 391.37 453.18 531.75 680.32 73.96 85.81 100.94 128.7 C Los Angeles (SC) Summer 2033 391.37 453.18 531.75 680.32 73.96 85.81 100.94 128.7 C Los Angeles (SC) Summer 2034 391.37 453.37 531.74 680.50 73.97 85.88 100.95 128.8 C Los Angeles (SC) Summer 2034 391.37 453.55 531.73 680.67 73.97 85.94 100.96 128.9 C Los Angeles (SC) Summer 2035 391.36 453.68 531.72 680.83 73.97 85.94 100.96 128.9 C Los Angeles (SC) Winter 2010 362.71 417.15 496.28 626.64 73.23 84.17 99.44 125.2 C Los Angeles (SC) Winter 2011 363.06 417.84 496.50 627.65 73.25 84.09 99.54 125.4 C Los Angeles (SC) Winter 2012 363.18 418.21 496.38 628.18 73.29 84.06 99.65 125.5 C Los Angeles (SC) Winter 2013 363.74 419.03 496.84 629.44 73.35 84.06 99.65 125.5 C Los Angeles (SC) Winter 2016 366.89 419.36 496.75 629.99 73.40 84.06 99.88 125.9 C Los Angeles (SC) Winter 2016 366.00 420.93 497.77 631.94 73.46 84.09 99.99 126.2 C Los Angeles (SC) Winter 2017 365.12 421.25 497.66 633.05 73.57 84.19 100.20 126.6 C Los Angeles (SC) Winter 2019 363.97 420.27 495.81 631.65 73.64 84.41 100.37 127.0 C Los Angeles (SC) Winter 2019 363.97 420.27 495.81 631.65 73.64 84.41 100.37 127.0 C Los Angeles (SC) Winter 2023 364.86 422.03 496.76 633.89 73.94 84.96 100.28 126.8 C Los Angeles (SC) Winter 2023 364.86 422.03 496.76 633.89 73.94 84.96 100.28 126.8 C Los Angeles (SC) Winter 2019 363.97 420.27 495.81 631.65 73.64 84.41 100.37 127.0 C Los Angeles (SC) Winter 2029 364.06 420.56 495.81 632.05 73.79 84.79 100.00 126.6 C Los Angeles (SC) Winter 2029 364.06 420.56 495.81 632.05 73.79 84.79 100.00 127.7 C Los Angeles (SC) Winter 2021 368.87 421.65 406.80 633.65 73.99 88.29 100.07 127.7 C Los Angeles (SC) Winter 2023 364.86 522.05 500.34 638.81 73.89 85.10 100	С			2028	390.63	451.34	530.77	678.27	73.94	85.49	100.89	128.37		
C Los Angeles (SC) Summer 2030 390.62 451.80 530.72 678.61 73.95 85.65 100.92 128.5 C Los Angeles (SC) Summer 2031 391.38 452.94 531.76 680.33 73.96 85.73 100.94 128.7 C Los Angeles (SC) Summer 2032 391.37 453.37 531.76 680.30 73.97 85.88 100.95 128.8 C Los Angeles (SC) Summer 2033 391.37 453.37 531.74 680.50 73.97 85.94 100.96 128.9 C Los Angeles (SC) Summer 2033 391.36 453.68 531.72 680.93 73.97 85.99 100.96 128.9 C Los Angeles (SC) Winter 2011 365.06 417.84 496.28 626.64 73.23 84.17 99.44 125.2 C Los Angeles (SC) Winter 2012 363.18 418.21 496.38 62.81	С			2029	390.63	451.57	530.74	678.44		85.57	100.91	128.48		
C Los Angeles (SC) Summer 2031 391.38 452.94 531.76 680.13 73.96 85.73 100.93 128.6 C Los Angeles (SC) Summer 2032 391.37 453.18 531.75 680.32 73.96 85.81 100.94 128.7 C Los Angeles (SC) Summer 2034 391.37 453.35 531.73 680.67 73.97 85.94 100.96 128.9 C Los Angeles (SC) Summer 2033 391.36 453.68 531.72 680.83 73.97 85.99 100.96 129.0 C Los Angeles (SC) Winter 2010 362.71 417.15 496.28 626.64 73.23 84.10 99.44 125.4 C Los Angeles (SC) Winter 2012 363.18 418.21 496.30 627.65 73.25 84.09 99.54 125.4 C Los Angeles (SC) Winter 2013 363.74 419.03 496.84 629.44	С			2030						85.65		128.58		
C Los Angeles (SC) Summer 2032 391.37 453.18 531.75 680.32 73.96 85.81 100.94 128.7 C Los Angeles (SC) Summer 2033 391.37 453.37 531.74 680.50 73.97 85.88 100.95 128.8 C Los Angeles (SC) Summer 2034 391.37 453.55 531.73 680.67 73.97 85.89 100.96 128.9 C Los Angeles (SC) Summer 2035 391.36 453.68 531.72 680.83 73.97 85.99 100.96 128.9 C Los Angeles (SC) Winter 2010 362.71 417.15 496.28 626.64 73.23 84.17 99.44 125.2 C Los Angeles (SC) Winter 2011 363.06 417.84 496.50 627.65 73.25 84.09 99.54 125.4 C Los Angeles (SC) Winter 2012 363.18 418.21 496.38 628.18 73.29 84.06 99.65 125.5 C Los Angeles (SC) Winter 2013 363.74 419.03 496.84 629.44 73.35 84.06 99.65 125.5 C Los Angeles (SC) Winter 2014 363.89 419.03 496.84 629.49 73.40 84.06 99.88 125.9 C Los Angeles (SC) Winter 2015 364.84 420.60 497.77 631.94 73.46 84.09 99.99 126.2 C Los Angeles (SC) Winter 2016 365.00 420.93 497.72 632.51 73.53 84.14 100.10 126.4 C Los Angeles (SC) Winter 2018 365.22 421.52 497.69 633.05 73.57 84.19 100.20 126.6 C Los Angeles (SC) Winter 2019 363.97 420.27 495.81 633.65 73.60 84.26 100.28 126.8 C Los Angeles (SC) Winter 2019 363.97 420.27 495.81 633.65 73.60 84.26 100.28 126.8 C Los Angeles (SC) Winter 2020 364.06 420.56 495.81 632.05 73.79 84.73 100.66 127.4 C Los Angeles (SC) Winter 2021 364.85 421.65 496.80 633.62 73.79 84.73 100.66 127.4 C Los Angeles (SC) Winter 2023 364.86 422.03 496.89 633.05 73.79 84.73 100.66 127.4 C Los Angeles (SC) Winter 2024 367.45 425.25 500.34 638.81 73.98 85.21 100.47 127.2 C Los Angeles (SC) Winter 2023 364.86 422.03 496.76 633.05 73.79 84.73 100.66 127.4 C Los Angeles (SC) Winter 2024 367.45 425.20 500.34 638.81 73.98 85.21 100.80 128.0 C Los Angeles (SC) Winter 2023 364.86 422.03 496.76 633.09 73.98 85.21 100.80 128.0 C Los Angeles (SC) Winter 2024 367.45 425.20 500.34 638.81 73.98 85.51 100.94 127.5 C Los Angeles (SC) Winter 2023 367.44 425.20 500.31 639.15 73.99 85.21 100.80 128.0 C Los Angeles (SC) Winter 2029 367.45 425.89 500.24 639.64 73.99 85.51 100	С						-					128.68		
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C Los Angeles (SC) Winter 2034 368.14 427.61 501.14 641.73 73.97 85.94 100.96 128.9	С	Los Angeles (SC)		2032	368.14	427.31	501.17	641.41	73.96	85.81	100.94	128.77		
♥ \ /	С	Los Angeles (SC)	Winter	2033	368.14	427.47	501.15	641.57	73.97	85.88	100.95	128.86		
C Los Angeles (SC) Winter 2035 368.13 427.73 501.13 641.86 73.97 85.99 100.96 129.0	С	Los Angeles (SC)	Winter	2034	368.14	427.61	501.14	641.73	73.97	85.94	100.96	128.94		
	С	Los Angeles (SC)	Winter	2035	368.13	427.73	501.13	641.86	73.97	85.99	100.96	129.01		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	I			CO2 Bunni	`	CO2 Starting (g/trip)					
	Location	0			CO2 Runni							
С	Madera (SJV)	Season Annual	Year 2010	LDA 344.30	LDT1 396.00	LDT2 471.44	MDV 591.13	LDA 73.51	LDT1 87.22	LDT2 100.74	MDV 124.58	
C	Madera (SJV)	Annual	2010	344.51	396.95	471.44	592.07	73.49	86.59	100.74	124.83	
С	Madera (SJV)	Annual	2012	344.50	397.37	470.74	592.52	73.45	86.21	100.68	125.06	
C	Madera (SJV)	Annual	2013	348.08	401.83	475.18	599.25	73.49	85.88	100.68	125.34	
С	Madera (SJV)	Annual	2014	348.25	402.31	475.06	600.13	73.49	85.60	100.63	125.63	
С	Madera (SJV)	Annual	2015	354.35	409.56	483.11	611.24	73.50	85.34	100.61	125.91	
С	Madera (SJV)	Annual	2016	354.51	409.87	483.03	612.02	73.54	85.14	100.62	126.19	
С	Madera (SJV)	Annual	2017	354.59	410.14	482.95	612.76	73.53	84.97	100.56	126.47	
С	Madera (SJV)	Annual	2018	362.06	419.14	493.00	626.51	73.54	84.94	100.58	126.81	
С	Madera (SJV)	Annual	2019	362.17	419.50	492.97	627.30	73.58	84.99	100.61	127.12	
С	Madera (SJV)	Annual	2020	362.26	419.80	492.94	627.97	73.67	85.10	100.68	127.40	
С	Madera (SJV)	Annual	2021	357.55	414.48	486.41	620.11	73.74	85.25	100.75	127.59	
С	Madera (SJV)	Annual	2022	357.57	414.65	486.37	620.44	73.79	85.37	100.81	127.75	
С	Madera (SJV)	Annual	2023	357.55	414.78	486.33	620.71	73.81	85.48	100.86	127.94	
С	Madera (SJV)	Annual	2024	364.97	423.58	496.48	633.93	73.82	85.58	100.89	128.11	
С	Madera (SJV)	Annual	2025	364.97	423.69	496.44	634.14	73.84	85.67	100.92	128.28	
С	Madera (SJV)	Annual	2026	374.82	435.22	509.83	651.42	73.86	85.75	100.94	128.40	
С	Madera (SJV)	Annual	2027	374.81	435.26	509.77	651.51	73.87	85.81	100.96	128.52	
С	Madera (SJV)	Annual	2028	374.80	435.33	509.72	651.63	73.88	85.88	100.97	128.62	
С	Madera (SJV)	Annual	2029	374.79	435.42	509.68	651.76	73.89	85.94	100.97	128.71	
С	Madera (SJV)	Annual	2030	374.78	435.50	509.65	651.90	73.89	85.99	100.98	128.81	
С	Madera (SJV)	Annual	2031	374.77	435.59	509.63	652.06	73.89	86.05	100.98	128.89	
С	Madera (SJV)	Annual	2032	374.77	435.67	509.62	652.22	73.90	86.10	100.99	128.97	
С	Madera (SJV)	Annual	2033	374.77	435.74	509.61	652.38	73.90	86.14	100.99	129.05	
С	Madera (SJV)	Annual	2034	374.77	435.81	509.62	652.54	73.90		100.99	129.12	
С	Madera (SJV)	Annual	2035	374.77	435.86	509.62	652.67	73.91	86.22	101.00	129.18	
C	Madera (SJV)	Summer	2010	377.25	430.41	514.94	645.71	73.51	87.22	100.74	124.58	
С	Madera (SJV)	Summer	2011	377.78	432.35	515.17	646.80	73.49	86.59	100.69	124.83	
С	Madera (SJV)	Summer	2012	377.94	433.28	514.98	647.29	73.45	86.21	100.68	125.06	
С	Madera (SJV)	Summer	2013	382.01	438.58	520.11	654.78	73.49	85.88	100.68	125.34	
C C	Madera (SJV) Madera (SJV)	Summer Summer	2014 2015	382.31 389.06	439.41 447.53	520.20 529.15	655.90 668.18	73.49 73.50	85.60 85.34	100.63 100.61	125.63 125.91	
С	Madera (SJV)	Summer	2016	389.25	447.99	529.13	669.19	73.54	85.14	100.61	126.19	
С	Madera (SJV)	Summer	2017	389.36	448.39	529.13	670.12	73.53		100.56	126.13	
С	Madera (SJV)	Summer	2018	397.65	458.50	540.25	685.49	73.54	84.94	100.58	126.81	
С	Madera (SJV)	Summer	2019	397.83	459.10	540.32	686.62	73.58	84.99	100.61	127.12	
С	Madera (SJV)	Summer	2020	397.96	459.58	540.34	687.54	73.67	85.10		127.40	
C	Madera (SJV)	Summer	2021	392.77	453.78	533.14	678.99	73.74	85.25	100.75	127.59	
С	Madera (SJV)	Summer	2022	392.78	454.00	533.07	679.41	73.79	85.37	100.81	127.75	
С	Madera (SJV)	Summer	2023	392.75	454.19	533.01	679.71	73.81	85.48		127.94	
С	Madera (SJV)	Summer	2024	400.91	463.86	544.13	694.20	73.82	85.58		128.11	
С	Madera (SJV)	Summer	2025	400.90	464.00	544.08	694.41	73.84	85.67	100.92	128.28	
С	Madera (SJV)	Summer	2026	411.64	476.53	558.60	713.13	73.86	85.75	100.94	128.40	
С	Madera (SJV)	Summer	2027	411.58	476.53	558.44	713.08	73.87	85.81	100.96	128.52	
С	Madera (SJV)	Summer	2028	411.54	476.57	558.32	713.10	73.88	85.88	100.97	128.62	
С	Madera (SJV)	Summer	2029	411.52	476.66	558.26	713.17	73.89	85.94	100.97	128.71	
С	Madera (SJV)	Summer	2030	411.52	476.77	558.22	713.28	73.89	85.99	100.98	128.81	
С	Madera (SJV)	Summer	2031	411.48	476.87	558.17	713.41	73.89	86.05	100.98	128.89	
С	Madera (SJV)	Summer	2032	411.47	476.97	558.15	713.58	73.90	86.10	100.99	128.97	
С	Madera (SJV)	Summer	2033	411.47	477.07	558.17	713.77	73.90	86.14	100.99	129.05	
С	Madera (SJV)	Summer	2034	411.48	477.17	558.20	713.98	73.90	86.18	100.99	129.12	
С	Madera (SJV)	Summer	2035	411.50	477.24	558.23	714.17	73.91	86.22	101.00	129.18	
С	Madera (SJV)	Winter	2010	331.74	382.88	454.86	570.33	73.51	87.22	100.74	124.58	
С	Madera (SJV)	Winter	2011	331.82	383.46	454.38	571.21	73.49	86.59	100.69	124.83	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(O2 Runni	na (a/VMT)	CO2 Starting (g/trip)					
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
С	Madera (SJV)	Winter	2012	331.75	383.68	453.87	571.65	73.45	86.21	100.68	125.06		
С	Madera (SJV)	Winter	2013	335.14	387.83	458.06	578.08	73.49	85.88	100.68	125.34		
С	Madera (SJV)	Winter	2014	335.27	388.17	457.85	578.87	73.49	85.60	100.63	125.63		
С	Madera (SJV)	Winter	2015	341.12	395.09	465.56	589.53	73.50	85.34	100.61	125.91		
С	Madera (SJV)	Winter	2016	341.26	395.33	465.45	590.23	73.54	85.14	100.62	126.19		
С	Madera (SJV)	Winter	2017	341.34	395.55	465.36	590.89	73.53	84.97	100.56	126.47		
С	Madera (SJV)	Winter	2018	348.50	404.13	474.98	604.03	73.54	84.94	100.58	126.81		
С	Madera (SJV)	Winter	2019	348.58	404.13	474.92	604.69	73.58	84.99	100.61	127.12		
C	Madera (SJV)	Winter	2020	348.65	404.64	474.88	605.26	73.67	85.10	100.68	127.12		
С	Madera (SJV)	Winter	2020	344.13	399.50	468.60	597.66	73.74	85.25	100.75	127.59		
С	Madera (SJV)	Winter	2022	344.15	399.65	468.56	597.97	73.79	85.37	100.73	127.75		
С	Madera (SJV)	Winter	2022	344.14	399.77	468.53	598.22	73.81	85.48	100.86	127.73		
С	Madera (SJV)	Winter	2023	351.28	408.23	478.31	610.95	73.82	85.58	100.89	128.11		
C	Madera (SJV)	Winter	2025	351.28	408.32	478.29	611.17	73.84	85.67	100.92	128.28		
C	Madera (SJV)	Winter	2026	360.78	419.47	491.24	627.89	73.86	85.75	100.94	128.40		
C	Madera (SJV)	Winter	2020	360.78	419.47	491.24	628.04	73.87	85.81	100.94	128.52		
C	Madera (SJV)	Winter	2027	360.79	419.61	491.22	628.20	73.88	85.88	100.96	128.62		
С	Madera (SJV)	Winter	2029	360.79	419.69	491.19	628.35	73.89	85.94	100.97	128.71		
C	Madera (SJV)	Winter	2029	360.78	419.09	491.17	628.51	73.89	85.99	100.98	128.81		
С	Madera (SJV)	Winter	2031	360.78	419.85	491.13	628.67	73.89	86.05	100.98	128.89		
С	Madera (SJV)	Winter	2032	360.78	419.92	491.12	628.84	73.90	86.10	100.99	128.97		
С	Madera (SJV)	Winter	2033	360.78	419.98	491.11	628.98	73.90	86.14	100.99	129.05		
С	Madera (SJV)	Winter	2034	360.77	420.04	491.10	629.12	73.90	86.18	100.99	129.12		
С	Madera (SJV)	Winter	2035	360.77	420.08	491.09	629.23	73.91	86.22	101.00	129.18		
С	Marin (SF)	Annual	2010	342.06	393.30	467.93	590.43	73.01	84.53	99.43	125.07		
С	Marin (SF)	Annual	2011	342.19	393.69	467.77	590.87	73.00	84.35	99.51	125.23		
С	Marin (SF)	Annual	2012	342.32	394.10	467.65	591.38	72.98	84.26	99.63	125.42		
С	Marin (SF)	Annual	2013	342.52	394.50	467.56	591.92	73.04	84.24	99.74	125.62		
С	Marin (SF)	Annual	2014	342.70	394.88	467.49	592.49	73.06	84.22	99.85	125.83		
С	Marin (SF)	Annual	2015	342.90	395.23	467.44	593.06	73.12	84.21	99.96	126.06		
С	Marin (SF)	Annual	2016	343.09	395.61	467.41	593.61	73.20	84.24	100.07	126.29		
С	Marin (SF)	Annual	2017	343.23	395.96	467.38	594.14	73.23	84.30	100.16	126.53		
С	Marin (SF)	Annual	2018	343.35	396.28	467.37	594.61	73.26	84.37	100.27	126.75		
С	Marin (SF)	Annual	2019	343.45	396.57	467.36	595.01	73.29	84.48	100.36	126.95		
С	Marin (SF)	Annual	2020	343.56	396.84	467.35	595.38	73.40	84.63	100.46	127.14		
С	Marin (SF)	Annual	2021	343.62	397.07	467.35	595.68	73.47	84.79	100.55	127.29		
С	Marin (SF)	Annual	2022	343.67	397.28	467.34	595.93	73.53	84.93	100.63	127.41		
С	Marin (SF)	Annual	2023	343.68	397.44	467.33	596.13	73.56	85.05	100.70	127.57		
С	Marin (SF)	Annual	2024	343.65	397.57	467.32	596.28	73.58	85.16	100.76	127.71		
С	Marin (SF)	Annual	2025	343.63	397.68	467.31	596.44	73.60	85.26	100.80	127.85		
С	Marin (SF)	Annual	2026	343.66	397.83	467.29	596.62	73.62	85.36	100.84	127.99		
С	Marin (SF)	Annual	2027	343.67	397.97	467.27	596.79	73.64	85.45	100.87	128.12		
С	Marin (SF)	Annual	2028	343.67	398.11	467.25	596.97	73.65	85.53	100.89	128.24		
С	Marin (SF)	Annual	2029	343.67	398.26	467.22	597.14	73.66	85.62	100.91	128.35		
С	Marin (SF)	Annual	2030	343.66	398.41	467.19	597.32	73.66	85.69	100.92	128.46		
С	Marin (SF)	Annual	2031	343.65	398.57	467.18	597.51	73.67	85.77	100.93	128.56		
С	Marin (SF)	Annual	2032	343.65	398.71	467.17	597.70	73.67	85.85	100.94	128.66		
С	Marin (SF)	Annual	2033	343.65	398.85	467.16	597.87	73.68	85.91	100.95	128.75		
С	Marin (SF)	Annual	2034	343.65	398.97	467.15	598.03	73.68	85.98	100.95	128.84		
С	Marin (SF)	Annual	2035	343.64	399.07	467.13	598.17	73.69	86.03	100.96	128.92		
С	Marin (SF)	Summer	2010	368.58	421.04	503.41	635.07	73.01	84.53	99.43	125.07		
С	Marin (SF)	Summer	2011	368.87	421.79	503.29	635.34	73.00	84.35	99.51	125.23		
С	Marin (SF)	Summer	2012	369.13	422.49	503.22	635.76	72.98	84.26	99.63	125.42		
С	Marin (SF)	Summer	2013	369.44	423.14	503.19	636.29	73.04	84.24	99.74	125.62		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

Season Year LDA LDT1 LDT2 MDV LDA LDT1 LDT2 99.85	Ti	ocation			(CO2 Runni	ng (g/VMT	')	(CO2 Star	tina (a/tri	(a
C. Marin (SF) C. Marin (SF) Summer 2016 388.95 424.28 503.22 638.07 73.06 84.22 99.85 C. Marin (SF) Summer 2016 370.19 424.82 503.22 638.30 73.20 84.24 100.07 C. Marin (SF) Summer 2016 370.19 424.82 503.22 638.30 73.20 84.24 100.07 C. Marin (SF) Summer 2018 370.19 424.82 503.20 638.99 73.20 84.28 100.07 C. Marin (SF) Summer 2018 370.59 426.19 503.31 639.90 73.20 84.28 100.27 C. Marin (SF) Summer 2018 370.59 426.19 503.31 640.09 73.29 84.48 100.36 C. Marin (SF) Summer 2020 370.77 425.87 503.32 640.09 73.29 84.48 100.46 C. Marin (SF) Summer 2020 370.77 425.87 503.34 640.39 73.47 84.79 100.25 C. Marin (SF) Summer 2020 370.87 427.15 503.34 640.39 73.47 84.79 100.25 C. Marin (SF) Summer 2021 370.77 425.87 503.34 640.39 73.47 84.79 100.25 C. Marin (SF) Summer 2022 370.82 427.15 503.34 640.39 73.47 84.79 100.25 C. Marin (SF) Summer 2023 370.82 427.15 503.34 640.39 73.47 84.79 100.25 C. Marin (SF) Summer 2024 370.80 427.56 503.29 641.70 73.58 85.05 100.70 C. Marin (SF) Summer 2024 370.80 427.56 503.29 641.70 73.58 85.16 100.76 C. Marin (SF) Summer 2025 370.81 427.83 503.25 642.10 73.26 25.36 100.80 C. Marin (SF) Summer 2026 370.81 427.83 503.25 642.10 73.26 25.36 100.80 C. Marin (SF) Summer 2026 370.81 428.32 503.19 642.26 73.66 85.45 100.80 C. Marin (SF) Summer 2029 370.84 428.32 503.19 642.68 73.66 85.45 100.80 C. Marin (SF) Summer 2029 370.84 428.32 503.19 642.68 73.66 85.45 100.80 C. Marin (SF) Summer 2029 370.84 428.95 503.16 642.68 73.66 85.65 100.80 C. Marin (SF) Summer 2029 370.84 428.95 503.16 642.68 73.66 85.65 100.80 C. Marin (SF) Summer 2029 370.84 428.95 503.10 642.87 73.68 85.91 100.85 C. Marin (SF) Summer 2029 370.84 428.95 503.10 642.87 73.68 85.91 100.85 C. Marin (SF) Summer 2029 370.84 428.95 503.10 642.87 73.68 85.91 100.85 C. Marin (SF) Summer 2020 370.84 428.95 503.10 642.87 73.68 85.91 100.85 C. Marin (SF) Summer 2020 370.84 428.95 503.10 642.87 73.68 85.91 100.85 C. Marin (SF) Summer 2020 370.84 428.95 503.10 642.87 73.68 85.91 100.85 C. Marin (SF) Winter 2020 341.83 391.50 465.62 503.10 643.89 7	┪	Soution	Season	Vear								MDV
C. Marin (SF) Summer 2015 389,95 424,26 503,22 637,60 73,12 84,21 99,95 (C. Marin (SF) Summer 2016 370,19 424,82 503,25 638,30 73,20 84,24 1010,07 (C. Marin (SF) Summer 2017 370,35 425,34 503,30 638,99 73,23 84,30 100,16 (C. Marin (SF) Summer 2018 370,48 425,80 503,31 639,59 73,28 84,37 100,27 (C. Marin (SF) Summer 2019 370,58 425,95 503,34 603,55 73,40 84,36 100,36 (C. Marin (SF) Summer 2019 370,77 426,85 503,34 640,55 73,40 84,36 100,36 (C. Marin (SF) Summer 2019 370,77 426,85 503,34 640,55 73,40 84,36 100,45 (C. Marin (SF) Summer 2012 370,82 427,15 503,35 640,55 73,40 84,36 100,45 (C. Marin (SF) Summer 2013 370,83 427,37 503,37 641,51 73,56 85,05 100,76 (C. Marin (SF) Summer 2013 370,83 427,37 503,37 641,51 73,56 85,05 100,76 (C. Marin (SF) Summer 2013 370,83 427,37 503,37 641,51 73,56 85,05 100,76 (C. Marin (SF) Summer 2014 370,80 427,55 503,29 641,70 33,58 85,16 100,76 (C. Marin (SF) Summer 2015 370,78 427,73 503,27 641,88 73,60 85,26 100,80 (C. Marin (SF) Summer 2015 370,78 427,73 503,27 641,88 73,60 85,26 100,80 (C. Marin (SF) Summer 2015 370,78 427,73 503,27 641,88 73,60 85,26 100,80 (C. Marin (SF) Summer 2015 370,84 428,32 503,19 642,48 73,55 553 100,84 (C. Marin (SF) Summer 2015 370,84 428,32 503,19 642,48 73,55 553 100,84 (C. Marin (SF) Summer 2015 370,84 428,32 503,19 642,48 73,55 553 100,84 (C. Marin (SF) Summer 2013 370,84 428,34 503,14 642,87 73,66 85,69 100,91 (C. Marin (SF) Summer 2013 370,84 428,34 503,14 642,87 73,66 85,89 100,91 (C. Marin (SF) Summer 2013 370,84 428,34 503,14 642,87 73,66 85,89 100,91 (C. Marin (SF) Summer 2013 370,84 428,34 503,14 642,87 73,66 85,89 100,91 (C. Marin (SF) Summer 2013 370,84 428,34 503,14 642,87 73,66 85,89 100,91 (C. Marin (SF) Summer 2013 370,84 428,34 503,14 642,87 73,66 85,89 100,91 (C. Marin (SF) Summer 2013 370,84 428,34 503,14 642,87 73,66 85,89 100,91 (C. Marin (SF) Summer 2013 370,84 428,34 503,14 642,87 73,86 85,89 100,91 (C. Marin (SF) Winter 2014 340,45 391,86 465,64 587,97 73,00 88,35 100,35 (C. Marin (SF) Winter 2014 340,45 391,86 465,64 587,97		Agrin (SE)										125.83
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C Marin (SF) Summer 2028 370.84 428.32 503.19 642.48 73.65 85.53 100.89 C Marin (SF) Summer 2029 370.84 428.35 503.16 642.68 73.66 85.62 100.91 C Marin (SF) Summer 2031 370.84 428.74 503.14 642.87 73.66 85.62 100.91 C Marin (SF) Summer 2031 370.84 428.96 503.13 643.08 73.67 85.77 100.93 C Marin (SF) Summer 2032 370.84 428.96 503.13 643.08 73.67 85.85 100.94 C Marin (SF) Summer 2032 370.84 429.15 503.12 643.29 73.67 85.85 100.94 C Marin (SF) Summer 2033 370.85 429.97 503.10 643.67 73.68 85.91 100.95 C Marin (SF) Summer 2034 370.85 429.97 503.10 643.67 73.68 85.91 100.95 C Marin (SF) Summer 2035 370.85 429.97 503.10 643.67 73.68 85.91 100.95 C Marin (SF) Summer 2035 370.85 429.97 503.10 643.67 73.68 85.91 100.95 C Marin (SF) Winter 2010 340.33 391.50 465.62 587.52 73.01 84.53 99.43 C Marin (SF) Winter 2011 340.45 391.86 465.46 587.97 73.00 84.35 99.51 C Marin (SF) Winter 2011 340.45 391.86 465.46 587.97 73.00 84.35 99.51 C Marin (SF) Winter 2014 340.93 391.86 465.46 587.97 73.00 84.36 99.63 C Marin (SF) Winter 2014 340.94 393.00 465.21 589.03 73.04 84.24 99.74 Winter 2015 341.14 393.34 665.11 590.16 73.12 84.21 99.96 C Marin (SF) Winter 2014 340.94 393.00 465.71 589.07 73.06 84.22 99.85 C Marin (SF) Winter 2015 341.14 393.34 465.11 590.16 73.12 84.21 99.96 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2018 341.68 394.36 465.05 592.06 73.06 84.22 99.85 C Marin (SF) Winter 2018 341.68 394.36 465.05 592.06 73.23 84.81 100.07 C Marin (SF) Winter 2021 341.80 394.90 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2022 341.81 395.34 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2023 341.91 395.34 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2023 341.91 395.84 464.95 593.66 73.68 85.36 100.84 C Marin (SF) Winter 2023 341.91 395.94 464.95 593.66 73.68 85.69 100.90 C Marin (SF) Winter 2023 341.80 394.90 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2023 341.80 396.93 464.89 593.37 73.88 85.51 100.89 C Marin (SF) Winter 2023 341.80 396.93 464.89 593.67	Ν	Marin (SF)	Summer	2026	370.81	427.93	503.25	642.10	73.62	85.36	100.84	127.99
C Marin (SF) Summer 2029 370.84 428.53 503.16 642.68 73.66 85.62 100.91 C Marin (SF) Summer 2031 370.84 428.74 503.14 642.87 73.66 85.69 100.92 C Marin (SF) Summer 2031 370.84 428.96 503.13 643.82 73.66 85.69 100.93 C Marin (SF) Summer 2032 370.84 429.15 503.12 643.29 73.67 85.77 100.93 C Marin (SF) Summer 2033 370.85 429.32 503.11 643.48 73.68 85.91 100.95 C Marin (SF) Summer 2033 370.85 429.32 503.11 643.48 73.68 85.91 100.95 C Marin (SF) Summer 2033 370.85 429.32 503.11 643.48 73.68 85.91 100.95 C Marin (SF) Summer 2035 370.85 429.59 503.09 643.84 73.69 86.03 100.96 C Marin (SF) Summer 2035 370.85 429.59 503.09 643.84 73.69 86.03 100.96 C Marin (SF) Winter 2010 340.33 391.50 465.62 587.52 73.01 84.53 99.43 C Marin (SF) Winter 2011 340.45 391.86 465.46 587.97 73.00 84.35 99.51 C Marin (SF) Winter 2013 340.57 392.25 465.34 588.49 72.98 84.26 99.63 C Marin (SF) Winter 2013 340.77 392.64 465.24 589.03 73.04 84.24 99.74 C Marin (SF) Winter 2013 340.77 392.64 465.24 589.03 73.04 84.22 99.85 C Marin (SF) Winter 2014 340.97 392.64 465.24 589.03 73.04 84.22 99.85 C Marin (SF) Winter 2015 341.14 393.34 465.11 590.16 73.12 84.21 99.96 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.22 99.85 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.22 100.07 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.21 100.07 C Marin (SF) Winter 2016 341.88 394.64 465.02 592.87 37.34 84.91 100.26 C Marin (SF) Winter 2019 341.68 394.69 465.03 591.88 73.26 84.37 100.27 C Marin (SF) Winter 2020 341.89 394.90 465.01 592.74 73.40 84.63 100.46 C Marin (SF) Winter 2023 341.91 393.94 465.01 592.73 73.47 84.79 100.56 C Marin (SF) Winter 2023 341.91 393.94 465.01 592.73 73.47 84.79 100.56 C Marin (SF) Winter 2023 341.88 395.61 464.98 593.32 73.58 85.16 100.70 C Marin (SF) Winter 2023 341.89 394.90 465.01 592.73 73.47 84.79 100.56 C Marin (SF) Winter 2023 341.89 395.61 464.95 593.35 73.68 85.91 100.94 C Marin (SF) Winter 2023 341.89 395.61 464.95 593.36 73.68 85.91 100.94 C Marin (SF) Winter 2023 341.89 395.61	Ν	flarin (SF)	Summer	2027	370.83	428.12	503.22	642.29	73.64	85.45	100.87	128.12
C Marin (SF) Summer 2030 370.84 428.74 503.14 642.87 73.66 85.69 100.92 C Marin (SF) Summer 2031 370.84 428.96 503.13 643.08 73.67 85.67 100.93 C Marin (SF) Summer 2032 370.85 429.32 503.11 643.48 73.68 85.91 100.95 C Marin (SF) Summer 2033 370.85 429.47 503.10 643.67 73.68 85.99 100.95 C Marin (SF) Summer 2035 370.85 429.47 503.10 643.67 73.68 86.99 100.96 C Marin (SF) Winter 2011 340.45 391.86 465.46 587.97 73.00 84.35 99.51 C Marin (SF) Winter 2011 340.45 391.86 465.46 587.97 73.00 84.25 99.83 C Marin (SF) Winter 2013 <td>Ν</td> <td>Marin (SF)</td> <td>Summer</td> <td>2028</td> <td>370.84</td> <td>428.32</td> <td>503.19</td> <td>642.48</td> <td>73.65</td> <td>85.53</td> <td>100.89</td> <td>128.24</td>	Ν	Marin (SF)	Summer	2028	370.84	428.32	503.19	642.48	73.65	85.53	100.89	128.24
C Marin (SF) Summer 2031 370.84 428.96 503.13 643.08 73.67 85.87 100.93 C Marin (SF) Summer 2032 370.84 429.15 503.12 643.29 73.67 85.85 100.94 C Marin (SF) Summer 2033 370.85 429.32 503.11 643.48 73.68 85.91 100.95 C Marin (SF) Summer 2034 370.85 429.32 503.11 643.48 73.68 85.98 100.95 C Marin (SF) Summer 2035 370.85 429.47 503.10 643.67 73.68 85.98 100.95 C Marin (SF) Winter 2010 340.33 391.50 465.62 587.52 73.01 84.53 99.43 C Marin (SF) Winter 2011 340.45 391.86 465.46 587.97 73.00 84.35 99.51 C Marin (SF) Winter 2012 340.57 392.25 465.34 588.49 72.98 84.26 99.63 C Marin (SF) Winter 2013 340.77 392.64 465.24 589.03 73.04 84.24 99.74 C Marin (SF) Winter 2014 340.41 393.34 465.11 590.16 73.12 84.21 99.95 C Marin (SF) Winter 2015 341.14 393.34 465.11 590.16 73.12 84.21 99.95 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2018 341.58 394.05 465.04 591.22 73.23 84.30 100.16 C Marin (SF) Winter 2018 341.68 394.66 465.03 591.62 73.29 84.48 100.36 C Marin (SF) Winter 2018 341.80 394.90 465.01 592.44 73.40 84.83 100.46 C Marin (SF) Winter 2019 341.80 394.90 465.01 592.43 73.29 84.48 100.36 C Marin (SF) Winter 2019 341.80 394.90 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2020 341.80 394.90 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2023 341.91 395.49 466.00 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2024 341.88 395.61 464.98 593.27 73.56 85.05 100.70 C Marin (SF) Winter 2024 341.88 395.61 464.98 593.27 73.56 85.05 100.70 C Marin (SF) Winter 2023 341.91 395.49 464.88 594.18 73.66 85.69 100.90 C Marin (SF) Winter 2023 341.91 395.49 464.88 594.15 73.66 85.05 100.70 C Marin (SF) Winter 2023 341.89 396.01 464.89 593.17 73.56 85.05 100.70 C Marin (SF) Winter 2023 341.89 396.01 464.89 593.17 73.56 85.05 100.70 C Marin (SF) Winter 2023 341.89 396.01 464.89 593.17 73.66 85.05 100.70 C Marin (SF) Winter 2023 341.89 396.07 464.88 594.35 73.66 85.06 100.90 C Marin (SF) Winter 2023 341.89 396.07 464.89 594.35 73.66 85.06 100.90 C Marin	Ν	Marin (SF)	Summer	2029	370.84	428.53	503.16	642.68	73.66	85.62	100.91	128.35
C Marin (SF) Summer 2032 370.84 429.15 503.12 643.29 73.67 85.85 100.94 C Marin (SF) Summer 2033 370.85 429.32 503.11 643.67 73.68 85.98 100.95 C Marin (SF) Summer 2035 370.85 429.37 503.10 643.67 73.68 85.98 100.95 C Marin (SF) Summer 2035 370.85 429.59 503.09 643.44 73.68 86.03 100.96 C Marin (SF) Winter 2011 340.45 391.66 465.46 587.97 73.00 84.35 99.51 C Marin (SF) Winter 2013 340.77 392.64 465.24 589.03 73.04 84.24 99.74 C Marin (SF) Winter 2013 340.77 392.64 465.24 589.03 73.04 84.24 99.74 C Marin (SF) Winter 2013	N	Marin (SF)	Summer	2030	370.84	428.74	503.14	642.87	73.66	85.69	100.92	128.46
C Marin (SF) Summer 2033 370.85 429.32 503.11 643.48 73.68 85.91 100.95 C Marin (SF) Summer 2034 370.85 429.47 503.10 643.67 73.68 85.98 100.95 C Marin (SF) Summer 2035 370.85 429.59 503.09 643.84 73.69 86.03 100.96 C Marin (SF) Winter 2010 340.33 391.50 465.62 587.52 73.01 84.53 99.43 C Marin (SF) Winter 2011 340.45 391.86 465.46 587.97 73.00 84.35 99.51 C Marin (SF) Winter 2012 340.57 392.25 465.34 588.49 72.98 84.26 99.63 70.40 Marin (SF) Winter 2013 340.77 392.64 465.24 589.03 73.04 84.24 99.74 C Marin (SF) Winter 2014 340.94 393.00 465.17 589.60 73.06 84.22 99.85 C Marin (SF) Winter 2015 341.14 393.34 465.11 590.16 73.12 84.21 99.96 C Marin (SF) Winter 2016 341.33 393.70 465.07 589.60 73.06 84.22 99.85 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2017 341.47 394.05 465.04 591.22 73.23 84.30 100.16 C Marin (SF) Winter 2018 341.58 394.36 465.03 591.68 73.26 84.37 100.27 C Marin (SF) Winter 2019 341.68 394.64 465.02 592.08 73.29 84.48 100.36 C Marin (SF) Winter 2019 341.68 394.64 465.02 592.08 73.29 84.48 100.36 C Marin (SF) Winter 2021 341.80 394.90 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2021 341.80 394.90 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2022 341.91 395.34 465.01 592.95 73.53 84.93 100.63 C Marin (SF) Winter 2024 341.89 395.91 464.99 593.17 73.56 85.56 100.70 C Marin (SF) Winter 2023 341.91 395.49 464.99 593.17 73.56 85.56 100.70 C Marin (SF) Winter 2023 341.91 395.49 464.99 593.17 73.56 85.56 100.70 C Marin (SF) Winter 2023 341.80 395.91 464.99 593.17 73.56 85.56 100.80 C Marin (SF) Winter 2023 341.80 395.91 464.99 593.17 73.56 85.56 100.80 C Marin (SF) Winter 2023 341.80 396.91 464.99 593.17 73.56 85.56 100.80 C Marin (SF) Winter 2023 341.80 396.91 464.99 593.87 73.64 85.59 100.89 C Marin (SF) Winter 2023 341.80 396.91 464.85 594.35 73.66 85.89 100.99 C Marin (SF) Winter 2033 341.88 3	N	Marin (SF)	Summer	2031	370.84	428.96	503.13	643.08	73.67	85.77	100.93	128.56
C Marin (SF) Summer 2033 370.85 429.32 503.11 643.48 73.68 85.91 100.95 C Marin (SF) Summer 2034 370.85 429.47 503.10 643.67 73.68 85.98 100.95 C Marin (SF) Summer 2035 370.85 429.59 503.09 643.84 73.69 86.03 100.96 C Marin (SF) Winter 2010 340.33 391.50 465.62 587.52 73.01 84.53 99.43 C Marin (SF) Winter 2011 340.45 391.86 465.46 587.97 73.00 84.35 99.51 C Marin (SF) Winter 2012 340.57 392.25 465.34 588.49 72.98 84.26 99.63 70.40 Marin (SF) Winter 2013 340.77 392.64 465.24 589.03 73.04 84.24 99.74 C Marin (SF) Winter 2014 340.94 393.00 465.17 589.60 73.06 84.22 99.85 C Marin (SF) Winter 2015 341.14 393.34 465.11 590.16 73.12 84.21 99.96 C Marin (SF) Winter 2016 341.33 393.70 465.07 589.60 73.06 84.22 99.85 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2017 341.47 394.05 465.04 591.22 73.23 84.30 100.16 C Marin (SF) Winter 2018 341.58 394.36 465.03 591.68 73.26 84.37 100.27 C Marin (SF) Winter 2019 341.68 394.64 465.02 592.08 73.29 84.48 100.36 C Marin (SF) Winter 2019 341.68 394.64 465.02 592.08 73.29 84.48 100.36 C Marin (SF) Winter 2021 341.80 394.90 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2021 341.80 394.90 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2022 341.91 395.34 465.01 592.95 73.53 84.93 100.63 C Marin (SF) Winter 2024 341.89 395.91 464.99 593.17 73.56 85.56 100.70 C Marin (SF) Winter 2023 341.91 395.49 464.99 593.17 73.56 85.56 100.70 C Marin (SF) Winter 2023 341.91 395.49 464.99 593.17 73.56 85.56 100.70 C Marin (SF) Winter 2023 341.80 395.91 464.99 593.17 73.56 85.56 100.80 C Marin (SF) Winter 2023 341.80 395.91 464.99 593.17 73.56 85.56 100.80 C Marin (SF) Winter 2023 341.80 396.91 464.99 593.17 73.56 85.56 100.80 C Marin (SF) Winter 2023 341.80 396.91 464.99 593.87 73.64 85.59 100.89 C Marin (SF) Winter 2023 341.80 396.91 464.85 594.35 73.66 85.89 100.99 C Marin (SF) Winter 2033 341.88 3	N	Marin (SF)	Summer	2032	370.84	429.15	503.12	643.29	73.67	85.85	100.94	128.66
C Marin (SF) Summer 2034 370.85 429.47 503.10 643.67 73.68 85.98 100.95 C Marin (SF) Summer 2035 370.85 429.59 503.09 643.84 73.69 86.03 100.96 C Marin (SF) Winter 2010 340.33 391.50 465.62 587.57 73.01 84.53 99.43 C Marin (SF) Winter 2011 340.45 391.86 465.62 587.97 73.00 84.35 99.51 C Marin (SF) Winter 2012 340.57 392.25 465.34 588.49 72.98 84.26 99.63 C Marin (SF) Winter 2013 340.77 392.64 465.24 589.03 73.04 84.24 99.74 C Marin (SF) Winter 2014 340.94 393.00 465.17 589.60 73.06 84.22 99.85 C Marin (SF) Winter 2015 341.14 393.34 465.11 590.16 73.12 84.21 100.07 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2018 341.58 394.36 465.03 591.62 73.28 84.30 100.16 C Marin (SF) Winter 2018 341.58 394.36 465.03 591.62 73.28 84.30 100.16 C Marin (SF) Winter 2019 341.68 394.64 465.02 592.08 73.29 84.48 100.36 C Marin (SF) Winter 2019 341.86 394.64 465.02 592.08 73.29 84.48 100.36 C Marin (SF) Winter 2019 341.86 394.64 465.02 592.08 73.29 84.48 100.36 C Marin (SF) Winter 2019 341.86 394.64 165.02 592.08 73.29 84.48 100.36 C Marin (SF) Winter 2020 341.80 394.90 465.01 592.47 73.40 84.63 100.46 C Marin (SF) Winter 2021 341.86 395.13 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2023 341.91 395.34 465.00 592.98 73.53 84.93 100.63 C Marin (SF) Winter 2023 341.91 395.34 465.00 592.98 73.53 84.93 100.63 C Marin (SF) Winter 2024 341.88 395.61 464.99 593.73 73.56 85.05 100.70 C Marin (SF) Winter 2024 341.88 395.61 464.99 593.73 73.56 85.05 100.70 C Marin (SF) Winter 2024 341.89 395.87 464.95 593.66 73.62 85.85 100.07 C Marin (SF) Winter 2024 341.89 395.87 464.95 593.48 73.60 85.26 100.80 C Marin (SF) Winter 2024 341.89 395.87 464.95 593.48 73.60 85.26 100.80 C Marin (SF) Winter 2024 341.89 395.87 464.95 593.48 73.60 85.26 100.90 C Marin (SF) Winter 2024 341.89 395.87 464.95 593.48 73.60 85.26 100.90 C Marin (SF) Winter 2024 341.89 395.87 464.95 593.48 73.60 85.26 100.90 C Marin (SF) Winter 2032 341.80 396.90 464.84 594.54 73.66 85.62 100.90 C Marin (SF) Winter 2033 341.89 396	Ν	Marin (SF)		2033		429.32		643.48	73.68	85.91	100.95	128.75
C Marin (SF) Summer 2035 370.85 429.59 503.09 643.84 73.69 86.03 100.96 C Marin (SF) Winter 2010 340.33 391.50 465.62 587.52 73.01 84.53 99.43 C Marin (SF) Winter 2011 340.45 391.86 465.46 587.97 73.00 84.35 99.51 C Marin (SF) Winter 2012 340.57 392.25 465.34 588.49 72.98 84.24 99.74 C Marin (SF) Winter 2013 340.77 392.64 465.24 589.03 73.04 84.24 99.74 C Marin (SF) Winter 2014 340.94 393.00 465.07 590.16 73.12 84.21 99.85 C Marin (SF) Winter 2015 341.14 393.30 465.07 590.16 73.20 84.21 199.96 C Marin (SF) Winter 2017	_	` /										128.84
C Marin (SF) Winter 2010 340.33 391.50 465.62 587.52 73.01 84.53 99.43 C Marin (SF) Winter 2011 340.45 391.86 465.46 587.97 73.00 84.35 99.51 C Marin (SF) Winter 2012 340.57 392.25 465.34 588.49 72.98 84.26 99.63 C Marin (SF) Winter 2013 340.77 392.64 465.24 589.03 73.04 84.22 99.85 C Marin (SF) Winter 2015 341.14 393.00 465.17 589.60 73.06 84.22 99.85 C Marin (SF) Winter 2015 341.33 393.70 465.01 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2016 341.35 394.56 465.04 591.22 73.23 84.24 100.07 C Marin (SF) Winter 2019		` '										128.92
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C Marin (SF) Winter 2014 340.94 393.00 465.17 589.60 73.06 84.22 99.85 C Marin (SF) Winter 2015 341.14 393.34 465.11 590.16 73.12 84.21 99.96 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2017 341.47 394.05 465.03 591.28 73.23 84.30 100.16 C Marin (SF) Winter 2018 341.58 394.64 465.03 591.68 73.29 84.48 100.27 C Marin (SF) Winter 2019 341.68 394.64 465.02 592.08 73.29 84.48 100.36 C Marin (SF) Winter 2020 341.80 394.90 465.01 592.44 73.40 84.63 100.46 C Marin (SF) Winter 2021 <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>125.62</td>				_								125.62
C Marin (SF) Winter 2015 341.14 393.34 465.11 590.16 73.12 84.21 99.96 C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2017 341.47 394.05 465.04 591.22 73.23 84.30 100.16 C Marin (SF) Winter 2018 341.58 394.36 465.03 591.68 73.29 84.48 100.36 C Marin (SF) Winter 2019 341.68 394.64 465.02 592.08 73.29 84.48 100.36 C Marin (SF) Winter 2020 341.86 395.13 465.01 592.44 73.40 84.63 100.46 C Marin (SF) Winter 2021 341.86 395.13 465.01 592.98 73.53 84.79 100.55 C Marin (SF) Winter 2023 <td></td> <td>125.83</td>												125.83
C Marin (SF) Winter 2016 341.33 393.70 465.07 590.70 73.20 84.24 100.07 C Marin (SF) Winter 2017 341.47 394.05 465.04 591.22 73.23 84.30 100.16 C Marin (SF) Winter 2018 341.58 394.36 465.03 591.68 73.26 84.37 100.27 C Marin (SF) Winter 2019 341.68 394.64 465.02 592.08 73.29 84.48 100.36 C Marin (SF) Winter 2020 341.80 394.90 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2021 341.80 395.34 465.01 592.73 73.47 84.79 100.55 C Marin (SF) Winter 2022 341.91 395.34 465.00 592.98 73.53 84.93 100.63 C Marin (SF) Winter 2023 </td <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>126.06</td>				1								126.06
C Marin (SF) Winter 2017 341.47 394.05 465.04 591.22 73.23 84.30 100.16 C Marin (SF) Winter 2018 341.58 394.36 465.03 591.68 73.26 84.37 100.27 C Marin (SF) Winter 2019 341.68 394.64 465.02 592.08 73.29 84.48 100.36 C Marin (SF) Winter 2020 341.80 394.90 465.01 592.44 73.40 84.63 100.46 C Marin (SF) Winter 2021 341.86 395.13 465.01 592.44 73.47 84.63 100.46 C Marin (SF) Winter 2021 341.91 395.34 465.00 592.98 73.53 84.93 100.63 C Marin (SF) Winter 2022 341.91 395.49 464.99 593.17 73.56 85.05 100.70 C Marin (SF) Winter 2023 </td <td></td> <td>126.00</td>												126.00
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C Marin (SF) Winter 2024 341.88 395.61 464.98 593.32 73.58 85.16 100.76 C Marin (SF) Winter 2025 341.87 395.73 464.97 593.48 73.60 85.26 100.80 C Marin (SF) Winter 2026 341.89 395.87 464.95 593.66 73.62 85.36 100.84 C Marin (SF) Winter 2027 341.90 396.01 464.93 593.83 73.64 85.45 100.87 C Marin (SF) Winter 2028 341.90 396.15 464.91 594.00 73.65 85.53 100.89 C Marin (SF) Winter 2029 341.90 396.29 464.88 594.18 73.66 85.62 100.91 C Marin (SF) Winter 2030 341.89 396.44 464.85 594.35 73.66 85.69 100.92 C Marin (SF) Winter 2031 </td <td></td> <td>` '</td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td>127.41</td>		` '					-					127.41
C Marin (SF) Winter 2025 341.87 395.73 464.97 593.48 73.60 85.26 100.80 C Marin (SF) Winter 2026 341.89 395.87 464.95 593.66 73.62 85.36 100.84 C Marin (SF) Winter 2027 341.90 396.01 464.93 593.83 73.64 85.45 100.87 C Marin (SF) Winter 2028 341.90 396.15 464.91 594.00 73.65 85.53 100.89 C Marin (SF) Winter 2029 341.90 396.29 464.88 594.18 73.66 85.62 100.91 C Marin (SF) Winter 2030 341.89 396.44 464.85 594.35 73.66 85.69 100.92 C Marin (SF) Winter 2031 341.88 396.59 464.84 594.54 73.67 85.77 100.93 C Marin (SF) Winter 2032 </td <td></td> <td>,</td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td>127.57</td>		,					-					127.57
C Marin (SF) Winter 2026 341.89 395.87 464.95 593.66 73.62 85.36 100.84 C Marin (SF) Winter 2027 341.90 396.01 464.93 593.83 73.64 85.45 100.87 C Marin (SF) Winter 2028 341.90 396.15 464.91 594.00 73.65 85.53 100.89 C Marin (SF) Winter 2029 341.90 396.29 464.88 594.18 73.66 85.62 100.91 C Marin (SF) Winter 2030 341.89 396.44 464.85 594.35 73.66 85.69 100.92 C Marin (SF) Winter 2031 341.88 396.59 464.84 594.54 73.67 85.77 100.93 C Marin (SF) Winter 2032 341.88 396.73 464.83 594.73 73.67 85.85 100.94 C Marin (SF) Winter 2033 </td <td>_</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td>127.71</td>	_						-					127.71
C Marin (SF) Winter 2027 341.90 396.01 464.93 593.83 73.64 85.45 100.87 C Marin (SF) Winter 2028 341.90 396.15 464.91 594.00 73.65 85.53 100.89 C Marin (SF) Winter 2029 341.90 396.29 464.88 594.18 73.66 85.62 100.91 C Marin (SF) Winter 2030 341.89 396.44 464.85 594.35 73.66 85.69 100.92 C Marin (SF) Winter 2031 341.88 396.59 464.84 594.54 73.67 85.77 100.93 C Marin (SF) Winter 2032 341.88 396.73 464.83 594.73 73.67 85.85 100.94 C Marin (SF) Winter 2033 341.88 396.86 464.82 594.90 73.68 85.91 100.95 C Marin (SF) Winter 2034 </td <td></td> <td>` '</td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td>127.85</td>		` '					-					127.85
C Marin (SF) Winter 2028 341.90 396.15 464.91 594.00 73.65 85.53 100.89 C Marin (SF) Winter 2029 341.90 396.29 464.88 594.18 73.66 85.62 100.91 C Marin (SF) Winter 2030 341.89 396.44 464.85 594.35 73.66 85.69 100.92 C Marin (SF) Winter 2031 341.88 396.59 464.84 594.54 73.67 85.77 100.93 C Marin (SF) Winter 2032 341.88 396.73 464.83 594.73 73.67 85.85 100.94 C Marin (SF) Winter 2033 341.88 396.86 464.82 594.90 73.68 85.91 100.95 C Marin (SF) Winter 2034 341.88 396.98 464.80 595.06 73.68 85.98 100.95 C Marin (SF) Winter 2035 </td <td>-+</td> <td>()</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>127.99</td>	-+	()										127.99
C Marin (SF) Winter 2029 341.90 396.29 464.88 594.18 73.66 85.62 100.91 C Marin (SF) Winter 2030 341.89 396.44 464.85 594.35 73.66 85.69 100.92 C Marin (SF) Winter 2031 341.88 396.59 464.84 594.54 73.67 85.77 100.93 C Marin (SF) Winter 2032 341.88 396.73 464.83 594.73 73.67 85.85 100.94 C Marin (SF) Winter 2033 341.88 396.86 464.82 594.90 73.68 85.91 100.95 C Marin (SF) Winter 2034 341.88 396.98 464.80 595.06 73.68 85.91 100.95 C Marin (SF) Winter 2035 341.87 397.09 464.79 595.20 73.69 86.03 100.96 C Mariposa (MC) Annual 201	_	, ,										128.12
C Marin (SF) Winter 2030 341.89 396.44 464.85 594.35 73.66 85.69 100.92 C Marin (SF) Winter 2031 341.88 396.59 464.84 594.54 73.67 85.77 100.93 C Marin (SF) Winter 2032 341.88 396.73 464.83 594.73 73.67 85.85 100.94 C Marin (SF) Winter 2033 341.88 396.86 464.82 594.90 73.68 85.91 100.95 C Marin (SF) Winter 2034 341.88 396.98 464.80 595.06 73.68 85.98 100.95 C Marin (SF) Winter 2035 341.87 397.09 464.79 595.20 73.69 86.03 100.96 C Mariposa (MC) Annual 2010 354.50 410.51 485.83 607.63 74.37 89.51 102.09 C Mariposa (MC) Annual	_	` '										128.24
C Marin (SF) Winter 2031 341.88 396.59 464.84 594.54 73.67 85.77 100.93 C Marin (SF) Winter 2032 341.88 396.73 464.83 594.73 73.67 85.85 100.94 C Marin (SF) Winter 2033 341.88 396.86 464.82 594.90 73.68 85.91 100.95 C Marin (SF) Winter 2034 341.88 396.98 464.80 595.06 73.68 85.98 100.95 C Marin (SF) Winter 2035 341.87 397.09 464.79 595.20 73.69 86.03 100.96 C Mariposa (MC) Annual 2010 354.50 410.51 485.83 607.63 74.37 89.51 102.09 C Mariposa (MC) Annual 2011 354.40 410.55 485.11 608.19 74.22 88.77 101.86 C Mariposa (MC) Annual <	Ν	Marin (SF)	Winter	2029	341.90	396.29	464.88	594.18	73.66	85.62	100.91	128.35
C Marin (SF) Winter 2032 341.88 396.73 464.83 594.73 73.67 85.85 100.94 C Marin (SF) Winter 2033 341.88 396.86 464.82 594.90 73.68 85.91 100.95 C Marin (SF) Winter 2034 341.88 396.98 464.80 595.06 73.68 85.98 100.95 C Marin (SF) Winter 2035 341.87 397.09 464.79 595.20 73.69 86.03 100.96 C Mariposa (MC) Annual 2010 354.50 410.51 485.83 607.63 74.37 89.51 102.09 C Mariposa (MC) Annual 2011 354.40 410.55 485.11 608.19 74.22 88.77 101.86 C Mariposa (MC) Annual 2012 354.31 410.56 484.54 608.86 74.03 88.15 101.71	Ν	Marin (SF)	Winter	2030	341.89	396.44	464.85	594.35	73.66	85.69	100.92	128.46
C Marin (SF) Winter 2033 341.88 396.86 464.82 594.90 73.68 85.91 100.95 C Marin (SF) Winter 2034 341.88 396.98 464.80 595.06 73.68 85.98 100.95 C Marin (SF) Winter 2035 341.87 397.09 464.79 595.20 73.69 86.03 100.96 C Mariposa (MC) Annual 2010 354.50 410.51 485.83 607.63 74.37 89.51 102.09 C Mariposa (MC) Annual 2011 354.40 410.55 485.11 608.19 74.22 88.77 101.86 C Mariposa (MC) Annual 2012 354.31 410.56 484.54 608.86 74.03 88.15 101.71	Ν	Marin (SF)	Winter	2031	341.88	396.59	464.84	594.54	73.67	85.77	100.93	128.56
C Marin (SF) Winter 2034 341.88 396.98 464.80 595.06 73.68 85.98 100.95 C Marin (SF) Winter 2035 341.87 397.09 464.79 595.20 73.69 86.03 100.96 C Mariposa (MC) Annual 2010 354.50 410.51 485.83 607.63 74.37 89.51 102.09 C Mariposa (MC) Annual 2011 354.40 410.55 485.11 608.19 74.22 88.77 101.86 C Mariposa (MC) Annual 2012 354.31 410.56 484.54 608.86 74.03 88.15 101.71	N	Marin (SF)	Winter	2032	341.88	396.73	464.83	594.73	73.67	85.85	100.94	128.66
C Marin (SF) Winter 2035 341.87 397.09 464.79 595.20 73.69 86.03 100.96 C Mariposa (MC) Annual 2010 354.50 410.51 485.83 607.63 74.37 89.51 102.09 C Mariposa (MC) Annual 2011 354.40 410.55 485.11 608.19 74.22 88.77 101.86 C Mariposa (MC) Annual 2012 354.31 410.56 484.54 608.86 74.03 88.15 101.71	Ν	Marin (SF)	Winter	2033	341.88	396.86	464.82	594.90	73.68	85.91	100.95	128.75
C Mariposa (MC) Annual 2010 354.50 410.51 485.83 607.63 74.37 89.51 102.09 C Mariposa (MC) Annual 2011 354.40 410.55 485.11 608.19 74.22 88.77 101.86 C Mariposa (MC) Annual 2012 354.31 410.56 484.54 608.86 74.03 88.15 101.71	Ν	Marin (SF)	Winter	2034	341.88	396.98	464.80	595.06	73.68	85.98	100.95	128.84
C Mariposa (MC) Annual 2010 354.50 410.51 485.83 607.63 74.37 89.51 102.09 C Mariposa (MC) Annual 2011 354.40 410.55 485.11 608.19 74.22 88.77 101.86 C Mariposa (MC) Annual 2012 354.31 410.56 484.54 608.86 74.03 88.15 101.71	Ν	Marin (SF)	Winter	2035	341.87	397.09	464.79	595.20	73.69	86.03	100.96	128.92
C Mariposa (MC) Annual 2011 354.40 410.55 485.11 608.19 74.22 88.77 101.86 C Mariposa (MC) Annual 2012 354.31 410.56 484.54 608.86 74.03 88.15 101.71				2010	354.50				74.37	89.51		125.68
C Mariposa (MC) Annual 2012 354.31 410.56 484.54 608.86 74.03 88.15 101.71				2011					74.22	88.77		125.71
												125.79
												125.92
												126.07
	-	, ,		_								126.26

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT)	CO2 Starting (g/trip)					
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
С	Mariposa (MC)	Annual	2016	354.48	410.49	483.19	611.81	73.80	86.11	101.08	126.48		
<u>с</u>	Mariposa (MC)		2017	354.51	410.49	483.00	612.49	73.77	85.68	101.00	126.70		
_	1 (/	Annual								-			
C	Mariposa (MC)	Annual	2018	354.51	410.48	482.83	613.06	73.71	85.43	100.90	126.90		
C	Mariposa (MC)	Annual	2019	354.47	410.55	482.70	613.53	73.61	85.35	100.87	127.11		
C	Mariposa (MC)	Annual	2020	354.41	410.60	482.59	613.96	73.65	85.32	100.89	127.30		
C	Mariposa (MC)	Annual	2021	354.35	410.60	482.48	614.20	73.67	85.35	100.93	127.34		
С	Mariposa (MC)	Annual	2022	354.26	410.63	482.35	614.40	73.67	85.40	100.94	127.39		
С	Mariposa (MC)	Annual	2023	354.08	410.62	482.24	614.56	73.64	85.42	100.94	127.56		
С	Mariposa (MC)	Annual	2024	353.92	410.60	482.16	614.67	73.60	85.46	100.96	127.71		
С	Mariposa (MC)	Annual	2025	353.86	410.66	482.10	614.79	73.60	85.52	100.99	127.87		
С	Mariposa (MC)	Annual	2026	353.86	410.81	482.03	614.95	73.62	85.62	101.00	128.02		
С	Mariposa (MC)	Annual	2027	353.86	410.93	481.97	615.12	73.63	85.71	101.01	128.16		
С	Mariposa (MC)	Annual	2028	353.85	411.06	481.91	615.29	73.64	85.79	101.02	128.29		
С	Mariposa (MC)	Annual	2029	353.83	411.19	481.84	615.47	73.64	85.87	101.02	128.41		
С	Mariposa (MC)	Annual	2030	353.81	411.31	481.77	615.62	73.64	85.94	101.01	128.52		
С	Mariposa (MC)	Annual	2031	353.81	411.44	481.74	615.85	73.65	86.01	101.01	128.65		
С	Mariposa (MC)	Annual	2032	353.80	411.54	481.71	616.07	73.65	86.08	101.02	128.76		
С	Mariposa (MC)	Annual	2033	353.80	411.63	481.68	616.27	73.66	86.13	101.02	128.86		
С	Mariposa (MC)	Annual	2034	353.79	411.70	481.65	616.45	73.66	86.19	101.02	128.96		
С	Mariposa (MC)	Annual	2035	353.78	411.77	481.63	616.61	73.67	86.23	101.02	129.05		
С	Mariposa (MC)	Summer	2010	383.75	439.08	524.10	654.73	74.37	89.51	102.09	125.68		
С	Mariposa (MC)	Summer	2011	383.98	440.10	523.79	655.48	74.22	88.77	101.86	125.71		
С	Mariposa (MC)	Summer	2012	384.14	440.90	523.54	656.41	74.03	88.15	101.71	125.79		
С	Mariposa (MC)	Summer	2013	384.37	441.53	523.38	657.50	73.97	87.50	101.57	125.92		
С	Mariposa (MC)	Summer	2014	384.48	442.00	523.29	658.57	73.82	86.87	101.30	126.07		
С	Mariposa (MC)	Summer	2015	384.66	442.44	523.21	659.71	73.83	86.45	101.16	126.26		
С	Mariposa (MC)	Summer	2016	384.77	442.80	523.13	660.80	73.80	86.11	101.08	126.48		
С	Mariposa (MC)	Summer	2017	384.83	443.08	523.05	661.80	73.77	85.68	101.00	126.70		
С	Mariposa (MC)	Summer	2018	384.83	443.32	522.95	662.65	73.71	85.43	100.90	126.90		
С	Mariposa (MC)	Summer	2019	384.80	443.56	522.85	663.34	73.61	85.35	100.87	127.11		
С	Mariposa (MC)	Summer	2020	384.74	443.78	522.76	663.97	73.65	85.32	100.89	127.30		
С	Mariposa (MC)	Summer	2021	384.68	443.93	522.65	664.40	73.67	85.35	100.93	127.34		
С	Mariposa (MC)	Summer	2022	384.58	444.09	522.56	664.75	73.67	85.40	100.94	127.39		
С	Mariposa (MC)	Summer	2023	384.42	444.21	522.47	665.02	73.64		100.94	127.56		
C	Mariposa (MC)	Summer	2024	384.29	444.31	522.40	665.20	73.60	85.46	100.96	127.71		
C	Mariposa (MC)	Summer	2025	384.24	444.44	522.34	665.37	73.60	85.52	100.99	127.87		
С	Mariposa (MC)	Summer	2026	384.25	444.68	522.29	665.56	73.62	85.62	101.00	128.02		
C	Mariposa (MC)	Summer	2027	384.26	444.88	522.24	665.76	73.63	85.71	101.01	128.16		
С	Mariposa (MC)	Summer	2028	384.26	445.08	522.20	665.98	73.64	85.79	101.02	128.29		
C	Mariposa (MC)	Summer	2029	384.26	445.29	522.15	666.20	73.64	85.87	101.02	128.41		
C	Mariposa (MC)	Summer	2030	384.25	445.48	522.11	666.42	73.64	85.94	101.02	128.52		
C	Mariposa (MC)	Summer	2030	384.25	445.67	522.11	666.71	73.65	86.01	101.01	128.65		
С	Mariposa (MC)	Summer	2031	384.25	445.81	522.06	667.00	73.65	86.08	101.01	128.76		
C	Mariposa (MC)	Summer	2032	384.25	445.93	522.04	667.26	73.66	86.13	101.02	128.86		
C	Mariposa (MC)	Summer	2033	384.24	446.03	522.04	667.49	73.66	86.19	101.02	128.96		
C		Summer	2034	384.23	446.03	522.02	667.70	73.67	86.23	101.02	129.95		
C C	Mariposa (MC)	Winter	2035	347.30	403.48	476.41	596.03	74.37	89.51	101.02	125.68		
C	Mariposa (MC)												
	Mariposa (MC)	Winter	2011	347.12	403.27	475.59	596.55	74.22	88.77	101.86	125.71		
С	Mariposa (MC)	Winter	2012	346.97	403.10	474.94	597.15	74.03	88.15	101.71	125.79		
С	Mariposa (MC)	Winter	2013	346.97	402.89	474.42	597.81	73.97	87.50	101.57	125.92		
С	Mariposa (MC)	Winter	2014	346.91	402.69	473.97	598.45	73.82	86.87	101.30	126.07		
C	Mariposa (MC)	Winter	2015	346.99	402.60	473.63	599.12	73.83	86.45	101.16	126.26		
С	Mariposa (MC)	Winter	2016	347.02	402.54	473.35	599.75	73.80	86.11	101.08	126.48		
С	Mariposa (MC)	Winter	2017	347.05	402.44	473.14	600.35	73.77	85.68	101.00	126.70		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	CO2 Starting (g/trip)					
	2004.011	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
С	Mariposa (MC)	Winter	2018	347.05	402.40	472.95	600.86	73.71	85.43	100.90	126.90		
C	Mariposa (MC)	Winter	2019	347.00	402.43	472.82	601.27	73.61	85.35	100.87	127.11		
C	Mariposa (MC)	Winter	2020	346.95	402.43	472.71	601.65	73.65	85.32	100.89	127.30		
С	Mariposa (MC)	Winter	2021	346.89	402.39	472.58	601.84	73.67	85.35	100.93	127.34		
C	Mariposa (MC)	Winter	2022	346.79	402.39	472.45	602.00	73.67	85.40	100.94	127.39		
C	Mariposa (MC)	Winter	2023	346.62	402.35	472.34	602.13	73.64	85.42	100.94	127.56		
C	Mariposa (MC)	Winter	2024	346.44	402.31	472.26	602.23	73.60	85.46	100.96	127.71		
C	Mariposa (MC)	Winter	2025	346.39	402.35	472.20	602.34	73.60	85.52	100.99	127.87		
C	Mariposa (MC)	Winter	2026	346.39	402.47	472.12	602.49	73.62	85.62	101.00	128.02		
C	Mariposa (MC)	Winter	2027	346.37	402.58	472.05	602.65	73.63	85.71	101.01	128.16		
С	Mariposa (MC)	Winter	2028	346.37	402.69	472.00	602.81	73.64	85.79	101.02	128.29		
С	Mariposa (MC)	Winter	2029	346.35	402.80	471.92	602.98	73.64	85.87	101.02	128.41		
C	Mariposa (MC)	Winter	2030	346.32	402.90	471.85	603.12	73.64	85.94	101.01	128.52		
C	Mariposa (MC)	Winter	2031	346.31	403.01	471.81	603.33	73.65	86.01	101.01	128.65		
С	Mariposa (MC)	Winter	2032	346.31	403.10	471.78	603.54	73.65	86.08	101.02	128.76		
C	Mariposa (MC)	Winter	2033	346.30	403.18	471.75	603.72	73.66	86.13	101.02	128.86		
C	Mariposa (MC)	Winter	2034	346.29	403.25	471.72	603.89	73.66	86.19	101.02	128.96		
С	Mariposa (MC)	Winter	2035	346.28	403.31	471.70	604.03	73.67	86.23	101.02	129.05		
С	Mendocino-Coastal	Annual	2010	328.61	379.07	451.10	562.37	72.79	86.74	100.94	123.79		
С	Mendocino-Coastal	Annual	2011	328.64	379.33	450.55	563.04	72.74	86.20	100.83	123.99		
С	Mendocino-Coastal	Annual	2012	328.71	379.62	450.13	563.82	72.71	85.88	100.79	124.25		
С	Mendocino-Coastal	Annual	2013	328.81	379.86	449.78	564.69	72.69	85.57	100.77	124.53		
С	Mendocino-Coastal	Annual	2014	328.91	380.10	449.50	565.53	72.66	85.38	100.70	124.83		
С	Mendocino-Coastal	Annual	2015	329.05	380.33	449.28	566.42	72.71	85.22	100.68	125.15		
С	Mendocino-Coastal	Annual	2016	329.20	380.54	449.10	567.26	72.78	85.05	100.67	125.47		
С	Mendocino-Coastal	Annual	2017	329.29	380.71	448.96	568.05	72.79	84.90	100.65	125.80		
С	Mendocino-Coastal	Annual	2018	329.36	380.86	448.84	568.75	72.80	84.79	100.64	126.10		
С	Mendocino-Coastal	Annual	2019	329.41	381.04	448.75	569.35	72.81	84.81	100.66	126.39		
С	Mendocino-Coastal	Annual	2020	329.46	381.20	448.68	569.87	72.90	84.89	100.71	126.66		
С	Mendocino-Coastal	Annual	2021	329.47	381.32	448.60	570.28	72.95	85.00	100.77	126.88		
С	Mendocino-Coastal	Annual	2022	329.44	381.41	448.52	570.63	72.98	85.10	100.81	127.08		
С	Mendocino-Coastal	Annual	2023	329.37	381.48	448.45	570.90	72.99	85.18	100.85	127.29		
С	Mendocino-Coastal	Annual	2024	329.30	381.52	448.37	571.09	72.98	85.26	100.87	127.48		
С	Mendocino-Coastal	Annual	2025	329.26	381.61	448.33	571.27	72.99	85.36	100.90	127.65		
С	Mendocino-Coastal	Annual	2026	329.27	381.77	448.27	571.47	73.01	85.47	100.93	127.81		
С	Mendocino-Coastal	Annual	2027	329.27	381.91	448.22	571.68	73.03	85.57	100.94	127.97		
С	Mendocino-Coastal	Annual	2028	329.27	382.05	448.17	571.89	73.03	85.66	100.96	128.11		
С	Mendocino-Coastal	Annual	2029	329.25	382.19	448.10	572.09	73.04	85.75	100.95	128.24		
С	Mendocino-Coastal	Annual	2030	329.24	382.33	448.03	572.30	73.04	85.83	100.95	128.37		
С	Mendocino-Coastal	Annual	2031	329.23	382.47	448.00	572.53	73.05	85.91	100.96	128.50		
С	Mendocino-Coastal	Annual	2032	329.23	382.60	447.97	572.77	73.06	85.98	100.96	128.62		
С	Mendocino-Coastal	Annual	2033	329.22	382.71	447.95	572.98	73.06	86.05	100.96	128.73		
С	Mendocino-Coastal	Annual	2034	329.22	382.81	447.93	573.17	73.07	86.11	100.97	128.83		
С	Mendocino-Coastal	Annual	2035	329.21	382.89	447.91	573.33	73.07	86.16		128.93		
С	Mendocino-Coastal	Summer	2010	335.50	385.93	460.22	573.75	72.79	86.74		123.79		
С	Mendocino-Coastal	Summer	2011	335.60	386.40	459.76	574.44	72.74		100.83	123.99		
<u>C</u>	Mendocino-Coastal	Summer	2012	335.73	386.85	459.39	575.26	72.71	85.88		124.25		
<u>C</u>	Mendocino-Coastal	Summer	2013	335.88	387.22	459.11	576.18	72.69	85.57	100.77	124.53		
C	Mendocino-Coastal	Summer	2014	336.01	387.57	458.87	577.08	72.66	85.38	100.70	124.83		
C	Mendocino-Coastal	Summer	2015	336.17	387.90	458.70	578.04	72.71	85.22	100.68	125.15		
С	Mendocino-Coastal	Summer	2016	336.34	388.18	458.56	578.96	72.78	85.05		125.47		
С	Mendocino-Coastal	Summer	2017	336.43	388.42	458.43	579.82	72.79	84.90		125.80		
C	Mendocino-Coastal	Summer	2018	336.49	388.62	458.33	580.57	72.80	84.79	100.64	126.10		
С	Mendocino-Coastal	Summer	2019	336.54	388.83	458.25	581.22	72.81	84.81	100.66	126.39		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1			CO2 Bunni	na (a/\/MT	`		CO2 Stor	tina (a/tri	in)
	Location	0	V		O2 Runni				CO2 Star		
_	Mandasina Casatal	Season	Year	LDA	LDT1 389.03	LDT2 458.18	MDV	LDA	LDT1	LDT2 100.71	MDV
С С	Mendocino-Coastal Mendocino-Coastal	Summer Summer	2020 2021	336.59 336.60	389.18	458.11	581.78 582.21	72.90 72.95	84.89 85.00	100.71	126.66 126.88
C	Mendocino-Coastal	Summer	2021	336.57	389.31	458.03	582.59	72.93	85.10	100.77	127.08
C	Mendocino-Coastal	Summer	2022	336.50	389.40	457.96	582.88	72.99	85.18	100.85	127.00
C	Mendocino-Coastal	Summer	2023	336.43	389.46	457.89	583.08	72.98	85.26	100.87	127.48
C	Mendocino-Coastal	Summer	2025	336.39	389.57	457.85	583.26	72.99	85.36	100.90	127.40
C	Mendocino-Coastal	Summer	2026	336.40	389.75	457.79	583.47	73.01	85.47	100.93	127.81
C	Mendocino-Coastal	Summer	2027	336.41	389.91	457.74	583.68	73.03	85.57	100.94	127.97
С	Mendocino-Coastal	Summer	2028	336.41	390.07	457.70	583.89	73.03	85.66	100.96	128.11
С	Mendocino-Coastal	Summer	2029	336.40	390.24	457.63	584.11	73.04	85.75	100.95	128.24
C	Mendocino-Coastal	Summer	2030	336.39	390.39	457.57	584.32	73.04	85.83	100.95	128.37
С	Mendocino-Coastal	Summer	2031	336.39	390.55	457.53	584.57	73.05	85.91	100.96	128.50
C	Mendocino-Coastal	Summer	2032	336.38	390.69	457.51	584.82	73.06	85.98	100.96	128.62
С	Mendocino-Coastal	Summer	2033	336.38	390.81	457.48	585.05	73.06	86.05	100.96	128.73
C	Mendocino-Coastal	Summer	2034	336.37	390.92	457.46	585.25	73.07	86.11	100.97	128.83
C	Mendocino-Coastal	Summer	2035	336.36	391.01	457.44	585.42	73.07	86.16	100.97	128.93
C	Mendocino-Coastal	Winter	2010	325.36	375.84	446.80	556.99	72.79	86.74	100.94	123.79
С	Mendocino-Coastal	Winter	2011	325.35	375.99	446.21	557.66	72.74	86.20	100.83	123.99
С	Mendocino-Coastal	Winter	2012	325.39	376.21	445.75	558.43	72.71	85.88	100.79	124.25
С	Mendocino-Coastal	Winter	2013	325.47	376.38	445.38	559.27	72.69	85.57	100.77	124.53
С	Mendocino-Coastal	Winter	2014	325.56	376.57	445.08	560.08	72.66	85.38	100.70	124.83
С	Mendocino-Coastal	Winter	2015	325.69	376.77	444.84	560.93	72.71	85.22	100.68	125.15
С	Mendocino-Coastal	Winter	2016	325.84	376.93	444.64	561.74	72.78	85.05	100.67	125.47
С	Mendocino-Coastal	Winter	2017	325.92	377.08	444.49	562.50	72.79	84.90	100.65	125.80
С	Mendocino-Coastal	Winter	2018	325.99	377.20	444.36	563.17	72.80	84.79	100.64	126.10
С	Mendocino-Coastal	Winter	2019	326.04	377.36	444.27	563.75	72.81	84.81	100.66	126.39
С	Mendocino-Coastal	Winter	2020	326.10	377.51	444.20	564.26	72.90	84.89	100.71	126.66
С	Mendocino-Coastal	Winter	2021	326.10	377.61	444.12	564.65	72.95	85.00	100.77	126.88
С	Mendocino-Coastal	Winter	2022	326.08	377.69	444.04	564.99	72.98	85.10	100.81	127.08
С	Mendocino-Coastal	Winter	2023	326.01	377.75	443.96	565.25	72.99	85.18	100.85	127.29
С	Mendocino-Coastal	Winter	2024	325.93	377.77	443.88	565.44	72.98	85.26	100.87	127.48
С	Mendocino-Coastal	Winter	2025	325.89	377.86	443.83	565.61	72.99	85.36	100.90	127.65
С	Mendocino-Coastal	Winter	2026	325.90	378.00	443.78	565.81	73.01	85.47	100.93	127.81
С	Mendocino-Coastal	Winter	2027	325.90	378.13	443.72	566.01	73.03	85.57	100.94	127.97
С	Mendocino-Coastal	Winter	2028	325.90	378.27	443.68	566.22	73.03	85.66	100.96	128.11
С	Mendocino-Coastal	Winter	2029	325.88	378.40	443.60	566.42	73.04	85.75	100.95	128.24
С	Mendocino-Coastal	Winter	2030	325.86	378.53	443.54	566.62	73.04	85.83	100.95	128.37
С	Mendocino-Coastal	Winter	2031	325.86	378.66	443.50	566.86	73.05	85.91	100.96	128.50
С	Mendocino-Coastal	Winter	2032	325.85	378.78	443.47	567.09	73.06	85.98	100.96	128.62
С	Mendocino-Coastal	Winter	2033	325.85	378.89	443.45	567.29	73.06	86.05	100.96	128.73
С	Mendocino-Coastal	Winter	2034	325.84	378.99	443.43	567.47	73.07	86.11	100.97	128.83
С	Mendocino-Coastal	Winter	2035	325.83	379.07	443.41	567.63	73.07		100.97	128.93
С	Mendocino-Inland	Annual	2010	328.61	379.07	451.10	562.37	72.79	86.74		123.79
С	Mendocino-Inland	Annual	2011	328.64	379.33	450.55	563.04	72.74	86.20		123.99
С	Mendocino-Inland	Annual	2012	328.71	379.62	450.13	563.82	72.71	85.88	100.79	124.25
С	Mendocino-Inland	Annual	2013	328.81	379.86	449.78	564.69	72.69	85.57	100.77	124.53
С	Mendocino-Inland	Annual	2014	328.91	380.10	449.50	565.53	72.66	85.38	100.70	124.83
С	Mendocino-Inland	Annual	2015	329.05	380.33	449.28	566.42	72.71	85.22	100.68	125.15
С	Mendocino-Inland	Annual	2016	329.20	380.54	449.10	567.26	72.78	85.05	100.67	125.47
C	Mendocino-Inland	Annual	2017	329.29	380.71	448.96	568.05	72.79	84.90	100.65	125.80
C	Mendocino-Inland	Annual	2018	329.36	380.86	448.84	568.75	72.80	84.79	100.64	126.10
C_	Mendocino-Inland	Annual	2019	329.41	381.04	448.75	569.35	72.81	84.81	100.66	126.39
C	Mendocino-Inland	Annual	2020	329.46	381.20	448.68	569.87	72.90	84.89	100.71	126.66
С	Mendocino-Inland	Annual	2021	329.47	381.32	448.60	570.28	72.95	85.00	100.77	126.88

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Star	tina (a/tri	(q
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Mendocino-Inland	Annual	2022	329.44	381.41	448.52	570.63	72.98	85.10	100.81	127.08
C	Mendocino-Inland	Annual	2023	329.37	381.48	448.45	570.90	72.99	85.18	100.85	127.29
C	Mendocino-Inland	Annual	2024	329.30	381.52	448.37	571.09	72.98	85.26	100.87	127.48
C	Mendocino-Inland	Annual	2025	329.26	381.61	448.33	571.27	72.99	85.36	100.90	127.65
C	Mendocino-Inland	Annual	2026	329.27	381.77	448.27	571.47	73.01	85.47	100.93	127.81
С	Mendocino-Inland	Annual	2027	329.27	381.91	448.22	571.68	73.03	85.57	100.94	127.97
С	Mendocino-Inland	Annual	2028	329.27	382.05	448.17	571.89	73.03	85.66	100.96	128.11
С	Mendocino-Inland	Annual	2029	329.25	382.19	448.10	572.09	73.04	85.75	100.95	128.24
С	Mendocino-Inland	Annual	2030	329.24	382.33	448.03	572.30	73.04	85.83	100.95	128.37
С	Mendocino-Inland	Annual	2031	329.23	382.47	448.00	572.53	73.05	85.91	100.96	128.50
С	Mendocino-Inland	Annual	2032	329.23	382.60	447.97	572.77	73.06	85.98	100.96	128.62
С	Mendocino-Inland	Annual	2033	329.22	382.71	447.95	572.98	73.06	86.05	100.96	128.73
С	Mendocino-Inland	Annual	2034	329.22	382.81	447.93	573.17	73.07	86.11	100.97	128.83
С	Mendocino-Inland	Annual	2035	329.21	382.89	447.91	573.33	73.07	86.16	100.97	128.93
С	Mendocino-Inland	Summer	2010	335.50	385.93	460.22	573.75	72.79	86.74	100.94	123.79
С	Mendocino-Inland	Summer	2011	335.60	386.40	459.76	574.44	72.74	86.20	100.83	123.99
С	Mendocino-Inland	Summer	2012	335.73	386.85	459.39	575.26	72.71	85.88	100.79	124.25
С	Mendocino-Inland	Summer	2013	335.88	387.22	459.11	576.18	72.69	85.57	100.77	124.53
С	Mendocino-Inland	Summer	2014	336.01	387.57	458.87	577.08	72.66	85.38	100.70	124.83
С	Mendocino-Inland	Summer	2015	336.17	387.90	458.70	578.04	72.71	85.22	100.68	125.15
С	Mendocino-Inland	Summer	2016	336.34	388.18	458.56	578.96	72.78	85.05	100.67	125.47
С	Mendocino-Inland	Summer	2017	336.43	388.42	458.43	579.82	72.79	84.90	100.65	125.80
С	Mendocino-Inland	Summer	2018	336.49	388.62	458.33	580.57	72.80	84.79	100.64	126.10
С	Mendocino-Inland	Summer	2019	336.54	388.83	458.25	581.22	72.81	84.81	100.66	126.39
С	Mendocino-Inland	Summer	2020	336.59	389.03	458.18	581.78	72.90	84.89	100.71	126.66
С	Mendocino-Inland	Summer	2021	336.60	389.18	458.11	582.21	72.95	85.00	100.77	126.88
С	Mendocino-Inland	Summer	2022	336.57	389.31	458.03	582.59	72.98	85.10	100.81	127.08
С	Mendocino-Inland	Summer	2023	336.50	389.40	457.96	582.88	72.99	85.18	100.85	127.29
С	Mendocino-Inland	Summer	2024	336.43	389.46	457.89	583.08	72.98	85.26	100.87	127.48
С	Mendocino-Inland	Summer	2025	336.39	389.57	457.85	583.26	72.99	85.36	100.90	127.65
С	Mendocino-Inland	Summer	2026	336.40	389.75	457.79	583.47	73.01	85.47	100.93	127.81
С	Mendocino-Inland	Summer	2027	336.41	389.91	457.74	583.68	73.03	85.57	100.94	127.97
С	Mendocino-Inland	Summer	2028	336.41	390.07	457.70	583.89	73.03	85.66	100.96	128.11
С	Mendocino-Inland	Summer	2029	336.40	390.24	457.63	584.11	73.04	85.75	100.95	128.24
С	Mendocino-Inland	Summer	2030	336.39	390.39	457.57	584.32	73.04	85.83	100.95	128.37
С	Mendocino-Inland	Summer	2031	336.39	390.55	457.53	584.57	73.05	85.91	100.96	128.50
С	Mendocino-Inland	Summer	2032	336.38	390.69	457.51	584.82	73.06	85.98	100.96	128.62
С	Mendocino-Inland	Summer	2033	336.38	390.81	457.48	585.05	73.06	86.05	100.96	128.73
С	Mendocino-Inland	Summer	2034	336.37	390.92	457.46	585.25	73.07	86.11	100.97	128.83
С	Mendocino-Inland	Summer	2035	336.36	391.01	457.44	585.42	73.07	86.16	100.97	128.93
С	Mendocino-Inland	Winter	2010	325.36	375.84	446.80	556.99	72.79	86.74	100.94	123.79
С	Mendocino-Inland	Winter	2011	325.35	375.99	446.21	557.66	72.74	86.20	100.83	123.99
С	Mendocino-Inland	Winter	2012	325.39	376.21	445.75	558.43	72.71	85.88	100.79	124.25
С	Mendocino-Inland	Winter	2013	325.47	376.38	445.38	559.27	72.69	85.57	100.77	124.53
С	Mendocino-Inland	Winter	2014	325.56	376.57	445.08	560.08	72.66	85.38	100.70	124.83
С	Mendocino-Inland	Winter	2015	325.69	376.77	444.84	560.93	72.71	85.22	100.68	125.15
С	Mendocino-Inland	Winter	2016	325.84	376.93	444.64	561.74	72.78	85.05	100.67	125.47
С	Mendocino-Inland	Winter	2017	325.92	377.08	444.49	562.50	72.79	84.90	100.65	125.80
С	Mendocino-Inland	Winter	2018	325.99	377.20	444.36	563.17	72.80	84.79	100.64	126.10
С	Mendocino-Inland	Winter	2019	326.04	377.36	444.27	563.75	72.81	84.81	100.66	126.39
С	Mendocino-Inland	Winter	2020	326.10	377.51	444.20	564.26	72.90	84.89	100.71	126.66
С	Mendocino-Inland	Winter	2021	326.10	377.61	444.12	564.65	72.95	85.00	100.77	126.88
С	Mendocino-Inland	Winter	2022	326.08	377.69	444.04	564.99	72.98	85.10	100.81	127.08
С	Mendocino-Inland	Winter	2023	326.01	377.75	443.96	565.25	72.99	85.18	100.85	127.29

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	I			CO2 Dunni	na (a/\/NAT	`		in)		
	Location	0	\/		O2 Runni				CO2 Star		
С	Mendocino-Inland	Season Winter	Year 2024	LDA 325.93	LDT1 377.77	LDT2 443.88	MDV 565.44	LDA 72.98	LDT1 85.26	LDT2 100.87	MDV 127.48
C	Mendocino-Inland	Winter	2024	325.89	377.86	443.83	565.61	72.99	85.36	100.87	127.46
С	Mendocino-Inland	Winter	2026	325.90	378.00	443.78	565.81	73.01	85.47	100.93	127.81
C	Mendocino-Inland	Winter	2027	325.90	378.13	443.72	566.01	73.03	85.57	100.94	127.97
C	Mendocino-Inland	Winter	2028	325.90	378.27	443.68	566.22	73.03	85.66	100.96	128.11
С	Mendocino-Inland	Winter	2029	325.88	378.40	443.60	566.42	73.04	85.75	100.95	128.24
С	Mendocino-Inland	Winter	2030	325.86	378.53	443.54	566.62	73.04	85.83	100.95	128.37
С	Mendocino-Inland	Winter	2031	325.86	378.66	443.50	566.86	73.05	85.91	100.96	128.50
С	Mendocino-Inland	Winter	2032	325.85	378.78	443.47	567.09	73.06	85.98	100.96	128.62
С	Mendocino-Inland	Winter	2033	325.85	378.89	443.45	567.29	73.06	86.05	100.96	128.73
С	Mendocino-Inland	Winter	2034	325.84	378.99	443.43	567.47	73.07	86.11	100.97	128.83
С	Mendocino-Inland	Winter	2035	325.83	379.07	443.41	567.63	73.07	86.16	100.97	128.93
С	Mendocino-Rural Inland North	Annual	2010	328.61	379.07	451.10	562.37	72.79	86.74	100.94	123.79
С	Mendocino-Rural Inland North	Annual	2011	328.64	379.33	450.55	563.04	72.74	86.20	100.83	123.99
С	Mendocino-Rural Inland North	Annual	2012	328.71	379.62	450.13	563.82	72.71	85.88	100.79	124.25
С	Mendocino-Rural Inland North	Annual	2013	328.81	379.86	449.78	564.69	72.69	85.57	100.77	124.53
С	Mendocino-Rural Inland North	Annual	2014	328.91	380.10	449.50	565.53	72.66	85.38	100.70	124.83
С	Mendocino-Rural Inland North	Annual	2015	329.05	380.33	449.28	566.42	72.71	85.22	100.68	125.15
С	Mendocino-Rural Inland North	Annual	2016	329.20	380.54	449.10	567.26	72.78	85.05	100.67	125.47
С	Mendocino-Rural Inland North	Annual	2017	329.29	380.71	448.96	568.05	72.79	84.90	100.65	125.80
С	Mendocino-Rural Inland North	Annual	2018	329.36	380.86	448.84	568.75	72.80	84.79	100.64	126.10
С	Mendocino-Rural Inland North	Annual	2019	329.41	381.04	448.75	569.35	72.81	84.81	100.66	126.39
С	Mendocino-Rural Inland North	Annual	2020	329.46	381.20	448.68	569.87	72.90	84.89	100.71	126.66
С	Mendocino-Rural Inland North	Annual	2021	329.47	381.32	448.60	570.28	72.95	85.00	100.77	126.88
С	Mendocino-Rural Inland North	Annual	2022	329.44	381.41	448.52	570.63	72.98	85.10	100.81	127.08
С	Mendocino-Rural Inland North	Annual	2023	329.37	381.48	448.45	570.90	72.99	85.18	100.85	127.29
С	Mendocino-Rural Inland North	Annual	2024	329.30	381.52	448.37	571.09	72.98	85.26	100.87	127.48
С	Mendocino-Rural Inland North	Annual	2025	329.26	381.61	448.33	571.27	72.99	85.36	100.90	127.65
С	Mendocino-Rural Inland North	Annual	2026	329.27	381.77	448.27	571.47	73.01	85.47	100.93	127.81
С	Mendocino-Rural Inland North	Annual	2027	329.27	381.91	448.22	571.68	73.03	85.57	100.94	127.97
С	Mendocino-Rural Inland North	Annual	2028	329.27	382.05	448.17	571.89	73.03	85.66	100.96	128.11
С	Mendocino-Rural Inland North	Annual	2029	329.25	382.19	448.10	572.09	73.04	85.75	100.95	128.24
С	Mendocino-Rural Inland North	Annual	2030	329.24	382.33	448.03	572.30	73.04	85.83	100.95	128.37
C	Mendocino-Rural Inland North	Annual	2031	329.23	382.47	448.00	572.53	73.05		100.96	128.50
С С	Mendocino-Rural Inland North	Annual	2032	329.23	382.60	447.97	572.77	73.06	85.98	100.96	128.62
C	Mendocino-Rural Inland North	Annual	2033	329.22 329.22	382.71	447.95 447.93	572.98	73.06	86.05	100.96	128.73 128.83
C	Mendocino-Rural Inland North Mendocino-Rural Inland North	Annual Annual	2034 2035	329.22	382.81 382.89	447.93	573.17 573.33	73.07 73.07	86.11 86.16	100.97 100.97	128.93
c C	Mendocino-Rural Inland North	Summer	2010	335.50	385.93	460.22	573.75	72.79	86.74	100.94	123.79
C	Mendocino-Rural Inland North	Summer	2010	335.60	386.40	459.76	574.44	72.79	86.20	100.94	123.79
C	Mendocino-Rural Inland North	Summer	2011	335.73	386.85	459.70	575.26	72.74	85.88	100.83	124.25
C	Mendocino-Rural Inland North	Summer	2012	335.88	387.22	459.11	576.18	72.69	85.57	100.77	124.53
С	Mendocino-Rural Inland North	Summer	2014	336.01	387.57	458.87	577.08	72.66	85.38		124.83
С	Mendocino-Rural Inland North	Summer	2015	336.17	387.90	458.70	578.04	72.71	85.22	100.78	125.15
С	Mendocino-Rural Inland North	Summer	2016	336.34	388.18	458.56	578.96	72.78	85.05	100.67	125.47
C	Mendocino-Rural Inland North	Summer	2017	336.43	388.42	458.43	579.82	72.79	84.90	100.65	125.80
C	Mendocino-Rural Inland North	Summer	2018	336.49	388.62	458.33	580.57	72.80	84.79	100.64	126.10
С	Mendocino-Rural Inland North	Summer	2019	336.54	388.83	458.25	581.22	72.81	84.81	100.66	126.39
С	Mendocino-Rural Inland North	Summer	2020	336.59	389.03	458.18	581.78	72.90	84.89	100.71	126.66
С	Mendocino-Rural Inland North	Summer	2021	336.60	389.18	458.11	582.21	72.95	85.00		126.88
С	Mendocino-Rural Inland North	Summer	2022	336.57	389.31	458.03	582.59	72.98	85.10		127.08
С	Mendocino-Rural Inland North	Summer	2023	336.50	389.40	457.96	582.88	72.99	85.18	100.85	127.29
С	Mendocino-Rural Inland North	Summer	2024	336.43	389.46	457.89	583.08	72.98	85.26	100.87	127.48
С	Mendocino-Rural Inland North	Summer	2025	336.39	389.57	457.85	583.26	72.99	85.36	100.90	127.65

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Bunni	na (a/\/MT	`		in)		
	Location	0	\/		O2 Runni				CO2 Star		
С	Mandacina Dural Inland North	Season	Year 2026	LDA	LDT1 389.75	LDT2	MDV	LDA	LDT1 85.47	LDT2	MDV
C C	Mendocino-Rural Inland North Mendocino-Rural Inland North	Summer Summer	2026	336.40 336.41	389.91	457.79 457.74	583.47 583.68	73.01 73.03	85.57	100.93 100.94	127.81 127.97
C	Mendocino-Rural Inland North	Summer	2028	336.41	390.07	457.70	583.89	73.03	85.66	100.94	128.11
C	Mendocino-Rural Inland North	Summer	2029	336.40	390.24	457.63	584.11	73.04	85.75	100.95	128.24
C	Mendocino-Rural Inland North	Summer	2030	336.39	390.39	457.57	584.32	73.04	85.83	100.95	128.37
C	Mendocino-Rural Inland North	Summer	2031	336.39	390.55	457.53	584.57	73.05	85.91	100.96	128.50
С	Mendocino-Rural Inland North	Summer	2032	336.38	390.69	457.51	584.82	73.06	85.98	100.96	128.62
С	Mendocino-Rural Inland North	Summer	2033	336.38	390.81	457.48	585.05	73.06	86.05	100.96	128.73
C	Mendocino-Rural Inland North	Summer	2034	336.37	390.92	457.46	585.25	73.07	86.11	100.97	128.83
C	Mendocino-Rural Inland North	Summer	2035	336.36	391.01	457.44	585.42	73.07	86.16	100.97	128.93
С	Mendocino-Rural Inland North	Winter	2010	325.36	375.84	446.80	556.99	72.79	86.74	100.94	123.79
С	Mendocino-Rural Inland North	Winter	2011	325.35	375.99	446.21	557.66	72.74	86.20	100.83	123.99
С	Mendocino-Rural Inland North	Winter	2012	325.39	376.21	445.75	558.43	72.71	85.88	100.79	124.25
С	Mendocino-Rural Inland North	Winter	2013	325.47	376.38	445.38	559.27	72.69	85.57	100.77	124.53
С	Mendocino-Rural Inland North	Winter	2014	325.56	376.57	445.08	560.08	72.66	85.38	100.70	124.83
С	Mendocino-Rural Inland North	Winter	2015	325.69	376.77	444.84	560.93	72.71	85.22	100.68	125.15
С	Mendocino-Rural Inland North	Winter	2016	325.84	376.93	444.64	561.74	72.78	85.05	100.67	125.47
С	Mendocino-Rural Inland North	Winter	2017	325.92	377.08	444.49	562.50	72.79	84.90	100.65	125.80
С	Mendocino-Rural Inland North	Winter	2018	325.99	377.20	444.36	563.17	72.80	84.79	100.64	126.10
С	Mendocino-Rural Inland North	Winter	2019	326.04	377.36	444.27	563.75	72.81	84.81	100.66	126.39
С	Mendocino-Rural Inland North	Winter	2020	326.10	377.51	444.20	564.26	72.90	84.89	100.71	126.66
С	Mendocino-Rural Inland North	Winter	2021	326.10	377.61	444.12	564.65	72.95	85.00	100.77	126.88
С	Mendocino-Rural Inland North	Winter	2022	326.08	377.69	444.04	564.99	72.98	85.10	100.81	127.08
С	Mendocino-Rural Inland North	Winter	2023	326.01	377.75	443.96	565.25	72.99	85.18	100.85	127.29
С	Mendocino-Rural Inland North	Winter	2024	325.93	377.77	443.88	565.44	72.98	85.26	100.87	127.48
С	Mendocino-Rural Inland North	Winter	2025	325.89	377.86	443.83	565.61	72.99	85.36	100.90	127.65
С	Mendocino-Rural Inland North	Winter	2026	325.90	378.00	443.78	565.81	73.01	85.47	100.93	127.81
С	Mendocino-Rural Inland North	Winter	2027	325.90	378.13	443.72	566.01	73.03	85.57	100.94	127.97
С	Mendocino-Rural Inland North	Winter	2028	325.90	378.27	443.68	566.22	73.03	85.66	100.96	128.11
С	Mendocino-Rural Inland North	Winter	2029	325.88	378.40	443.60	566.42	73.04	85.75	100.95	128.24
С	Mendocino-Rural Inland North	Winter	2030	325.86	378.53	443.54	566.62	73.04	85.83	100.95	128.37
С	Mendocino-Rural Inland North	Winter	2031	325.86	378.66	443.50	566.86	73.05	85.91	100.96	128.50
С	Mendocino-Rural Inland North	Winter	2032	325.85	378.78	443.47	567.09	73.06	85.98	100.96	128.62
С	Mendocino-Rural Inland North	Winter	2033	325.85	378.89	443.45	567.29	73.06	86.05	100.96	128.73
С	Mendocino-Rural Inland North	Winter	2034	325.84	378.99	443.43	567.47	73.07	86.11	100.97	128.83
С	Mendocino-Rural Inland North	Winter	2035	325.83	379.07	443.41	567.63	73.07	86.16	100.97	128.93
С	Mendocino-Rural Inland South	Annual	2010	328.61	379.07	451.10	562.37	72.79	86.74	100.94	123.79
С	Mendocino-Rural Inland South	Annual	2011	328.64	379.33	450.55	563.04	72.74	86.20	100.83	123.99
С	Mendocino-Rural Inland South	Annual	2012	328.71	379.62	450.13	563.82	72.71	85.88	100.79	124.25
С	Mendocino-Rural Inland South	Annual	2013	328.81	379.86	449.78	564.69	72.69	85.57	100.77	124.53
С	Mendocino-Rural Inland South	Annual	2014	328.91	380.10	449.50	565.53	72.66	85.38	100.70	124.83
С	Mendocino-Rural Inland South	Annual	2015	329.05	380.33	449.28	566.42	72.71	85.22	100.68	125.15
С	Mendocino-Rural Inland South	Annual	2016	329.20	380.54	449.10	567.26	72.78	85.05	100.67	125.47
С	Mendocino-Rural Inland South	Annual	2017	329.29	380.71	448.96	568.05	72.79	84.90		125.80
С	Mendocino-Rural Inland South	Annual	2018	329.36	380.86	448.84	568.75	72.80	84.79	100.64	126.10
С	Mendocino-Rural Inland South	Annual	2019	329.41	381.04	448.75	569.35	72.81	84.81	100.66	126.39
С	Mendocino-Rural Inland South	Annual	2020	329.46	381.20	448.68	569.87	72.90	84.89	100.71	126.66
С	Mendocino-Rural Inland South	Annual	2021	329.47	381.32	448.60	570.28	72.95	85.00		126.88
С	Mendocino-Rural Inland South	Annual	2022	329.44	381.41	448.52	570.63	72.98	85.10		127.08
C	Mendocino-Rural Inland South	Annual	2023	329.37	381.48	448.45	570.90	72.99	85.18		127.29
C	Mendocino-Rural Inland South	Annual	2024	329.30	381.52	448.37	571.09	72.98	85.26	100.87	127.48
C_	Mendocino-Rural Inland South	Annual	2025	329.26	381.61	448.33	571.27	72.99	85.36	100.90	127.65
C	Mendocino-Rural Inland South	Annual	2026	329.27	381.77	448.27	571.47	73.01	85.47	100.93	127.81
С	Mendocino-Rural Inland South	Annual	2027	329.27	381.91	448.22	571.68	73.03	85.57	100.94	127.97

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		<u> </u>		O2 Runni	na (a/\/MT)	(CO2 Star	tina (a/tri	n)
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Mendocino-Rural Inland South	Annual	2028	329.27	382.05	448.17	571.89	73.03	85.66	100.96	128.11
c C	Mendocino-Rural Inland South	Annual	2028	329.25	382.19	448.17	572.09	73.03	85.75	100.95	128.24
c C	Mendocino-Rural Inland South	Annual	2029	329.24	382.33	448.03	572.30	73.04	85.83	100.95	128.37
c C	Mendocino-Rural Inland South	Annual	2030	329.23	382.47	448.00	572.53	73.05	85.91	100.96	128.50
С	Mendocino-Rural Inland South	Annual	2031	329.23	382.60	447.97	572.77	73.06	85.98	100.96	128.62
C	Mendocino-Rural Inland South	Annual	2032	329.22	382.71	447.95	572.98	73.06	86.05	100.96	128.73
C	Mendocino-Rural Inland South	Annual	2034	329.22	382.81	447.93	573.17	73.07	86.11	100.97	128.83
С	Mendocino-Rural Inland South	Annual	2035	329.21	382.89	447.91	573.33	73.07	86.16	100.97	128.93
С	Mendocino-Rural Inland South	Summer	2010	335.50	385.93	460.22	573.75	72.79	86.74	100.94	123.79
С	Mendocino-Rural Inland South	Summer	2011	335.60	386.40	459.76	574.44	72.74	86.20	100.83	123.99
С	Mendocino-Rural Inland South	Summer	2012	335.73	386.85	459.39	575.26	72.71	85.88	100.79	124.25
С	Mendocino-Rural Inland South	Summer	2013	335.88	387.22	459.11	576.18	72.69	85.57	100.77	124.53
С	Mendocino-Rural Inland South	Summer	2014	336.01	387.57	458.87	577.08	72.66	85.38	100.70	124.83
С	Mendocino-Rural Inland South	Summer	2015	336.17	387.90	458.70	578.04	72.71	85.22	100.70	125.15
С	Mendocino-Rural Inland South	Summer	2016	336.34	388.18	458.56	578.96	72.78	85.05	100.67	125.47
С	Mendocino-Rural Inland South	Summer	2017	336.43	388.42	458.43	579.82	72.79	84.90	100.65	125.80
С	Mendocino-Rural Inland South	Summer	2018	336.49	388.62	458.33	580.57	72.80	84.79	100.64	126.10
С	Mendocino-Rural Inland South	Summer	2019	336.54	388.83	458.25	581.22	72.81	84.81	100.66	126.39
С	Mendocino-Rural Inland South	Summer	2020	336.59	389.03	458.18	581.78	72.90	84.89	100.71	126.66
С	Mendocino-Rural Inland South	Summer	2021	336.60	389.18	458.11	582.21	72.95	85.00	100.77	126.88
С	Mendocino-Rural Inland South	Summer	2022	336.57	389.31	458.03	582.59	72.98	85.10	100.81	127.08
С	Mendocino-Rural Inland South	Summer	2023	336.50	389.40	457.96	582.88	72.99	85.18	100.85	127.29
C	Mendocino-Rural Inland South	Summer	2024	336.43	389.46	457.89	583.08	72.98	85.26	100.87	127.48
C	Mendocino-Rural Inland South	Summer	2025	336.39	389.57	457.85	583.26	72.99	85.36	100.90	127.65
C	Mendocino-Rural Inland South	Summer	2026	336.40	389.75	457.79	583.47	73.01	85.47	100.93	127.81
С	Mendocino-Rural Inland South	Summer	2027	336.41	389.91	457.74	583.68	73.03	85.57	100.94	127.97
С	Mendocino-Rural Inland South	Summer	2028	336.41	390.07	457.70	583.89	73.03	85.66	100.96	128.11
С	Mendocino-Rural Inland South	Summer	2029	336.40	390.24	457.63	584.11	73.04	85.75	100.95	128.24
С	Mendocino-Rural Inland South	Summer	2030	336.39	390.39	457.57	584.32	73.04	85.83	100.95	128.37
С	Mendocino-Rural Inland South	Summer	2031	336.39	390.55	457.53	584.57	73.05	85.91	100.96	128.50
С	Mendocino-Rural Inland South	Summer	2032	336.38	390.69	457.51	584.82	73.06	85.98	100.96	128.62
С	Mendocino-Rural Inland South	Summer	2033	336.38	390.81	457.48	585.05	73.06	86.05	100.96	128.73
С	Mendocino-Rural Inland South	Summer	2034	336.37	390.92	457.46	585.25	73.07	86.11	100.97	128.83
С	Mendocino-Rural Inland South	Summer	2035	336.36	391.01	457.44	585.42	73.07	86.16	100.97	128.93
С	Mendocino-Rural Inland South	Winter	2010	325.36	375.84	446.80	556.99	72.79	86.74	100.94	123.79
С	Mendocino-Rural Inland South	Winter	2011	325.35	375.99	446.21	557.66	72.74	86.20	100.83	123.99
С	Mendocino-Rural Inland South	Winter	2012	325.39	376.21	445.75	558.43	72.71	85.88	100.79	124.25
С	Mendocino-Rural Inland South	Winter	2013	325.47	376.38	445.38	559.27	72.69	85.57	100.77	124.53
С	Mendocino-Rural Inland South	Winter	2014	325.56	376.57	445.08	560.08	72.66	85.38	100.70	124.83
С	Mendocino-Rural Inland South	Winter	2015	325.69	376.77	444.84	560.93	72.71	85.22	100.68	125.15
С	Mendocino-Rural Inland South	Winter	2016	325.84	376.93	444.64	561.74	72.78	85.05	100.67	125.47
С	Mendocino-Rural Inland South	Winter	2017	325.92	377.08	444.49	562.50	72.79	84.90	100.65	125.80
С	Mendocino-Rural Inland South	Winter	2018	325.99	377.20	444.36	563.17	72.80	84.79	100.64	126.10
С	Mendocino-Rural Inland South	Winter	2019	326.04	377.36	444.27	563.75	72.81	84.81	100.66	126.39
С	Mendocino-Rural Inland South	Winter	2020	326.10	377.51	444.20	564.26	72.90	84.89	100.71	126.66
С	Mendocino-Rural Inland South	Winter	2021	326.10	377.61	444.12	564.65	72.95	85.00	100.77	126.88
С	Mendocino-Rural Inland South	Winter	2022	326.08	377.69	444.04	564.99	72.98	85.10	100.81	127.08
С	Mendocino-Rural Inland South	Winter	2023	326.01	377.75	443.96	565.25	72.99	85.18	100.85	127.29
С	Mendocino-Rural Inland South	Winter	2024	325.93	377.77	443.88	565.44	72.98	85.26	100.87	127.48
С	Mendocino-Rural Inland South	Winter	2025	325.89	377.86	443.83	565.61	72.99	85.36	100.90	127.65
С	Mendocino-Rural Inland South	Winter	2026	325.90	378.00	443.78	565.81	73.01	85.47	100.93	127.81
С	Mendocino-Rural Inland South	Winter	2027	325.90	378.13	443.72	566.01	73.03	85.57	100.94	127.97
С	Mendocino-Rural Inland South	Winter	2028	325.90	378.27	443.68	566.22	73.03	85.66	100.96	128.11
С	Mendocino-Rural Inland South	Winter	2029	325.88	378.40	443.60	566.42	73.04	85.75	100.95	128.24

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Punni	ng (g/VMT	7		CO2 Star	ting (g/tri	n)
	Location	Cassan	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
_	Mandagina Dural Inland Couth	Season						73.04	85.83	100.95	
С С	Mendocino-Rural Inland South Mendocino-Rural Inland South	Winter Winter	2030 2031	325.86 325.86	378.53 378.66	443.54 443.50	566.62 566.86	73.04	85.91	100.95	128.37 128.50
C	Mendocino-Rural Inland South	Winter	2031	325.85	378.78	443.47	567.09	73.06	85.98	100.96	128.62
c C	Mendocino-Rural Inland South	Winter	2032	325.85	378.89	443.45	567.09	73.06	86.05	100.96	128.73
C	Mendocino-Rural Inland South	Winter	2033	325.84	378.99	443.43	567.47	73.07	86.11	100.96	128.83
C	Mendocino-Rural Inland South	Winter	2034	325.83	379.07	443.41	567.63	73.07	86.16	100.97	128.93
C C	Merced (SJV)		2033	340.87	390.90	467.36	584.95	73.16	85.59	100.97	123.92
	Merced (SJV)	Annual Annual	2010	341.18	391.95	467.11	585.80	73.10	85.25	100.50	124.18
C	Merced (SJV)	Annual	2011	342.08	393.49	467.75	587.72	73.17	85.08	100.30	124.10
C	Merced (SJV)	Annual	2013	343.97	396.08	469.80	591.52	73.28	84.93	100.46	124.78
C	Merced (SJV)	Annual	2014	344.21	396.70	469.70	592.50	73.32	84.82	100.47	125.10
С	Merced (SJV)	Annual	2015	346.14	399.22	471.93	596.45	73.40	84.76	100.47	125.45
C	Merced (SJV)	Annual	2016	346.35	399.69	471.87	597.40	73.48	84.69	100.48	125.80
С	Merced (SJV)	Annual	2017	346.49	400.09	471.80	598.27	73.51	84.64	100.48	126.15
С	Merced (SJV)	Annual	2018	349.13	403.34	475.20	603.39	73.57	84.61	100.50	126.47
С	Merced (SJV)	Annual	2019	349.23	403.65	475.15	604.02	73.62	84.72	100.53	126.76
С	Merced (SJV)	Annual	2020	349.30	403.93	475.11	604.59	73.71	84.85	100.61	127.03
С	Merced (SJV)	Annual	2021	351.18	406.32	477.56	608.27	73.78	85.02	100.69	127.27
С	Merced (SJV)	Annual	2022	351.21	406.57	477.54	608.69	73.83	85.17	100.76	127.46
С	Merced (SJV)	Annual	2023	351.21	406.77	477.51	609.02	73.86	85.30	100.81	127.68
С	Merced (SJV)	Annual	2024	352.65	408.63	479.46	611.80	73.88	85.42	100.85	127.88
С	Merced (SJV)	Annual	2025	352.66	408.77	479.44	612.05	73.90	85.52	100.89	128.06
С	Merced (SJV)	Annual	2026	355.16	411.82	482.81	616.64	73.92	85.62	100.91	128.23
С	Merced (SJV)	Annual	2027	355.17	411.96	482.79	616.85	73.93	85.71	100.93	128.38
С	Merced (SJV)	Annual	2028	355.18	412.10	482.76	617.06	73.94	85.80	100.95	128.51
С	Merced (SJV)	Annual	2029	355.18	412.22	482.73	617.26	73.95	85.87	100.95	128.63
С	Merced (SJV)	Annual	2030	355.17	412.35	482.71	617.45	73.95	85.94	100.96	128.75
С	Merced (SJV)	Annual	2031	355.17	412.47	482.69	617.62	73.96	86.01	100.97	128.85
С	Merced (SJV)	Annual	2032	355.17	412.57	482.67	617.79	73.96	86.07	100.97	128.94
С	Merced (SJV)	Annual	2033	355.17	412.66	482.65	617.95	73.97	86.12	100.98	129.03
С	Merced (SJV)	Annual	2034	355.17	412.73	482.64	618.09	73.97	86.17	100.98	129.10
С	Merced (SJV)	Annual	2035	355.17	412.79	482.63	618.21	73.97	86.21	100.99	129.17
С	Merced (SJV)	Summer	2010	373.91	424.50	510.75	639.39	73.16	85.59	100.55	123.92
С	Merced (SJV)	Summer	2011	374.54	426.53	510.92	640.32	73.17	85.25	100.50	124.18
С	Merced (SJV)	Summer	2012	375.72	428.80	511.95	642.49	73.22	85.08	100.47	124.45
С	Merced (SJV)	Summer	2013	377.96	432.14	514.48	646.83	73.28	84.93	100.46	124.78
С	Merced (SJV)	Summer	2014	378.33	433.19	514.60	648.11	73.32	84.82	100.47	125.10
С	Merced (SJV)	Summer	2015	380.53	436.25	517.25	652.67	73.40	84.76		125.45
С	Merced (SJV)	Summer	2016	380.80	437.00	517.32	653.93	73.48	84.69		125.80
С	Merced (SJV)	Summer	2017	380.97	437.61	517.33	655.06	73.51	84.64		126.15
С	Merced (SJV)	Summer	2018	383.85	441.28	521.08	660.79	73.57	84.61		126.47
С	Merced (SJV)	Summer	2019	383.93	441.70	521.02	661.58	73.62	84.72		126.76
С	Merced (SJV)	Summer	2020	383.99	442.07	520.96	662.27	73.71		100.61	127.03
С	Merced (SJV)	Summer	2021	386.07	444.82	523.67	666.43	73.78	85.02		127.27
С	Merced (SJV)	Summer	2022	386.11	445.19	523.65	666.97	73.83	85.17	100.76	127.46
С	Merced (SJV)	Summer	2023	386.12	445.49	523.63	667.38	73.86	85.30		127.68
С	Merced (SJV)	Summer	2024	387.72	447.60	525.78	670.47	73.88	85.42		127.88
С	Merced (SJV)	Summer	2025	387.74	447.82	525.78	670.75	73.90	85.52	100.89	128.06
С	Merced (SJV)	Summer	2026	390.50	451.22	529.48	675.75	73.92	85.62		128.23
C	Merced (SJV)	Summer	2027	390.51	451.41	529.46	675.97	73.93	85.71		128.38
C	Merced (SJV)	Summer	2028	390.52	451.60	529.44	676.18	73.94	85.80		128.51
C	Merced (SJV)	Summer	2029	390.53	451.78	529.41	676.38	73.95	85.87	100.95	128.63
C	Merced (SJV)	Summer	2030	390.53	451.95	529.39	676.58	73.95	85.94	100.96	128.75
С	Merced (SJV)	Summer	2031	390.53	452.12	529.34	676.72	73.96	86.01	100.97	128.85

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(O2 Runni	ng (g/VMT	-)	(CO2 Stai	ting (g/tr	ip)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Merced (SJV)	Summer	2032	390.53	452.26	529.30	676.87	73.96	86.07	100.97	128.94
С	Merced (SJV)	Summer	2033	390.53	452.37	529.27	677.03	73.97	86.12	100.98	129.03
С	Merced (SJV)	Summer	2034	390.53	452.46	529.26	677.19	73.97	86.17	100.98	129.10
С	Merced (SJV)	Summer	2035	390.53	452.53	529.24	677.34	73.97	86.21	100.99	129.17
С	Merced (SJV)	Winter	2010	329.03	378.86	451.81	565.43	73.16	85.59	100.55	123.92
С	Merced (SJV)	Winter	2011	329.22	379.55	451.41	566.25	73.17	85.25	100.50	124.18
С	Merced (SJV)	Winter	2012	330.02	380.82	451.91	568.09	73.22	85.08	100.47	124.45
С	Merced (SJV)	Winter	2013	331.78	383.15	453.79	571.69	73.28	84.93	100.46	124.78
С	Merced (SJV)	Winter	2014	331.98	383.62	453.60	572.57	73.32	84.82	100.47	125.10
С	Merced (SJV)	Winter	2015	333.81	385.94	455.69	576.30	73.40	84.76	100.47	125.45
С	Merced (SJV)	Winter	2016	334.00	386.31	455.57	577.14	73.48	84.69	100.48	125.80
С	Merced (SJV)	Winter	2017	334.13	386.64	455.48	577.91	73.51	84.64	100.48	126.15
С	Merced (SJV)	Winter	2018	336.69	389.74	458.76	582.81	73.57	84.61	100.50	126.47
С	Merced (SJV)	Winter	2019	336.79	390.02	458.71	583.39	73.62	84.72	100.53	126.76
C	Merced (SJV)	Winter	2020	336.87	390.25	458.68	583.91	73.71	84.85	100.61	127.03
C	Merced (SJV)	Winter	2021	338.67	392.52	461.04	587.42	73.78	85.02	100.69	127.03
C	Merced (SJV)	Winter	2022	338.70	392.73	461.01	587.80	73.83	85.17	100.76	127.46
С	Merced (SJV)	Winter	2023	338.70	392.89	460.97	588.09	73.86	85.30	100.81	127.68
C	Merced (SJV)	Winter	2024	340.08	394.65	462.85	590.78	73.88	85.42	100.85	127.88
С	Merced (SJV)	Winter	2025	340.08	394.77	462.82	591.01	73.90	85.52	100.89	128.06
С	Merced (SJV)	Winter	2026	342.49	397.70	466.08	595.45	73.92	85.62	100.91	128.23
С	Merced (SJV)	Winter	2027	342.50	397.82	466.06	595.66	73.93	85.71	100.93	128.38
С	Merced (SJV)	Winter	2028	342.50	397.93	466.03	595.87	73.94	85.80	100.95	128.51
С	Merced (SJV)	Winter	2029	342.50	398.05	466.00	596.07	73.95	85.87	100.95	128.63
С	Merced (SJV)	Winter	2030	342.50	398.15	465.98	596.26	73.95	85.94	100.96	128.75
С	Merced (SJV)	Winter	2031	342.50	398.25	465.97	596.43	73.96	86.01	100.97	128.85
С	Merced (SJV)	Winter	2032	342.50	398.34	465.96	596.61	73.96	86.07	100.97	128.94
С	Merced (SJV)	Winter	2033	342.50	398.42	465.94	596.76	73.97	86.12	100.98	129.03
С	Merced (SJV)	Winter	2034	342.49	398.49	465.93	596.90	73.97	86.17	100.98	129.10
С	Merced (SJV)	Winter	2035	342.49	398.55	465.92	597.02	73.97	86.21	100.99	129.17
С	Modoc (NEP)	Annual	2010	408.79	488.59	560.53	697.57	74.87	100.48	102.62	125.01
С	Modoc (NEP)	Annual	2011	408.63	485.64	559.72	698.46	74.72	97.48	102.30	125.08
С	Modoc (NEP)	Annual	2012	408.43	483.59	559.09	699.50	74.39	95.30	102.13	125.22
С	Modoc (NEP)	Annual	2013	408.39	482.13	558.57	700.69	74.23	93.74	101.93	125.38
С	Modoc (NEP)	Annual	2014	408.30	480.62	558.13	701.74	73.97		101.58	125.59
С	Modoc (NEP)	Annual	2015	408.25	479.23	557.81	702.85	73.76		101.45	125.82
С	Modoc (NEP)	Annual	2016	408.36	478.26	557.54	703.92	73.79	88.96	101.31	126.08
С	Modoc (NEP)	Annual	2017	408.32	477.36	557.31	704.96	73.64	87.77	101.05	126.34
С	Modoc (NEP)	Annual	2018	408.22	476.76	557.13	705.82	73.43	87.03	100.91	126.59
С	Modoc (NEP)	Annual	2019	408.20	476.34	556.98	706.60	73.35	86.56	100.78	126.79
С	Modoc (NEP)	Annual	2020	408.15	475.96	556.87	707.25	73.39	86.27	100.81	127.00
С	Modoc (NEP)	Annual	2021	408.10	475.54	556.77	707.69	73.42	86.13	100.87	127.13
С	Modoc (NEP)	Annual	2022	408.00	475.17	556.62	708.03	73.42	86.00	100.88	127.20
С	Modoc (NEP)	Annual	2023	407.93	474.79	556.52	708.27	73.44	85.87	100.91	127.38
С	Modoc (NEP)	Annual	2024	407.79	474.58	556.39	708.49	73.41	85.82	100.92	127.55
С	Modoc (NEP)	Annual	2025	407.72	474.59	556.34	708.71	73.41	85.87	100.96	127.72
С	Modoc (NEP)	Annual	2026	407.73	474.69	556.26	709.00	73.43	85.94	100.98	127.90
С	Modoc (NEP)	Annual	2027	407.73	474.80	556.20	709.30	73.44	86.00	100.99	128.07
С	Modoc (NEP)	Annual	2028	407.71	474.90	556.15	709.60	73.44	86.06	101.01	128.22
С	Modoc (NEP)	Annual	2029	407.70	475.01	556.08	709.88	73.45	86.12	101.01	128.36
С	Modoc (NEP)	Annual	2030	407.68	475.10	556.00	710.15	73.45	86.17	101.01	128.50
С	Modoc (NEP)	Annual	2031	407.69	475.22	555.95	710.46	73.45	86.22	101.01	128.63
С	Modoc (NEP)	Annual	2032	407.68	475.32	555.91	710.77	73.46	86.27	101.01	128.76
С	Modoc (NEP)	Annual	2033	407.68	475.40	555.88	711.04	73.47	86.31	101.01	128.87

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	Ī			CO2 Runni	na (a/\/NAT	· I		(n)		
	Location	C	V						CO2 Star		
С	Modoc (NEP)	Season Annual	Year 2034	LDA 407.67	LDT1 475.47	LDT2 555.85	MDV 711.29	LDA 73.47	LDT1 86.35	LDT2 101.01	MDV 128.97
c C	Modoc (NEP)	Annual	2034	407.66	475.53	555.81	711.29	73.48	86.38	101.01	129.07
С	Modoc (NEP)	Summer	2010	425.39	503.36	582.23	724.10	74.87	100.48	102.62	125.01
С	Modoc (NEP)	Summer	2011	425.44	501.48	581.68	725.15	74.72	97.48	102.30	125.08
С	Modoc (NEP)	Summer	2012	425.41	500.15	581.24	726.37	74.39	95.30	102.13	125.22
С	Modoc (NEP)	Summer	2013	425.50	499.17	580.90	727.80	74.23	93.74	101.93	125.38
С	Modoc (NEP)	Summer	2014	425.50	498.13	580.66	729.05	73.97	91.96	101.58	125.59
С	Modoc (NEP)	Summer	2015	425.50	497.14	580.45	730.41	73.76	90.19	101.45	125.82
С	Modoc (NEP)	Summer	2016	425.64	496.45	580.30	731.70	73.79	88.96	101.31	126.08
С	Modoc (NEP)	Summer	2017	425.62	495.80	580.16	732.94	73.64	87.77	101.05	126.34
С	Modoc (NEP)	Summer	2018	425.52	495.35	580.02	733.96	73.43	87.03	100.91	126.59
С	Modoc (NEP)	Summer	2019	425.50	495.06	579.91	734.91	73.35	86.56	100.78	126.79
С	Modoc (NEP)	Summer	2020	425.44	494.80	579.80	735.68	73.39	86.27	100.81	127.00
С	Modoc (NEP)	Summer	2021	425.39	494.51	579.70	736.23	73.42	86.13	100.87	127.13
С	Modoc (NEP)	Summer	2022	425.28	494.26	579.57	736.66	73.42	86.00	100.88	127.20
С	Modoc (NEP)	Summer	2023	425.21	493.99	579.47	736.98	73.44	85.87	100.91	127.38
С	Modoc (NEP)	Summer	2024	425.08	493.85	579.37	737.26	73.41	85.82	100.92	127.55
С	Modoc (NEP)	Summer	2025	425.02	493.90	579.31	737.53	73.41	85.87	100.96	127.72
С	Modoc (NEP)	Summer	2026	425.03	494.03	579.22	737.87	73.43	85.94	100.98	127.90
С	Modoc (NEP)	Summer	2027	425.04	494.17	579.16	738.21	73.44	86.00	100.99	128.07
С	Modoc (NEP)	Summer	2028	425.05	494.30	579.11	738.56	73.44	86.06	101.01	128.22
С	Modoc (NEP)	Summer	2029	425.05	494.46	579.05	738.88	73.45	86.12	101.01	128.36
С	Modoc (NEP)	Summer	2030	425.04	494.57	578.98	739.20	73.45	86.17	101.01	128.50
С	Modoc (NEP)	Summer	2031	425.05	494.75	578.95	739.54	73.45	86.22	101.01	128.63
С	Modoc (NEP)	Summer	2032	425.05	494.88	578.93	739.88	73.46	86.27	101.01	128.76
С	Modoc (NEP)	Summer	2033	425.05	494.99	578.91	740.18	73.47	86.31	101.01	128.87
С	Modoc (NEP)	Summer	2034	425.04	495.08	578.89	740.44	73.47	86.35	101.01	128.97
С	Modoc (NEP)	Summer	2035	425.03	495.14	578.86	740.68	73.48	86.38	101.02	129.07
C	Modoc (NEP)	Winter	2010	403.43	483.82	553.52	689.00	74.87	100.48	102.62	125.01
C	Modoc (NEP)	Winter	2011	403.20	480.53	552.63	689.84	74.72	97.48	102.30	125.08
C C	Modoc (NEP)	Winter Winter	2012 2013	402.94 402.86	478.25 476.62	551.93 551.35	690.82 691.93	74.39 74.23	95.30 93.74	102.13 101.93	125.22 125.38
o O	Modoc (NEP) Modoc (NEP)	Winter	2013	402.75	474.97	550.86	692.91	73.97	91.96	101.93	125.50
C	Modoc (NEP)	Winter	2014	402.73	473.44	550.49	693.96	73.76		101.36	125.82
C	Modoc (NEP)	Winter	2016	402.78	473.44	550.49	694.95	73.79	88.96	101.43	126.08
C	Modoc (NEP)	Winter	2017	402.74	471.40	549.93	695.92	73.64	87.77	101.05	126.34
C	Modoc (NEP)	Winter	2018	402.64	470.75	549.73	696.72	73.43	87.03		126.59
С	Modoc (NEP)	Winter	2019	402.61	470.29	549.57	697.46	73.35	86.56	100.78	126.79
С	Modoc (NEP)	Winter	2020	402.56	469.87	549.46	698.07	73.39	86.27	100.81	127.00
С	Modoc (NEP)	Winter	2021	402.52	469.41	549.36	698.48	73.42	86.13		127.13
С	Modoc (NEP)	Winter	2022	402.41	469.01	549.21	698.78	73.42	86.00		127.20
С	Modoc (NEP)	Winter	2023	402.35	468.59	549.10	699.00	73.44	85.87	100.91	127.38
С	Modoc (NEP)	Winter	2024	402.21	468.35	548.97	699.20	73.41	85.82		127.55
С	Modoc (NEP)	Winter	2025	402.14	468.36	548.91	699.40	73.41	85.87	100.96	127.72
С	Modoc (NEP)	Winter	2026	402.14	468.45	548.84	699.67	73.43	85.94	100.98	127.90
С	Modoc (NEP)	Winter	2027	402.13	468.54	548.78	699.96	73.44	86.00	100.99	128.07
С	Modoc (NEP)	Winter	2028	402.11	468.63	548.73	700.25	73.44	86.06	101.01	128.22
С	Modoc (NEP)	Winter	2029	402.10	468.72	548.66	700.50	73.45	86.12	101.01	128.36
С	Modoc (NEP)	Winter	2030	402.08	468.81	548.57	700.77	73.45	86.17	101.01	128.50
С	Modoc (NEP)	Winter	2031	402.08	468.91	548.52	701.07	73.45	86.22	101.01	128.63
С	Modoc (NEP)	Winter	2032	402.08	469.00	548.47	701.37	73.46	86.27	101.01	128.76
С	Modoc (NEP)	Winter	2033	402.07	469.08	548.44	701.63	73.47	86.31	101.01	128.87
С	Modoc (NEP)	Winter	2034	402.06	469.14	548.40	701.87	73.47	86.35	101.01	128.97
С	Modoc (NEP)	Winter	2035	402.05	469.20	548.37	702.06	73.48	86.38	101.02	129.07

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	Ī			CO2 Runni	na (a/\/MT	7		CO2 Stor	ting (g/tri	n)
-	Location	Casasa	V				•				
-	Maria (CDV)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Mono (GBV)	Annual	2010	343.29	401.90	471.21	588.85	73.49	90.48	100.46	124.33
С	Mono (GBV)	Annual	2011	343.38	401.41	470.63	589.51	73.45	89.54		124.54
C	Mono (GBV)	Annual	2012	343.46	401.01	470.17	590.24	73.30	88.81	100.41	124.77
C	Mono (GBV)	Annual	2013	343.56	400.60	469.80	591.01	73.12	88.06	100.44	125.04
С	Mono (GBV)	Annual	2014	343.63	400.25	469.51	591.80	72.91	87.42	100.46	125.29
С	Mono (GBV)	Annual	2015	343.76	400.00	469.27	592.59	72.85	86.92	100.51	125.58
С	Mono (GBV)	Annual	2016	343.89	399.78	469.09	593.36	72.82	86.46	100.57	125.87
С	Mono (GBV)	Annual	2017	343.97	399.52	468.93	594.07	72.77	85.93	100.62	126.17
С	Mono (GBV)	Annual	2018	344.06	399.38	468.81	594.73	72.79	85.63	100.65	126.43
С	Mono (GBV)	Annual	2019	344.09	399.35	468.71	595.27	72.69	85.53	100.67	126.69
С	Mono (GBV)	Annual	2020	344.16	399.27	468.63	595.75	72.78	85.46	100.75	126.94
С	Mono (GBV)	Annual	2021	344.10	399.20	468.56	596.09	72.76	85.49	100.81	127.11
С	Mono (GBV)	Annual	2022	344.02	399.16	468.47	596.42	72.72	85.53	100.85	127.32
С	Mono (GBV)	Annual	2023	343.91	399.06	468.40	596.65	72.65	85.55	100.89	127.50
С	Mono (GBV)	Annual	2024	343.88	398.93	468.31	596.81	72.64	85.56	100.91	127.66
С	Mono (GBV)	Annual	2025	343.85	399.01	468.26	597.00	72.64	85.64	100.94	127.83
С	Mono (GBV)	Annual	2026	343.87	399.12	468.20	597.21	72.66	85.73	100.97	127.98
С	Mono (GBV)	Annual	2027	343.88	399.24	468.15	597.42	72.67	85.81	100.99	128.13
С	Mono (GBV)	Annual	2028	343.89	399.35	468.10	597.63	72.68	85.89	101.00	128.27
С	Mono (GBV)	Annual	2029	343.88	399.47	468.01	597.85	72.68	85.96	101.00	128.40
С	Mono (GBV)	Annual	2030	343.87	399.58	467.93	598.05	72.68	86.03	101.00	128.52
С	Mono (GBV)	Annual	2031	343.87	399.69	467.90	598.28	72.69	86.09	101.00	128.64
С	Mono (GBV)	Annual	2032	343.87	399.80	467.87	598.50	72.69	86.15	101.01	128.75
С	Mono (GBV)	Annual	2033	343.87	399.90	467.84	598.69	72.70	86.20	101.01	128.85
С	Mono (GBV)	Annual	2034	343.87	399.99	467.82	598.87	72.70	86.25	101.01	128.95
С	Mono (GBV)	Annual	2035	343.86	400.07	467.79	599.02	72.70	86.30	101.02	129.03
С	Mono (GBV)	Summer	2010	344.62	403.20	472.98	591.06	73.49	90.48	100.46	124.33
С	Mono (GBV)	Summer	2011	344.72	402.75	472.40	591.72	73.45	89.54	100.40	124.54
С	Mono (GBV)	Summer	2012	344.82	402.39	471.95	592.45	73.30	88.81	100.41	124.77
С	Mono (GBV)	Summer	2013	344.91	402.00	471.59	593.23	73.12	88.06	100.44	125.04
С	Mono (GBV)	Summer	2014	345.00	401.67	471.31	594.02	72.91	87.42	100.46	125.29
С	Mono (GBV)	Summer	2015	345.13	401.44	471.08	594.83	72.85	86.92	100.51	125.58
С	Mono (GBV)	Summer	2016	345.25	401.24	470.89	595.61	72.82	86.46	100.57	125.87
С	Mono (GBV)	Summer	2017	345.34	400.99	470.75	596.33	72.77	85.93	100.62	126.17
С	Mono (GBV)	Summer	2018	345.43	400.86	470.62	597.00	72.79	85.63	100.65	126.43
С	Mono (GBV)	Summer	2019	345.45	400.84	470.53	597.55	72.69	85.53	100.67	126.69
С	Mono (GBV)	Summer	2020	345.53	400.77	470.45	598.03	72.78		100.75	126.94
С	Mono (GBV)	Summer	2021	345.47	400.71	470.37	598.38	72.76		100.81	127.11
С	Mono (GBV)	Summer	2022	345.39	400.67	470.29	598.71	72.72	85.53		127.32
C	Mono (GBV)	Summer	2023	345.28	400.59	470.22	598.94	72.65	85.55		127.50
С	Mono (GBV)	Summer	2024	345.25	400.46	470.13	599.11	72.64	85.56		127.66
С	Mono (GBV)	Summer	2025	345.22	400.54	470.08	599.30	72.64	85.64		127.83
С	Mono (GBV)	Summer	2026	345.23	400.65	470.02	599.51	72.66	85.73		127.98
С	Mono (GBV)	Summer	2027	345.25	400.77	469.98	599.72	72.67	85.81		128.13
С	Mono (GBV)	Summer	2028	345.26	400.89	469.92	599.94	72.68	85.89		128.27
С	Mono (GBV)	Summer	2029	345.25	401.01	469.84	600.15	72.68		101.00	128.40
С	Mono (GBV)	Summer	2030	345.24	401.12	469.76	600.15	72.68	86.03		128.52
С	Mono (GBV)	Summer	2031	345.24	401.24	469.72	600.58	72.69	86.09	101.00	128.64
C	Mono (GBV)	Summer	2031	345.24	401.35	469.69	600.81	72.69	86.15		128.75
c C	Mono (GBV)	Summer	2032	345.24	401.35	469.67	601.01	72.70	86.20		128.85
C	Mono (GBV)	Summer	2033	345.24	401.43	469.64	601.01	72.70			128.95
C C				345.24					86.30		
C	Mono (GBV)	Summer	2035		401.62	469.62	601.34	72.70			129.03
C	Mono (GBV)	Winter	2010	344.72	403.30	473.10	591.22	73.49	90.48		124.33
C	Mono (GBV)	Winter	2011	344.82	402.85	472.53	591.88	73.45	o9.54	100.40	124.54

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1	<u> </u>		CO2 Runni	ng (~/\/NAT	٠,		202 64-	ting /s/4	n)
	Location		.,						CO2 Star		
	Maria (ODV)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Mono (GBV)	Winter	2012	344.91	402.49	472.08	592.61	73.30	88.81	100.41	124.77
C	Mono (GBV)	Winter	2013	345.01	402.10	471.72	593.39	73.12	88.06	100.44	125.04
C	Mono (GBV)	Winter	2014	345.10	401.78	471.44	594.19	72.91	87.42	100.46	125.29
C	Mono (GBV)	Winter	2015	345.23	401.55	471.21	594.99	72.85	86.92	100.51	125.58
С	Mono (GBV)	Winter	2016	345.35	401.35	471.03	595.77	72.82	86.46	100.57	125.87
C_	Mono (GBV)	Winter	2017	345.44	401.10	470.88	596.50	72.77	85.93	100.62	126.17
C	Mono (GBV)	Winter	2018	345.53	400.97	470.76	597.17	72.79	85.63	100.65	126.43
С	Mono (GBV)	Winter	2019	345.55	400.95	470.66	597.72	72.69	85.53	100.67	126.69
С	Mono (GBV)	Winter	2020	345.63	400.88	470.59	598.20	72.78	85.46	100.75	126.94
C	Mono (GBV)	Winter	2021	345.57	400.82	470.51	598.55	72.76	85.49	100.81	127.11
C	Mono (GBV)	Winter	2022	345.49	400.78	470.42	598.88	72.72	85.53	100.85	127.32
С	Mono (GBV)	Winter	2023	345.38	400.70	470.35	599.11	72.65	85.55	100.89	127.50
С	Mono (GBV)	Winter	2024	345.35	400.57	470.26	599.28	72.64	85.56	100.91	127.66
С	Mono (GBV)	Winter	2025	345.32	400.65	470.21	599.47	72.64	85.64	100.94	127.83
С	Mono (GBV)	Winter	2026	345.33	400.77	470.16	599.68	72.66	85.73	100.97	127.98
С	Mono (GBV)	Winter	2027	345.35	400.89	470.11	599.89	72.67	85.81	100.99	128.13
С	Mono (GBV)	Winter	2028	345.35	401.00	470.06	600.11	72.68	85.89	101.00	128.27
С	Mono (GBV)	Winter	2029	345.35	401.12	469.97	600.32	72.68	85.96	101.00	128.40
С	Mono (GBV)	Winter	2030	345.34	401.24	469.89	600.53	72.68	86.03	101.00	128.52
С	Mono (GBV)	Winter	2031	345.34	401.35	469.86	600.75	72.69	86.09	101.00	128.64
С	Mono (GBV)	Winter	2032	345.34	401.47	469.83	600.98	72.69	86.15	101.01	128.75
С	Mono (GBV)	Winter	2033	345.34	401.57	469.80	601.18	72.70	86.20	101.01	128.85
С	Mono (GBV)	Winter	2034	345.34	401.66	469.77	601.35	72.70	86.25	101.01	128.95
С	Mono (GBV)	Winter	2035	345.33	401.73	469.75	601.50	72.70	86.30	101.02	129.03
С	Monterey (NCC)	Annual	2010	361.69	420.90	498.72	622.94	72.97	87.15	99.70	123.80
С	Monterey (NCC)	Annual	2011	360.10	418.76	495.80	620.71	72.95	86.58	99.75	124.04
С	Monterey (NCC)	Annual	2012	360.24	418.68	495.36	621.52	72.94	86.11	99.83	124.31
С	Monterey (NCC)	Annual	2013	360.44	418.67	495.00	622.39	72.98	85.75	99.92	124.61
С	Monterey (NCC)	Annual	2014	360.60	418.67	494.72	623.24	73.00	85.44	100.02	124.91
С	Monterey (NCC)	Annual	2015	360.80	418.74	494.50	624.11	73.07	85.23	100.12	125.24
С	Monterey (NCC)	Annual	2016	360.99	418.78	494.33	624.94	73.15	85.01	100.23	125.56
С	Monterey (NCC)	Annual	2017	361.13	418.83	494.19	625.72	73.19	84.83	100.31	125.87
С	Monterey (NCC)	Annual	2018	361.23	418.90	494.08	626.40	73.21	84.71	100.39	126.18
С	Monterey (NCC)	Annual	2019	361.32	419.04	494.00	627.00	73.25	84.71	100.47	126.46
С	Monterey (NCC)	Annual	2020	361.40	419.20	493.94	627.55	73.34	84.80	100.56	126.73
С	Monterey (NCC)	Annual	2021	361.41	419.37	493.82	627.95	73.42	84.94	100.65	126.97
С	Monterey (NCC)	Annual	2022	361.43	419.55	493.76	628.35	73.47	85.07	100.72	127.17
С	Monterey (NCC)	Annual	2023	361.40	419.69	493.69	628.65	73.50	85.18	100.78	127.38
С	Monterey (NCC)	Annual	2024	361.35	419.79	493.63	628.89	73.51	85.28	100.83	127.56
С	Monterey (NCC)	Annual	2025	361.32	419.90	493.58	629.12	73.53	85.37	100.87	127.74
С	Monterey (NCC)	Annual	2026	359.63	418.04	491.16	626.37	73.55	85.47	100.90	127.91
С	Monterey (NCC)	Annual	2027	359.64	418.17	491.09	626.59	73.57	85.55	100.92	128.06
С	Monterey (NCC)	Annual	2028	359.64	418.30	491.03	626.81	73.58	85.62	100.93	128.19
С	Monterey (NCC)	Annual	2029	359.64	418.44	490.95	627.03	73.58	85.69	100.94	128.32
С	Monterey (NCC)	Annual	2030	359.63	418.59	490.87	627.25	73.59	85.76	100.94	128.45
С	Monterey (NCC)	Annual	2031	359.63	418.74	490.82	627.49	73.59	85.83	100.95	128.56
С	Monterey (NCC)	Annual	2032	359.64	418.88	490.78	627.72	73.60	85.89	100.96	128.68
С	Monterey (NCC)	Annual	2033	359.64	419.01	490.75	627.94	73.60	85.95	100.96	128.78
С	Monterey (NCC)	Annual	2034	359.64	419.12	490.71	628.13	73.61	86.00	100.97	128.88
С	Monterey (NCC)	Annual	2035	359.64	419.22	490.68	628.30	73.61	86.04	100.97	128.97
С	Monterey (NCC)	Summer	2010	384.62	444.54	528.69	661.39	72.97	87.15	99.70	123.80
С	Monterey (NCC)	Summer	2011	383.13	442.63	525.88	658.94	72.95	86.58	99.75	124.04
С	Monterey (NCC)	Summer	2012	383.43	442.87	525.66	659.77	72.94	86.11	99.83	124.31
С	Monterey (NCC)	Summer	2013	383.74	443.13	525.49	660.73	72.98	85.75	99.92	124.61

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	1	I			200 D	(\	n	CO2 Starting (g/trip) LDA LDT1 LDT2 M				
	Location	_			CO2 Runni							
		Season	Year	LDA	LDT1	LDT2	MDV				MDV	
C	Monterey (NCC)	Summer	2014	384.00	443.36	525.37	661.71	73.00	85.44	100.02	124.91	
C	Monterey (NCC)	Summer	2015	384.25	443.63	525.27	662.75	73.07	85.23	100.12	125.24	
С	Monterey (NCC)	Summer	2016	384.48	443.85	525.19	663.74	73.15	85.01	100.23	125.56	
С	Monterey (NCC)	Summer	2017	384.63	444.07	525.11	664.67	73.19	84.83	100.31	125.87	
С	Monterey (NCC)	Summer	2018	384.73	444.29	525.03	665.48	73.21	84.71	100.39	126.18	
С	Monterey (NCC)	Summer	2019	384.81	444.55	524.96	666.19	73.25	84.71	100.47	126.46	
С	Monterey (NCC)	Summer	2020	384.89	444.81	524.90	666.82	73.34	84.80	100.56	126.73	
С	Monterey (NCC)	Summer	2021	384.89	445.06	524.78	667.28	73.42	84.94	100.65	126.97	
С	Monterey (NCC)	Summer	2022	384.92	445.33	524.72	667.75	73.47	85.07	100.72	127.17	
С	Monterey (NCC)	Summer	2023	384.89	445.54	524.67	668.09	73.50	85.18	100.78	127.38	
С	Monterey (NCC)	Summer	2024	384.85	445.71	524.61	668.34	73.51	85.28	100.83	127.56	
С	Monterey (NCC)	Summer	2025	384.84	445.87	524.56	668.58	73.53	85.37	100.87	127.74	
С	Monterey (NCC)	Summer	2026	383.04	443.94	522.01	665.65	73.55	85.47	100.90	127.91	
С	Monterey (NCC)	Summer	2027	383.05	444.11	521.95	665.88	73.57	85.55	100.92	128.06	
С	Monterey (NCC)	Summer	2028	383.06	444.28	521.90	666.11	73.58	85.62	100.93	128.19	
С	Monterey (NCC)	Summer	2029	383.07	444.47	521.83	666.33	73.58	85.69	100.94	128.32	
С	Monterey (NCC)	Summer	2030	383.07	444.66	521.77	666.57	73.59	85.76	100.94	128.45	
С	Monterey (NCC)	Summer	2031	383.07	444.86	521.73	666.82	73.59	85.83	100.95	128.56	
С	Monterey (NCC)	Summer	2032	383.08	445.04	521.70	667.08	73.60	85.89	100.96	128.68	
С	Monterey (NCC)	Summer	2033	383.09	445.20	521.67	667.32	73.60	85.95	100.96	128.78	
С	Monterey (NCC)	Summer	2034	383.09	445.34	521.64	667.54	73.61	86.00	100.97	128.88	
С	Monterey (NCC)	Summer	2035	383.09	445.45	521.62	667.73	73.61	86.04	100.97	128.97	
С	Monterey (NCC)	Winter	2010	359.53	418.68	495.91	619.33	72.97	87.15	99.70	123.80	
С	Monterey (NCC)	Winter	2011	357.94	416.52	492.98	617.12	72.95	86.58	99.75	124.04	
С	Monterey (NCC)	Winter	2012	358.06	416.41	492.51	617.92	72.94	86.11	99.83	124.31	
С	Monterey (NCC)	Winter	2013	358.25	416.38	492.14	618.78	72.98	85.75	99.92	124.61	
С	Monterey (NCC)	Winter	2014	358.40	416.35	491.84	619.62	73.00	85.44	100.02	124.91	
C	Monterey (NCC)	Winter	2015	358.60	416.40	491.61	620.48	73.07	85.23	100.12	125.24	
C	Monterey (NCC)	Winter	2016	358.78	416.42	491.43	621.29	73.15	85.01	100.23	125.56	
C	Monterey (NCC)	Winter	2017	358.92	416.46	491.28	622.06	73.19	84.83	100.31	125.87	
C	Monterey (NCC)	Winter	2018	359.02	416.51	491.17	622.73	73.21	84.71	100.39	126.18	
C	Monterey (NCC)	Winter	2019	359.11	416.65	491.09	623.32	73.25	84.71	100.47	126.46	
С	Monterey (NCC)	Winter	2020	359.20	416.80	491.03	623.86	73.34	84.80	100.56	126.73	
С	Monterey (NCC)	Winter	2021	359.20		490.91	624.25	73.42		100.65	126.97	
С	Monterey (NCC)	Winter	2022	359.22	417.13	490.85	624.65	73.47	85.07	100.72	127.17	
С	Monterey (NCC)	Winter	2023	359.19	417.26	490.78	624.95	73.50		100.72	127.38	
C	Monterey (NCC)	Winter	2024	359.14	417.36	490.72	625.18	73.51	85.28		127.56	
C	Monterey (NCC)	Winter	2025	359.11	417.45	490.72	625.41	73.53	85.37	100.87	127.74	
C	Monterey (NCC)	Winter	2025	357.43	417.43	488.26	622.68	73.55	85.47	100.87	127.74	
C	Monterey (NCC)	Winter	2020	357.43	415.73	488.19	622.90	73.55	85.55	100.90	128.06	
C	Monterey (NCC)	Winter	2027	357.44	415.73	488.13	623.12	73.58	85.62	100.92	128.19	
C	Monterey (NCC)	Winter	2028	357.44	416.00	488.04		73.58	85.69	100.93	128.32	
C	Monterey (NCC)		2029	357.44		488.04	623.34 623.56		85.69		128.32	
		Winter			416.14			73.59				
С	Monterey (NCC)	Winter	2031	357.43	416.28	487.92	623.79	73.59	85.83	100.95	128.56	
С	Monterey (NCC)	Winter	2032	357.43	416.42	487.88	624.03	73.60	85.89	100.96	128.68	
С	Monterey (NCC)	Winter	2033	357.44	416.54	487.84	624.24	73.60	85.95	100.96	128.78	
C	Monterey (NCC)	Winter	2034	357.44	416.66	487.80	624.43	73.61	86.00	100.97	128.88	
С	Monterey (NCC)	Winter	2035	357.43	416.75	487.77	624.59	73.61	86.04	100.97	128.97	
С	Napa (SF)	Annual	2010	329.10	378.96	450.01	565.84	73.43	86.05	99.91	124.74	
С	Napa (SF)	Annual	2011	329.06	378.97	449.74	566.36	73.36	85.65	99.95	124.92	
С	Napa (SF)	Annual	2012	329.05	379.03	449.53	566.94	73.30	85.32	99.99	125.12	
С	Napa (SF)	Annual	2013	329.13	379.15	449.36	567.56	73.30	85.09	100.06	125.34	
С	Napa (SF)	Annual	2014	329.21	379.25	449.22	568.19	73.28	84.89	100.11	125.57	
С	Napa (SF)	Annual	2015	329.32	379.37	449.11	568.83	73.31	84.71	100.14	125.82	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		I		CO2 Runni	na (a/\/MT)	(CO2 Star	ting (g/tri	n)
	20041011	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Napa (SF)	Annual	2016	329.46	379.53	449.03	569.44	73.38	84.61	100.21	126.08
C	Napa (SF)	Annual	2017	329.52	379.63	448.96	570.02	73.36	84.47	100.21	126.33
C				329.58	379.03	448.91	570.54	73.37	84.41	100.20	126.57
c C	Napa (SF)	Annual	2018 2019	329.63		448.87	570.99	73.38		100.30	126.80
C	Napa (SF)	Annual			379.97				84.45		
	Napa (SF)	Annual	2020	329.69	380.19	448.85	571.40	73.47	84.58	100.46	127.02
C	Napa (SF)	Annual	2021	329.76	380.44	448.83	571.71	73.55	84.74	100.55	127.19
С	Napa (SF)	Annual	2022	329.80	380.64	448.80	571.97	73.61	84.89	100.63	127.33
С	Napa (SF)	Annual	2023	329.77	380.79	448.77	572.17	73.64	85.01	100.69	127.50
С	Napa (SF)	Annual	2024	329.73	380.92	448.74	572.31	73.66	85.13	100.75	127.65
С	Napa (SF)	Annual	2025	329.72	381.02	448.71	572.48	73.68	85.23	100.80	127.80
С	Napa (SF)	Annual	2026	329.74	381.19	448.67	572.65	73.70	85.33	100.83	127.95
С	Napa (SF)	Annual	2027	329.75	381.36	448.64	572.81	73.72	85.43	100.86	128.09
С	Napa (SF)	Annual	2028	329.75	381.54	448.61	572.98	73.73	85.52	100.89	128.21
С	Napa (SF)	Annual	2029	329.74	381.72	448.56	573.14	73.74	85.61	100.90	128.33
С	Napa (SF)	Annual	2030	329.73	381.90	448.51	573.32	73.74	85.69	100.91	128.44
С	Napa (SF)	Annual	2031	329.73	382.10	448.49	573.52	73.75	85.77	100.92	128.55
С	Napa (SF)	Annual	2032	329.72	382.29	448.47	573.73	73.75	85.85	100.93	128.66
С	Napa (SF)	Annual	2033	329.72	382.46	448.45	573.91	73.76	85.92	100.94	128.76
С	Napa (SF)	Annual	2034	329.71	382.61	448.42	574.08	73.76	85.98	100.94	128.86
С	Napa (SF)	Annual	2035	329.70	382.75	448.40	574.22	73.77	86.04	100.95	128.94
С	Napa (SF)	Summer	2010	352.37	401.97	480.67	604.93	73.43	86.05	99.91	124.74
С	Napa (SF)	Summer	2011	352.52	402.44	480.51	605.37	73.36	85.65	99.95	124.92
С	Napa (SF)	Summer	2012	352.67	402.91	480.41	605.97	73.30	85.32	99.99	125.12
С	Napa (SF)	Summer	2013	352.86	403.37	480.36	606.65	73.30	85.09	100.06	125.34
С	Napa (SF)	Summer	2014	353.02	403.79	480.35	607.39	73.28	84.89	100.11	125.57
С	Napa (SF)	Summer	2015	353.20	404.17	480.37	608.18	73.31	84.71	100.14	125.82
С	Napa (SF)	Summer	2016	353.38	404.56	480.39	608.94	73.38	84.61	100.21	126.08
С	Napa (SF)	Summer	2017	353.47	404.88	480.42	609.68	73.36	84.47	100.26	126.33
С	Napa (SF)	Summer	2018	353.53	405.19	480.43	610.32	73.37	84.41	100.30	126.57
С	Napa (SF)	Summer	2019	353.59	405.53	480.43	610.87	73.38	84.45	100.37	126.80
С	Napa (SF)	Summer	2020	353.65	405.87	480.42	611.37	73.47	84.58	100.46	127.02
С	Napa (SF)	Summer	2021	353.72	406.21	480.39	611.75	73.55	84.74	100.55	127.19
С	Napa (SF)	Summer	2022	353.75	406.51	480.36	612.08	73.61	84.89	100.63	127.33
С	Napa (SF)	Summer	2023	353.73	406.75	480.32	612.31	73.64	85.01	100.69	127.50
С	Napa (SF)	Summer	2024	353.70	406.96	480.28	612.48	73.66	85.13		127.65
С	Napa (SF)	Summer	2025	353.69	407.15	480.25	612.65	73.68		100.80	127.80
C	Napa (SF)	Summer	2026	353.71	407.39	480.21	612.82	73.70		100.83	127.95
С	Napa (SF)	Summer	2027	353.72	407.64	480.17	612.99	73.72	85.43		128.09
С	Napa (SF)	Summer	2028	353.73	407.89	480.14	613.16	73.73	85.52	100.89	128.21
С	Napa (SF)	Summer	2029	353.74	408.15	480.10	613.34	73.74	85.61	100.90	128.33
С	Napa (SF)	Summer	2030	353.73	408.41	480.06	613.52	73.74	85.69		128.44
С	Napa (SF)	Summer	2031	353.73	408.69	480.04	613.77	73.75	85.77	100.92	128.55
С	Napa (SF)	Summer	2031	353.73	408.94	480.03	614.01	73.75	85.85		128.66
C	Napa (SF)		2032	353.73	408.94	480.03		73.76	85.92	100.93	128.76
C	' '	Summer					614.23				
	Napa (SF)	Summer	2034	353.73	409.35	479.99	614.43	73.76	85.98	100.94	128.86
C	Napa (SF)	Summer	2035	353.72	409.51	479.97	614.62	73.77	86.04		128.94
C	Napa (SF)	Winter	2010	325.46	375.37	445.22	559.74	73.43	86.05	99.91	124.74
C	Napa (SF)	Winter	2011	325.40	375.31	444.93	560.26	73.36	85.65	99.95	124.92
С	Napa (SF)	Winter	2012	325.37	375.30	444.70	560.85	73.30	85.32	99.99	125.12
C	Napa (SF)	Winter	2013	325.43	375.36	444.52	561.45	73.30	85.09	100.06	125.34
C	Napa (SF)	Winter	2014	325.49	375.42	444.36	562.07	73.28	84.89	100.11	125.57
C	Napa (SF)	Winter	2015	325.59	375.49	444.23	562.69	73.31	84.71	100.14	125.82
С	Napa (SF)	Winter	2016	325.73	375.62	444.13	563.27	73.38	84.61		126.08
С	Napa (SF)	Winter	2017	325.78	375.69	444.05	563.83	73.36	84.47	100.26	126.33

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/\/MT)	(CO2 Star	ting (a/tri	n)
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Napa (SF)	Winter	2018	325.84	375.80	443.99	564.33	73.37	84.41	100.30	126.57
C		Winter		325.89		443.95	564.76	73.38		100.37	126.80
C	Napa (SF)		2019	325.95	375.97 376.18		565.16	73.47	84.45 84.58		
c C	Napa (SF)	Winter Winter	2020 2021	326.02	376.16	443.92 443.90	565.46	73.55		100.46 100.55	127.02 127.19
C	Napa (SF)	Winter	2021	326.02	376.41	443.90	565.71	73.55	84.74 84.89	100.55	127.19
	Napa (SF)										
<u>C</u>	Napa (SF)	Winter	2023	326.03	376.74	443.84	565.90	73.64	85.01	100.69	127.50
C	Napa (SF)	Winter	2024	325.99	376.85	443.81	566.04	73.66	85.13	100.75	127.65
С	Napa (SF)	Winter	2025	325.98	376.94	443.79	566.20	73.68	85.23	100.80	127.80
С	Napa (SF)	Winter	2026	325.99	377.10	443.75	566.37	73.70	85.33	100.83	127.95
С	Napa (SF)	Winter	2027	326.00	377.26	443.72	566.54	73.72	85.43	100.86	128.09
С	Napa (SF)	Winter	2028	326.00	377.42	443.68	566.71	73.73	85.52	100.89	128.21
С	Napa (SF)	Winter	2029	325.99	377.59	443.63	566.87	73.74	85.61	100.90	128.33
С	Napa (SF)	Winter	2030	325.98	377.76	443.59	567.04	73.74	85.69	100.91	128.44
С	Napa (SF)	Winter	2031	325.98	377.95	443.57	567.24	73.75	85.77	100.92	128.55
С	Napa (SF)	Winter	2032	325.97	378.13	443.55	567.44	73.75	85.85	100.93	128.66
С	Napa (SF)	Winter	2033	325.97	378.29	443.52	567.61	73.76	85.92	100.94	128.76
С	Napa (SF)	Winter	2034	325.96	378.44	443.49	567.77	73.76	85.98	100.94	128.86
С	Napa (SF)	Winter	2035	325.95	378.57	443.47	567.91	73.77	86.04	100.95	128.94
С	Nevada (MC)	Annual	2010	326.07	380.22	447.10	559.78	73.67	93.42	100.30	125.42
С	Nevada (MC)	Annual	2011	326.05	379.91	446.56	560.31	73.51	91.91	100.28	125.49
С	Nevada (MC)	Annual	2012	326.08	379.65	446.15	560.94	73.39	90.54	100.30	125.59
С	Nevada (MC)	Annual	2013	326.14	379.46	445.84	561.62	73.28	89.44	100.33	125.74
С	Nevada (MC)	Annual	2014	326.17	379.29	445.60	562.31	73.14	88.45	100.37	125.90
С	Nevada (MC)	Annual	2015	326.25	379.17	445.41	563.05	73.08	87.59	100.41	126.09
C	Nevada (MC)	Annual	2016	326.37	379.06	445.26	563.75	73.08	86.81	100.48	126.31
C	Nevada (MC)	Annual	2017	326.42	378.96	445.14	564.41	73.04	86.10	100.50	126.53
C	Nevada (MC)	Annual	2018	326.47	378.87	445.04	564.98	73.01	85.49	100.54	126.75
C	Nevada (MC)	Annual	2019	326.52	378.90	444.96	565.48	73.00	85.26	100.59	126.96
C	Nevada (MC)	Annual	2020	326.58	378.94	444.89	565.93	73.10	85.21	100.66	127.16
C	Nevada (MC)	Annual	2021	326.64	379.04	444.84	566.23	73.18	85.31	100.74	127.10
C	Nevada (MC)	Annual	2022	326.65	379.14	444.78	566.45	73.23	85.40	100.74	127.30
C	Nevada (MC)	Annual	2022	326.63	379.14	444.73	566.61	73.26	85.48	100.85	127.47
C	Nevada (MC)		2023	326.58	379.28	444.73	566.75	73.28	85.56	100.89	127.47
_	,	Annual		326.58							
C	Nevada (MC)	Annual	2025				566.93	73.30		100.92	127.79
C	Nevada (MC)	Annual	2026	326.59	379.43	444.58	567.11	73.32	85.70	100.95	127.95
C	Nevada (MC)	Annual	2027	326.60	379.49	444.53	567.28	73.34		100.96	128.09
C	Nevada (MC)	Annual	2028	326.60	379.56	444.49	567.46	73.35	85.83		128.22
C	Nevada (MC)	Annual	2029	326.60	379.64	444.43	567.65	73.36	85.88		128.35
C	Nevada (MC)	Annual	2030	326.59	379.71	444.37	567.83	73.36	85.93	100.97	128.47
С	Nevada (MC)	Annual	2031	326.58	379.78	444.34	568.04	73.37	85.99	100.97	128.58
С	Nevada (MC)	Annual	2032	326.58	379.84	444.32	568.25	73.37	86.03	100.97	128.70
С	Nevada (MC)	Annual	2033	326.58	379.90	444.30	568.44	73.38	86.08		128.80
С	Nevada (MC)	Annual	2034	326.57	379.95	444.28	568.61	73.38	86.12		128.89
С	Nevada (MC)	Annual	2035	326.57	379.99	444.26	568.76	73.39	86.15		128.98
С	Nevada (MC)	Summer	2010	349.54	405.49	478.37	598.65	73.67	93.42	100.30	125.42
С	Nevada (MC)	Summer	2011	349.74	405.57	478.16	599.23	73.51	91.91	100.28	125.49
С	Nevada (MC)	Summer	2012	349.96	405.65	478.01	599.97	73.39	90.54	100.30	125.59
С	Nevada (MC)	Summer	2013	350.16	405.73	477.90	600.85	73.28	89.44	100.33	125.74
С	Nevada (MC)	Summer	2014	350.32	405.78	477.81	601.73	73.14	88.45	100.37	125.90
С	Nevada (MC)	Summer	2015	350.49	405.86	477.75	602.72	73.08	87.59	100.41	126.09
С	Nevada (MC)	Summer	2016	350.67	405.92	477.68	603.66	73.08	86.81	100.48	126.31
С	Nevada (MC)	Summer	2017	350.76	405.97	477.60	604.55	73.04	86.10	100.50	126.53
С	Nevada (MC)	Summer	2018	350.82	406.02	477.50	605.29	73.01	85.49		126.75
С	Nevada (MC)	Summer	2019	350.87	406.12	477.42	605.95	73.00			126.96

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		CO2 Running (g/VMT) CO2 Starting (g/trip						in)		
	Essation	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Nevada (MC)	Summer	2020	350.93	406.22	477.35	606.52	73.10	85.21	100.66	127.16
	Nevada (MC)	Summer	2021	350.98	406.36	477.27	606.93	73.18	85.31	100.74	127.10
H	Nevada (MC)	Summer	2021	350.98	406.49	477.21	607.24	73.10	85.40	100.74	127.30
	Nevada (MC)	Summer	2022	350.96	406.49	477.15	607.48	73.26	85.48	100.85	127.47
		Summer	2023	350.90	406.60	477.13	607.46	73.28	85.56	100.89	127.47
\vdash	Nevada (MC)		2024	350.91	406.70		607.85		85.63	100.89	127.02
h +	Nevada (MC)	Summer				477.06		73.30			
	Nevada (MC)	Summer	2026	350.93	406.90	477.02	608.02	73.32	85.70	100.95	127.95
	Nevada (MC)	Summer	2027	350.95	406.99	476.99	608.19	73.34	85.77	100.96	128.09
h +	Nevada (MC)	Summer	2028	350.96	407.08	476.96	608.37	73.35	85.83	100.97	128.22
\vdash	Nevada (MC)	Summer	2029	350.96	407.18	476.92	608.57	73.36	85.88	100.97	128.35
\vdash	Nevada (MC)	Summer	2030	350.96	407.28	476.88	608.77	73.36	85.93		128.47
\vdash	Nevada (MC)	Summer	2031	350.97	407.37	476.86	609.02	73.37	85.99		128.58
\vdash	Nevada (MC)	Summer	2032	350.97	407.44	476.85	609.26	73.37	86.03		128.70
	Nevada (MC)	Summer	2033	350.97	407.51	476.83	609.49	73.38	86.08	100.98	128.80
h +	Nevada (MC)	Summer	2034	350.97	407.57	476.81	609.70	73.38	86.12	100.98	128.89
	Nevada (MC)	Summer	2035	350.96	407.62	476.80	609.90	73.39	86.15	100.98	128.98
	Nevada (MC)	Winter	2010	320.89	374.64	440.20	551.20	73.67	93.42	100.30	125.42
	Nevada (MC)	Winter	2011	320.82	374.25	439.58	551.72	73.51	91.91	100.28	125.49
	Nevada (MC)	Winter	2012	320.81	373.90	439.12	552.32	73.39	90.54	100.30	125.59
1	Nevada (MC)	Winter	2013	320.83	373.65	438.76	552.96	73.28	89.44	100.33	125.74
	Nevada (MC)	Winter	2014	320.84	373.44	438.48	553.60	73.14	88.45		125.90
	Nevada (MC)	Winter	2015	320.90	373.27	438.27	554.29	73.08	87.59	100.41	126.09
-	Nevada (MC)	Winter	2016	321.00	373.13	438.10	554.93	73.08	86.81		126.31
	Nevada (MC)	Winter	2017	321.05	372.99	437.97	555.55	73.04	86.10		126.53
	Nevada (MC)	Winter	2018	321.09	372.88	437.87	556.08	73.01	85.49		126.75
-	Nevada (MC)	Winter	2019	321.14	372.89	437.79	556.55	73.00	85.26		126.96
С	Nevada (MC)	Winter	2020	321.21	372.92	437.73	556.97	73.10	85.21	100.66	127.16
	Nevada (MC)	Winter	2021	321.26	373.01	437.67	557.24	73.18	85.31	100.74	127.27
	Nevada (MC)	Winter	2022	321.28	373.10	437.62	557.44	73.23	85.40	100.80	127.30
\vdash	Nevada (MC)	Winter	2023	321.26	373.17	437.57	557.59	73.26	85.48	100.85	127.47
С	Nevada (MC)	Winter	2024	321.21	373.23	437.52	557.72	73.28	85.56	100.89	127.62
С	Nevada (MC)	Winter	2025	321.21	373.29	437.48	557.90	73.30	85.63	100.92	127.79
С	Nevada (MC)	Winter	2026	321.22	373.36	437.42	558.07	73.32	85.70	100.95	127.95
С	Nevada (MC)	Winter	2027	321.23	373.42	437.37	558.25	73.34	85.77	100.96	128.09
С	Nevada (MC)	Winter	2028	321.23	373.49	437.32	558.43	73.35	85.83	100.97	128.22
	Nevada (MC)	Winter	2029	321.22	373.56	437.26	558.61	73.36	85.88		128.35
С	Nevada (MC)	Winter	2030	321.20	373.62	437.19	558.79	73.36	85.93	100.97	128.47
С	Nevada (MC)	Winter	2031	321.20	373.69	437.16	558.99	73.37	85.99	_	128.58
-	Nevada (MC)	Winter	2032	321.20	373.75	437.14	559.20	73.37	86.03	100.97	128.70
С	Nevada (MC)	Winter	2033	321.19	373.80	437.12	559.38	73.38	86.08	100.98	128.80
	Nevada (MC)	Winter	2034	321.19	373.85	437.10	559.54	73.38	86.12	100.98	128.89
С	Nevada (MC)	Winter	2035	321.18	373.89	437.08	559.68	73.39	86.15	100.98	128.98
С	Orange (SC)	Annual	2010	347.87	400.01	475.99	602.85	73.07	83.78		125.36
С	Orange (SC)	Annual	2011	348.42	401.06	476.42	603.92	73.09	83.78	99.41	125.57
С	Orange (SC)	Annual	2012	348.63	401.63	476.37	604.39	73.13	83.82	99.55	125.78
С	Orange (SC)	Annual	2013	347.19	400.22	474.06	601.99	73.21	83.88	99.69	126.00
С	Orange (SC)	Annual	2014	347.40	400.69	474.04	602.49	73.26	83.95	99.83	126.23
С	Orange (SC)	Annual	2015	346.99	400.42	473.19	601.91	73.34	84.04	99.96	126.46
С	Orange (SC)	Annual	2016	347.18	400.82	473.19	602.39	73.43	84.13	100.08	126.69
С	Orange (SC)	Annual	2017	347.34	401.21	473.19	602.86	73.49	84.25	100.19	126.92
С	Orange (SC)	Annual	2018	347.48	401.54	473.20	603.27	73.54	84.36	100.29	127.13
С	Orange (SC)	Annual	2019	349.20	403.69	475.40	606.40	73.60	84.51	100.39	127.32
	Orange (SC)	Annual	2020	349.30	403.97	475.41	606.72	73.70	84.67	100.49	127.50
	Orange (SC)	Annual	2021	349.75	404.66	475.92	607.64	73.77	84.83	100.58	127.66

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Star	ting (g/tri	(q
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Orange (SC)	Annual	2022	349.80	404.88	475.93	607.87	73.82	84.97	100.65	127.80
С	Orange (SC)	Annual	2023	349.82	405.05	475.92	608.05	73.86	85.10	100.72	127.95
C	Orange (SC)	Annual	2024	349.76	405.12	475.84	608.09	73.88	85.21	100.72	128.09
C	Orange (SC)	Annual	2024	349.77	405.12	475.83	608.24	73.90	85.31	100.77	128.22
C	Orange (SC)	Annual	2025	349.79	405.40	475.82	608.38	73.92	85.41	100.85	128.34
			2020	349.80	405.53	475.82	608.51	73.94	85.50	100.88	128.45
C	Orange (SC)	Annual	2027	349.81					85.58		
С	Orange (SC)	Annual			405.67	475.80	608.64	73.95		100.90	128.55
С	Orange (SC)	Annual	2029	349.81	405.80	475.79	608.77	73.96	85.66	100.92	128.64
С	Orange (SC)	Annual	2030	349.81	405.94	475.78	608.90	73.96	85.73	100.93	128.73
С	Orange (SC)	Annual	2031	348.96	405.11	474.63	607.56	73.97	85.80	100.95	128.81
С	Orange (SC)	Annual	2032	348.96	405.24	474.63	607.70	73.97	85.87	100.95	128.89
С	Orange (SC)	Annual	2033	348.96	405.36	474.62	607.83	73.97	85.94	100.96	128.97
С	Orange (SC)	Annual	2034	348.95	405.47	474.62	607.95	73.98	86.00	100.97	129.04
С	Orange (SC)	Annual	2035	348.95	405.55	474.61	608.05	73.98	86.05	100.97	129.10
С	Orange (SC)	Summer	2010	362.44	415.36	495.33	627.26	73.07	83.78	99.29	125.36
С	Orange (SC)	Summer	2011	363.04	416.58	495.78	628.25	73.09	83.78	99.41	125.57
С	Orange (SC)	Summer	2012	363.28	417.29	495.73	628.67	73.13	83.82	99.55	125.78
С	Orange (SC)	Summer	2013	361.81	415.93	493.36	626.17	73.21	83.88	99.69	126.00
С	Orange (SC)	Summer	2014	362.04	416.49	493.37	626.68	73.26	83.95	99.83	126.23
С	Orange (SC)	Summer	2015	361.62	416.27	492.50	626.09	73.34	84.04	99.96	126.46
С	Orange (SC)	Summer	2016	361.83	416.72	492.53	626.63	73.43	84.13	100.08	126.69
С	Orange (SC)	Summer	2017	362.01	417.16	492.56	627.16	73.49	84.25	100.19	126.92
С	Orange (SC)	Summer	2018	362.15	417.54	492.59	627.63	73.54	84.36	100.29	127.13
С	Orange (SC)	Summer	2019	363.96	419.82	494.91	630.94	73.60	84.51	100.39	127.32
С	Orange (SC)	Summer	2020	364.07	420.12	494.92	631.29	73.70	84.67	100.49	127.50
С	Orange (SC)	Summer	2021	364.53	420.87	495.46	632.27	73.77	84.83	100.58	127.66
С	Orange (SC)	Summer	2022	364.57	421.13	495.46	632.54	73.82	84.97	100.65	127.80
С	Orange (SC)	Summer	2023	364.59	421.33	495.45	632.74	73.86	85.10	100.72	127.95
С	Orange (SC)	Summer	2024	364.55	421.45	495.37	632.81	73.88	85.21	100.77	128.09
С	Orange (SC)	Summer	2025	364.56	421.62	495.36	632.96	73.90	85.31	100.82	128.22
С	Orange (SC)	Summer	2026	364.58	421.79	495.35	633.12	73.92	85.41	100.85	128.34
С	Orange (SC)	Summer	2027	364.59	421.94	495.34	633.26	73.94	85.50	100.88	128.45
С	Orange (SC)	Summer	2028	364.60	422.10	495.33	633.39	73.95	85.58	100.90	128.55
С	Orange (SC)	Summer	2029	364.60	422.27	495.31	633.51	73.96	85.66	100.92	128.64
С	Orange (SC)	Summer	2030	364.60	422.43	495.31	633.65	73.96	85.73	100.93	128.73
С	Orange (SC)	Summer	2031	363.73	421.60	494.12	632.27	73.97	85.80		128.81
С	Orange (SC)	Summer	2032	363.72	421.76	494.11	632.41	73.97	85.87	100.95	128.89
С	Orange (SC)	Summer	2033	363.72	421.90	494.11	632.54	73.97	85.94	100.96	128.97
С	Orange (SC)	Summer	2034	363.72	422.02	494.10	632.66	73.98	86.00	100.97	129.04
С	Orange (SC)	Summer	2035	363.71	422.11	494.10	632.78	73.98	86.05	100.97	129.10
C	Orange (SC)	Winter	2010	342.49	394.35	468.85	593.85	73.07	83.78	99.29	125.36
С	Orange (SC)	Winter	2011	343.03	395.32	469.28	594.94	73.09	83.78	99.41	125.57
C	Orange (SC)	Winter	2012	343.22	395.85	469.23	595.43	73.13	83.82	99.55	125.78
C	Orange (SC)	Winter	2012	341.80	394.42	466.94	593.43	73.13	83.88	99.69	126.00
С	Orange (SC)	Winter	2013	341.99	394.86	466.91	593.56	73.26	83.95	99.83	126.23
С	Orange (SC)	Winter	2014	341.59	394.58	466.06	592.99	73.20	84.04	99.96	126.23
C	Orange (SC)	Winter	2016	341.78	394.95	466.05	593.44	73.43	84.13	100.08	126.69
C	Orange (SC)	Winter	2017	341.76	395.32	466.04	593.44	73.49	84.25	100.08	126.09
C						1					
_	Orange (SC)	Winter	2018	342.06	395.63	466.04	594.28	73.54	84.36	100.29	127.13
C C	Orange (SC)	Winter	2019	343.75	397.74	468.20	597.34	73.60	84.51	100.39	127.32
C	Orange (SC)	Winter	2020	343.85	398.00	468.21	597.65	73.70		100.49	127.50
C	Orange (SC)	Winter	2021	344.29	398.67	468.71	598.54	73.77	84.83	100.58	127.66
С	Orange (SC)	Winter	2022	344.34	398.88	468.72	598.77	73.82	84.97	100.65	127.80
С	Orange (SC)	Winter	2023	344.36	399.04	468.72	598.94	73.86	85.10	100.72	127.95

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	`		CO2 Star	ting (g/tri	n)
	Location	Cassan	Voor								
С	Orange (SC)	Season Winter	Year 2024	LDA 344.30	LDT1 399.10	LDT2 468.63	MDV 598.97	LDA 73.88	LDT1 85.21	LDT2 100.77	MDV 128.09
C C		Winter	2024	344.31	399.10	468.62	599.11	73.90	85.31	100.77	128.22
C	Orange (SC) Orange (SC)	Winter	2025		399.22	468.62		73.90	85.41		128.34
C	Orange (SC)	Winter	2026	344.33 344.34	399.35	468.61	599.25 599.38	73.92	85.50	100.85 100.88	
<u>с</u> С		Winter	2027	344.35	399.60	468.60	599.50	73.94	85.58	100.88	128.45 128.55
C	Orange (SC)	Winter		344.35	399.72	468.59					
	Orange (SC)	Winter	2029				599.64	73.96	85.66	100.92	128.64
C	Orange (SC)		2030	344.34	399.85	468.58	599.77	73.96	85.73	100.93	128.73
C C	Orange (SC) Orange (SC)	Winter Winter	2031 2032	343.51 343.51	399.02 399.15	467.44 467.43	598.45 598.59	73.97 73.97	85.80 85.87	100.95 100.95	128.81 128.89
o O	Orange (SC)	Winter	2032	343.51	399.15	467.43	598.71	73.97	85.94	100.95	128.97
					399.26		598.82	73.98	86.00		
С	Orange (SC)	Winter	2034	343.50		467.42				100.97	129.04
С	Orange (SC)	Winter	2035	343.50	399.44	467.42	598.92	73.98	86.05	100.97	129.10
С	Placer (LT)	Annual	2010	340.23	392.41	463.45	577.11	74.90	88.03	99.95	123.15
С	Placer (LT)	Annual	2011	339.97	392.42	463.05	578.12	74.69	87.25	99.98	123.39
C	Placer (LT)	Annual	2012	339.74	392.55	462.73	579.12	74.40	86.88	100.02	123.70
С	Placer (LT)	Annual	2013	339.68	392.64	462.48	580.23	74.28	86.50	100.11	124.04
С	Placer (LT)	Annual	2014	339.55	392.72	462.29	581.26	74.02	86.17	100.18	124.39
С	Placer (LT)	Annual	2015	339.51	392.81	462.13	582.31	73.88	85.86	100.25	124.76
С	Placer (LT)	Annual	2016	339.57	392.94	462.02	583.33	73.88	85.70	100.34	125.12
С	Placer (LT)	Annual	2017	339.55	392.98	461.93	584.26	73.79	85.38	100.40	125.48
С	Placer (LT)	Annual	2018	339.54	393.05	461.86	585.08	73.72	85.22	100.48	125.82
С	Placer (LT)	Annual	2019	339.49	393.16	461.81	585.79	73.61	85.17	100.54	126.14
С	Placer (LT)	Annual	2020	339.51	393.28	461.78	586.39	73.69	85.23	100.64	126.46
С	Placer (LT)	Annual	2021	339.39	393.37	461.75	586.89	73.69	85.32	100.72	126.73
С	Placer (LT)	Annual	2022	339.32	393.46	461.71	587.33	73.71	85.41	100.78	126.98
С	Placer (LT)	Annual	2023	339.19	393.47	461.67	587.65	73.70	85.46	100.83	127.20
С	Placer (LT)	Annual	2024	338.99	393.46	461.63	587.89	73.66	85.51	100.87	127.40
С	Placer (LT)	Annual	2025	338.92	393.53	461.61	588.13	73.66	85.59	100.91	127.59
С	Placer (LT)	Annual	2026	338.92	393.66	461.58	588.38	73.68	85.69	100.94	127.78
С	Placer (LT)	Annual	2027	338.92	393.78	461.56	588.62	73.70	85.78	100.96	127.94
С	Placer (LT)	Annual	2028	338.91	393.89	461.53	588.87	73.71	85.86	100.98	128.10
С	Placer (LT)	Annual	2029	338.88	394.01	461.50	589.12	73.71	85.93	100.99	128.24
С	Placer (LT)	Annual	2030	338.87	394.12	461.45	589.36	73.71	86.00	100.99	128.38
С	Placer (LT)	Annual	2031	338.87	394.23	461.43	589.62	73.72		101.00	128.51
С	Placer (LT)	Annual	2032	338.86	394.34	461.40	589.88	73.73			128.64
С	Placer (LT)	Annual	2033	338.86	394.44	461.38	590.11	73.73		101.01	128.75
С	Placer (LT)	Annual	2034	338.85	394.52	461.36	590.32	73.74	86.25		128.86
С	Placer (LT)	Annual	2035	338.84	394.59	461.34	590.51	73.74	86.29	101.02	128.96
С	Placer (LT)	Summer	2010	338.84	391.00	461.59	574.82	74.90	88.03	99.95	123.15
С	Placer (LT)	Summer	2011	338.57	390.97	461.17	575.82	74.69	87.25	99.98	123.39
С	Placer (LT)	Summer	2012	338.32	391.08	460.84	576.82	74.40	86.88	100.02	123.70
С	Placer (LT)	Summer	2013	338.25	391.14	460.59	577.91	74.28		100.11	124.04
С	Placer (LT)	Summer	2014	338.11	391.20	460.39	578.92	74.02	86.17	100.18	124.39
С	Placer (LT)	Summer	2015	338.07	391.27	460.22	579.97	73.88	85.86	100.25	124.76
С	Placer (LT)	Summer	2016	338.13	391.39	460.11	580.97	73.88	85.70	100.34	125.12
С	Placer (LT)	Summer	2017	338.10	391.41	460.01	581.88	73.79	85.38	100.40	125.48
С	Placer (LT)	Summer	2018	338.10	391.48	459.94	582.69	73.72	85.22	100.48	125.82
С	Placer (LT)	Summer	2019	338.04	391.58	459.89	583.40	73.61	85.17	100.54	126.14
С	Placer (LT)	Summer	2020	338.06	391.69	459.86	583.98	73.69	85.23	100.64	126.46
С	Placer (LT)	Summer	2021	337.95	391.78	459.84	584.48	73.69	85.32	100.72	126.73
С	Placer (LT)	Summer	2022	337.87	391.86	459.79	584.92	73.71	85.41	100.78	126.98
С	Placer (LT)	Summer	2023	337.74	391.87	459.76	585.24	73.70	85.46	100.83	127.20
С	Placer (LT)	Summer	2024	337.54	391.85	459.72	585.48	73.66	85.51	100.87	127.40
С	Placer (LT)	Summer	2025	337.47	391.92	459.69	585.72	73.66	85.59	100.91	127.59

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	7		CO2 Star	tina (a/tri	n)
	Location	Season	Voor	LDA			MDV	LDA	LDT1		MDV
	Diagon (LT)		Year		LDT1	LDT2				LDT2	
C C	Placer (LT)	Summer	2026	337.47	392.04	459.66	585.97	73.68	85.69	100.94	127.78
C	Placer (LT)	Summer	2027	337.47	392.16	459.64	586.21	73.70	85.78		127.94
C	Placer (LT)	Summer	2028	337.46	392.27	459.61	586.46	73.71	85.86		128.10
C_	Placer (LT)	Summer	2029	337.44	392.39	459.58	586.70	73.71	85.93	100.99	128.24
С	Placer (LT)	Summer	2030	337.42	392.50	459.53	586.94	73.71	86.00	100.99	128.38
С	Placer (LT)	Summer	2031	337.42	392.60	459.50	587.19	73.72	86.07	101.00	128.51
С	Placer (LT)	Summer	2032	337.41	392.71	459.48	587.45	73.73	86.13	101.01	128.64
С	Placer (LT)	Summer	2033	337.40	392.80	459.46	587.68	73.73	86.19	101.01	128.75
С	Placer (LT)	Summer	2034	337.40	392.88	459.44	587.89	73.74	86.25	101.01	128.86
С	Placer (LT)	Summer	2035	337.39	392.96	459.42	588.07	73.74	86.29	101.02	128.96
С	Placer (LT)	Winter	2010	338.69	390.84	461.38	574.56	74.90	88.03	99.95	123.15
С	Placer (LT)	Winter	2011	338.41	390.80	460.96	575.56	74.69	87.25	99.98	123.39
С	Placer (LT)	Winter	2012	338.16	390.91	460.63	576.55	74.40	86.88	100.02	123.70
С	Placer (LT)	Winter	2013	338.09	390.97	460.37	577.65	74.28	86.50	100.11	124.04
С	Placer (LT)	Winter	2014	337.95	391.03	460.17	578.66	74.02	86.17	100.18	124.39
C	Placer (LT)	Winter	2015	337.90	391.10	460.01	579.70	73.88	85.86	100.25	124.76
С	Placer (LT)	Winter	2016	337.96	391.21	459.89	580.70	73.88	85.70	100.34	125.12
c	Placer (LT)	Winter	2017	337.94	391.23	459.79	581.61	73.79	85.38	100.40	125.48
C	Placer (LT)	Winter	2018	337.93	391.30	459.73	582.42	73.72	85.22	100.48	125.82
C	Placer (LT)	Winter	2019	337.88	391.40	459.67	583.12	73.61	85.17	100.40	126.14
C	·										126.46
	Placer (LT)	Winter	2020	337.90	391.51	459.64	583.71	73.69	85.23	100.64	
C	Placer (LT)	Winter	2021	337.78	391.60	459.62	584.21	73.69	85.32	100.72	126.73
C	Placer (LT)	Winter	2022	337.71	391.68	459.57	584.64	73.71	85.41	100.78	126.98
C	Placer (LT)	Winter	2023	337.58	391.69	459.54	584.96	73.70	85.46	100.83	127.20
С	Placer (LT)	Winter	2024	337.38	391.66	459.50	585.21	73.66	85.51	100.87	127.40
С	Placer (LT)	Winter	2025	337.31	391.74	459.47	585.44	73.66	85.59	100.91	127.59
С	Placer (LT)	Winter	2026	337.31	391.86	459.44	585.69	73.68	85.69	100.94	127.78
С	Placer (LT)	Winter	2027	337.31	391.98	459.42	585.93	73.70	85.78	100.96	127.94
С	Placer (LT)	Winter	2028	337.30	392.09	459.39	586.18	73.71	85.86	100.98	128.10
С	Placer (LT)	Winter	2029	337.27	392.20	459.36	586.42	73.71	85.93	100.99	128.24
С	Placer (LT)	Winter	2030	337.25	392.31	459.31	586.66	73.71	86.00	100.99	128.38
С	Placer (LT)	Winter	2031	337.25	392.42	459.29	586.92	73.72	86.07	101.00	128.51
С	Placer (LT)	Winter	2032	337.24	392.52	459.26	587.18	73.73	86.13	101.01	128.64
С	Placer (LT)	Winter	2033	337.24	392.62	459.24	587.41	73.73	86.19	101.01	128.75
С	Placer (LT)	Winter	2034	337.23	392.70	459.22	587.62	73.74	86.25	101.01	128.86
С	Placer (LT)	Winter	2035	337.23	392.77	459.20	587.80	73.74	86.29	101.02	128.96
С	Placer (MC)	Annual	2010	329.36	386.40	451.66	564.92	74.80		101.10	126.15
С	Placer (MC)	Annual	2011	329.15	385.52	450.95	565.40	74.33		100.91	126.13
c	Placer (MC)	Annual	2012	329.07	384.69	450.42	566.02	74.02	93.26		126.12
C	Placer (MC)	Annual	2013	329.11	384.15	450.00	566.65	73.83	91.74		126.20
C	Placer (MC)	Annual	2014	329.16	383.61	449.69	567.30	73.68	90.22	100.75	126.29
c C	Placer (MC)	Annual	2014	329.24	383.22	449.43	567.96	73.57	89.07	100.73	126.43
C	Placer (MC)		2016	329.36		449.43			88.05		126.43
	` '	Annual			382.88		568.58	73.54			
C C	Placer (MC)	Annual	2017	329.40	382.34	449.07	569.24	73.43		100.66	126.74
C C	Placer (MC)	Annual	2018	329.36	382.09	448.94	569.80	73.26	85.85		126.90
C	Placer (MC)	Annual	2019	332.02	385.00	452.39	574.73	73.29		100.67	127.04
C	Placer (MC)	Annual	2020	332.07	384.86	452.31	575.12	73.38	85.28		127.19
С	Placer (MC)	Annual	2021	332.12	384.99	452.23	575.34	73.44	85.38		127.25
С	Placer (MC)	Annual	2022	332.17	385.09	452.15	575.43	73.51	85.47	100.85	127.16
С	Placer (MC)	Annual	2023	332.19	385.15	452.08	575.52	73.55	85.54	100.90	127.30
С	Placer (MC)	Annual	2024	332.17	385.17	452.02	575.58	73.57	85.59	100.94	127.43
С	Placer (MC)	Annual	2025	332.15	385.21	451.97	575.68	73.59	85.65	100.97	127.57
С	Placer (MC)	Annual	2026	332.17	385.30	451.90	575.81	73.61	85.72	100.99	127.72
С	Placer (MC)	Annual	2027	332.18	385.38	451.84	575.95	73.62	85.78	101.01	127.85

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	li ii	Ī	1		200 D .	(D (B 4T	2	CO2 Starting (g/trip)				
	Location				CO2 Runni							
_		Season	Year	LDA	LDT1	LDT2	MDV			LDT2	MDV	
С	Placer (MC)	Annual	2028	332.18	385.47	451.76	576.09	73.63	85.85	101.01	127.97	
С	Placer (MC)	Annual	2029	332.18	385.56	451.67	576.26	73.64	85.91		128.09	
С	Placer (MC)	Annual	2030	332.17	385.66	451.55	576.44	73.64	85.96		128.21	
С	Placer (MC)	Annual	2031	332.17	385.75	451.50	576.67	73.65	86.02	100.99	128.33	
С	Placer (MC)	Annual	2032	332.16	385.83	451.46	576.90	73.66	86.07	100.99	128.45	
С	Placer (MC)	Annual	2033	332.16	385.91	451.43	577.12	73.66	86.12	100.99	128.57	
С	Placer (MC)	Annual	2034	332.16	385.97	451.40	577.32	73.67	86.17	100.99	128.67	
С	Placer (MC)	Annual	2035	332.15	386.03	451.37	577.50	73.67	86.20	101.00	128.78	
С	Placer (MC)	Summer	2010	352.60	410.10	482.16	602.93	74.80	97.65	101.10	126.15	
С	Placer (MC)	Summer	2011	352.62	409.82	481.81	603.49	74.33	95.41	100.91	126.13	
С	Placer (MC)	Summer	2012	352.73	409.55	481.54	604.28	74.02	93.26	100.87	126.12	
С	Placer (MC)	Summer	2013	352.90	409.38	481.34	605.11	73.83	91.74	100.80	126.20	
С	Placer (MC)	Summer	2014	353.06	409.18	481.21	605.99	73.68	90.22	100.75	126.29	
С	Placer (MC)	Summer	2015	353.22	409.05	481.09	606.90	73.57	89.07	100.72	126.43	
С	Placer (MC)	Summer	2016	353.39	408.90	480.99	607.75	73.54	88.05	100.72	126.60	
С	Placer (MC)	Summer	2017	353.47	408.64	480.89	608.64	73.43	86.60	100.66	126.74	
С	Placer (MC)	Summer	2018	353.45	408.51	480.77	609.39	73.26	85.85	100.69	126.90	
С	Placer (MC)	Summer	2019	356.31	411.72	484.51	614.80	73.29	85.50	100.67	127.04	
С	Placer (MC)	Summer	2020	356.34	411.66	484.39	615.29	73.38	85.28	100.73	127.19	
С	Placer (MC)	Summer	2021	356.36	411.82	484.28	615.58	73.44	85.38	100.80	127.25	
С	Placer (MC)	Summer	2022	356.40	411.97	484.18	615.77	73.51	85.47	100.85	127.16	
С	Placer (MC)	Summer	2023	356.40	412.10	484.10	615.91	73.55	85.54	100.90	127.30	
С	Placer (MC)	Summer	2024	356.40	412.17	484.02	615.97	73.57	85.59	100.94	127.43	
С	Placer (MC)	Summer	2025	356.38	412.27	483.96	616.07	73.59	85.65	100.97	127.57	
С	Placer (MC)	Summer	2026	356.41	412.39	483.91	616.17	73.61	85.72	100.99	127.72	
C	Placer (MC)	Summer	2027	356.43	412.50	483.87	616.28	73.62	85.78	101.01	127.85	
С	Placer (MC)	Summer	2028	356.44	412.63	483.82	616.43	73.63	85.85	101.01	127.97	
С	Placer (MC)	Summer	2029	356.46	412.75	483.76	616.60	73.64	85.91	101.01	128.09	
С	Placer (MC)	Summer	2030	356.46	412.90	483.67	616.81	73.64	85.96	100.98	128.21	
С	Placer (MC)	Summer	2031	356.46	413.02	483.66	617.09	73.65	86.02	100.99	128.33	
С	Placer (MC)	Summer	2032	356.46	413.12	483.65	617.39	73.66	86.07	100.99	128.45	
С	Placer (MC)	Summer	2033	356.45	413.21	483.63	617.66	73.66	86.12	100.99	128.57	
С	Placer (MC)	Summer	2034	356.45	413.29	483.61	617.93	73.67	86.17	100.99	128.67	
С	Placer (MC)	Summer	2035	356.44		483.58	618.17	73.67		101.00	128.78	
С	Placer (MC)	Winter	2010	324.91	381.86	445.82	557.64	74.80	97.65		126.76	
C	Placer (MC)	Winter	2010	324.66	380.86	445.04	558.11	74.33	95.41		126.13	
C	,	Winter	2011	324.54	379.93		558.70	74.02	_	100.87	126.13	
C	Placer (MC) Placer (MC)	Winter	2012	324.54	379.32	444.46 444.00	559.29	73.83	93.26		126.12	
	,			324.55								
C C	Placer (MC) Placer (MC)	Winter Winter	2014		378.71	443.65	559.89 560.51	73.68	90.22	100.75	126.29	
	,		2015	324.65	378.28	443.37	560.51	73.57	89.07	100.72	126.43	
С	Placer (MC)	Winter	2016	324.76	377.90	443.16	561.08	73.54	88.05	100.72	126.60	
С	Placer (MC)	Winter	2017	324.79	377.30	442.98	561.69	73.43	86.60		126.74	
C	Placer (MC)	Winter	2018	324.75	377.03	442.84	562.22	73.26	85.85		126.90	
С	Placer (MC)	Winter	2019	327.37	379.88	446.24	567.05	73.29	85.50		127.04	
С	Placer (MC)	Winter	2020	327.42	379.73	446.16	567.42	73.38	85.28		127.19	
С	Placer (MC)	Winter	2021	327.47	379.84	446.08	567.62	73.44			127.25	
C	Placer (MC)	Winter	2022	327.53	379.93	446.02	567.70	73.51	85.47	100.85	127.16	
С	Placer (MC)	Winter	2023	327.55	379.99	445.95	567.78	73.55	85.54	100.90	127.30	
С	Placer (MC)	Winter	2024	327.53	379.99	445.89	567.83	73.57	85.59	100.94	127.43	
С	Placer (MC)	Winter	2025	327.51	380.02	445.84	567.94	73.59	85.65	100.97	127.57	
С	Placer (MC)	Winter	2026	327.52	380.10	445.77	568.08	73.61	85.72	100.99	127.72	
С	Placer (MC)	Winter	2027	327.53	380.18	445.70	568.22	73.62	85.78	101.01	127.85	
С	Placer (MC)	Winter	2028	327.53	380.27	445.62	568.36	73.63	85.85	101.01	127.97	
С	Placer (MC)	Winter	2029	327.53	380.35	445.52	568.53	73.64	85.91	101.01	128.09	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	h	1			200 D	(0 /B AT	2		200.01	t' (/t	\
	Location				CO2 Runni				CO2 Star		
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
C	Placer (MC)	Winter	2030	327.52	380.43	445.39	568.71	73.64	85.96	100.98	128.21
С	Placer (MC)	Winter	2031	327.52	380.52	445.34	568.92	73.65	86.02	100.99	128.33
С	Placer (MC)	Winter	2032	327.51	380.60	445.29	569.15	73.66	86.07	100.99	128.45
С	Placer (MC)	Winter	2033	327.51	380.67	445.26	569.35	73.66	86.12	100.99	128.57
С	Placer (MC)	Winter	2034	327.50	380.74	445.22	569.54	73.67	86.17	100.99	128.67
С	Placer (MC)	Winter	2035	327.50	380.79	445.19	569.71	73.67	86.20	101.00	128.78
С	Placer (SV)	Annual	2010	330.73	381.91	453.82	574.66	73.02	85.63	99.77	125.72
С	Placer (SV)	Annual	2011	330.94	382.54	453.73	575.15	73.00	85.31	99.84	125.93
С	Placer (SV)	Annual	2012	331.14	383.12	453.66	575.67	72.98	85.12	99.94	126.16
С	Placer (SV)	Annual	2013	331.36	383.59	453.61	576.19	73.02	84.98	100.04	126.39
С	Placer (SV)	Annual	2014	331.54	384.02	453.59	576.71	73.02	84.89	100.12	126.62
С	Placer (SV)	Annual	2015	331.72	384.39	453.58	577.22	73.07	84.82	100.20	126.84
С	Placer (SV)	Annual	2016	331.89	384.74	453.58	577.72	73.15	84.80	100.28	127.07
С	Placer (SV)	Annual	2017	332.02	385.03	453.57	578.18	73.21	84.75	100.34	127.30
С	Placer (SV)	Annual	2018	332.13	385.29	453.57	578.57	73.26	84.74	100.42	127.51
С	Placer (SV)	Annual	2019	331.61	384.84	452.75	577.85	73.32	84.86	100.50	127.69
С	Placer (SV)	Annual	2020	331.69	385.06	452.74	578.14	73.41	84.99	100.58	127.86
С	Placer (SV)	Annual	2021	331.75	385.26	452.73	578.36	73.48	85.13	100.66	127.99
С	Placer (SV)	Annual	2022	331.79	385.43	452.72	578.54	73.53	85.25	100.72	128.10
С	Placer (SV)	Annual	2023	331.81	385.56	452.70	578.69	73.57	85.36	100.78	128.24
С	Placer (SV)	Annual	2024	331.82	385.67	452.69	578.81	73.59	85.45	- 1	128.36
С	Placer (SV)	Annual	2025	331.83	385.78	452.68	578.93	73.61	85.53	- 1	128.48
С	Placer (SV)	Annual	2026	331.85	385.89	452.67	579.04	73.63	85.62	100.89	128.59
C	Placer (SV)	Annual	2027	331.87	385.99	452.65	579.14	73.64	85.69	100.92	128.68
С	Placer (SV)	Annual	2028	331.88	386.10	452.64	579.25	73.65	85.75	100.94	128.77
С	Placer (SV)	Annual	2029	331.89	386.21	452.63	579.35	73.66	85.82	100.95	128.85
C	Placer (SV)	Annual	2030	331.89	386.32	452.63	579.46	73.67	85.88	100.96	128.92
C	Placer (SV)	Annual	2030	331.90	386.42	452.62	579.56	73.67	85.94	100.97	128.99
C	Placer (SV)	Annual	2031	331.90	386.52	452.61	579.67	73.67	85.99	100.97	129.06
C	Placer (SV)	Annual	2032	331.90	386.60	452.61	579.77	73.68	86.04	100.97	129.00
C	` '	Annual	2033	331.90	386.68	452.60	579.86	73.68	86.08	100.99	129.12
C	Placer (SV)				386.73					100.99	
C	Placer (SV)	Annual	2035	331.90		452.60	579.94	73.68 73.02	86.12 85.63		129.23
_	Placer (SV)	Summer	2010	369.31	422.83	505.21	639.49			99.77	125.72
C	Placer (SV)	Summer	2011	369.67		505.18	639.85				125.93
С	Placer (SV)	Summer	2012	369.99	425.15	505.19	640.33	72.98	85.12	99.94	126.16
C	Placer (SV)	Summer	2013	370.30	425.98	505.22	640.88	73.02	84.98		126.39
С	Placer (SV)	Summer	2014	370.56	426.69	505.30	641.49	73.02		100.12	126.62
С	Placer (SV)	Summer	2015	370.79	427.26	505.37	642.12	73.07	84.82		126.84
C	Placer (SV)	Summer	2016	370.99	427.77	505.47	642.78	73.15	84.80		127.07
С	Placer (SV)	Summer	2017	371.13	428.22	505.53	643.41	73.21	84.75	100.34	127.30
С	Placer (SV)	Summer	2018	371.24	428.59	505.55	643.93	73.26	84.74		127.51
С	Placer (SV)	Summer	2019	370.64	428.12	504.63	643.16	73.32	84.86		127.69
С	Placer (SV)	Summer	2020	370.71	428.40	504.60	643.51	73.41	84.99		127.86
С	Placer (SV)	Summer	2021	370.75	428.64	504.55	643.79	73.48		100.66	127.99
С	Placer (SV)	Summer	2022	370.78	428.85	504.51	644.02	73.53	85.25		128.10
С	Placer (SV)	Summer	2023	370.81	429.03	504.48	644.20	73.57	85.36	100.78	128.24
С	Placer (SV)	Summer	2024	370.81	429.19	504.44	644.33	73.59	85.45	100.82	128.36
С	Placer (SV)	Summer	2025	370.82	429.33	504.41	644.45	73.61	85.53	100.86	128.48
С	Placer (SV)	Summer	2026	370.84	429.49	504.38	644.55	73.63	85.62	100.89	128.59
С	Placer (SV)	Summer	2027	370.86	429.64	504.37	644.64	73.64	85.69	100.92	128.68
С	Placer (SV)	Summer	2028	370.88	429.80	504.36	644.75	73.65	85.75	100.94	128.77
С	Placer (SV)	Summer	2029	370.90	429.96	504.35	644.85	73.66	85.82	100.95	128.85
С	Placer (SV)	Summer	2030	370.91	430.12	504.35	644.96	73.67	85.88	100.96	128.92
С	Placer (SV)	Summer	2031	370.92	430.27	504.34	645.06	73.67	85.94	100.97	128.99

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1	Γ		CO2 Dunni	na (a/\/NAT	`		CO2 Starting (g/trip) LDA LDT1 LDT2 MI				
	Location		.,		O2 Runni								
		Season	Year	LDA	LDT1	LDT2	MDV				MDV		
С	Placer (SV)	Summer	2032	370.92	430.41	504.33	645.17	73.67	85.99	100.97	129.06		
С	Placer (SV)	Summer	2033	370.93	430.52	504.33	645.28	73.68	86.04	100.98	129.12		
С	Placer (SV)	Summer	2034	370.93	430.61	504.33	645.39	73.68	86.08	100.99	129.18		
С	Placer (SV)	Summer	2035	370.92	430.68	504.32	645.50	73.68	86.12	100.99	129.23		
С	Placer (SV)	Winter	2010	320.40	370.94	440.06	557.29	73.02	85.63	99.77	125.72		
С	Placer (SV)	Winter	2011	320.57	371.41	439.94	557.81	73.00	85.31	99.84	125.93		
С	Placer (SV)	Winter	2012	320.73	371.86	439.86	558.35	72.98	85.12	99.94	126.16		
С	Placer (SV)	Winter	2013	320.93	372.24	439.79	558.86	73.02	84.98	100.04	126.39		
С	Placer (SV)	Winter	2014	321.08	372.59	439.74	559.36	73.02	84.89	100.12	126.62		
С	Placer (SV)	Winter	2015	321.25	372.91	439.70	559.84	73.07	84.82	100.20	126.84		
С	Placer (SV)	Winter	2016	321.42	373.21	439.68	560.29	73.15	84.80	100.28	127.07		
С	Placer (SV)	Winter	2017	321.54	373.46	439.65	560.71	73.21	84.75	100.34	127.30		
С	Placer (SV)	Winter	2018	321.65	373.69	439.64	561.06	73.26	84.74	100.42	127.51		
С	Placer (SV)	Winter	2019	321.15	373.25	438.84	560.35	73.32	84.86	100.50	127.69		
С	Placer (SV)	Winter	2020	321.23	373.45	438.84	560.62	73.41	84.99	100.58	127.86		
С	Placer (SV)	Winter	2021	321.29	373.63	438.84	560.82	73.48	85.13	100.66	127.99		
С	Placer (SV)	Winter	2022	321.34	373.79	438.83	561.00	73.53	85.25	100.72	128.10		
С	Placer (SV)	Winter	2023	321.36	373.92	438.83	561.14	73.57	85.36	100.78	128.24		
С	Placer (SV)	Winter	2024	321.37	374.01	438.82	561.25	73.59	85.45	100.82	128.36		
С	Placer (SV)	Winter	2025	321.38	374.10	438.82	561.37	73.61	85.53	100.86	128.48		
С	Placer (SV)	Winter	2026	321.40	374.20	438.81	561.48	73.63	85.62	100.89	128.59		
C	Placer (SV)	Winter	2027	321.42	374.30	438.80	561.59	73.64		100.92	128.68		
C	Placer (SV)	Winter	2028	321.43	374.39	438.79	561.70	73.65	85.75	100.94	128.77		
C	Placer (SV)	Winter	2029	321.43	374.48	438.78	561.80	73.66	85.82	100.95	128.85		
C	Placer (SV)	Winter	2030	321.44	374.58	438.77	561.91	73.67	85.88	100.96	128.92		
C	Placer (SV)	Winter	2031	321.44	374.67	438.76	562.01	73.67	85.94	100.97	128.99		
C	Placer (SV)	Winter	2031	321.44	374.76	438.76	562.12	73.67	85.99	100.97	129.06		
C	Placer (SV)	Winter	2032	321.45	374.83	438.75	562.21	73.68	86.04	100.98	129.12		
c C	Placer (SV)	Winter	2033	321.45	374.83	438.74	562.30	73.68	86.08	100.99	129.12		
C	Placer (SV)	Winter	2034	321.43	374.96	438.74	562.37	73.68	86.12	100.99	129.10		
C	` '	Annual	2010	383.48	448.24	524.45	653.78	74.50	93.88	100.99	124.70		
C	Plumas (MC)							74.30		101.47			
C	Plumas (MC)	Annual	2011	383.12	447.42	523.71	654.62		92.26	101.32	124.82		
_	Plumas (MC)	Annual	2012	382.79	446.84	523.14	655.56	73.97	91.08		124.99		
<u>c</u>	Plumas (MC)	Annual	2013	382.71	446.31	522.67	656.57	73.86		101.00			
C	Plumas (MC)	Annual	2014	382.50	445.90	522.32	657.55	73.59	89.13	100.92	125.40		
C	Plumas (MC)	Annual	2015	382.45	445.52	522.05	658.55	73.48		100.95	125.66		
С	Plumas (MC)	Annual	2016	382.50	445.23	521.82	659.51	73.48		100.95	125.92		
C	Plumas (MC)	Annual	2017	382.49	444.92	521.63	660.38	73.43			126.20		
C	Plumas (MC)	Annual	2018	382.47	444.69	521.48	661.15	73.38	86.22	100.83	126.45		
С	Plumas (MC)	Annual	2019	382.41	444.56	521.35	661.77	73.32	85.87	100.81	126.70		
C	Plumas (MC)	Annual	2020	382.39	444.47	521.25	662.32	73.39	85.75	100.84	126.93		
C	Plumas (MC)	Annual	2021	382.31	444.37	521.14	662.71	73.42	85.71	100.88	127.10		
С	Plumas (MC)	Annual	2022	382.11	444.28	521.03	663.00	73.41	85.69	100.91	127.19		
С	Plumas (MC)	Annual	2023	381.98	444.15	520.94	663.22	73.42	85.64		127.37		
С	Plumas (MC)	Annual	2024	381.82	444.05	520.85	663.39	73.40	85.62	100.95	127.54		
С	Plumas (MC)	Annual	2025	381.72	444.07	520.79	663.57	73.41	85.67	100.98	127.71		
С	Plumas (MC)	Annual	2026	381.70	444.20	520.72	663.78	73.43	85.76	101.00	127.87		
С	Plumas (MC)	Annual	2027	381.70	444.30	520.66	664.00	73.44	85.84	101.01	128.03		
С	Plumas (MC)	Annual	2028	381.68	444.43	520.60	664.24	73.45	85.91	101.02	128.17		
С	Plumas (MC)	Annual	2029	381.63	444.54	520.52	664.46	73.45	85.98	101.01	128.30		
С	Plumas (MC)	Annual	2030	381.60	444.65	520.45	664.68	73.45	86.04	101.01	128.43		
С	Plumas (MC)	Annual	2031	381.59	444.76	520.41	664.95	73.46	86.10	101.01	128.56		
С	Plumas (MC)	Annual	2032	381.58	444.86	520.38	665.22	73.46	86.16	101.01	128.68		
С	Plumas (MC)	Annual	2033	381.57	444.95	520.36	665.45	73.47	86.21	101.01	128.79		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Star	tina (a/tri	(qi
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Plumas (MC)	Annual	2034	381.56	445.03	520.33	665.67	73.47	86.26	101.02	128.89
C	Plumas (MC)	Annual	2035	381.55	445.09	520.31	665.86	73.47	86.30		128.98
C	Plumas (MC)	Summer	2010	408.76	472.90	558.33	694.63	74.50	93.88	101.02	124.70
C	Plumas (MC)	Summer	2010	408.75	473.23	557.90	695.71	74.27	92.26	101.47	124.70
C	Plumas (MC)	Summer	2011	408.69	473.46	557.59	696.96	73.97	91.08	101.32	124.99
C	Plumas (MC)	Summer	2012	408.80	473.40	557.38	698.32	73.86	90.01	101.21	125.19
C	Plumas (MC)	Summer	2013	408.76	473.64	557.21	699.63	73.59	89.13	100.92	125.40
C	,	Summer	2014	408.82			701.00	73.48	88.27	100.95	125.40
C	Plumas (MC) Plumas (MC)	Summer	2016	408.94	473.68 473.71	557.08 556.97	701.00	73.48	87.57	100.95	125.00
C	,	Summer	2010	408.96		556.88		73.43	86.78	100.93	126.20
C	Plumas (MC) Plumas (MC)	Summer	2017	408.94	473.70 473.67	556.77	703.46 704.48	73.43	86.22	100.83	126.45
C	,		2019	408.89	473.69	556.67	704.46	73.32	85.87	100.83	126.43
	Plumas (MC)	Summer									
С	Plumas (MC)	Summer	2020	408.86	473.73	556.58	706.05	73.39	85.75	100.84	126.93
С	Plumas (MC)	Summer	2021	408.78	473.74 473.77	556.48	706.60	73.42	85.71	100.88	127.10
С	Plumas (MC)	Summer	2022	408.58		556.38	707.04	73.41	85.69	100.91	127.19
С	Plumas (MC)	Summer	2023	408.46	473.75	556.30	707.36	73.42	85.64	100.93	127.37
С	Plumas (MC)	Summer	2024	408.30	473.76	556.22	707.63	73.40	85.62	100.95	127.54
С	Plumas (MC)	Summer	2025	408.21	473.84	556.16	707.88	73.41	85.67	100.98	127.71
С	Plumas (MC)	Summer	2026	408.22	474.03	556.10	708.13	73.43	85.76	101.00	127.87
С	Plumas (MC)	Summer	2027	408.23	474.17	556.06	708.38	73.44	85.84	101.01	128.03
С	Plumas (MC)	Summer	2028	408.23	474.35	556.02	708.66	73.45	85.91		128.17
С	Plumas (MC)	Summer	2029	408.21	474.53	555.96	708.94	73.45	85.98		128.30
C	Plumas (MC)	Summer	2030	408.20	474.69	555.90	709.22	73.45	86.04	101.01	128.43
С	Plumas (MC)	Summer	2031	408.20	474.85	555.87	709.55	73.46	86.10	101.01	128.56
С	Plumas (MC)	Summer	2032	408.20	474.98	555.85	709.87	73.46	86.16	101.01	128.68
C	Plumas (MC)	Summer	2033	408.19	475.10	555.83	710.16	73.47	86.21	101.01	128.79
C	Plumas (MC)	Summer	2034	408.18	475.21	555.80	710.43	73.47	86.26	101.02	128.89
С	Plumas (MC)	Summer	2035	408.16	475.28	555.78	710.66	73.47	86.30	101.02	128.98
С	Plumas (MC)	Winter	2010	378.05	442.95	517.17	645.01	74.50	93.88	101.47	124.70
С	Plumas (MC)	Winter	2011	377.62	441.88	516.37	645.79	74.27	92.26	101.32	124.82
С	Plumas (MC)	Winter	2012	377.22	441.12	515.74	646.67	73.97	91.08	101.21	124.99
С	Plumas (MC)	Winter	2013	377.10	440.45	515.22	647.61	73.86	90.01	101.00	125.19
С	Plumas (MC)	Winter	2014	376.86	439.94	514.83	648.51	73.59	89.13	100.92	125.40
C	Plumas (MC)	Winter	2015	376.79	439.47	514.52	649.44			100.95	125.66
С	Plumas (MC)	Winter	2016	376.82	439.11	514.28	650.32	73.48	87.57	100.95	125.92
С	Plumas (MC)	Winter	2017	376.81	438.74	514.06	651.13	73.43	86.78		126.20
С	Plumas (MC)	Winter	2018	376.78	438.47	513.90	651.84	73.38	86.22	100.83	126.45
C	Plumas (MC)	Winter	2019	376.73	438.30	513.77	652.42	73.32	85.87	100.81	126.70
C	Plumas (MC)	Winter	2020	376.70	438.19	513.66	652.93	73.39	85.75	100.84	126.93
С	Plumas (MC)	Winter	2021	376.63	438.06	513.55	653.29	73.42	85.71	100.88	127.10
С	Plumas (MC)	Winter	2022	376.42	437.94	513.44	653.55	73.41	85.69	100.91	127.19
С	Plumas (MC)	Winter	2023	376.29	437.79	513.34	653.74	73.42	85.64	100.93	127.37
С	Plumas (MC)	Winter	2024	376.13	437.66	513.26	653.89	73.40		100.95	127.54
С	Plumas (MC)	Winter	2025	376.03	437.68	513.20	654.05	73.41	85.67	100.98	127.71
С	Plumas (MC)	Winter	2026	376.01	437.79	513.12	654.25	73.43	85.76	101.00	127.87
С	Plumas (MC)	Winter	2027	376.00	437.89	513.06	654.47	73.44			128.03
C	Plumas (MC)	Winter	2028	375.97	438.00	513.00	654.70	73.45	85.91	101.02	128.17
С	Plumas (MC)	Winter	2029	375.92	438.10	512.91	654.91	73.45	85.98	101.01	128.30
С	Plumas (MC)	Winter	2030	375.89	438.20	512.83	655.12	73.45	86.04	101.01	128.43
С	Plumas (MC)	Winter	2031	375.88	438.30	512.79	655.37	73.46	86.10		128.56
С	Plumas (MC)	Winter	2032	375.87	438.39	512.76	655.62	73.46			128.68
С	Plumas (MC)	Winter	2033	375.86	438.47	512.74	655.85	73.47	86.21	101.01	128.79
С	Plumas (MC)	Winter	2034	375.85	438.54	512.72	656.06	73.47	86.26	101.02	128.89
С	Plumas (MC)	Winter	2035	375.84	438.60	512.70	656.24	73.47	86.30	101.02	128.98

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	ng (g/VMT)	(CO2 Star	ting (g/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Riverside (MD/MDAQMD)	Annual	2010	369.67	426.53	505.92	638.18	73.80	88.32	101.83	126.09
С	Riverside (MD/MDAQMD)	Annual	2011	363.13	419.45	496.23	627.22	73.74	87.52	101.71	126.32
С	Riverside (MD/MDAQMD)	Annual	2012	363.45	420.07	495.98	628.06	73.81	87.02	101.53	126.58
С	Riverside (MD/MDAQMD)	Annual	2013	355.83	411.52	485.10	615.48	73.74	86.56		126.89
С	Riverside (MD/MDAQMD)	Annual	2014	356.04	411.97	484.98	616.31	73.77	86.37	101.22	127.18
С	Riverside (MD/MDAQMD)	Annual	2015	343.49	397.67	467.64	595.16	73.80	86.23	101.12	127.47
С	Riverside (MD/MDAQMD)	Annual	2016	343.62	397.92	467.57	595.81	73.85	86.05	100.99	127.72
С	Riverside (MD/MDAQMD)	Annual	2017	343.68	398.10	467.49	596.37	73.82	85.88	100.89	127.96
С	Riverside (MD/MDAQMD)	Annual	2018	343.71	398.23	467.40	596.79	73.83	85.77	100.94	128.17
С	Riverside (MD/MDAQMD)	Annual	2019	342.93	397.41	466.27	595.71	73.85	85.71	100.91	128.35
С	Riverside (MD/MDAQMD)	Annual	2020	342.93	397.49	466.18	595.93	73.90	85.74	100.94	128.50
С	Riverside (MD/MDAQMD)	Annual	2021	341.38	395.73	464.03	593.37	73.93	85.79	100.97	128.60
С	Riverside (MD/MDAQMD)	Annual	2022	341.32	395.69	463.91	593.40	73.94	85.82	100.98	128.68
С	Riverside (MD/MDAQMD)	Annual	2023	341.26	395.69	463.82	593.44	73.95	85.86	100.99	128.77
С	Riverside (MD/MDAQMD)	Annual	2024	341.57	396.13	464.28	594.16	73.95	85.89	101.00	128.86
С	Riverside (MD/MDAQMD)	Annual	2025	341.55	396.17	464.23	594.18	73.95	85.94	101.02	128.94
С	Riverside (MD/MDAQMD)	Annual	2026	341.54	396.24	464.17	594.20	73.96	86.00	101.02	129.01
С	Riverside (MD/MDAQMD)	Annual	2027	341.55	396.33	464.13	594.25	73.97	86.05	101.03	129.07
С	Riverside (MD/MDAQMD)	Annual	2028	341.55	396.42	464.10	594.31	73.97	86.10	101.03	129.13
С	Riverside (MD/MDAQMD)	Annual	2029	341.56	396.52	464.08	594.39	73.97	86.15	101.04	129.19
С	Riverside (MD/MDAQMD)	Annual	2030	341.57	396.62	464.07	594.47	73.98	86.19	101.04	129.24
С	Riverside (MD/MDAQMD)	Annual	2031	341.64	396.78	464.16	594.65	73.98	86.23	101.04	129.28
С	Riverside (MD/MDAQMD)	Annual	2032	341.65	396.86	464.15	594.71	73.98	86.26	101.04	129.33
С	Riverside (MD/MDAQMD)	Annual	2033	341.65	396.92	464.14	594.77	73.98	86.29	101.05	129.37
С	Riverside (MD/MDAQMD)	Annual	2034	341.65	396.98	464.13	594.83	73.99	86.32	101.05	129.40
С	Riverside (MD/MDAQMD)	Annual	2035	341.65	397.03	464.13	594.88	73.99	86.34	101.05	129.43
С	Riverside (MD/MDAQMD)	Summer	2010	377.81	434.15	516.42	651.64	73.80	88.32	101.83	126.09
С	Riverside (MD/MDAQMD)	Summer	2011	371.35	427.52	506.84	640.74	73.74	87.52	101.71	126.32
С	Riverside (MD/MDAQMD)	Summer	2012	371.72	428.43	506.69	641.64	73.81	87.02	101.53	126.58
С	Riverside (MD/MDAQMD)	Summer	2013	364.01	420.00	495.73	628.91	73.74	86.56	101.33	126.89
С	Riverside (MD/MDAQMD)	Summer	2014	364.25	420.62	495.68	629.84	73.77	86.37	101.22	127.18
С	Riverside (MD/MDAQMD)	Summer	2015	351.17	405.87	477.68	607.85	73.80	86.23	101.12	127.47
С	Riverside (MD/MDAQMD)	Summer	2016	351.32	406.21	477.66	608.58	73.85	86.05	100.99	127.72
С	Riverside (MD/MDAQMD)	Summer	2017	351.38	406.47	477.62	609.19	73.82	85.88	100.89	127.96
С	Riverside (MD/MDAQMD)	Summer	2018	351.42	406.65	477.53	609.64	73.83	85.77	100.94	128.17
С	Riverside (MD/MDAQMD)	Summer	2019	350.38	405.58	476.07	608.16	73.85	85.71	100.91	128.35
С	Riverside (MD/MDAQMD)	Summer	2020	350.37	405.69	475.97	608.38	73.90	85.74		128.50
С	Riverside (MD/MDAQMD)	Summer	2021	348.75	403.88	473.74	605.72	73.93	85.79	100.97	128.60
С	Riverside (MD/MDAQMD)	Summer	2022	348.67	403.84	473.61	605.74	73.94	85.82	100.98	128.68
С	Riverside (MD/MDAQMD)	Summer	2023	348.60	403.83	473.50	605.75	73.95	85.86	100.99	128.77
С	Riverside (MD/MDAQMD)	Summer	2024	348.76	404.12	473.75	606.20	73.95	85.89	101.00	128.86
С	Riverside (MD/MDAQMD)	Summer	2025	348.73	404.15	473.70	606.22	73.95	85.94		128.94
С	Riverside (MD/MDAQMD)	Summer	2026	348.72	404.23	473.62	606.22	73.96	86.00		129.01
С	Riverside (MD/MDAQMD)	Summer	2027	348.73	404.32	473.59	606.26	73.97	86.05		129.07
С	Riverside (MD/MDAQMD)	Summer	2028	348.74	404.42	473.56	606.32	73.97	86.10		129.13
С	Riverside (MD/MDAQMD)	Summer	2029	348.75	404.53	473.55	606.40	73.97	86.15		129.19
С	Riverside (MD/MDAQMD)	Summer	2030	348.77	404.64	473.54	606.49	73.98	86.19		129.24
С	Riverside (MD/MDAQMD)	Summer	2031	348.83	404.79	473.62	606.65	73.98	86.23	101.04	129.28
С	Riverside (MD/MDAQMD)	Summer	2032	348.84	404.88	473.60	606.70	73.98	86.26	101.04	129.33
С	Riverside (MD/MDAQMD)	Summer	2033	348.84	404.95	473.59	606.76	73.98	86.29	101.05	129.37
С	Riverside (MD/MDAQMD)	Summer	2034	348.84	405.01	473.58	606.82	73.99	86.32	101.05	129.40
С	Riverside (MD/MDAQMD)	Summer	2035	348.84	405.06	473.57	606.88	73.99	86.34	101.05	129.43
С	Riverside (MD/MDAQMD)	Winter	2010	370.14	426.97	506.53	638.95	73.80	88.32	101.83	126.09
С	Riverside (MD/MDAQMD)	Winter	2011	363.52	419.84	496.74	627.87	73.74	87.52	101.71	126.32

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(O2 Runni	ng (a/VMT)	(CO2 Star	tina (a/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Riverside (MD/MDAQMD)	Winter	2012	363.85	420.46	496.49	628.71	73.81	87.02	101.53	126.58
C	Riverside (MD/MDAQMD)	Winter	2013	356.20	411.90	485.58	616.08	73.74	86.56	101.33	126.89
C	Riverside (MD/MDAQMD)	Winter	2014	356.41	412.36	485.46	616.93	73.77	86.37	101.22	127.18
С	Riverside (MD/MDAQMD)	Winter	2015	343.96	398.17	468.25	595.93	73.80	86.23	101.12	127.47
C	Riverside (MD/MDAQMD)	Winter	2016	344.09	398.43	468.18	596.59	73.85	86.05	100.99	127.72
С	Riverside (MD/MDAQMD)	Winter	2017	344.14	398.61	468.11	597.15	73.82	85.88	100.89	127.96
С	Riverside (MD/MDAQMD)	Winter	2018	344.18	398.74	468.02	597.57	73.83	85.77	100.94	128.17
С	Riverside (MD/MDAQMD)	Winter	2019	343.49	398.02	467.00	596.64	73.85	85.71	100.91	128.35
С	Riverside (MD/MDAQMD)	Winter	2020	343.49	398.11	466.91	596.86	73.90	85.74	100.94	128.50
С	Riverside (MD/MDAQMD)	Winter	2021	341.93	396.34	464.75	594.29	73.93	85.79	100.97	128.60
С	Riverside (MD/MDAQMD)	Winter	2022	341.87	396.30	464.64	594.33	73.94	85.82	100.98	128.68
С	Riverside (MD/MDAQMD)	Winter	2023	341.81	396.29	464.54	594.36	73.95	85.86	100.99	128.77
С	Riverside (MD/MDAQMD)	Winter	2024	342.18	396.81	465.08	595.17	73.95	85.89	101.00	128.86
С	Riverside (MD/MDAQMD)	Winter	2025	342.15	396.84	465.03	595.20	73.95	85.94	101.02	128.94
С	Riverside (MD/MDAQMD)	Winter	2026	342.15	396.91	464.96	595.22	73.96	86.00	101.02	129.01
С	Riverside (MD/MDAQMD)	Winter	2027	342.15	397.00	464.93	595.26	73.97	86.05	101.03	129.07
С	Riverside (MD/MDAQMD)	Winter	2028	342.16	397.09	464.90	595.32	73.97	86.10	101.03	129.13
С	Riverside (MD/MDAQMD)	Winter	2029	342.17	397.19	464.88	595.40	73.97	86.15	101.04	129.19
С	Riverside (MD/MDAQMD)	Winter	2030	342.18	397.30	464.87	595.48	73.98	86.19	101.04	129.24
С	Riverside (MD/MDAQMD)	Winter	2031	342.26	397.46	464.97	595.67	73.98	86.23	101.04	129.28
С	Riverside (MD/MDAQMD)	Winter	2032	342.26	397.54	464.96	595.73	73.98	86.26	101.04	129.33
С	Riverside (MD/MDAQMD)	Winter	2033	342.26	397.61	464.95	595.79	73.98	86.29	101.05	129.37
С	Riverside (MD/MDAQMD)	Winter	2034	342.26	397.67	464.94	595.85	73.99	86.32	101.05	129.40
С	Riverside (MD/MDAQMD)	Winter	2035	342.26	397.71	464.93	595.90	73.99	86.34	101.05	129.43
С	Riverside (MD/SCAQMD)	Annual	2010	368.30	421.09	501.55	627.35	74.21	89.30	100.37	124.62
С	Riverside (MD/SCAQMD)	Annual	2011	364.70	417.57	496.50	622.41	73.31	88.07	100.40	124.81
С	Riverside (MD/SCAQMD)	Annual	2012	365.13	418.21	496.21	623.50	73.47	87.63	100.46	125.06
С	Riverside (MD/SCAQMD)	Annual	2013	364.41	417.34	494.60	622.65	73.63	86.84	100.29	125.29
С	Riverside (MD/SCAQMD)	Annual	2014	364.62	417.45	494.44	623.55	73.54	85.83	100.38	125.53
С	Riverside (MD/SCAQMD)	Annual	2015	360.62	413.24	488.80	617.43	73.46	85.76	100.49	125.76
С	Riverside (MD/SCAQMD)	Annual	2016	360.86	413.52	488.70	618.47	73.61	85.42	100.59	125.87
С	Riverside (MD/SCAQMD)	Annual	2017	360.81	413.70	488.63	619.42	73.30	84.92	100.34	126.01
С	Riverside (MD/SCAQMD)	Annual	2018	361.00	413.85	488.56	620.00	73.42	84.56	100.45	126.29
С	Riverside (MD/SCAQMD)	Annual	2019	360.39	413.29	487.47	619.19	73.52	84.71	100.55	126.54
С	Riverside (MD/SCAQMD)	Annual	2020	360.36	413.49	487.42	619.63	73.53	84.74	100.63	126.78
С	Riverside (MD/SCAQMD)	Annual	2021	357.25	410.70	483.71	615.42	73.38	84.91	100.71	127.03
С	Riverside (MD/SCAQMD)	Annual	2022	357.24	411.02	483.66	615.84	73.37	85.06	100.75	127.25
С	Riverside (MD/SCAQMD)	Annual	2023	357.29	411.28	483.62	616.06	73.42	85.19	100.79	127.40
С	Riverside (MD/SCAQMD)	Annual	2024	353.97	407.66	479.14	610.61	73.45	85.28	100.82	127.55
С	Riverside (MD/SCAQMD)	Annual	2025	354.02	407.88	479.11	610.79	73.47	85.39	100.84	127.70
С	Riverside (MD/SCAQMD)	Annual	2026	354.03	408.12	479.09	611.05	73.49	85.50	100.88	127.88
С	Riverside (MD/SCAQMD)	Annual	2027	354.04	408.39	479.07	611.31	73.50	85.60	100.90	128.04
С	Riverside (MD/SCAQMD)	Annual	2028	354.03	408.61	479.05	611.54	73.51	85.69	100.92	128.18
С	Riverside (MD/SCAQMD)	Annual	2029	354.00	408.81	478.99	611.77	73.51	85.77	100.93	128.31
С	Riverside (MD/SCAQMD)	Annual	2030	353.99	408.95	478.97	612.01	73.51	85.84	100.94	128.44
С	Riverside (MD/SCAQMD)	Annual	2031	348.76	403.17	472.01	603.39	73.52	85.91	100.94	128.56
С	Riverside (MD/SCAQMD)	Annual	2032	348.75	403.31	471.99	603.62	73.52	85.98	100.95	128.67
С	Riverside (MD/SCAQMD)	Annual	2033	348.75	403.45	471.97	603.82	73.53	86.04	100.95	128.77
С	Riverside (MD/SCAQMD)	Annual	2034	348.75	403.54	471.94	604.00	73.53	86.09	100.95	128.86
С	Riverside (MD/SCAQMD)	Annual	2035	348.75	403.63	471.92	604.15	73.54	86.13	100.96	128.94
С	Riverside (MD/SCAQMD)	Summer	2010	375.92	428.57	511.53	639.58	74.21	89.30	100.37	124.62
С	Riverside (MD/SCAQMD)	Summer	2011	372.44	425.34	506.60	634.78	73.31	88.07	100.40	124.81
С	Riverside (MD/SCAQMD)	Summer	2012	372.90	426.14	506.36	635.94	73.47	87.63	100.46	125.06
С	Riverside (MD/SCAQMD)	Summer	2013	372.17	425.39	504.79	635.14	73.63	86.84	100.29	125.29

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			C	O2 Runni	ng (g/VMT	·)	(CO2 Star	ting (g/tr	ip)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Riverside (MD/SCAQMD)	Summer	2014	372.39	425.65	504.66	636.10	73.54	85.83	100.38	125.53
С	Riverside (MD/SCAQMD)	Summer	2015	368.38	421.47	499.01	630.01	73.46	85.76	100.49	125.76
С	Riverside (MD/SCAQMD)	Summer	2016	368.61	421.83	498.93	631.14	73.61	85.42	100.59	125.87
С	Riverside (MD/SCAQMD)	Summer	2017	368.58	422.08	498.91	632.16	73.30	84.92	100.34	126.01
С	Riverside (MD/SCAQMD)	Summer	2018	368.76	422.29	498.84	632.79	73.42	84.56	100.45	126.29
С	Riverside (MD/SCAQMD)	Summer	2019	368.21	421.80	497.81	632.10	73.52	84.71	100.55	126.54
С	Riverside (MD/SCAQMD)	Summer	2020	368.19	422.05	497.77	632.57	73.53	84.74	100.63	126.78
С	Riverside (MD/SCAQMD)	Summer	2021	365.00	419.18	493.93	628.25	73.38	84.91	100.71	127.03
С	Riverside (MD/SCAQMD)	Summer	2022	365.00	419.52	493.91	628.71	73.37	85.06	100.75	127.25
С	Riverside (MD/SCAQMD)	Summer	2023	365.06	419.82	493.88	628.97	73.42	85.19	100.79	127.40
С	Riverside (MD/SCAQMD)	Summer	2024	361.68	416.17	489.34	623.45	73.45	85.28	100.82	127.55
С	Riverside (MD/SCAQMD)	Summer	2025	361.74	416.41	489.31	623.66	73.47	85.39	100.84	127.70
С	Riverside (MD/SCAQMD)	Summer	2026	361.74	416.69	489.30	623.93	73.49	85.50	100.88	127.88
С	Riverside (MD/SCAQMD)	Summer	2027	361.75	416.99	489.28	624.20	73.50	85.60	100.90	128.04
С	Riverside (MD/SCAQMD)	Summer	2028	361.74	417.23	489.25	624.45	73.51	85.69	100.92	128.18
С	Riverside (MD/SCAQMD)	Summer	2029	361.71	417.46	489.20	624.68	73.51	85.77	100.93	128.31
С	Riverside (MD/SCAQMD)	Summer	2030	361.70	417.60	489.17	624.93	73.51	85.84	100.94	128.44
С	Riverside (MD/SCAQMD)	Summer	2031	356.48	411.83	482.22	616.32	73.52	85.91	100.94	128.56
С	Riverside (MD/SCAQMD)	Summer	2032	356.47	411.98	482.20	616.56	73.52	85.98	100.95	128.67
С	Riverside (MD/SCAQMD)	Summer	2033	356.47	412.12	482.18	616.78	73.53	86.04	100.95	128.77
С	Riverside (MD/SCAQMD)	Summer	2034	356.47	412.23	482.15	616.96	73.53	86.09	100.95	128.86
С	Riverside (MD/SCAQMD)	Summer	2035	356.47	412.31	482.14	617.12	73.54	86.13	100.96	128.94
С	Riverside (MD/SCAQMD)	Winter	2010	367.80	420.60	500.90	626.55	74.21	89.30	100.37	124.62
С	Riverside (MD/SCAQMD)	Winter	2011	364.17	417.04	495.80	621.56	73.31	88.07	100.40	124.81
С	Riverside (MD/SCAQMD)	Winter	2012	364.60	417.67	495.51	622.64	73.47	87.63	100.46	125.06
С	Riverside (MD/SCAQMD)	Winter	2013	363.88	416.78	493.90	621.79	73.63	86.84	100.29	125.29
С	Riverside (MD/SCAQMD)	Winter	2014	364.09	416.89	493.73	622.68	73.54	85.83	100.38	125.53
С	Riverside (MD/SCAQMD)	Winter	2015	360.08	412.67	488.09	616.56	73.46	85.76	100.49	125.76
С	Riverside (MD/SCAQMD)	Winter	2016	360.32	412.95	487.99	617.59	73.61	85.42	100.59	125.87
С	Riverside (MD/SCAQMD)	Winter	2017	360.27	413.11	487.92	618.53	73.30	84.92	100.34	126.01
С	Riverside (MD/SCAQMD)	Winter	2018	360.46	413.26	487.85	619.11	73.42	84.56	100.45	126.29
С	Riverside (MD/SCAQMD)	Winter	2019	359.82	412.66	486.71	618.24	73.52	84.71	100.55	126.54
С	Riverside (MD/SCAQMD)	Winter	2020	359.79	412.87	486.67	618.68	73.53	84.74	100.63	126.78
С	Riverside (MD/SCAQMD)	Winter	2021	356.70	410.11			73.38		100.71	127.03
С	Riverside (MD/SCAQMD)	Winter	2022	356.70	410.42	482.95	614.94	73.37	85.06	100.75	127.25
С	Riverside (MD/SCAQMD)	Winter	2023	356.75	410.69	482.90	615.16	73.42		100.79	127.40
С	Riverside (MD/SCAQMD)	Winter	2024	353.42	407.06	478.42	609.70	73.45		100.82	127.55
С	Riverside (MD/SCAQMD)	Winter	2025	353.47	407.28	478.39	609.88	73.47	85.39	100.84	127.70
С	Riverside (MD/SCAQMD)	Winter	2026	353.48	407.52	478.37	610.14	73.49	85.50	100.88	127.88
С	Riverside (MD/SCAQMD)	Winter	2027	353.49	407.78	478.35	610.40	73.50	85.60		128.04
С	Riverside (MD/SCAQMD)	Winter	2028	353.49	408.00	478.32	610.63	73.51	85.69		128.18
C	Riverside (MD/SCAQMD)	Winter	2029	353.45	408.20	478.26	610.85	73.51	85.77	100.93	128.31
С	Riverside (MD/SCAQMD)	Winter	2030	353.44	408.34	478.24	611.09	73.51	85.84	100.94	128.44
С	Riverside (MD/SCAQMD)	Winter	2031	348.17	402.51	471.23	602.40	73.52	85.91	100.94	128.56
C	Riverside (MD/SCAQMD)	Winter	2032	348.17	402.65	471.21	602.63	73.52	85.98		128.67
C	Riverside (MD/SCAQMD)	Winter	2033	348.17	402.78	471.19	602.83	73.53	86.04	100.95	128.77
C	Riverside (MD/SCAQMD)	Winter	2034	348.16	402.88	471.16	603.01	73.53	86.09	100.95	128.86
C	Riverside (MD/SCAQMD)	Winter	2035	348.16	402.97	471.14	603.16	73.54	86.13	100.96	128.94
C	Riverside (SC)	Annual	2010	330.61	378.40	452.04	571.52 571.70	73.26	83.74	99.63	125.20
C	Riverside (SC)	Annual	2011	330.55	378.98	451.62 451.57	571.70	73.27	83.73	99.72	125.46
С	Riverside (SC)	Annual	2012	330.76	379.75	451.57	572.32	73.30	83.78	99.83	125.73
С	Riverside (SC)	Annual	2013	331.56	381.10	452.35	573.99	73.35	83.84	99.94	126.00
C C	Riverside (SC)	Annual	2014	331.76	381.69	452.34	574.61	73.39	83.91	100.04	126.27
Ü	Riverside (SC)	Annual	2015	330.28	380.32	450.07	572.35	73.45	84.02	100.14	126.5

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	٦ .		CO2 Starting (g/trip LDA LDT1 LDT2 73.52 84.14 100.24				
	Location	0	\/			, ,							
_	D: (00)	Season	Year	LDA	LDT1	LDT2	MDV				MDV		
С	Riverside (SC)	Annual	2016	330.47	380.81	450.07	572.90				126.81		
C	Riverside (SC)	Annual	2017	330.61	381.25	450.08	573.42	73.57	84.25		127.07		
C	Riverside (SC)	Annual	2018	330.73	381.62	450.08	573.86	73.62	84.36		127.30		
C_	Riverside (SC)	Annual	2019	330.84	382.00	450.08	574.28	73.67	84.54	100.48	127.53		
C	Riverside (SC)	Annual	2020	330.93	382.33	450.08	574.64	73.76	84.73	100.56	127.74		
C_	Riverside (SC)	Annual	2021	331.65	383.36	450.95	576.02	73.83	84.91	100.65	127.90		
C_	Riverside (SC)	Annual	2022	331.69	383.60	450.94	576.24	73.88	85.06	100.71	128.05		
C	Riverside (SC)	Annual	2023	331.71	383.78	450.92	576.41	73.92	85.20	100.77	128.20		
С	Riverside (SC)	Annual	2024	332.10	384.41	451.45	577.22	73.94	85.32	100.81	128.33		
C	Riverside (SC)	Annual	2025	332.10	384.56	451.44	577.35	73.96	85.43	100.85	128.45		
С	Riverside (SC)	Annual	2026	332.12	384.71	451.42	577.47	73.98	85.53	100.89	128.57		
С	Riverside (SC)	Annual	2027	332.13	384.85	451.41	577.58	73.99	85.62	100.91	128.67		
С	Riverside (SC)	Annual	2028	332.13	385.00	451.40	577.69	74.00	85.70	100.93	128.76		
С	Riverside (SC)	Annual	2029	332.13	385.14	451.39	577.80	74.01	85.78	100.94	128.85		
С	Riverside (SC)	Annual	2030	332.13	385.28	451.38	577.91	74.01	85.85	100.95	128.92		
С	Riverside (SC)	Annual	2031	332.06	385.34	451.29	577.92	74.02	85.92	100.96	129.00		
С	Riverside (SC)	Annual	2032	332.06	385.47	451.29	578.03	74.02	85.99	100.97	129.07		
С	Riverside (SC)	Annual	2033	332.06	385.59	451.29	578.14	74.02	86.05	100.97	129.13		
С	Riverside (SC)	Annual	2034	332.05	385.69	451.28	578.24	74.03	86.10	100.98	129.19		
С	Riverside (SC)	Annual	2035	332.05	385.77	451.28	578.33	74.03	86.15	100.98	129.25		
С	Riverside (SC)	Summer	2010	357.99	406.64	488.13	617.11	73.26	83.74	99.63	125.20		
С	Riverside (SC)	Summer	2011	358.00	407.69	487.77	617.21	73.27	83.73	99.72	125.46		
С	Riverside (SC)	Summer	2012	358.27	408.86	487.80	617.86	73.30	83.78	99.83	125.73		
С	Riverside (SC)	Summer	2013	359.18	410.58	488.73	619.69	73.35	83.84	99.94	126.00		
С	Riverside (SC)	Summer	2014	359.43	411.42	488.83	620.44	73.39	83.91	100.04	126.27		
С	Riverside (SC)	Summer	2015	357.84	410.09	486.45	618.08	73.45	84.02	100.14	126.55		
С	Riverside (SC)	Summer	2016	358.07	410.74	486.54	618.78	73.52	84.14	100.24	126.81		
С	Riverside (SC)	Summer	2017	358.25	411.31	486.60	619.42	73.57	84.25	100.32	127.07		
С	Riverside (SC)	Summer	2018	358.38	411.77	486.62	619.96	73.62	84.36	100.39	127.30		
С	Riverside (SC)	Summer	2019	358.52	412.25	486.65	620.48	73.67	84.54	100.48	127.53		
С	Riverside (SC)	Summer	2020	358.63	412.66	486.66	620.93	73.76	84.73	100.56	127.74		
С	Riverside (SC)	Summer	2021	359.40	413.82	487.58	622.43	73.83	84.91	100.65	127.90		
С	Riverside (SC)	Summer	2022	359.44	414.11	487.54	622.67	73.88	85.06	100.71	128.05		
С	Riverside (SC)	Summer	2023	359.45	414.35	487.50	622.84	73.92	85.20	100.77	128.20		
С	Riverside (SC)	Summer	2024	359.88	415.08	488.05	623.73	73.94	85.32	100.81	128.33		
С	Riverside (SC)	Summer	2025	359.88	415.29	488.02	623.84	73.96	85.43	100.85	128.45		
С	Riverside (SC)	Summer	2026	359.88	415.48	488.00	623.94	73.98		100.89	128.57		
С	Riverside (SC)	Summer	2027	359.89	415.67	487.98	624.04	73.99	85.62	100.91	128.67		
С	Riverside (SC)	Summer	2028	359.90	415.85	487.97	624.14	74.00	85.70		128.76		
С	Riverside (SC)	Summer	2029	359.90	416.04	487.97	624.25	74.01	85.78		128.85		
C	Riverside (SC)	Summer	2030	359.90	416.22	487.97	624.36	74.01	85.85		128.92		
C	Riverside (SC)	Summer	2031	359.83	416.35	487.90	624.40	74.02	85.92		129.00		
C	Riverside (SC)	Summer	2032	359.82	416.52	487.90	624.53	74.02	85.99		129.07		
C	Riverside (SC)	Summer	2033	359.82	416.67	487.90	624.65	74.02	86.05		129.13		
C	Riverside (SC)	Summer	2034	359.82	416.80	487.89	624.78	74.03	86.10		129.19		
С	Riverside (SC)	Summer	2035	359.82	416.89	487.89	624.88	74.03	86.15	100.98	129.25		
C	Riverside (SC)	Winter	2010	325.98	373.62	445.94	563.82	73.26	83.74	99.63	125.20		
C	Riverside (SC)	Winter	2011	325.92	374.13	445.52	564.01	73.27	83.73	99.72	125.46		
C	Riverside (SC)	Winter	2011	326.12	374.13	445.45	564.63	73.30	83.78	99.83	125.73		
<u>с</u>	Riverside (SC)	Winter	2012	326.90	376.11	446.20	566.26	73.35	83.84	99.94	126.00		
C	Riverside (SC)	Winter	2013	327.08	376.67	446.18	566.87	73.39	83.91	100.04	126.00		
c C	Riverside (SC)	Winter	2014	325.62	375.29	443.92	564.62	73.45	84.02	100.04	126.27		
<u>с</u> С	Riverside (SC)	Winter	2015	325.80	375.29	443.92	565.15	73.45	84.14		126.81		
c C	Riverside (SC)	Winter	2016	325.80	375.75	443.91	565.64	73.52	84.25		127.07		
\sim	Miroraide (OO)	4 V III IL CI	2017	525.94	3/0.1/	+4 3.90	505.04	10.01	04.20	100.32	121.01		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	Ī			CO2 Runni	na (a/\/MT	7		n)		
	Location	0	\/						CO2 Star		
_	Discounting (00)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
<u>C</u>	Riverside (SC)	Winter	2018	326.05	376.52	443.90	566.07	73.62	84.36	100.39	127.30
C	Riverside (SC)	Winter	2019	326.16	376.88	443.90	566.47	73.67	84.54	100.48	127.53
C	Riverside (SC)	Winter	2020	326.25	377.20	443.90	566.82	73.76	84.73	100.56	127.74
C_	Riverside (SC)	Winter	2021	326.96	378.22	444.77	568.19	73.83	84.91	100.65	127.90
С	Riverside (SC)	Winter	2022	327.00	378.44	444.76	568.40	73.88	85.06	100.71	128.05
С	Riverside (SC)	Winter	2023	327.02	378.62	444.75	568.56	73.92	85.20	100.77	128.20
С	Riverside (SC)	Winter	2024	327.40	379.22	445.26	569.36	73.94	85.32	100.81	128.33
С	Riverside (SC)	Winter	2025	327.41	379.36	445.25	569.49	73.96	85.43	100.85	128.45
С	Riverside (SC)	Winter	2026	327.42	379.51	445.24	569.61	73.98	85.53	100.89	128.57
С	Riverside (SC)	Winter	2027	327.43	379.64	445.23	569.72	73.99	85.62	100.91	128.67
С	Riverside (SC)	Winter	2028	327.44	379.78	445.22	569.84	74.00	85.70	100.93	128.76
С	Riverside (SC)	Winter	2029	327.44	379.91	445.21	569.95	74.01	85.78	100.94	128.85
С	Riverside (SC)	Winter	2030	327.44	380.04	445.20	570.06	74.01	85.85	100.95	128.92
С	Riverside (SC)	Winter	2031	327.36	380.09	445.10	570.05	74.02	85.92	100.96	129.00
С	Riverside (SC)	Winter	2032	327.36	380.22	445.09	570.16	74.02	85.99	100.97	129.07
С	Riverside (SC)	Winter	2033	327.36	380.33	445.09	570.27	74.02	86.05	100.97	129.13
С	Riverside (SC)	Winter	2034	327.35	380.42	445.09	570.36	74.03	86.10	100.98	129.19
С	Riverside (SC)	Winter	2035	327.35	380.50	445.08	570.45	74.03	86.15	100.98	129.25
С	Riverside (SS)	Annual	2010	345.46	396.10	472.54	596.54	72.91	83.80	99.54	124.93
С	Riverside (SS)	Annual	2011	344.74	395.84	471.06	595.48	72.99	83.84	99.65	125.24
С	Riverside (SS)	Annual	2012	345.04	396.66	471.03	596.25	73.08	83.91	99.78	125.55
С	Riverside (SS)	Annual	2013	343.99	395.85	469.20	594.73	73.18	84.00	99.91	125.87
С	Riverside (SS)	Annual	2014	344.25	396.49	469.22	595.50	73.27	84.11	100.03	126.18
С	Riverside (SS)	Annual	2015	342.36	394.67	466.40	592.65	73.35	84.23	100.15	126.49
С	Riverside (SS)	Annual	2016	342.56	395.18	466.43	593.33	73.44	84.37	100.27	126.78
С	Riverside (SS)	Annual	2017	342.72	395.62	466.45	593.94	73.51	84.48	100.36	127.06
С	Riverside (SS)	Annual	2018	342.82	395.99	466.46	594.46	73.56	84.61	100.44	127.32
С	Riverside (SS)	Annual	2019	342.80	396.23	466.32	594.75	73.63	84.79	100.52	127.56
С	Riverside (SS)	Annual	2020	342.88	396.55	466.32	595.17	73.71	84.97	100.61	127.78
С	Riverside (SS)	Annual	2021	343.69	397.75	467.39	596.87	73.77	85.14	100.69	127.97
С	Riverside (SS)	Annual	2022	343.72	397.99	467.38	597.16	73.81	85.28	100.75	128.14
С	Riverside (SS)	Annual	2023	343.72	398.19	467.37	597.38	73.84	85.41	100.81	128.29
С	Riverside (SS)	Annual	2024	348.57	403.98	473.99	606.03	73.86	85.52	100.85	128.43
С	Riverside (SS)	Annual	2025	348.57	404.13	473.98	606.18	73.88	85.62	100.88	128.56
С	Riverside (SS)	Annual	2026	348.58	404.26	473.95	606.32	73.89	85.71	100.91	128.68
С	Riverside (SS)	Annual	2027	348.58	404.39	473.93	606.44	73.91	85.79	100.93	128.78
С	Riverside (SS)	Annual	2028	348.59	404.52	473.91	606.56	73.91	85.86	100.95	128.87
С	Riverside (SS)	Annual	2029	348.59	404.64	473.90	606.67	73.92	85.92	100.96	128.95
С	Riverside (SS)	Annual	2030	348.60	404.76	473.89	606.79	73.92	85.99	100.97	129.03
С	Riverside (SS)	Annual	2031	356.78	414.43	485.07	621.23	73.93	86.04	100.98	129.10
C	Riverside (SS)	Annual	2032	356.78	414.55	485.07	621.35	73.93	86.10		129.16
C	Riverside (SS)	Annual	2033	356.78	414.65	485.06	621.45	73.93	86.14		129.22
С	Riverside (SS)	Annual	2034	356.78	414.73	485.06	621.55	73.94	86.19		129.27
C	Riverside (SS)	Annual	2035	356.78	414.80	485.06	621.64	73.94	86.22	101.00	129.32
C	Riverside (SS)	Summer	2010	351.02	401.92	479.90	605.78	72.91	83.80	99.54	124.93
С	Riverside (SS)	Summer	2011	350.36	401.79	478.48	604.78	72.99	83.84	99.65	125.24
C	Riverside (SS)	Summer	2012	350.68	402.68	478.47	605.56	73.08	83.91	99.78	125.55
C	Riverside (SS)	Summer	2012	349.60	401.89	476.60	604.00	73.18	84.00	99.91	125.87
C	Riverside (SS)	Summer	2013	349.87	402.57	476.63	604.79	73.10	84.11	100.03	126.18
<u>с</u>	Riverside (SS)	Summer	2014	348.02	400.82	473.87	602.03	73.35	84.23	100.03	126.49
C	Riverside (SS)	Summer	2016	348.23	400.82	473.91	602.73	73.44	84.37	100.13	126.49
c C	Riverside (SS)	Summer	2017	348.39	401.83	473.91	603.38	73.44	84.48		127.06
<u>с</u> С	Riverside (SS)	Summer	2017	348.50	401.83	473.94	603.92	73.56	84.61	100.36	127.06
c C	Riverside (SS)	Summer	2018	348.48	402.21	473.95	604.23	73.63			127.52
\sim	ravorside (00)	Summer	2019	J40.40	+∪∠.4/	+1 J.OZ	004.23	10.03	04.79	100.52	121.00

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT)	(CO2 Star	ting (a/tri	n)
	Location	Season	Voor	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Riverside (SS)	Summer	Year 2020	348.57	402.81	473.83	604.66	73.71	84.97	100.61	127.78
<u>с</u> С	,										
_	Riverside (SS)	Summer	2021	349.38	404.03	474.91	606.40	73.77	85.14		127.97
С	Riverside (SS)	Summer	2022	349.41	404.29	474.90	606.70	73.81	85.28	100.75	128.14
C	Riverside (SS)	Summer	2023	349.41	404.50	474.89	606.93	73.84	85.41		128.29
С	Riverside (SS)	Summer	2024	354.32	410.38	481.59	615.69	73.86	85.52	100.85	128.43
С	Riverside (SS)	Summer	2025	354.32	410.53	481.58	615.85	73.88	85.62	100.88	128.56
С	Riverside (SS)	Summer	2026	354.33	410.67	481.55	615.98	73.89	85.71	100.91	128.68
С	Riverside (SS)	Summer	2027	354.33	410.80	481.52	616.10	73.91	85.79	100.93	128.78
С	Riverside (SS)	Summer	2028	354.34	410.94	481.50	616.22	73.91	85.86	100.95	128.87
С	Riverside (SS)	Summer	2029	354.35	411.07	481.49	616.33	73.92	85.92	100.96	128.95
С	Riverside (SS)	Summer	2030	354.35	411.20	481.48	616.45	73.92	85.99	100.97	129.03
С	Riverside (SS)	Summer	2031	362.73	421.10	492.92	631.22	73.93	86.04	100.98	129.10
С	Riverside (SS)	Summer	2032	362.73	421.22	492.92	631.34	73.93	86.10	100.99	129.16
С	Riverside (SS)	Summer	2033	362.73	421.32	492.91	631.45	73.93	86.14	100.99	129.22
С	Riverside (SS)	Summer	2034	362.73	421.41	492.91	631.55	73.94	86.19	100.99	129.27
С	Riverside (SS)	Summer	2035	362.72	421.48	492.91	631.64	73.94	86.22	101.00	129.32
С	Riverside (SS)	Winter	2010	325.60	375.29	446.23	563.52	72.91	83.80	99.54	124.93
С	Riverside (SS)	Winter	2011	324.87	374.79	444.80	562.57	72.99	83.84	99.65	125.24
С	Riverside (SS)	Winter	2012	325.11	375.37	444.73	563.31	73.08	83.91	99.78	125.55
С	Riverside (SS)	Winter	2013	324.10	374.44	442.96	561.85	73.18	84.00	99.91	125.87
С	Riverside (SS)	Winter	2014	324.31	374.92	442.92	562.52	73.27	84.11	100.03	126.18
С	Riverside (SS)	Winter	2015	322.52	373.10	440.22	559.77	73.35	84.23	100.15	126.49
С	Riverside (SS)	Winter	2016	322.69	373.51	440.21	560.35	73.44	84.37	100.27	126.78
С	Riverside (SS)	Winter	2017	322.83	373.87	440.19	560.87	73.51	84.48	100.36	127.06
С	Riverside (SS)	Winter	2018	322.93	374.18	440.18	561.32	73.56	84.61	100.44	127.32
С	Riverside (SS)	Winter	2019	322.91	374.36	440.04	561.55	73.63	84.79	100.52	127.56
С	Riverside (SS)	Winter	2020	322.98	374.63	440.03	561.91	73.71	84.97	100.61	127.78
С	Riverside (SS)	Winter	2021	323.74	375.72	441.03	563.48	73.77	85.14	100.69	127.97
С	Riverside (SS)	Winter	2022	323.78	375.91	441.03	563.73	73.81	85.28	100.75	128.14
С	Riverside (SS)	Winter	2023	323.79	376.06	441.02	563.92	73.84	85.41	100.81	128.29
С	Riverside (SS)	Winter	2024	328.34	381.51	447.26	572.06	73.86	85.52	100.85	128.43
С	Riverside (SS)	Winter	2025	328.35	381.62	447.25	572.22	73.88	85.62	100.88	128.56
С	Riverside (SS)	Winter	2026	328.36	381.74	447.25	572.36	73.89	85.71	100.91	128.68
C	Riverside (SS)	Winter	2027	328.37	381.84	447.24	572.49	73.91		100.93	128.78
С	Riverside (SS)	Winter	2028	328.38	381.95	447.23	572.61	73.91	85.86		128.87
С	Riverside (SS)	Winter	2029	328.38	382.05	447.22	572.73	73.92	85.92		128.95
С	Riverside (SS)	Winter	2030	328.38	382.15	447.22	572.85	73.92		100.97	129.03
C	Riverside (SS)	Winter	2031	336.08	391.25	457.76	586.47	73.93	86.04		129.10
C	Riverside (SS)	Winter	2032	336.08	391.34	457.75	586.58	73.93	86.10	100.99	129.16
C	Riverside (SS)	Winter	2032	336.08	391.43	457.75	586.68	73.93	86.14	100.99	129.10
C	Riverside (SS)	Winter	2034	336.08	391.43	457.75	586.76	73.94	86.19		129.27
C	Riverside (SS)	Winter	2034	336.08	391.56	457.75	586.84	73.94	86.22	100.99	129.27
С	Sacramento (SV)	Annual	2035	338.27	388.45	463.58	584.38	73.94	84.85	99.62	129.32
С	Sacramento (SV)							72.89	84.61	99.62	
C	\ /	Annual	2011	338.59	389.26	463.49	584.93				124.96
	Sacramento (SV)	Annual	2012	338.89	389.98	463.44	585.56	73.00	84.46	99.78	125.19
С	Sacramento (SV)	Annual	2013	339.19	390.61	463.40	586.25	73.08	84.39	99.88	125.44
C	Sacramento (SV)	Annual	2014	339.46	391.17	463.38	586.94	73.15	84.34	99.96	125.69
С	Sacramento (SV)	Annual	2015	339.72	391.68	463.38	587.65	73.24	84.33	100.03	125.96
C C	Sacramento (SV)	Annual	2016	339.95	392.11	463.38	588.32	73.35	84.32	100.13	126.23
C	Sacramento (SV)	Annual	2017	340.12	392.49	463.38	588.95	73.41	84.30	100.21	126.50
С	Sacramento (SV)	Annual	2018	340.26	392.81	463.37	589.51	73.47	84.32	100.29	126.76
С	Sacramento (SV)	Annual	2019	338.61	391.09	460.99	586.96	73.53	84.47		126.99
С	Sacramento (SV)	Annual	2020	338.72	391.37	460.98	587.40	73.64	84.63		127.20
С	Sacramento (SV)	Annual	2021	338.80	391.64	460.97	587.73	73.72	84.80	100.57	127.38

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Star	tina (a/tri	(q
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Sacramento (SV)	Annual	2022	338.84	391.86	460.96	588.00	73.78	84.95	100.64	127.54
C	Sacramento (SV)	Annual	2023	338.86	392.04	460.94	588.22	73.82	85.07	100.71	127.71
С	Sacramento (SV)	Annual	2024	338.87	392.19	460.92	588.37	73.85	85.19	100.76	127.86
C	Sacramento (SV)	Annual	2025	338.88	392.32	460.91	588.52	73.87	85.29	100.81	128.00
C	Sacramento (SV)	Annual	2026	338.89	392.46	460.90	588.69	73.89	85.39	100.85	128.15
С	Sacramento (SV)	Annual	2027	338.90	392.59	460.89	588.86	73.91	85.48	100.88	128.28
С	Sacramento (SV)	Annual	2028	338.91	392.72	460.89	589.02	73.92	85.56	100.90	128.39
С	Sacramento (SV)	Annual	2029	338.91	392.85	460.87	589.18	73.93	85.64	100.92	128.50
С	Sacramento (SV)	Annual	2030	338.91	392.98	460.87	589.35	73.93	85.71	100.93	128.60
С	Sacramento (SV)	Annual	2031	338.92	393.12	460.86	589.51	73.94	85.79	100.94	128.70
С	Sacramento (SV)	Annual	2032	338.92	393.24	460.86	589.69	73.94	85.85	100.95	128.80
С	Sacramento (SV)	Annual	2033	338.92	393.34	460.85	589.84	73.95	85.91	100.96	128.88
С	Sacramento (SV)	Annual	2034	338.92	393.44	460.84	589.99	73.95	85.97	100.96	128.96
С	Sacramento (SV)	Annual	2035	338.92	393.51	460.84	590.12	73.95	86.02	100.97	129.04
С	Sacramento (SV)	Summer	2010	375.62	427.51	513.20	646.48	72.89	84.85	99.62	124.76
С	Sacramento (SV)	Summer	2011	376.19	429.01	513.26	646.92	72.94	84.61	99.69	124.96
С	Sacramento (SV)	Summer	2012	376.70	430.30	513.35	647.57	73.00	84.46	99.78	125.19
С	Sacramento (SV)	Summer	2013	377.16	431.37	513.46	648.38	73.08	84.39	99.88	125.44
С	Sacramento (SV)	Summer	2014	377.55	432.28	513.62	649.25	73.15	84.34	99.96	125.69
С	Sacramento (SV)	Summer	2015	377.89	433.05	513.77	650.20	73.24	84.33	100.03	125.96
С	Sacramento (SV)	Summer	2016	378.19	433.69	513.89	651.12	73.35	84.32	100.13	126.23
С	Sacramento (SV)	Summer	2017	378.39	434.26	513.97	651.99	73.41	84.30	100.21	126.50
С	Sacramento (SV)	Summer	2018	378.53	434.71	513.99	652.74	73.47	84.32	100.29	126.76
С	Sacramento (SV)	Summer	2019	376.67	432.84	511.33	650.00	73.53	84.47	100.38	126.99
С	Sacramento (SV)	Summer	2020	376.76	433.18	511.31	650.57	73.64	84.63	100.47	127.20
С	Sacramento (SV)	Summer	2021	376.83	433.55	511.26	650.99	73.72	84.80	100.57	127.38
С	Sacramento (SV)	Summer	2022	376.86	433.86	511.21	651.34	73.78	84.95	100.64	127.54
С	Sacramento (SV)	Summer	2023	376.88	434.12	511.16	651.60	73.82	85.07	100.71	127.71
С	Sacramento (SV)	Summer	2024	376.89	434.33	511.11	651.76	73.85	85.19	100.76	127.86
С	Sacramento (SV)	Summer	2025	376.91	434.52	511.07	651.91	73.87	85.29	100.81	128.00
С	Sacramento (SV)	Summer	2026	376.91	434.70	511.07	652.09	73.89	85.39	100.85	128.15
С	Sacramento (SV)	Summer	2027	376.93	434.88	511.07	652.26	73.91	85.48	100.88	128.28
С	Sacramento (SV)	Summer	2028	376.94	435.06	511.07	652.43	73.92	85.56	100.90	128.39
С	Sacramento (SV)	Summer	2029	376.95	435.25	511.08	652.61	73.93	85.64	100.92	128.50
С	Sacramento (SV)	Summer	2030	376.96	435.44	511.08	652.80	73.93	85.71	100.93	128.60
С	Sacramento (SV)	Summer	2031	376.96	435.63	511.08	652.97	73.94	85.79	100.94	128.70
С	Sacramento (SV)	Summer	2032	376.97	435.80	511.07	653.16	73.94	85.85	100.95	128.80
С	Sacramento (SV)	Summer	2033	376.98	435.94	511.07	653.35	73.95	85.91	100.96	128.88
С	Sacramento (SV)	Summer	2034	376.98	436.06	511.06	653.53	73.95	85.97	100.96	128.96
С	Sacramento (SV)	Summer	2035	376.98	436.16	511.05	653.69	73.95	86.02	100.97	129.04
С	Sacramento (SV)	Winter	2010	328.26	377.97	450.28	567.73	72.89	84.85	99.62	124.76
С	Sacramento (SV)	Winter	2011	328.50	378.59	450.15	568.31	72.94	84.61	99.69	124.96
С	Sacramento (SV)	Winter	2012	328.76	379.17	450.05	568.93	73.00	84.46	99.78	125.19
С	Sacramento (SV)	Winter	2013	329.01	379.69	449.97	569.59	73.08	84.39	99.88	125.44
С	Sacramento (SV)	Winter	2014	329.25	380.15	449.91	570.23	73.15	84.34	99.96	125.69
С	Sacramento (SV)	Winter	2015	329.48	380.58	449.87	570.88	73.24	84.33	100.03	125.96
С	Sacramento (SV)	Winter	2016	329.69	380.95	449.84	571.48	73.35	84.32	100.13	126.23
С	Sacramento (SV)	Winter	2017	329.86	381.29	449.81	572.05	73.41	84.30	100.21	126.50
С	Sacramento (SV)	Winter	2018	329.99	381.58	449.80	572.55	73.47	84.32	100.29	126.76
С	Sacramento (SV)	Winter	2019	328.41	379.90	447.49	570.06	73.53	84.47	100.38	126.99
С	Sacramento (SV)	Winter	2020	328.52	380.16	447.49	570.46	73.64	84.63		127.20
С	Sacramento (SV)	Winter	2021	328.60	380.41	447.49	570.77	73.72	84.80	100.57	127.38
С	Sacramento (SV)	Winter	2022	328.65	380.61	447.49	571.03	73.78	84.95		127.54
С	Sacramento (SV)	Winter	2023	328.67	380.77	447.48	571.23	73.82	85.07	100.71	127.71

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Punni	ng (g/VMT	7		CO2 Star	tina (a/tri	in)
		Casasa	V		1						
С	Sacramento (SV)	Season Winter	Year 2024	LDA 328.67	LDT1 380.89	LDT2 447.47	MDV 571.38	LDA 73.85	LDT1 85.19	LDT2 100.76	MDV 127.86
C	Sacramento (SV)	Winter	2024	328.68	381.01	447.47	571.53	73.87	85.29	100.76	128.00
С	Sacramento (SV)	Winter	2026	328.70	381.14	447.46	571.70	73.89	85.39	100.85	128.15
C	Sacramento (SV)	Winter	2027	328.71	381.25	447.45	571.86	73.91	85.48	100.88	128.28
C	Sacramento (SV)	Winter	2028	328.72	381.37	447.43	572.02	73.92	85.56	100.90	128.39
С	Sacramento (SV)	Winter	2029	328.72	381.49	447.42	572.18	73.93	85.64	100.92	128.50
С	Sacramento (SV)	Winter	2030	328.72	381.60	447.41	572.34	73.93	85.71	100.93	128.60
С	Sacramento (SV)	Winter	2031	328.72	381.72	447.40	572.50	73.94	85.79	100.94	128.70
С	Sacramento (SV)	Winter	2032	328.72	381.83	447.39	572.67	73.94	85.85	100.95	128.80
С	Sacramento (SV)	Winter	2033	328.72	381.92	447.39	572.82	73.95	85.91	100.96	128.88
С	Sacramento (SV)	Winter	2034	328.72	382.01	447.38	572.96	73.95	85.97	100.96	128.96
С	Sacramento (SV)	Winter	2035	328.71	382.08	447.37	573.07	73.95	86.02	100.97	129.04
С	San Benito (NCC)	Annual	2010	325.03	378.79	446.10	558.62	73.58	90.26	100.51	124.39
С	San Benito (NCC)	Annual	2011	324.49	377.95	444.83	558.19	73.44	89.27	100.47	124.58
С	San Benito (NCC)	Annual	2012	324.56	377.80	444.45	558.83	73.36	88.39	100.46	124.79
С	San Benito (NCC)	Annual	2013	324.65	377.73	444.16	559.51	73.29	87.78	100.47	125.03
С	San Benito (NCC)	Annual	2014	324.77	377.62	443.93	560.19	73.27	87.07	100.45	125.29
С	San Benito (NCC)	Annual	2015	324.91	377.55	443.75	560.89	73.27	86.50	100.41	125.55
С	San Benito (NCC)	Annual	2016	325.03	377.52	443.61	561.56	73.28	86.06	100.42	125.83
С	San Benito (NCC)	Annual	2017	325.14	377.48	443.50	562.21	73.30	85.60	100.47	126.11
С	San Benito (NCC)	Annual	2018	325.25	377.47	443.42	562.78	73.34	85.28	100.54	126.37
С	San Benito (NCC)	Annual	2019	325.34	377.52	443.35	563.28	73.38	85.14	100.57	126.63
С	San Benito (NCC)	Annual	2020	325.44	377.57	443.30	563.72	73.48	85.11	100.63	126.87
С	San Benito (NCC)	Annual	2021	327.69	380.23	446.27	567.90	73.56	85.21	100.71	127.04
С	San Benito (NCC)	Annual	2022	327.72	380.33	446.23	568.20	73.62	85.30	100.77	127.19
С	San Benito (NCC)	Annual	2023	327.73	380.40	446.18	568.43	73.65	85.38	100.82	127.38
С	San Benito (NCC)	Annual	2024	327.70	380.45	446.14	568.59	73.67	85.46	100.87	127.55
С	San Benito (NCC)	Annual	2025	327.68	380.50	446.10	568.77	73.69	85.53	100.90	127.71
C	San Benito (NCC)	Annual	2026 2027	326.83	379.57	444.86	567.43	73.71	85.60	100.93	127.87
C	San Benito (NCC)	Annual		326.84	379.64	444.80	567.61	73.73	85.66	100.94	128.01
C C	San Benito (NCC) San Benito (NCC)	Annual	2028 2029	326.84 326.84	379.71 379.78	444.76 444.71	567.79 567.97	73.74 73.75	85.72 85.78	100.96 100.96	128.14 128.26
o O	San Benito (NCC)	Annual Annual	2029	326.83	379.76	444.71	568.16	73.75	85.83	100.96	128.38
C	San Benito (NCC)	Annual	2030	326.83	379.95	444.63	568.37	73.76		100.97	128.50
С	San Benito (NCC)	Annual	2032	326.83	380.02	444.61	568.59	73.76	85.94	100.97	128.62
С	San Benito (NCC)	Annual	2033	326.83	380.08	444.59	568.79	73.77	85.98	100.97	128.73
С	San Benito (NCC)	Annual	2034	326.82	380.15	444.56	568.97	73.77	86.03	100.98	128.83
C	San Benito (NCC)	Annual	2035	326.82	380.20	444.55	569.13	73.77	86.07	100.98	128.92
C	San Benito (NCC)	Summer	2010	348.46	403.82	476.85	597.56	73.58	90.26	100.51	124.39
С	San Benito (NCC)	Summer	2011	348.02	403.22	475.82	597.01	73.44	89.27	100.47	124.58
С	San Benito (NCC)	Summer	2012	348.22	403.33	475.66	597.67	73.36	88.39		124.79
С	San Benito (NCC)	Summer	2013	348.41	403.45	475.54	598.44	73.29			125.03
С	San Benito (NCC)	Summer	2014	348.61	403.53	475.46	599.25	73.27	87.07	100.45	125.29
С	San Benito (NCC)	Summer	2015	348.80	403.62	475.40	600.11	73.27	86.50	100.41	125.55
С	San Benito (NCC)	Summer	2016	348.97	403.71	475.33	600.96	73.28	86.06	100.42	125.83
С	San Benito (NCC)	Summer	2017	349.11	403.80	475.24	601.77	73.30	85.60	100.47	126.11
С	San Benito (NCC)	Summer	2018	349.22	403.90	475.15	602.48	73.34	85.28	100.54	126.37
С	San Benito (NCC)	Summer	2019	349.32	404.05	475.09	603.09	73.38	85.14	100.57	126.63
С	San Benito (NCC)	Summer	2020	349.41	404.18	475.03	603.62	73.48	85.11	100.63	126.87
С	San Benito (NCC)	Summer	2021	351.80	407.05	478.18	608.12	73.56	85.21	100.71	127.04
С	San Benito (NCC)	Summer	2022	351.84	407.19	478.12	608.48	73.62	85.30	100.77	127.19
С	San Benito (NCC)	Summer	2023	351.84	407.30	478.07	608.74	73.65	85.38	100.82	127.38
С	San Benito (NCC)	Summer	2024	351.83	407.39	478.02	608.91	73.67	85.46	100.87	127.55
С	San Benito (NCC)	Summer	2025	351.81	407.48	477.98	609.08	73.69	85.53	100.90	127.71

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	I			CO2 Bunni	na (a/\/NAT	`		COO Ctor	tina (a/tri	(n)
	Location	0			O2 Runni				CO2 Star		
<u></u>	Son Bonito (NICC)	Season	Year	LDA 350.90	LDT1	LDT2	MDV	LDA	LDT1 85.60	LDT2 100.93	MDV
С С	San Benito (NCC) San Benito (NCC)	Summer Summer	2026 2027	350.90	406.50 406.57	476.68 476.64	607.62 607.79	73.71 73.73	85.66	100.93	127.87 128.01
C	San Benito (NCC)	Summer	2027	350.91	406.66	476.62	607.79	73.74	85.72	100.94	128.14
c C	San Benito (NCC)	Summer	2028	350.91	406.76	476.59	608.15	73.75	85.78	100.96	128.26
C	San Benito (NCC)	Summer	2029	350.92	406.78	476.59	608.35	73.75	85.83	100.96	128.38
	San Benito (NCC)	Summer	2030	350.91	406.88	476.54	608.60	73.76	85.89	100.90	128.50
	San Benito (NCC)	Summer	2031	350.91	400.98	476.53	608.85	73.76	85.94	100.97	128.62
	San Benito (NCC)	Summer	2032	350.91	407.07	476.52	609.09	73.77	85.98	100.97	128.73
C	San Benito (NCC)	Summer	2034	350.91	407.14	476.50	609.32	73.77	86.03	100.98	128.83
C	San Benito (NCC)	Summer	2035	350.90	407.28	476.48	609.52	73.77	86.07	100.98	128.92
С	San Benito (NCC)	Winter	2010	322.42	376.00	442.67	554.28	73.58	90.26	100.51	124.39
С	San Benito (NCC)	Winter	2011	321.86	375.13	441.38	553.87	73.44	89.27	100.47	124.58
C	San Benito (NCC)	Winter	2012	321.93	374.95	440.98	554.50	73.36	88.39	100.46	124.79
С	San Benito (NCC)	Winter	2013	322.00	374.87	440.67	555.17	73.29	87.78	100.47	125.03
C	San Benito (NCC)	Winter	2014	322.12	374.73	440.42	555.83	73.27	87.07	100.47	125.29
C	San Benito (NCC)	Winter	2015	322.25	374.65	440.23	556.52	73.27	86.50	100.41	125.55
C	San Benito (NCC)	Winter	2016	322.36	374.60	440.08	557.17	73.28	86.06	100.41	125.83
С	San Benito (NCC)	Winter	2017	322.47	374.54	439.96	557.80	73.30	85.60	100.47	126.11
C	San Benito (NCC)	Winter	2018	322.58	374.52	439.88	558.36	73.34	85.28	100.54	126.37
С	San Benito (NCC)	Winter	2019	322.67	374.56	439.82	558.85	73.38	85.14	100.57	126.63
C	San Benito (NCC)	Winter	2020	322.76	374.60	439.77	559.28	73.48	85.11	100.63	126.87
С	San Benito (NCC)	Winter	2021	325.00	377.24	442.71	563.42	73.56	85.21	100.71	127.04
C	San Benito (NCC)	Winter	2022	325.04	377.33	442.67	563.71	73.62	85.30	100.77	127.19
C	San Benito (NCC)	Winter	2023	325.04	377.40	442.63	563.94	73.65	85.38	100.82	127.38
C	San Benito (NCC)	Winter	2024	325.01	377.45	442.59	564.10	73.67	85.46	100.87	127.55
С	San Benito (NCC)	Winter	2025	324.99	377.50	442.55	564.28	73.69	85.53	100.90	127.71
С	San Benito (NCC)	Winter	2026	324.15	376.57	441.32	562.96	73.71	85.60	100.93	127.87
С	San Benito (NCC)	Winter	2027	324.16	376.63	441.26	563.14	73.73	85.66	100.94	128.01
С	San Benito (NCC)	Winter	2028	324.16	376.70	441.21	563.31	73.74	85.72	100.96	128.14
С	San Benito (NCC)	Winter	2029	324.15	376.78	441.16	563.50	73.75	85.78	100.96	128.26
С	San Benito (NCC)	Winter	2030	324.15	376.85	441.11	563.68	73.75	85.83	100.96	128.38
С	San Benito (NCC)	Winter	2031	324.15	376.93	441.08	563.89	73.76	85.89	100.97	128.50
С	San Benito (NCC)	Winter	2032	324.14	377.01	441.05	564.10	73.76	85.94	100.97	128.62
С	San Benito (NCC)	Winter	2033	324.14	377.07	441.03	564.30	73.77	85.98	100.97	128.73
С	San Benito (NCC)	Winter	2034	324.14	377.13	441.00	564.48	73.77	86.03	100.98	128.83
С	San Benito (NCC)	Winter	2035	324.13	377.18	440.99	564.63	73.77	86.07	100.98	128.92
С	San Bernardino (MD)	Annual	2010	340.99	391.67	465.83	586.60	73.90	86.73	100.39	125.34
С	San Bernardino (MD)	Annual	2011	340.30	391.38	464.50	585.97	73.82	86.20	100.37	125.56
С	San Bernardino (MD)	Annual	2012	340.45	391.95	464.33	586.73	73.80	85.85	100.40	125.81
С	San Bernardino (MD)	Annual	2013	339.36	390.94	462.54	585.33	73.76	85.58	100.42	126.05
С	San Bernardino (MD)	Annual	2014	339.48	391.26	462.45	586.03	73.71	85.30	100.42	126.29
С	San Bernardino (MD)	Annual	2015	336.34	387.79	457.95	581.12	73.70	85.10	100.45	126.55
С	San Bernardino (MD)	Annual	2016	336.48	388.06	457.90	581.76	73.72	84.97	100.48	126.80
С	San Bernardino (MD)	Annual	2017	336.59	388.29	457.86	582.35	73.71	84.82	100.50	127.04
С	San Bernardino (MD)	Annual	2018	336.66	388.49	457.82	582.86	73.70	84.74	100.51	127.27
С	San Bernardino (MD)	Annual	2019	335.72	387.59	456.41	581.59	73.71	84.81	100.56	127.49
С	San Bernardino (MD)	Annual	2020	335.80	387.84	456.38	582.01	73.79	84.93	100.63	127.69
С	San Bernardino (MD)	Annual	2021	334.92	387.02	455.09	580.70	73.85	85.08	100.70	127.85
С	San Bernardino (MD)	Annual	2022	334.94	387.24	455.05	580.96	73.89	85.22	100.76	127.97
С	San Bernardino (MD)	Annual	2023	334.94	387.42	455.02	581.16	73.92	85.34	100.81	128.13
С	San Bernardino (MD)	Annual	2024	334.33	386.89	454.20	580.31	73.93	85.44	100.85	128.27
С	San Bernardino (MD)	Annual	2025	334.33	387.03	454.18	580.47	73.95	85.54	100.89	128.40
С	San Bernardino (MD)	Annual	2026	334.34	387.19	454.15	580.62	73.97	85.64	100.91	128.53
С	San Bernardino (MD)	Annual	2027	334.35	387.33	454.12	580.76	73.98	85.72	100.93	128.64

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	1		CO2 Stor	tina (a/tri	in)
	Location	0							CO2 Star		
С	San Bernardino (MD)	Season	Year 2028	LDA 334.35	LDT1 387.47	LDT2 454.10	MDV 580.90	LDA 73.99	LDT1 85.80	LDT2 100.95	MDV 128.74
C	San Bernardino (MD)	Annual Annual	2028	334.35	387.61	454.07	581.04	74.00	85.87	100.95	128.83
c C	San Bernardino (MD)	Annual	2029	334.34	387.74	454.05	581.17	74.00	85.93	100.96	128.92
C	San Bernardino (MD)	Annual	2030	333.08	386.42	452.34	579.13	74.00	86.00	100.97	129.00
C	San Bernardino (MD)	Annual	2032	333.08	386.54	452.33	579.26	74.01	86.06	100.98	129.07
С	San Bernardino (MD)	Annual	2033	333.08	386.65	452.32	579.38	74.01	86.11	100.98	129.14
С	San Bernardino (MD)	Annual	2034	333.07	386.73	452.31	579.49	74.02	86.16	100.99	129.20
С	San Bernardino (MD)	Annual	2035	333.07	386.80	452.30	579.59	74.02	86.20	100.99	129.25
С	San Bernardino (MD)	Summer	2010	377.87	429.15	513.95	647.62	73.90	86.73	100.39	125.34
C	San Bernardino (MD)	Summer	2011	377.22	429.71	512.80	646.86	73.82	86.20	100.37	125.56
С	San Bernardino (MD)	Summer	2012	377.49	430.99	512.88	647.75	73.80	85.85	100.40	125.81
С	San Bernardino (MD)	Summer	2013	376.35	430.29	511.11	646.28	73.76	85.58	100.42	126.05
С	San Bernardino (MD)	Summer	2014	376.53	431.00	511.22	647.17	73.71	85.30	100.42	126.29
С	San Bernardino (MD)	Summer	2015	373.08	427.39	506.40	641.89	73.70	85.10	100.45	126.55
С	San Bernardino (MD)	Summer	2016	373.30	427.88	506.49	642.74	73.72	84.97	100.48	126.80
С	San Bernardino (MD)	Summer	2017	373.45	428.30	506.54	643.55	73.71	84.82	100.50	127.04
С	San Bernardino (MD)	Summer	2018	373.54	428.65	506.55	644.21	73.70	84.74	100.51	127.27
С	San Bernardino (MD)	Summer	2019	372.54	427.76	505.03	642.91	73.71	84.81	100.56	127.49
С	San Bernardino (MD)	Summer	2020	372.64	428.12	505.01	643.47	73.79	84.93	100.63	127.69
С	San Bernardino (MD)	Summer	2021	371.67	427.32	503.58	642.10	73.85	85.08	100.70	127.85
С	San Bernardino (MD)	Summer	2022	371.71	427.66	503.54	642.44	73.89	85.22	100.76	127.97
С	San Bernardino (MD)	Summer	2023	371.71	427.95	503.51	642.70	73.92	85.34	100.81	128.13
С	San Bernardino (MD)	Summer	2024	371.03	427.44	502.59	641.76	73.93	85.44	100.85	128.27
С	San Bernardino (MD)	Summer	2025	371.03	427.68	502.57	641.95	73.95	85.54	100.89	128.40
С	San Bernardino (MD)	Summer	2026	371.04	427.91	502.53	642.10	73.97	85.64	100.91	128.53
С	San Bernardino (MD)	Summer	2027	371.04	428.12	502.50	642.24	73.98	85.72	100.93	128.64
С	San Bernardino (MD)	Summer	2028	371.04	428.32	502.48	642.38	73.99	85.80	100.95	128.74
С	San Bernardino (MD)	Summer	2029	371.04	428.52	502.46	642.52	74.00	85.87	100.96	128.83
С	San Bernardino (MD)	Summer	2030	371.04	428.71	502.44	642.66	74.00	85.93	100.96	128.92
С	San Bernardino (MD)	Summer	2031	369.65	427.34	500.58	640.44	74.01	86.00	100.97	129.00
С	San Bernardino (MD)	Summer	2032	369.64	427.51	500.58	640.59	74.01	86.06	100.98	129.07
С	San Bernardino (MD)	Summer	2033	369.64	427.65	500.58	640.73	74.01	86.11	100.98	129.14
С	San Bernardino (MD)	Summer	2034	369.64	427.77	500.57	640.87	74.02	86.16	100.99	129.20
С	San Bernardino (MD)	Summer	2035	369.64	427.86	500.57	640.99	74.02	86.20	100.99	129.25
С	San Bernardino (MD)	Winter	2010	330.16	380.67	451.70	568.69	73.90	86.73	100.39	125.34
С	San Bernardino (MD)	Winter	2011	329.46	380.14	450.33	568.10	73.82	86.20	100.37	125.56
С	San Bernardino (MD)	Winter	2012	329.59	380.50	450.09	568.82	73.80	85.85	100.40	125.81
С	San Bernardino (MD)	Winter	2013	328.50	379.38	448.27	567.43	73.76	85.58	100.42	126.05
С	San Bernardino (MD)	Winter	2014	328.60	379.59	448.13	568.07	73.71	85.30	100.42	126.29
С	San Bernardino (MD)	Winter	2015	325.56	376.16	443.73	563.29	73.70	85.10	100.45	126.55
С	San Bernardino (MD)	Winter	2016	325.68	376.37	443.64	563.85	73.72	84.97	100.48	126.80
С	San Bernardino (MD)	Winter	2017	325.76	376.54	443.57	564.39	73.71	84.82	100.50	127.04
С	San Bernardino (MD)	Winter	2018	325.83	376.71	443.51	564.85	73.70	84.74	100.51	127.27
С	San Bernardino (MD)	Winter	2019	324.92	375.81	442.14	563.59	73.71	84.81	100.56	127.49
С	San Bernardino (MD)	Winter	2020	324.99	376.02	442.11	563.97	73.79	84.93	100.63	127.69
С	San Bernardino (MD)	Winter	2021	324.14	375.20	440.86	562.69	73.85	85.08	100.70	127.85
C	San Bernardino (MD)	Winter	2022	324.16	375.38	440.83	562.93	73.89	85.22	100.76	127.97
C	San Bernardino (MD)	Winter	2023	324.15	375.53	440.80	563.11	73.92	85.34	100.81	128.13
C	San Bernardino (MD)	Winter	2024	323.56	375.00	440.01	562.29	73.93	85.44	100.85	128.27
C	San Bernardino (MD)	Winter	2025	323.56	375.11	439.99	562.44	73.95	85.54	100.89	128.40
C	San Bernardino (MD)	Winter	2026	323.57	375.24	439.95	562.59	73.97	85.64	100.91	128.53
С	San Bernardino (MD)	Winter	2027	323.58	375.37	439.93	562.73	73.98	85.72	100.93	128.64
C	San Bernardino (MD)	Winter	2028	323.58	375.49	439.91	562.87	73.99	85.80	100.95	128.74
С	San Bernardino (MD)	Winter	2029	323.58	375.60	439.88	563.00	74.00	85.87	100.96	128.83

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1	1		CO2 Runni	na (a/\/MT	`		CO2 Stor	tina (a/tri	n)
	Location	0							CO2 Star		
С	San Bernardino (MD)	Season Winter	Year 2030	LDA 323.58	LDT1 375.72	LDT2 439.85	MDV 563.13	LDA 74.00	LDT1 85.93	LDT2 100.96	MDV 128.92
C	San Bernardino (MD)	Winter	2030	322.35	374.41	438.18	561.14	74.00	86.00	100.97	129.00
o C	San Bernardino (MD)	Winter	2032	322.35	374.52	438.17	561.27	74.01	86.06	100.98	129.07
С	San Bernardino (MD)	Winter	2033	322.35	374.61	438.16	561.38	74.01	86.11	100.98	129.14
C	San Bernardino (MD)	Winter	2034	322.34	374.69	438.15	561.48	74.02	86.16	100.99	129.20
С	San Bernardino (MD)	Winter	2035	322.34	374.76	438.14	561.57	74.02	86.20	100.99	129.25
C	San Bernardino (SC)	Annual	2010	339.66	388.73	464.33	586.23	73.39	84.10	99.67	125.16
C	San Bernardino (SC)	Annual	2011	341.99	392.10	467.19	590.60	73.38	84.04	99.75	125.39
С	San Bernardino (SC)	Annual	2012	342.17	392.88	467.10	591.25	73.40	84.04	99.85	125.63
С	San Bernardino (SC)	Annual	2013	343.26	394.52	468.27	593.42	73.45	84.04	99.95	125.87
С	San Bernardino (SC)	Annual	2014	343.43	395.06	468.23	594.04	73.48	84.04	100.03	126.12
С	San Bernardino (SC)	Annual	2015	345.48	397.75	470.76	597.94	73.53	84.10	100.12	126.38
С	San Bernardino (SC)	Annual	2016	345.67	398.22	470.75	598.55	73.60	84.17	100.22	126.63
С	San Bernardino (SC)	Annual	2017	345.81	398.64	470.74	599.13	73.64	84.24	100.30	126.88
С	San Bernardino (SC)	Annual	2018	345.92	399.00	470.73	599.62	73.67	84.33	100.37	127.12
С	San Bernardino (SC)	Annual	2019	344.25	397.30	468.27	596.96	73.72	84.50	100.45	127.34
С	San Bernardino (SC)	Annual	2020	344.34	397.63	468.27	597.37	73.81	84.69	100.54	127.55
С	San Bernardino (SC)	Annual	2021	346.63	400.48	471.28	601.51	73.89	84.86	100.63	127.71
С	San Bernardino (SC)	Annual	2022	346.66	400.72	471.26	601.76	73.94	85.01	100.70	127.85
С	San Bernardino (SC)	Annual	2023	346.67	400.92	471.24	601.94	73.97	85.15	100.75	128.01
С	San Bernardino (SC)	Annual	2024	350.85	405.93	476.91	609.35	73.99	85.27	100.80	128.14
С	San Bernardino (SC)	Annual	2025	350.85	406.09	476.89	609.49	74.01	85.37	100.84	128.28
С	San Bernardino (SC)	Annual	2026	350.86	406.25	476.88	609.62	74.03	85.48	100.87	128.40
С	San Bernardino (SC)	Annual	2027	350.87	406.40	476.86	609.75	74.05	85.57	100.90	128.51
С	San Bernardino (SC)	Annual	2028	350.87	406.55	476.84	609.88	74.06	85.66	100.92	128.61
С	San Bernardino (SC)	Annual	2029	350.87	406.71	476.83	610.02	74.06	85.74	100.93	128.70
С	San Bernardino (SC)	Annual	2030	350.87	406.87	476.82	610.15	74.07	85.81	100.94	128.79
С	San Bernardino (SC)	Annual	2031	352.60	409.05	479.18	613.34	74.07	85.89	100.95	128.88
С	San Bernardino (SC)	Annual	2032	352.60	409.21	479.18	613.50	74.08	85.96	100.96	128.96
С	San Bernardino (SC)	Annual	2033	352.60	409.34	479.17	613.65	74.08	86.02	100.97	129.03
С	San Bernardino (SC)	Annual	2034	352.60	409.46	479.17	613.78	74.08	86.08	100.97	129.10
С	San Bernardino (SC)	Annual	2035	352.59	409.55	479.16	613.89	74.09	86.13	100.98	129.17
С	San Bernardino (SC)	Summer	2010	368.22	417.94	501.93	633.75	73.39	84.10	99.67	125.16
С	San Bernardino (SC)	Summer	2011	370.87	422.11	505.20	638.44	73.38	84.04	99.75	125.39
С	San Bernardino (SC)	Summer	2012	371.15	423.36	505.23	639.12	73.40	84.04	99.85	125.63
С	San Bernardino (SC)	Summer	2013	372.38	425.43	506.60	641.49	73.45	84.04	99.95	125.87
С	San Bernardino (SC)	Summer	2014	372.60	426.25	506.67	642.21	73.48	84.04	100.03	126.12
С	San Bernardino (SC)	Summer	2015	374.88	429.36	509.55	646.57	73.53	84.10	100.12	126.38
С	San Bernardino (SC)	Summer	2016	375.13	430.02	509.63	647.35	73.60	84.17	100.22	126.63
С	San Bernardino (SC)	Summer	2017	375.32	430.61	509.69	648.09	73.64	84.24	100.30	126.88
С	San Bernardino (SC)	Summer	2018	375.45	431.08	509.71	648.71	73.67	84.33	100.37	127.12
С	San Bernardino (SC)	Summer	2019	373.62	429.29	507.04	645.87	73.72	84.50		127.34
С	San Bernardino (SC)	Summer	2020	373.74	429.71	507.04	646.38	73.81	84.69	100.54	127.55
С	San Bernardino (SC)	Summer	2021	376.24	432.88	510.33	650.95	73.89	84.86	100.63	127.71
С	San Bernardino (SC)	Summer	2022	376.28	433.20	510.29	651.23	73.94	85.01	100.70	127.85
С	San Bernardino (SC)	Summer	2023	376.28	433.46	510.25	651.43	73.97	85.15	100.75	128.01
С	San Bernardino (SC)	Summer	2024	380.91	439.05	516.50	659.60	73.99	85.27	100.80	128.14
С	San Bernardino (SC)	Summer	2025	380.90	439.27	516.47	659.73	74.01	85.37	100.84	128.28
С	San Bernardino (SC)	Summer	2026	380.91	439.49	516.44	659.84	74.03	85.48	100.87	128.40
С	San Bernardino (SC)	Summer	2027	380.91	439.69	516.43	659.96	74.05	85.57	100.90	128.51
С	San Bernardino (SC)	Summer	2028	380.91	439.90	516.42	660.08	74.06	85.66	100.92	128.61
С	San Bernardino (SC)	Summer	2029	380.91	440.11	516.41	660.21	74.06	85.74	100.93	128.70
С	San Bernardino (SC)	Summer	2030	380.92	440.32	516.41	660.35	74.07	85.81	100.94	128.79
С	San Bernardino (SC)	Summer	2031	382.84	442.80	519.04	663.90	74.07	85.89	100.95	128.88

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	7		CO2 Star	tina (a/tr	in)
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
_	San Bernardino (SC)	Summer	2032		443.01		664.10	74.08	85.96		128.96
C C	San Bernardino (SC)	Summer	2032	382.83 382.83	443.01	519.04 519.04	664.28	74.08	86.02	100.96	129.90
С	San Bernardino (SC)		2034	382.83	443.16	519.04	664.45	74.08	86.08	100.97	129.03
C	San Bernardino (SC)	Summer	2034	382.83	443.45	519.04		74.09	86.13	100.97	129.10
l 	\	Summer					664.60				
C	San Bernardino (SC)	Winter	2010	334.32	383.27	457.30	577.34	73.39	84.10	99.67	125.16
С	San Bernardino (SC)	Winter	2011	336.58	386.48	460.07	581.64	73.38	84.04	99.75	125.39
С	San Bernardino (SC)	Winter	2012	336.74	387.17	459.96	582.29	73.40	84.04	99.85	125.63
С	San Bernardino (SC)	Winter	2013	337.81	388.73	461.09	584.42	73.45	84.04	99.95	125.87
С	San Bernardino (SC)	Winter	2014	337.97	389.22	461.03	585.02	73.48	84.04	100.03	126.12
С	San Bernardino (SC)	Winter	2015	339.97	391.82	463.49	588.82	73.53	84.10	100.12	126.38
С	San Bernardino (SC)	Winter	2016	340.15	392.25	463.46	589.40	73.60	84.17	100.22	126.63
С	San Bernardino (SC)	Winter	2017	340.28	392.65	463.44	589.94	73.64	84.24	100.30	126.88
С	San Bernardino (SC)	Winter	2018	340.39	392.99	463.42	590.42	73.67	84.33	100.37	127.12
С	San Bernardino (SC)	Winter	2019	338.74	391.31	461.01	587.80	73.72	84.50	100.45	127.34
С	San Bernardino (SC)	Winter	2020	338.84	391.63	461.00	588.19	73.81	84.69	100.54	127.55
С	San Bernardino (SC)	Winter	2021	341.07	394.40	463.95	592.23	73.89	84.86	100.63	127.71
С	San Bernardino (SC)	Winter	2022	341.11	394.63	463.94	592.47	73.94	85.01	100.70	127.85
С	San Bernardino (SC)	Winter	2023	341.12	394.81	463.92	592.65	73.97	85.15	100.75	128.01
С	San Bernardino (SC)	Winter	2024	345.19	399.71	469.47	599.90	73.99	85.27	100.80	128.14
С	San Bernardino (SC)	Winter	2025	345.19	399.85	469.45	600.04	74.01	85.37	100.84	128.28
С	San Bernardino (SC)	Winter	2026	345.21	400.00	469.43	600.18	74.03	85.48	100.87	128.40
С	San Bernardino (SC)	Winter	2027	345.22	400.14	469.42	600.31	74.05	85.57	100.90	128.51
С	San Bernardino (SC)	Winter	2028	345.22	400.28	469.40	600.45	74.06	85.66	100.92	128.61
С	San Bernardino (SC)	Winter	2029	345.22	400.43	469.39	600.58	74.06	85.74	100.93	128.70
С	San Bernardino (SC)	Winter	2030	345.22	400.57	469.37	600.71	74.07	85.81	100.94	128.79
С	San Bernardino (SC)	Winter	2031	346.90	402.69	471.67	603.81	74.07	85.89	100.95	128.88
С	San Bernardino (SC)	Winter	2032	346.90	402.83	471.66	603.96	74.08	85.96	100.96	128.96
С	San Bernardino (SC)	Winter	2033	346.90	402.96	471.65	604.10	74.08	86.02	100.97	129.03
С	San Bernardino (SC)	Winter	2034	346.90	403.07	471.65	604.22	74.08	86.08	100.97	129.10
С	San Bernardino (SC)	Winter	2035	346.89	403.16	471.64	604.33	74.09	86.13	100.98	129.17
С	San Diego (SD)	Annual	2010	352.52	405.15	482.46	610.22	72.99	83.92	99.34	125.27
С	San Diego (SD)	Annual	2011	353.81	407.05	483.85	612.57	73.01	83.88	99.44	125.44
C	San Diego (SD)	Annual	2012	354.03	407.67	483.80	613.09	73.05	83.89	99.57	125.64
C	San Diego (SD)	Annual	2013	354.28	408.23	483.77	613.65	73.12			
C	San Diego (SD)	Annual	2014	354.50	408.76	483.75	614.21	73.17	83.99	99.82	126.06
C	San Diego (SD)	Annual	2015	354.72	409.25	483.74	614.79	73.24	84.07	99.93	126.29
С	San Diego (SD)	Annual	2016	354.92	409.69	483.74	615.32	73.32	84.16		126.52
C	San Diego (SD)	Annual	2017	355.08	410.10	483.73	615.84	73.37	84.25	100.05	126.74
С	San Diego (SD)	Annual	2018	355.21	410.47	483.74	616.29	73.41	84.35	100.15	126.96
C	San Diego (SD)	Annual	2019	355.33	410.47	483.74	616.69	73.46	84.52	100.25	127.15
С	San Diego (SD)	Annual	2019	355.43	411.15	483.75	617.07	73.46	84.69	100.35	127.13
C	San Diego (SD)	Annual	2020	356.07	411.15	484.56		73.62		100.45	
C	San Diego (SD)						618.41		84.87		127.52
		Annual	2022	356.11	412.36	484.56	618.69	73.67	85.02	100.63	127.67
С	San Diego (SD)	Annual	2023	356.12	412.55	484.56	618.89	73.71	85.15		
C	San Diego (SD)	Annual	2024	356.12	412.71	484.55	619.06	73.72	85.27		127.98
C	San Diego (SD)	Annual	2025	356.11	412.86	484.55	619.23	73.74		100.81	128.12
С	San Diego (SD)	Annual	2026	356.13	413.01	484.54	619.39	73.76	85.48		128.26
С	San Diego (SD)	Annual	2027	356.14	413.16	484.53	619.54	73.77	85.57	100.88	128.38
С	San Diego (SD)	Annual	2028	356.15	413.30	484.51	619.69	73.78	85.66		128.48
С	San Diego (SD)	Annual	2029	356.15	413.45	484.50	619.84	73.79	85.74		128.58
С	San Diego (SD)	Annual	2030	356.14	413.59	484.49	619.98	73.79	85.81		128.68
С	San Diego (SD)	Annual	2031	356.14	413.74	484.48	620.13	73.80	85.89	100.94	128.77
С	San Diego (SD)	Annual	2032	356.14	413.87	484.48	620.29	73.80	85.96		128.86
С	San Diego (SD)	Annual	2033	356.14	414.00	484.47	620.43	73.80	86.02	100.96	128.93

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	l a action	Ī	l I		200 D	(\) (NAT	\		CO2 Starting (g/trip LDA LDT1 LDT2 73.80 86.08 100.97 73.81 86.13 100.97 72.99 83.92 99.34			
	Location				O2 Runni							
_	0 0: (00)	Season	Year	LDA	LDT1	LDT2	MDV				MDV	
C	San Diego (SD)	Annual	2034	356.13	414.10	484.46	620.55				129.01	
С	San Diego (SD)	Annual	2035	356.13	414.20	484.46	620.67				129.08	
С	San Diego (SD)	Summer	2010	372.46	426.19	509.00	643.64		83.92	-	125.27	
С	San Diego (SD)	Summer	2011	373.89	428.41	510.48	645.96	73.01	83.88	99.44	125.44	
С	San Diego (SD)	Summer	2012	374.19	429.26	510.46	646.43	73.05	83.89	99.57	125.64	
С	San Diego (SD)	Summer	2013	374.48	430.00	510.47	646.99	73.12	83.94	99.70	125.85	
С	San Diego (SD)	Summer	2014	374.75	430.67	510.51	647.60	73.17	83.99	99.82	126.06	
С	San Diego (SD)	Summer	2015	375.00	431.27	510.56	648.26	73.24	84.07	99.93	126.29	
С	San Diego (SD)	Summer	2016	375.24	431.81	510.61	648.90	73.32	84.16	100.05	126.52	
С	San Diego (SD)	Summer	2017	375.42	432.30	510.65	649.52	73.37	84.25	100.15	126.74	
С	San Diego (SD)	Summer	2018	375.55	432.74	510.67	650.05	73.41	84.35	100.25	126.96	
С	San Diego (SD)	Summer	2019	375.68	433.15	510.68	650.53	73.46	84.52	100.35	127.15	
С	San Diego (SD)	Summer	2020	375.78	433.52	510.68	650.97	73.55	84.69	100.45	127.34	
С	San Diego (SD)	Summer	2021	376.47	434.60	511.57	652.47	73.62	84.87	100.55	127.52	
С	San Diego (SD)	Summer	2022	376.52	434.90	511.57	652.82	73.67	85.02	100.63	127.67	
С	San Diego (SD)	Summer	2023	376.54	435.14	511.57	653.07	73.71	85.15	100.70	127.83	
С	San Diego (SD)	Summer	2024	376.54	435.34	511.56	653.27	73.72	85.27	100.76	127.98	
С	San Diego (SD)	Summer	2025	376.54	435.52	511.56	653.45	73.74	85.38	100.81	128.12	
С	San Diego (SD)	Summer	2026	376.55	435.72	511.54	653.62	73.76	85.48	100.85	128.26	
С	San Diego (SD)	Summer	2027	376.56	435.90	511.53	653.77	73.77	85.57	100.88	128.38	
С	San Diego (SD)	Summer	2028	376.57	436.07	511.51	653.92	73.78	85.66	100.90	128.48	
С	San Diego (SD)	Summer	2029	376.58	436.25	511.49	654.06	73.79	85.74	100.92	128.58	
С	San Diego (SD)	Summer	2030	376.58	436.43	511.48	654.21	73.79	85.81	100.93	128.68	
С	San Diego (SD)	Summer	2031	376.57	436.61	511.47	654.35	73.80	85.89	100.94	128.77	
С	San Diego (SD)	Summer	2032	376.57	436.77	511.46	654.51	73.80	85.96	100.95	128.86	
С	San Diego (SD)	Summer	2033	376.57	436.92	511.45	654.65	73.80	86.02	100.96	128.93	
С	San Diego (SD)	Summer	2034	376.57	437.04	511.45	654.79	73.80	86.08	100.97	129.01	
С	San Diego (SD)	Summer	2035	376.57	437.14	511.44	654.92	73.81	86.13	100.97	129.08	
С	San Diego (SD)	Winter	2010	348.91	401.34	477.65	604.17	72.99	83.92	99.34	125.27	
С	San Diego (SD)	Winter	2011	350.18	403.18	479.04	606.53	73.01	83.88	99.44	125.44	
С	San Diego (SD)	Winter	2012	350.39	403.76	478.98	607.06	73.05	83.89	99.57	125.64	
С	San Diego (SD)	Winter	2013	350.62	404.30	478.94	607.62	73.12	83.94	99.70	125.85	
С	San Diego (SD)	Winter	2014	350.83	404.79	478.91	608.17	73.17	83.99	99.82	126.06	
С	San Diego (SD)	Winter	2015	351.05	405.26	478.89	608.73	73.24			126.29	
С	San Diego (SD)	Winter	2016	351.25	405.69	478.88	609.25	73.32	84.16	100.05	126.52	
С	San Diego (SD)	Winter	2017	351.40	406.08	478.87	609.75	73.37	84.25	100.15	126.74	
С	San Diego (SD)	Winter	2018	351.53	406.44	478.86	610.18	73.41	84.35	100.25	126.96	
С	San Diego (SD)	Winter	2019	351.65	406.78	478.87	610.57	73.46	84.52	100.35	127.15	
C	San Diego (SD)	Winter	2020	351.75	407.10	478.87	610.94	73.55	84.69	100.45	127.34	
C	San Diego (SD)	Winter	2021	352.38	408.04	479.67	612.25	73.62	84.87	100.55	127.52	
С	San Diego (SD)	Winter	2022	352.42	408.28	479.67	612.51	73.67	85.02	100.63	127.67	
C	San Diego (SD)	Winter	2023	352.43	408.47	479.67	612.71	73.71	85.15	100.70	127.83	
С	San Diego (SD)	Winter	2024	352.42	408.62	479.66	612.87	73.72	85.27	100.76	127.98	
С	San Diego (SD)	Winter	2025	352.42	408.75	479.66	613.03	73.74	85.38	100.70	128.12	
С	San Diego (SD)	Winter	2026	352.43	408.90	479.65	613.20	73.76	85.48	100.85	128.26	
С	San Diego (SD)	Winter	2027	352.44	409.04	479.64	613.35	73.77	85.57	100.88	128.38	
C	San Diego (SD)	Winter	2028	352.45	409.18	479.63	613.50	73.78	85.66	100.90	128.48	
C	San Diego (SD)	Winter	2029	352.45	409.32	479.62	613.64	73.79	85.74	100.92	128.58	
C C	San Diego (SD)	Winter	2029	352.45	409.32	479.60	613.79	73.79	85.81	100.92	128.68	
c C	San Diego (SD)	Winter	2030	352.45	409.46	479.60	613.79	73.80	85.89	100.93	128.77	
c C	San Diego (SD)	Winter	2031	352.44	409.80	479.59	614.10	73.80	85.96	100.94	128.86	
<u>с</u> С		Winter		352.44								
C C	San Diego (SD) San Diego (SD)	Winter	2033	352.44	409.85 409.95	479.59 479.58	614.23 614.36	73.80 73.80	86.02	100.96 100.97	128.93	
C			2034						86.08 86.13		129.01	
ر	San Diego (SD)	Winter	2035	352.43	410.04	479.57	614.47	73.81	86.13	100.97	129.08	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	li a a d'a a	ı			200 D	(A /A AT	2						
	Location		.,		O2 Runni								
_	0	Season	Year	LDA	LDT1	LDT2	MDV				MDV		
C	San Francisco (SF)	Annual	2010	371.60	426.62	509.35	643.69				125.09		
C C	San Francisco (SF)	Annual	2011	371.82	427.18	509.24	644.17	72.74	83.30	99.23 99.38	125.27		
<u>с</u> С	San Francisco (SF)	Annual	2012 2013	372.04 372.29	427.76 428.30	509.17 509.11	644.70 645.27	72.83 72.93	83.38	99.53	125.47 125.68		
C	San Francisco (SF) San Francisco (SF)	Annual Annual	2013	372.52	428.84	509.11	645.84	73.02	83.46 83.59	99.53	125.00		
C	San Francisco (SF)	Annual	2014	372.76	429.37	509.04	646.43	73.13	83.72	99.83	126.14		
C	San Francisco (SF)	Annual	2016	372.70	429.87	509.03	646.98	73.13	83.88	99.96	126.36		
C	San Francisco (SF)	Annual	2017	373.17	430.33	509.03	647.52	73.24	84.02	100.10	126.59		
C	San Francisco (SF)	Annual	2018	373.32	430.73	509.01	647.97	73.38	84.17	100.10	126.81		
C	San Francisco (SF)	Annual	2019	373.44	431.08	509.02	648.39	73.44	84.32	100.21	127.01		
C	San Francisco (SF)	Annual	2020	373.57	431.40	509.03	648.77	73.54	84.48	100.42	127.20		
C	San Francisco (SF)	Annual	2021	373.65	431.70	509.03	649.09	73.62	84.65	100.52	127.37		
С	San Francisco (SF)	Annual	2022	373.71	431.95	509.04	649.36	73.68	84.79	100.60	127.51		
C	San Francisco (SF)	Annual	2023	373.73	432.14	509.03	649.57	73.72	84.92	100.67	127.66		
C	San Francisco (SF)	Annual	2024	373.72	432.29	509.03	649.73	73.74	85.03	100.73	127.80		
С	San Francisco (SF)	Annual	2025	373.72	432.42	509.02	649.90	73.77	85.13	100.78	127.94		
C	San Francisco (SF)	Annual	2026	373.74	432.57	509.01	650.08	73.79	85.23	100.82	128.07		
C	San Francisco (SF)	Annual	2027	373.76	432.71	509.00	650.24	73.81	85.31	100.85	128.19		
C	San Francisco (SF)	Annual	2028	373.76	432.86	508.98	650.41	73.82	85.39	100.88	128.29		
C	San Francisco (SF)	Annual	2029	373.76	433.01	508.96	650.58	73.83	85.47	100.89	128.39		
C	San Francisco (SF)	Annual	2030	373.75	433.17	508.95	650.75	73.83	85.54	100.91	128.49		
С	San Francisco (SF)	Annual	2031	373.75	433.33	508.94	650.93	73.84	85.62	100.92	128.59		
С	San Francisco (SF)	Annual	2032	373.75	433.50	508.93	651.11	73.84	85.69	100.93	128.68		
С	San Francisco (SF)	Annual	2033	373.75	433.64	508.92	651.27	73.85	85.75	100.94	128.76		
С	San Francisco (SF)	Annual	2034	373.74	433.77	508.91	651.42	73.85	85.81	100.94	128.84		
С	San Francisco (SF)	Annual	2035	373.74	433.88	508.90	651.56	73.85	85.87	100.95	128.91		
С	San Francisco (SF)	Summer	2010	395.05	451.58	540.63	683.09	72.64	83.27	99.11	125.09		
С	San Francisco (SF)	Summer	2011	395.38	452.34	540.53	683.40	72.74	83.30	99.23	125.27		
С	San Francisco (SF)	Summer	2012	395.71	453.09	540.48	683.83	72.83	83.38	99.38	125.47		
С	San Francisco (SF)	Summer	2013	396.03	453.80	540.46	684.36	72.93	83.46	99.53	125.68		
С	San Francisco (SF)	Summer	2014	396.33	454.46	540.48	684.94	73.02	83.59	99.67	125.91		
С	San Francisco (SF)	Summer	2015	396.62	455.11	540.51	685.61	73.13	83.72	99.83	126.14		
С	San Francisco (SF)	Summer	2016	396.88	455.72	540.56	686.28	73.24	83.88	99.96	126.36		
С	San Francisco (SF)	Summer	2017	397.07	456.29	540.60	686.95	73.31	84.02	100.10	126.59		
С	San Francisco (SF)	Summer	2018	397.24	456.76	540.61	687.49	73.38	84.17	100.21	126.81		
С	San Francisco (SF)	Summer	2019	397.37	457.20	540.63	688.00	73.44	84.32	100.32	127.01		
С	San Francisco (SF)	Summer	2020	397.50	457.58	540.65	688.47	73.54	84.48	100.42	127.20		
С	San Francisco (SF)	Summer	2021	397.58	457.93	540.66	688.86	73.62	84.65	100.52	127.37		
С	San Francisco (SF)	Summer	2022	397.64	458.23	540.66	689.20	73.68	84.79	100.60	127.51		
С	San Francisco (SF)	Summer	2023	397.66	458.47	540.66	689.46	73.72	84.92	100.67	127.66		
С	San Francisco (SF)	Summer	2024	397.65	458.66	540.64	689.67	73.74	85.03	100.73	127.80		
С	San Francisco (SF)	Summer	2025	397.65	458.84	540.63	689.88	73.77	85.13	100.78	127.94		
С	San Francisco (SF)	Summer	2026	397.67	459.02	540.61	690.09	73.79	85.23	100.82	128.07		
С	San Francisco (SF)	Summer	2027	397.69	459.20	540.59	690.26	73.81	85.31	100.85	128.19		
С	San Francisco (SF)	Summer	2028	397.70	459.38	540.57	690.44	73.82	85.39	100.88	128.29		
С	San Francisco (SF)	Summer	2029	397.70	459.57	540.54	690.62	73.83	85.47	100.89	128.39		
С	San Francisco (SF)	Summer	2030	397.70	459.77	540.53	690.81	73.83	85.54	100.91	128.49		
С	San Francisco (SF)	Summer	2031	397.70	459.99	540.52	690.99	73.84	85.62	100.92	128.59		
С	San Francisco (SF)	Summer	2032	397.71	460.19	540.51	691.17	73.84	85.69	100.93	128.68		
С	San Francisco (SF)	Summer	2033	397.71	460.36	540.50	691.35	73.85	85.75	100.94	128.76		
С	San Francisco (SF)	Summer	2034	397.71	460.52	540.50	691.51	73.85	85.81	100.94	128.84		
C	San Francisco (SF)	Summer	2035	397.70	460.65	540.49	691.66	73.85	85.87	100.95	128.91		
С	San Francisco (SF)	Winter	2010	370.78	425.74	508.25	642.31	72.64	83.27	99.11	125.09		
С	San Francisco (SF)	Winter	2011	370.99	426.30	508.14	642.79	72.74	83.30	99.23	125.27		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	I	I	,	CO2 Runni	na (a/\/MT	7	,	CO2 Starting (g/tri LDA LDT1 LDT2 72.83 83.38 99.38 72.93 83.46 99.53 73.02 83.59 99.67		
	Location		.,								
_	Con Francisco (CF)	Season Winter	Year	LDA	LDT1	LDT2	MDV				MDV
C C	San Francisco (SF)	Winter	2012 2013	371.21 371.46	426.87 427.41	508.07 508.01	643.32 643.90				125.47 125.68
<u>с</u> С	San Francisco (SF)	Winter		371.40	427.41	507.96	644.46				
C	San Francisco (SF) San Francisco (SF)	Winter	2014 2015	371.09	428.46	507.94	645.05	73.13	83.72	99.83	125.91 126.14
c C	San Francisco (SF)	Winter	2016	372.16	428.96	507.92	645.60	73.13	83.88	99.96	126.36
C	San Francisco (SF)	Winter	2017	372.10	429.42	507.92	646.13	73.24	84.02	100.10	126.59
C	San Francisco (SF)	Winter	2017	372.48	429.42	507.90	646.58	73.38	84.17	100.10	126.81
C	San Francisco (SF)	Winter	2019	372.40	430.17	507.90	647.00	73.44	84.32	100.21	127.01
C	San Francisco (SF)	Winter	2020	372.73	430.49	507.91	647.38	73.54	84.48	100.32	127.01
C	San Francisco (SF)	Winter	2021	372.81	430.78	507.92	647.69	73.62	84.65	100.42	127.20
C	San Francisco (SF)	Winter	2022	372.87	431.02	507.93	647.96	73.68	84.79	100.60	127.51
С	San Francisco (SF)	Winter	2023	372.89	431.21	507.92	648.17	73.72	84.92	100.67	127.66
С	San Francisco (SF)	Winter	2024	372.88	431.36	507.92	648.33	73.74	85.03	100.73	127.80
C	San Francisco (SF)	Winter	2025	372.88	431.50	507.91	648.50	73.77	85.13	100.78	127.94
C	San Francisco (SF)	Winter	2026	372.90	431.64	507.90	648.67	73.79	85.23	100.82	128.07
C	San Francisco (SF)	Winter	2027	372.92	431.78	507.89	648.84	73.81	85.31	100.85	128.19
C	San Francisco (SF)	Winter	2028	372.92	431.93	507.87	649.00	73.82	85.39	100.88	128.29
C	San Francisco (SF)	Winter	2029	372.92	432.08	507.85	649.17	73.83	85.47	100.89	128.39
C	San Francisco (SF)	Winter	2030	372.91	432.23	507.84	649.34	73.83	85.54	100.91	128.49
C	San Francisco (SF)	Winter	2031	372.91	432.40	507.83	649.52	73.84	85.62	100.92	128.59
C	San Francisco (SF)	Winter	2032	372.91	432.56	507.82	649.71	73.84	85.69	100.93	128.68
С	San Francisco (SF)	Winter	2033	372.91	432.70	507.81	649.87	73.85	85.75	100.94	128.76
С	San Francisco (SF)	Winter	2034	372.90	432.83	507.81	650.02	73.85	85.81	100.94	128.84
С	San Francisco (SF)	Winter	2035	372.90	432.95	507.80	650.15	73.85	85.87	100.95	128.91
С	San Joaquin (SJV)	Annual	2010	341.15	391.09	467.02	587.28	73.38	84.95	100.04	124.39
С	San Joaquin (SJV)	Annual	2011	341.42	391.91	466.87	587.92	73.37	84.69	100.05	124.61
С	San Joaquin (SJV)	Annual	2012	340.62	391.44	465.29	586.82	73.40	84.55	100.10	124.86
С	San Joaquin (SJV)	Annual	2013	340.63	391.84	464.86	587.24	73.41	84.46	100.15	125.16
С	San Joaquin (SJV)	Annual	2014	340.87	392.44	464.82	588.06	73.44	84.41	100.20	125.45
С	San Joaquin (SJV)	Annual	2015	342.48	394.54	466.66	591.27	73.49	84.37	100.25	125.76
С	San Joaquin (SJV)	Annual	2016	342.68	395.00	466.64	592.05	73.55	84.37	100.31	126.07
С	San Joaquin (SJV)	Annual	2017	342.83	395.40	466.61	592.77	73.57	84.38	100.33	126.38
С	San Joaquin (SJV)	Annual	2018	341.73	394.34	464.95	591.28	73.61	84.41	100.38	126.66
С	San Joaquin (SJV)	Annual	2019	341.83	394.66	464.93	591.82	73.66	84.55	100.43	126.92
С	San Joaquin (SJV)	Annual	2020	341.92	394.95	464.91	592.29	73.75	84.71	100.52	127.16
С	San Joaquin (SJV)	Annual	2021	340.58	393.59	462.99	590.24	73.83	84.88	100.61	127.36
С	San Joaquin (SJV)	Annual	2022	340.62	393.80	462.97	590.55	73.88	85.03	100.68	127.52
С	San Joaquin (SJV)	Annual	2023	340.62	393.98	462.95	590.80	73.91	85.16	100.74	127.71
С	San Joaquin (SJV)	Annual	2024	338.98	392.24	460.72	588.16	73.93	85.27	100.79	127.88
С	San Joaquin (SJV)	Annual	2025	338.99	392.38	460.71	588.34	73.95	85.37	100.83	128.04
С	San Joaquin (SJV)	Annual	2026	338.96	392.48	460.64	588.42	73.97	85.47	100.87	128.18
С	San Joaquin (SJV)	Annual	2027	338.97	392.63	460.62	588.56	73.99	85.56	100.89	128.30
С	San Joaquin (SJV)	Annual	2028	338.98	392.77	460.61	588.70	74.00	85.65	100.91	128.42
С	San Joaquin (SJV)	Annual	2029	338.98	392.91	460.59	588.85	74.00	85.73	100.93	128.53
С	San Joaquin (SJV)	Annual	2030	338.98	393.05	460.58	589.01	74.01	85.80	100.94	128.63
С	San Joaquin (SJV)	Annual	2031	338.98	393.19	460.57	589.19	74.01	85.88	100.95	128.73
С	San Joaquin (SJV)	Annual	2032	338.98	393.31	460.56	589.38	74.02	85.94	100.95	128.83
С	San Joaquin (SJV)	Annual	2033	338.98	393.42	460.55	589.55	74.02	86.00	100.96	128.92
С	San Joaquin (SJV)	Annual	2034	338.98	393.52	460.54	589.70	74.03	86.06	100.97	129.00
С	San Joaquin (SJV)	Annual	2035	338.97	393.60	460.53	589.84	74.03	86.10	100.97	129.07
С	San Joaquin (SJV)	Summer	2010	372.14	422.80	507.85	638.60	73.38	84.95	100.04	124.39
С	San Joaquin (SJV)	Summer	2011	372.63	424.33	507.90	639.20	73.37	84.69	100.05	124.61
С	San Joaquin (SJV)	Summer	2012	371.92	424.32	506.38	638.02	73.40	84.55	100.10	124.86
С	San Joaquin (SJV)	Summer	2013	372.06	425.18	506.12	638.59	73.41	84.46	100.15	125.16

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/\/MT)	(CO2 Star	ting (g/tri	n)
	20041011	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	San Joaquin (SJV)	Summer	2014	372.42	426.15	506.26	639.64	73.44	84.41	100.20	125.45
o O	San Joaquin (SJV)	Summer	2014	374.24	428.69	508.43	643.31	73.49	84.37	100.25	125.76
o O	San Joaquin (SJV)	Summer	2016	374.50	429.38	508.53	644.34	73.49	84.37	100.23	126.07
C	, ,	Summer	2017	374.68	429.36	508.59	645.29	73.57	84.38	100.31	126.38
C	San Joaquin (SJV)	Summer	2017	373.47	429.90	506.81	643.78	73.61	84.41	100.33	126.66
C	San Joaquin (SJV) San Joaquin (SJV)	Summer	2019	373.47	429.29	506.79	644.44	73.66	84.55	100.38	126.92
	1 (/		2019					73.75			
C C	San Joaquin (SJV)	Summer	2020	373.63 372.14	429.66	506.76	645.01		84.71	100.52	127.16
	San Joaquin (SJV)	Summer			428.21	504.64	642.81	73.83	84.88	100.61	127.36
С	San Joaquin (SJV)	Summer	2022	372.16	428.49	504.59	643.19	73.88	85.03	100.68	127.52
С	San Joaquin (SJV)	Summer	2023	372.17	428.73	504.55	643.46	73.91	85.16	100.74 100.79	127.71
С	San Joaquin (SJV)	Summer	2024	370.38	426.89	502.11	640.59	73.93	85.27		127.88
С	San Joaquin (SJV)	Summer	2025	370.39	427.09	502.08	640.78	73.95	85.37	100.83	128.04
С	San Joaquin (SJV)	Summer	2026	370.34	427.23	501.98	640.76	73.97	85.47	100.87	128.18
С	San Joaquin (SJV)	Summer	2027	370.36	427.43	501.95	640.85	73.99	85.56	100.89	128.30
С	San Joaquin (SJV)	Summer	2028	370.37	427.63	501.94	640.96	74.00	85.65	100.91	128.42
С	San Joaquin (SJV)	Summer	2029	370.39	427.83	501.92	641.09	74.00	85.73	100.93	128.53
С	San Joaquin (SJV)	Summer	2030	370.40	428.04	501.92	641.25	74.01	85.80	100.94	128.63
С	San Joaquin (SJV)	Summer	2031	370.39	428.23	501.91	641.47	74.01	85.88	100.95	128.73
С	San Joaquin (SJV)	Summer	2032	370.39	428.39	501.90	641.69	74.02	85.94	100.95	128.83
С	San Joaquin (SJV)	Summer	2033	370.39	428.53	501.89	641.91	74.02	86.00	100.96	128.92
С	San Joaquin (SJV)	Summer	2034	370.38	428.65	501.89	642.11	74.03	86.06		129.00
С	San Joaquin (SJV)	Summer	2035	370.38	428.74	501.89	642.30	74.03	86.10		129.07
С	San Joaquin (SJV)	Winter	2010	331.39	381.10	454.15	571.11	73.38	84.95	100.04	124.39
С	San Joaquin (SJV)	Winter	2011	331.58	381.70	453.94	571.76	73.37	84.69	100.05	124.61
С	San Joaquin (SJV)	Winter	2012	330.76	381.08	452.34	570.69	73.40	84.55	100.10	124.86
С	San Joaquin (SJV)	Winter	2013	330.73	381.33	451.86	571.05	73.41	84.46	100.15	125.16
С	San Joaquin (SJV)	Winter	2014	330.93	381.81	451.76	571.81	73.44	84.41	100.20	125.45
С	San Joaquin (SJV)	Winter	2015	332.47	383.78	453.50	574.87	73.49	84.37	100.25	125.76
С	San Joaquin (SJV)	Winter	2016	332.66	384.17	453.44	575.57	73.55	84.37	100.31	126.07
С	San Joaquin (SJV)	Winter	2017	332.79	384.52	453.39	576.22	73.57	84.38	100.33	126.38
С	San Joaquin (SJV)	Winter	2018	331.73	383.45	451.75	574.74	73.61	84.41	100.38	126.66
С	San Joaquin (SJV)	Winter	2019	331.83	383.74	451.73	575.23	73.66	84.55	100.43	126.92
С	San Joaquin (SJV)	Winter	2020	331.93	384.01	451.72	575.67	73.75	84.71	100.52	127.16
С	San Joaquin (SJV)	Winter	2021	330.64	382.68		573.67	73.83		100.61	127.36
С	San Joaquin (SJV)	Winter	2022	330.67	382.87	449.86	573.97	73.88	85.03	100.68	127.52
С	San Joaquin (SJV)	Winter	2023	330.68	383.03	449.84	574.20	73.91		100.74	127.71
С	San Joaquin (SJV)	Winter	2024	329.09	381.32	447.68	571.64	73.93	85.27	100.79	127.88
С	San Joaquin (SJV)	Winter	2025	329.10	381.44	447.67	571.82	73.95	85.37	100.83	128.04
С	San Joaquin (SJV)	Winter	2026	329.07	381.53	447.62	571.92	73.97	85.47	100.87	128.18
С	San Joaquin (SJV)	Winter	2027	329.08	381.66	447.60	572.08	73.99	85.56	100.89	128.30
С	San Joaquin (SJV)	Winter	2028	329.09	381.79	447.58	572.23	74.00	85.65		128.42
С	San Joaquin (SJV)	Winter	2029	329.09	381.91	447.56	572.39	74.00	85.73	100.93	128.53
С	San Joaquin (SJV)	Winter	2030	329.08	382.03	447.55	572.55	74.01	85.80		128.63
С	San Joaquin (SJV)	Winter	2031	329.08	382.15	447.54	572.72	74.01	85.88	100.95	128.73
С	San Joaquin (SJV)	Winter	2032	329.08	382.26	447.53	572.89	74.02	85.94		128.83
С	San Joaquin (SJV)	Winter	2033	329.08	382.36	447.52	573.05	74.02	86.00	100.96	128.92
C	San Joaquin (SJV)	Winter	2034	329.08	382.45	447.51	573.19	74.03	86.06	100.97	129.00
С	San Joaquin (SJV)	Winter	2035	329.08	382.52	447.50	573.31	74.03	86.10	100.97	129.07
С	San Luis Obispo (SCC)	Annual	2010	323.71	378.06	444.34	556.25	73.66	90.73	100.02	124.73
С	San Luis Obispo (SCC)	Annual	2011	323.66	377.48	443.78	556.86	73.53	89.58	100.04	124.90
С	San Luis Obispo (SCC)	Annual	2012	323.65	377.05	443.34	557.51	73.41	88.66		125.11
С	San Luis Obispo (SCC)	Annual	2013	323.72	376.63	442.99	558.19	73.36	87.82	100.14	125.34
С	San Luis Obispo (SCC)	Annual	2014	323.79	376.32	442.72	558.85	73.31	87.15		125.58
С	San Luis Obispo (SCC)	Annual	2015	323.89	376.00	442.50	559.54	73.31	86.48	100.25	125.85

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1	I		CO2 Runni	na (a/\/MT	`		CO2 Star	ting (a/tri	n)
	Location	Casasa	V								
С	San Luis Obispo (SCC)	Season Annual	Year 2016	LDA 323.99	LDT1 375.75	LDT2 442.33	MDV 560.18	LDA 73.31	LDT1 85.95	LDT2 100.33	MDV 126.11
C	San Luis Obispo (SCC)	Annual	2017	324.07	375.75	442.33	560.79	73.31	85.47	100.33	126.11
C	San Luis Obispo (SCC)	Annual	2017	324.12	375.39	442.08	561.33	73.30	85.15	100.33	126.64
C	San Luis Obispo (SCC)	Annual	2019	324.17	375.38	441.99	561.79	73.31	85.03	100.47	126.87
C	San Luis Obispo (SCC)	Annual	2020	324.24	375.40	441.92	562.20	73.40	85.04	100.62	127.10
C	San Luis Obispo (SCC)	Annual	2021	324.29	375.51	441.85	562.51	73.47	85.15	100.70	127.10
C	San Luis Obispo (SCC)	Annual	2022	324.32	375.62	441.79	562.77	73.52	85.25	100.76	127.41
С	San Luis Obispo (SCC)	Annual	2023	324.30	375.69	441.73	562.97	73.56	85.34	100.82	127.59
С	San Luis Obispo (SCC)	Annual	2024	324.27	375.76	441.66	563.12	73.57	85.42	100.86	127.74
С	San Luis Obispo (SCC)	Annual	2025	324.25	375.82	441.61	563.29	73.59	85.49	100.89	127.90
С	San Luis Obispo (SCC)	Annual	2026	324.27	375.91	441.54	563.46	73.61	85.57	100.92	128.06
С	San Luis Obispo (SCC)	Annual	2027	324.28	375.99	441.47	563.63	73.63	85.63	100.94	128.19
С	San Luis Obispo (SCC)	Annual	2028	324.28	376.07	441.40	563.80	73.64	85.68	100.95	128.31
С	San Luis Obispo (SCC)	Annual	2029	324.27	376.16	441.32	563.96	73.64	85.74	100.95	128.43
С	San Luis Obispo (SCC)	Annual	2030	324.26	376.24	441.24	564.13	73.65	85.79	100.95	128.54
С	San Luis Obispo (SCC)	Annual	2031	324.26	376.33	441.20	564.31	73.65	85.84	100.96	128.65
С	San Luis Obispo (SCC)	Annual	2032	324.26	376.41	441.16	564.49	73.66	85.88	100.96	128.75
С	San Luis Obispo (SCC)	Annual	2033	324.25	376.48	441.13	564.65	73.66	85.92	100.97	128.84
С	San Luis Obispo (SCC)	Annual	2034	324.25	376.54	441.10	564.79	73.67	85.96	100.97	128.93
С	San Luis Obispo (SCC)	Annual	2035	324.24	376.60	441.08	564.92	73.67	86.00	100.97	129.01
С	San Luis Obispo (SCC)	Summer	2010	337.08	392.11	461.85	578.62	73.66	90.73	100.02	124.73
С	San Luis Obispo (SCC)	Summer	2011	337.15	391.73	461.44	579.22	73.53	89.58	100.04	124.90
С	San Luis Obispo (SCC)	Summer	2012	337.23	391.46	461.13	579.91	73.41	88.66	100.08	125.11
С	San Luis Obispo (SCC)	Summer	2013	337.36	391.21	460.89	580.65	73.36	87.82	100.14	125.34
С	San Luis Obispo (SCC)	Summer	2014	337.49	391.02	460.71	581.40	73.31	87.15	100.20	125.58
С	San Luis Obispo (SCC)	Summer	2015	337.63	390.82	460.57	582.19	73.31	86.48	100.25	125.85
С	San Luis Obispo (SCC)	Summer	2016	337.76	390.68	460.46	582.94	73.31	85.95	100.33	126.11
С	San Luis Obispo (SCC)	Summer	2017	337.85	390.56	460.36	583.64	73.31	85.47	100.39	126.38
С	San Luis Obispo (SCC)	Summer	2018	337.91	390.51	460.26	584.25	73.30	85.15	100.47	126.64
С	San Luis Obispo (SCC)	Summer	2019	337.96	390.55	460.18	584.77	73.31	85.03	100.54	126.87
С	San Luis Obispo (SCC)	Summer	2020	338.03	390.62	460.11	585.24	73.40	85.04	100.62	127.10
С	San Luis Obispo (SCC)	Summer	2021	338.07	390.76	460.04	585.58	73.47	85.15	100.70	127.27
С	San Luis Obispo (SCC)	Summer	2022	338.10	390.89	459.97	585.87	73.52	85.25	100.76	127.41
С	San Luis Obispo (SCC)	Summer	2023	338.08	390.99	459.91	586.10	73.56	85.34	100.82	127.59
С	San Luis Obispo (SCC)	Summer	2024	338.05	391.07	459.85	586.26	73.57	85.42	100.86	127.74
С	San Luis Obispo (SCC)	Summer	2025	338.04	391.16	459.80	586.42	73.59	85.49	100.89	127.90
С	San Luis Obispo (SCC)	Summer	2026	338.05	391.26	459.73	586.60	73.61	85.57	100.92	128.06
С	San Luis Obispo (SCC)	Summer	2027	338.07	391.36	459.67	586.77	73.63	85.63	100.94	128.19
С	San Luis Obispo (SCC)	Summer	2028	338.07	391.45	459.61	586.94	73.64	85.68	100.95	128.31
С	San Luis Obispo (SCC)	Summer	2029	338.07	391.55	459.54	587.11	73.64	85.74	100.95	128.43
С	San Luis Obispo (SCC)	Summer	2030	338.06	391.65	459.47	587.29	73.65	85.79	100.95	128.54
С	San Luis Obispo (SCC)	Summer	2031	338.06	391.75	459.44	587.47	73.65	85.84		128.65
С	San Luis Obispo (SCC)	Summer	2032	338.06	391.85	459.41	587.66	73.66			128.75
С	San Luis Obispo (SCC)	Summer	2033	338.06	391.93	459.38	587.84	73.66	85.92	100.97	128.84
С	San Luis Obispo (SCC)	Summer	2034	338.06	391.99	459.35	588.00	73.67	85.96		128.93
С	San Luis Obispo (SCC)	Summer	2035	338.05	392.05	459.33	588.14	73.67	86.00		129.01
С	San Luis Obispo (SCC)	Winter	2010	321.04	375.26	440.86	551.80	73.66	90.73		124.73
С	San Luis Obispo (SCC)	Winter	2011	320.97	374.65	440.26	552.41	73.53	89.58		124.90
С	San Luis Obispo (SCC)	Winter	2012	320.95	374.18	439.80	553.05	73.41	88.66		125.11
С	San Luis Obispo (SCC)	Winter	2013	321.01	373.73	439.43	553.72	73.36	87.82		125.34
С	San Luis Obispo (SCC)	Winter	2014	321.07	373.40	439.14	554.36	73.31	87.15		125.58
C	San Luis Obispo (SCC)	Winter	2015	321.16	373.05	438.90	555.03	73.31	86.48	100.25	125.85
C	San Luis Obispo (SCC)	Winter	2016	321.25	372.78	438.72	555.65	73.31	85.95	100.33	126.11
С	San Luis Obispo (SCC)	Winter	2017	321.32	372.53	438.57	556.25	73.31	85.47	100.39	126.38

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	(CO2 Star	ting (g/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	San Luis Obispo (SCC)	Winter	2018	321.37	372.38	438.46	556.77	73.30	85.15	100.47	126.64
С	San Luis Obispo (SCC)	Winter	2019	321.42	372.35	438.37	557.21	73.31	85.03		126.87
C	San Luis Obispo (SCC)	Winter	2020	321.50	372.37	438.30	557.61	73.40	85.04		127.10
C	San Luis Obispo (SCC)	Winter	2021	321.55	372.47	438.23	557.91	73.47	85.15	100.02	127.10
C	San Luis Obispo (SCC)	Winter	2022	321.57	372.57	438.17	558.16	73.52	85.25	100.76	127.41
С	San Luis Obispo (SCC)	Winter	2023	321.56	372.64	438.10	558.37	73.56	85.34	100.70	127.59
C	San Luis Obispo (SCC)	Winter	2024	321.53	372.71	438.04	558.51	73.57	85.42	100.86	127.74
C	San Luis Obispo (SCC)	Winter	2025	321.51	372.77	437.99	558.68	73.59	85.49	100.89	127.74
C	San Luis Obispo (SCC)	Winter	2026	321.52	372.85	437.92	558.85	73.61	85.57	100.03	128.06
C	San Luis Obispo (SCC)	Winter	2027	321.53	372.93	437.84	559.02	73.63	85.63	100.94	128.19
C	San Luis Obispo (SCC)	Winter	2028	321.53	373.01	437.77	559.19	73.64	85.68	100.95	128.31
C	San Luis Obispo (SCC)	Winter	2029	321.52	373.09	437.69	559.35	73.64	85.74	100.95	128.43
C	San Luis Obispo (SCC)	Winter	2030	321.51	373.17	437.61	559.52	73.65	85.79	100.95	128.54
C	San Luis Obispo (SCC)	Winter	2030	321.51	373.17	437.57	559.69	73.65	85.84	100.96	128.65
C	San Luis Obispo (SCC)	Winter	2031	321.51	373.33	437.53	559.87	73.66	85.88	100.96	128.75
c C	San Luis Obispo (SCC)	Winter	2032	321.50	373.40	437.50	560.03	73.66	85.92	100.96	128.84
c C	San Luis Obispo (SCC)	Winter	2033	321.50	373.46	437.47	560.03	73.67	85.96	100.97	128.93
c C	San Luis Obispo (SCC)	Winter	2034	321.49	373.40	437.45	560.17	73.67	86.00	100.97	129.93
C	San Mateo (SF)	Annual	2010	331.46	381.30	453.00	571.70	73.17	84.42	99.27	124.79
C	San Mateo (SF)	Annual	2010	331.52	381.54	452.87	571.70	73.17	84.32	99.39	124.79
C	San Mateo (SF)	Annual	2011	331.59	381.82	452.77	572.72	73.21	84.27	99.52	125.21
C	San Mateo (SF)	Annual	2012	331.72	382.13	452.69	573.27	73.27	84.28	99.65	125.45
C	San Mateo (SF)	Annual	2013	331.82	382.41	452.63	573.84	73.28	84.28	99.79	125.43
C	San Mateo (SF)	Annual	2014	331.97	382.71	452.60	574.41	73.35	84.33	99.92	125.94
C	San Mateo (SF)	Annual	2016	332.12	383.02	452.57	574.41	73.43	84.40	100.06	126.20
C	San Mateo (SF)	Annual	2017	332.23	383.29	452.55	575.50	73.47	84.45	100.00	126.46
C	San Mateo (SF)	Annual	2018	332.33	383.54	452.54	575.97	73.52	84.52	100.17	126.70
C	San Mateo (SF)	Annual	2019	332.44	383.81	452.54	576.38	73.58	84.64	100.27	126.70
C	San Mateo (SF)	Annual	2020	332.53	384.05	452.54	576.75	73.67	84.78	100.47	127.15
C	San Mateo (SF)	Annual	2021	332.60	384.28	452.54	577.07	73.74	84.93	100.56	127.33
C	San Mateo (SF)	Annual	2022	332.63	384.48	452.54	577.34	73.79	85.06	100.64	127.49
C	San Mateo (SF)	Annual	2023	332.64	384.63	452.53	577.54	73.83	85.17	100.70	127.66
C	San Mateo (SF)	Annual	2024	332.61	384.75	452.52	577.70	73.85	85.27	100.76	127.81
C	San Mateo (SF)	Annual	2025	332.60		452.51	577.87	73.87		100.81	127.96
C	San Mateo (SF)	Annual	2026	332.62	385.00	452.50	578.03	73.89	85.46		128.10
c	San Mateo (SF)	Annual	2027	332.63	385.15	452.48	578.19	73.90	85.54		128.23
C	San Mateo (SF)	Annual	2028	332.63	385.29	452.46	578.34	73.91	85.61		128.34
C	San Mateo (SF)	Annual	2029	332.63	385.44	452.44	578.49	73.92	85.69		128.45
C	San Mateo (SF)	Annual	2030	332.62	385.59	452.42	578.65	73.92	85.76	100.92	128.55
С	San Mateo (SF)	Annual	2031	332.61	385.75	452.41	578.81	73.93	85.83	100.93	128.65
С	San Mateo (SF)	Annual	2032	332.61	385.91	452.40	578.98	73.93	85.89	100.94	128.74
C	San Mateo (SF)	Annual	2033	332.61	386.05	452.38	579.13	73.93	85.95	100.95	128.83
C	San Mateo (SF)	Annual	2034	332.60	386.18	452.37	579.27	73.94	86.01	100.96	128.91
C	San Mateo (SF)	Annual	2035	332.60	386.30	452.36	579.39	73.94	86.06	100.96	128.99
C	San Mateo (SF)	Summer	2010	352.26	402.67	480.50	606.46	73.17	84.42	99.27	124.79
C	San Mateo (SF)	Summer	2011	352.41	403.17	480.38	606.84	73.20	84.32	99.39	124.99
С	San Mateo (SF)	Summer	2012	352.55	403.67	480.30	607.32	73.21	84.27	99.52	125.21
С	San Mateo (SF)	Summer	2013	352.74	404.17	480.27	607.88	73.27	84.28	99.65	125.45
С	San Mateo (SF)	Summer	2014	352.88	404.61	480.26	608.49	73.28	84.28	99.79	125.69
C	San Mateo (SF)	Summer	2015	353.05	405.04	480.27	609.14	73.35	84.33	99.92	125.94
С	San Mateo (SF)	Summer	2016	353.22	405.45	480.29	609.82	73.43	84.40		126.20
С	San Mateo (SF)	Summer	2017	353.34	405.84	480.32	610.47	73.47	84.45		126.46
C	San Mateo (SF)	Summer	2018	353.44	406.19	480.34	611.04	73.52	84.52	100.27	126.70
С	San Mateo (SF)	Summer	2019	353.55	406.55	480.36	611.53	73.58			126.93

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Lagation		<u> </u>		CO2 Runni	na (a/\/MT	'\		in)		
	Location	0							CO2 Star		
С	Con Motor (CE)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2 100.47	MDV
C	San Mateo (SF) San Mateo (SF)	Summer Summer	2020 2021	353.65 353.72	406.87 407.17	480.38 480.38	611.98 612.36	73.67 73.74	84.78 84.93	100.47	127.15 127.33
C	San Mateo (SF)	Summer	2021	353.72	407.17	480.37	612.69	73.79	85.06	100.56	127.33
C	San Mateo (SF)	Summer	2022	353.76	407.44	480.36	612.93	73.83	85.17	100.84	127.49
C	San Mateo (SF)	Summer	2023	353.77	407.83	480.34	613.13	73.85	85.27	100.76	127.81
	San Mateo (SF)	Summer	2024	353.74	407.83	480.32	613.31	73.87	85.37	100.76	127.96
o O	,	Summer	2025	353.74	408.00	480.30	613.48	73.89	85.46	100.81	128.10
	San Mateo (SF) San Mateo (SF)	Summer	2020	353.77	408.19	480.28	613.64	73.90	85.54	100.87	128.23
C	San Mateo (SF)	Summer	2028	353.79	408.58	480.25	613.80	73.91	85.61	100.89	128.34
O	San Mateo (SF)	Summer	2029	353.79	408.79	480.23	613.96	73.92	85.69	100.03	128.45
С	San Mateo (SF)	Summer	2030	353.78	408.99	480.21	614.12	73.92	85.76	100.92	128.55
С	San Mateo (SF)	Summer	2031	353.78	409.21	480.20	614.29	73.93	85.83	100.93	128.65
C	San Mateo (SF)	Summer	2032	353.78	409.41	480.19	614.46	73.93	85.89	100.94	128.74
С	San Mateo (SF)	Summer	2033	353.78	409.59	480.19	614.63	73.93	85.95	100.95	128.83
C	San Mateo (SF)	Summer	2034	353.78	409.75	480.18	614.78	73.94	86.01	100.96	128.91
С	San Mateo (SF)	Summer	2035	353.77	409.88	480.17	614.93	73.94	86.06	100.96	128.99
С	San Mateo (SF)	Winter	2010	330.18	379.99	451.31	569.56	73.17	84.42	99.27	124.79
С	San Mateo (SF)	Winter	2011	330.23	380.21	451.18	570.06	73.20	84.32	99.39	124.99
С	San Mateo (SF)	Winter	2012	330.30	380.48	451.08	570.59	73.21	84.27	99.52	125.21
С	San Mateo (SF)	Winter	2013	330.43	380.78	451.00	571.15	73.27	84.28	99.65	125.45
C	San Mateo (SF)	Winter	2014	330.52	381.04	450.94	571.71	73.28	84.28	99.79	125.69
С	San Mateo (SF)	Winter	2015	330.67	381.34	450.90	572.28	73.35	84.33	99.92	125.94
С	San Mateo (SF)	Winter	2016	330.82	381.64	450.87	572.83	73.43	84.40	100.06	126.20
С	San Mateo (SF)	Winter	2017	330.94	381.91	450.84	573.35	73.47	84.45	100.17	126.46
С	San Mateo (SF)	Winter	2018	331.03	382.14	450.83	573.82	73.52	84.52	100.27	126.70
С	San Mateo (SF)	Winter	2019	331.14	382.41	450.83	574.22	73.58	84.64	100.37	126.93
С	San Mateo (SF)	Winter	2020	331.23	382.65	450.83	574.59	73.67	84.78	100.47	127.15
С	San Mateo (SF)	Winter	2021	331.30	382.88	450.83	574.90	73.74	84.93	100.56	127.33
С	San Mateo (SF)	Winter	2022	331.34	383.07	450.83	575.17	73.79	85.06	100.64	127.49
С	San Mateo (SF)	Winter	2023	331.34	383.21	450.82	575.36	73.83	85.17	100.70	127.66
С	San Mateo (SF)	Winter	2024	331.31	383.33	450.81	575.53	73.85	85.27	100.76	127.81
С	San Mateo (SF)	Winter	2025	331.30	383.44	450.81	575.69	73.87	85.37	100.81	127.96
С	San Mateo (SF)	Winter	2026	331.32	383.58	450.79	575.85	73.89	85.46	100.84	128.10
С	San Mateo (SF)	Winter	2027	331.33	383.72	450.77	576.01	73.90	85.54	100.87	128.23
С	San Mateo (SF)	Winter	2028	331.33	383.86	450.75	576.16	73.91	85.61	100.89	128.34
С	San Mateo (SF)	Winter	2029	331.33	384.00	450.73	576.31	73.92	85.69	100.91	128.45
С	San Mateo (SF)	Winter	2030	331.31	384.15	450.71	576.47	73.92	85.76	100.92	128.55
С	San Mateo (SF)	Winter	2031	331.31	384.31	450.70	576.63	73.93	85.83	100.93	128.65
С	San Mateo (SF)	Winter	2032	331.31	384.47	450.69	576.80	73.93	85.89	100.94	128.74
С	San Mateo (SF)	Winter	2033	331.31	384.61	450.67	576.95	73.93	85.95	100.95	128.83
С	San Mateo (SF)	Winter	2034	331.30	384.74	450.66	577.09	73.94	86.01	100.96	128.91
С	San Mateo (SF)	Winter	2035	331.30	384.85	450.65	577.21	73.94	86.06	100.96	128.99
С	Santa Barbara-North of Santa Ynez	Annual	2010	310.84	363.09	427.75	535.11	73.30	88.99	99.96	124.67
С	Santa Barbara-North of Santa Ynez	Annual	2011	310.88	362.63	427.11	535.68	73.27	88.16	99.98	124.88
С	Santa Barbara-North of Santa Ynez	Annual	2012	310.95	362.25	426.61	536.31	73.24	87.48	100.03	125.11
С	Santa Barbara-North of Santa Ynez	Annual	2013	311.07	361.91	426.21	536.98	73.26	86.88	100.11	125.37
С	Santa Barbara-North of Santa Ynez	Annual	2014	311.18	361.62	425.89	537.62	73.27	86.37	100.18	125.64
С	Santa Barbara-North of Santa Ynez	Annual	2015	313.00	363.39	428.01	541.26	73.31	85.95	100.25	125.92
С	Santa Barbara-North of Santa Ynez	Annual	2016	313.13	363.16	427.81	541.86	73.36	85.55	100.33	126.20
С	Santa Barbara-North of Santa Ynez	Annual	2017	313.22	362.94	427.65	542.43	73.38	85.18	100.40	126.48
С	Santa Barbara-North of Santa Ynez	Annual	2018	313.28	362.85	427.53	542.93	73.40	85.00	100.47	126.74
С	Santa Barbara-North of Santa Ynez	Annual	2019	313.35	362.86	427.43	543.35	73.43	84.95	100.55	126.99
С	Santa Barbara-North of Santa Ynez	Annual	2020	313.43	362.88	427.35	543.74	73.53	84.99	100.64	127.22
С	Santa Barbara-North of Santa Ynez	Annual	2021	313.48	362.96	427.30	543.99	73.59	85.09	100.71	127.38

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		1		CO2 Runni	na (a/\/MIT	η Ι		CO2 Starting (g/trip LDA LDT1 LDT2 73.64 85.18 100.77 73.67 85.26 100.82 73.68 85.33 100.86			
	Location	Cassan	Voor			<u> </u>	/		LDA LDT1 LDT2 73.64 85.18 100.77 73.67 85.26 100.82 73.68 85.33 100.86 73.70 85.40 100.90 73.71 85.47 100.92 73.74 85.58 100.95 73.75 85.67 100.96 73.76 85.77 100.96 73.76 85.81 100.97 73.77 85.88 100.97 73.30 88.99 99.98 73.27 88.16 99.98 73.28 86.37 100.18 73.29 86.38 100.11 73.21 85.95 100.25 73.33 85.95 100.33 73.24 87.48 100.03 73.25 86.37 100.18 73.31 85.95 100.25 73.36 85.55 100.33 73.31 85.95 100.40 73.43 84.95 100.55			
С	Conta Darbara North of Conta Vaca	Season	Year	LDA	LDT1	LDT2	MDV 544.20				MDV	
c C	Santa Barbara North of Santa Ynez	Annual	2022	313.49	363.03	427.24	544.20				127.51	
c C	Santa Barbara-North of Santa Ynez Santa Barbara-North of Santa Ynez	Annual Annual	2023 2024	313.48 313.44	363.09 363.12	427.17	544.37 544.49				127.66 127.80	
c C	Santa Barbara-North of Santa Ynez	Annual	2024	313.43	363.17	427.11 427.06	544.63				127.00	
C	Santa Barbara-North of Santa Ynez	Annual	2025	311.28	360.68	427.06	540.92				128.08	
C	Santa Barbara-North of Santa Ynez	Annual	2027	311.28	360.75	423.88	541.07				128.21	
C	Santa Barbara-North of Santa Ynez	Annual	2028	311.28	360.82	423.82	541.22				128.32	
C	Santa Barbara-North of Santa Ynez	Annual	2029	311.28	360.90	423.73	541.36				128.43	
C	Santa Barbara-North of Santa Ynez	Annual	2030	311.26	360.97	423.64	541.52				128.53	
C	Santa Barbara-North of Santa Ynez	Annual	2031	311.26	361.06	423.58	541.68				128.63	
C	Santa Barbara-North of Santa Ynez	Annual	2032	311.25	361.13	423.54	541.85				128.73	
C	Santa Barbara-North of Santa Ynez	Annual	2032	311.25	361.21	423.50	542.00				128.82	
С	Santa Barbara-North of Santa Ynez	Annual	2034	311.24	361.27	423.46	542.14				128.90	
С	Santa Barbara-North of Santa Ynez	Annual	2035	311.24	361.32	423.43	542.26				128.98	
С	Santa Barbara-North of Santa Ynez	Summer	2010	318.00	370.60	437.04	547.10				124.67	
C	Santa Barbara-North of Santa Ynez	Summer	2011	318.11	370.21	436.50	547.67				124.88	
C	Santa Barbara-North of Santa Ynez	Summer	2012	318.23	369.92	436.07	548.31				125.11	
С	Santa Barbara-North of Santa Ynez	Summer	2013	318.39	369.65	435.73	549.01				125.37	
C	Santa Barbara-North of Santa Ynez	Summer	2014	318.53	369.43	435.47	549.69				125.64	
C	Santa Barbara-North of Santa Ynez	Summer	2015	320.38	371.28	437.66	553.41				125.92	
C	Santa Barbara-North of Santa Ynez	Summer	2016	320.52	371.11	437.49	554.06				126.20	
C	Santa Barbara-North of Santa Ynez	Summer	2017	320.61	370.94	437.35	554.68				126.48	
C	Santa Barbara-North of Santa Ynez	Summer	2018	320.68	370.90	437.24	555.21				126.74	
C	Santa Barbara-North of Santa Ynez	Summer	2019	320.75	370.93	437.14	555.67				126.99	
C	Santa Barbara-North of Santa Ynez	Summer	2020	320.82	370.99	437.07	556.08				127.22	
C	Santa Barbara-North of Santa Ynez	Summer	2021	320.86	371.07	437.00	556.34				127.38	
C	Santa Barbara-North of Santa Ynez	Summer	2022	320.87	371.15	436.93	556.55				127.51	
C	Santa Barbara-North of Santa Ynez	Summer	2023	320.85	371.21	436.86	556.71	73.67			127.66	
С	Santa Barbara-North of Santa Ynez	Summer	2024	320.82	371.26	436.79	556.83	73.68			127.80	
С	Santa Barbara-North of Santa Ynez	Summer	2025	320.80	371.31	436.74	556.96	73.70			127.95	
С	Santa Barbara-North of Santa Ynez	Summer	2026	318.61	368.79	433.59	553.19	73.71	85.47	100.92	128.08	
С	Santa Barbara-North of Santa Ynez	Summer	2027	318.61	368.86	433.51	553.33	73.73	85.52	100.94	128.21	
С	Santa Barbara-North of Santa Ynez	Summer	2028	318.62	368.94	433.45	553.48	73.74	85.58	100.95	128.32	
С	Santa Barbara-North of Santa Ynez	Summer	2029	318.61	369.02	433.37	553.64	73.74	85.63	100.95	128.43	
С	Santa Barbara-North of Santa Ynez	Summer	2030	318.60	369.11	433.28	553.80	73.75			128.53	
С	Santa Barbara-North of Santa Ynez	Summer	2031	318.60	369.20	433.24	553.96	73.75	85.72	100.96	128.63	
С	Santa Barbara-North of Santa Ynez	Summer	2032	318.60	369.29	433.20	554.14	73.76			128.73	
С	Santa Barbara-North of Santa Ynez	Summer	2033	318.60	369.37	433.17	554.30	73.76	85.81	100.96	128.82	
С	Santa Barbara-North of Santa Ynez	Summer	2034	318.59	369.44	433.13	554.45	73.76	85.85	100.97	128.90	
С	Santa Barbara-North of Santa Ynez	Summer	2035	318.59	369.50	433.10	554.58	73.77	85.88	100.97	128.98	
С	Santa Barbara-North of Santa Ynez	Winter	2010	310.39	362.63	427.17	534.37	73.30	88.99	99.96	124.67	
С	Santa Barbara-North of Santa Ynez	Winter	2011	310.43	362.16	426.53	534.94	73.27	88.16	99.98	124.88	
С	Santa Barbara-North of Santa Ynez	Winter	2012	310.50	361.77	426.02	535.57	73.24	87.48	100.03	125.11	
С	Santa Barbara-North of Santa Ynez	Winter	2013	310.62	361.43	425.62	536.23	73.26	86.88		125.37	
С	Santa Barbara-North of Santa Ynez	Winter	2014	310.73	361.13	425.30	536.87	73.27	86.37	100.18	125.64	
С	Santa Barbara-North of Santa Ynez	Winter	2015	312.55	362.90	427.42	540.51	73.31	85.95	100.25	125.92	
С	Santa Barbara-North of Santa Ynez	Winter	2016	312.67	362.67	427.21	541.11	73.36	85.55	100.33	126.20	
С	Santa Barbara-North of Santa Ynez	Winter	2017	312.76	362.45	427.05	541.68	73.38	85.18	100.40	126.48	
С	Santa Barbara-North of Santa Ynez	Winter	2018	312.83	362.36	426.93	542.17	73.40	85.00	100.47	126.74	
С	Santa Barbara-North of Santa Ynez	Winter	2019	312.90	362.36	426.83	542.59	73.43	84.95	100.55	126.99	
С	Santa Barbara-North of Santa Ynez	Winter	2020	312.97	362.38	426.75	542.98	73.53	84.99	100.64	127.22	
С	Santa Barbara-North of Santa Ynez	Winter	2021	313.02	362.45	426.70	543.23	73.59	85.09	100.71	127.38	
С	Santa Barbara-North of Santa Ynez	Winter	2022	313.04	362.53	426.64	543.44	73.64	85.18		127.51	
С	Santa Barbara-North of Santa Ynez	Winter	2023	313.02	362.58	426.57	543.61	73.67	85.26	100.82	127.66	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		<u> </u>		202 D	na (a/\/*T	· I		202 04	tina /=/	n)
	Location		.,			ng (g/VMT	/		CO2 Star		
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
C	Santa Barbara-North of Santa Ynez	Winter	2024	312.99	362.62	426.51	543.73	73.68	85.33	100.86	127.80
C	Santa Barbara-North of Santa Ynez	Winter	2025	312.98	362.66	426.46	543.87	73.70	85.40		127.95
C	Santa Barbara North of Santa Ynez	Winter	2026	310.82	360.18	423.37	540.16	73.71	85.47	100.92	128.08
C C	Santa Barbara North of Santa Ynez	Winter	2027	310.83	360.25 360.32	423.29	540.31	73.73 73.74	85.52	100.94	128.21 128.32
	Santa Barbara-North of Santa Ynez Santa Barbara-North of Santa Ynez	Winter	2028 2029	310.83	360.40	423.22 423.14	540.46	73.74	85.58 85.63	100.95	128.43
С С	Santa Barbara-North of Santa Ynez	Winter Winter	2029	310.82 310.81	360.47	423.14	540.60 540.76	73.75	85.67	100.95 100.95	128.53
C	Santa Barbara-North of Santa Ynez	Winter	2030	310.80	360.55	423.04	540.76	73.75	85.72	100.95	128.63
C	Santa Barbara-North of Santa Ynez	Winter	2031	310.80	360.63	422.99	541.09	73.76	85.77	100.96	128.73
С	Santa Barbara-North of Santa Ynez	Winter	2032	310.80	360.70	422.94	541.24	73.76	85.81	100.96	128.82
С	Santa Barbara-North of Santa Ynez	Winter	2034	310.79	360.76	422.87	541.38	73.76	85.85	100.97	128.90
С	Santa Barbara-North of Santa Ynez	Winter	2035	310.78	360.82	422.83	541.50	73.77	85.88	100.97	128.98
С	Santa Barbara-South of Santa Ynez Ran	Annual	2010	310.84	363.09	427.75	535.11	73.30	88.99	99.96	124.67
С	Santa Barbara-South of Santa Ynez Ran	Annual	2011	310.88	362.63	427.11	535.68	73.27	88.16	99.98	124.88
С	Santa Barbara-South of Santa Ynez Ran		2012	310.95	362.25	426.61	536.31	73.24	87.48	100.03	125.11
C	Santa Barbara-South of Santa Ynez Ran		2013	311.07	361.91	426.21	536.98	73.26	86.88	100.11	125.37
С	Santa Barbara-South of Santa Ynez Ran		2014	311.18	361.62	425.89	537.62	73.27	86.37	100.18	125.64
С	Santa Barbara-South of Santa Ynez Ran		2015	313.00	363.39	428.01	541.26	73.31	85.95	100.25	125.92
C	Santa Barbara-South of Santa Ynez Ran		2016	313.13	363.16	427.81	541.86	73.36	85.55	100.33	126.20
C	Santa Barbara-South of Santa Ynez Ran		2017	313.22	362.94	427.65	542.43	73.38	85.18	100.40	126.48
С	Santa Barbara-South of Santa Ynez Ran		2018	313.28	362.85	427.53	542.93	73.40	85.00	100.47	126.74
С	Santa Barbara-South of Santa Ynez Ran		2019	313.35	362.86	427.43	543.35	73.43	84.95	100.55	126.99
С	Santa Barbara-South of Santa Ynez Ran		2020	313.43	362.88	427.35	543.74	73.53	84.99	100.64	127.22
C	Santa Barbara-South of Santa Ynez Ran		2021	313.48	362.96	427.30	543.99	73.59	85.09	100.71	127.38
C	Santa Barbara-South of Santa Ynez Ran		2022	313.49	363.03	427.24	544.20	73.64	85.18	100.77	127.51
C	Santa Barbara-South of Santa Ynez Ran		2023	313.48	363.09	427.17	544.37	73.67	85.26	100.82	127.66
С	Santa Barbara-South of Santa Ynez Ran		2024	313.44	363.12	427.11	544.49	73.68	85.33	100.86	127.80
С	Santa Barbara-South of Santa Ynez Ran		2025	313.43	363.17	427.06	544.63	73.70	85.40	100.90	127.95
С	Santa Barbara-South of Santa Ynez Ran	Annual	2026	311.28	360.68	423.96	540.92	73.71	85.47	100.92	128.08
С	Santa Barbara-South of Santa Ynez Ran	Annual	2027	311.28	360.75	423.88	541.07	73.73	85.52	100.94	128.21
С	Santa Barbara-South of Santa Ynez Ran	Annual	2028	311.28	360.82	423.82	541.22	73.74	85.58	100.95	128.32
С	Santa Barbara-South of Santa Ynez Ran	Annual	2029	311.28	360.90	423.73	541.36	73.74	85.63	100.95	128.43
С	Santa Barbara-South of Santa Ynez Ran	Annual	2030	311.26	360.97	423.64	541.52	73.75	85.67	100.95	128.53
С	Santa Barbara-South of Santa Ynez Ran	Annual	2031	311.26	361.06	423.58	541.68	73.75	85.72	100.96	128.63
С	Santa Barbara-South of Santa Ynez Ran	Annual	2032	311.25	361.13	423.54	541.85	73.76		100.96	128.73
С	Santa Barbara-South of Santa Ynez Ran	Annual	2033	311.25	361.21	423.50	542.00	73.76	85.81	100.96	128.82
С	Santa Barbara-South of Santa Ynez Ran	Annual	2034	311.24	361.27	423.46	542.14	73.76	85.85	100.97	128.90
С	Santa Barbara-South of Santa Ynez Ran	Annual	2035	311.24	361.32	423.43	542.26	73.77	85.88	100.97	128.98
С	Santa Barbara-South of Santa Ynez Ran	Summer	2010	318.00	370.60	437.04	547.10	73.30	88.99	99.96	124.67
С	Santa Barbara-South of Santa Ynez Ran	Summer	2011	318.11	370.21	436.50	547.67	73.27	88.16	99.98	124.88
С	Santa Barbara-South of Santa Ynez Ran	Summer	2012	318.23	369.92	436.07	548.31	73.24	87.48	100.03	125.11
С	Santa Barbara-South of Santa Ynez Ran	Summer	2013	318.39	369.65	435.73	549.01	73.26	86.88	100.11	125.37
С	Santa Barbara-South of Santa Ynez Ran	Summer	2014	318.53	369.43	435.47	549.69	73.27	86.37	100.18	125.64
С	Santa Barbara-South of Santa Ynez Ran	Summer	2015	320.38	371.28	437.66	553.41	73.31	85.95	100.25	125.92
С	Santa Barbara-South of Santa Ynez Ran	Summer	2016	320.52	371.11	437.49	554.06	73.36	85.55	100.33	126.20
С	Santa Barbara-South of Santa Ynez Ran	Summer	2017	320.61	370.94	437.35	554.68	73.38	85.18	100.40	126.48
С	Santa Barbara-South of Santa Ynez Ran	Summer	2018	320.68	370.90	437.24	555.21	73.40	85.00	100.47	126.74
С	Santa Barbara-South of Santa Ynez Ran	Summer	2019	320.75	370.93	437.14	555.67	73.43	84.95	100.55	126.99
С	Santa Barbara-South of Santa Ynez Ran	Summer	2020	320.82	370.99	437.07	556.08	73.53	84.99	100.64	127.22
С	Santa Barbara-South of Santa Ynez Ran	Summer	2021	320.86	371.07	437.00	556.34	73.59	85.09	100.71	127.38
С	Santa Barbara-South of Santa Ynez Ran	Summer	2022	320.87	371.15	436.93	556.55	73.64	85.18	100.77	127.51
С	Santa Barbara-South of Santa Ynez Ran	Summer	2023	320.85	371.21	436.86	556.71	73.67	85.26	100.82	127.66
С	Santa Barbara-South of Santa Ynez Ran	Summer	2024	320.82	371.26	436.79	556.83	73.68	85.33	100.86	127.80
С	Santa Barbara-South of Santa Ynez Ran	Summer	2025	320.80	371.31	436.74	556.96	73.70	85.40	100.90	127.95

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Lacation		l		CO2 D	na (a/\/\	· I		73.71 85.47 100.92			
	Location		.,		CO2 Runni	0 10	/					
		Season	Year	LDA	LDT1	LDT2	MDV				MDV	
C	Santa Barbara-South of Santa Ynez Ran		2026	318.61	368.79	433.59	553.19				128.08	
C	Santa Barbara-South of Santa Ynez Ran		2027	318.61	368.86	433.51	553.33				128.21	
С	Santa Barbara-South of Santa Ynez Ran		2028	318.62	368.94	433.45	553.48	73.74	85.58	100.95	128.32	
C	Santa Barbara-South of Santa Ynez Ran		2029	318.61	369.02	433.37	553.64	73.74	85.63	100.95	128.43	
С	Santa Barbara-South of Santa Ynez Ran		2030	318.60	369.11	433.28	553.80	73.75	85.67	100.95	128.53	
С	Santa Barbara-South of Santa Ynez Ran	Summer	2031	318.60	369.20	433.24	553.96	73.75	85.72	100.96	128.63	
С	Santa Barbara-South of Santa Ynez Ran	Summer	2032	318.60	369.29	433.20	554.14	73.76	85.77	100.96	128.73	
С	Santa Barbara-South of Santa Ynez Ran	Summer	2033	318.60	369.37	433.17	554.30	73.76	85.81	100.96	128.82	
С	Santa Barbara-South of Santa Ynez Ran	Summer	2034	318.59	369.44	433.13	554.45	73.76	85.85	100.97	128.90	
С	Santa Barbara-South of Santa Ynez Ran	Summer	2035	318.59	369.50	433.10	554.58	73.77	85.88	100.97	128.98	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2010	310.39	362.63	427.17	534.37	73.30	88.99	99.96	124.67	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2011	310.43	362.16	426.53	534.94	73.27	88.16	99.98	124.88	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2012	310.50	361.77	426.02	535.57	73.24	87.48	100.03	125.11	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2013	310.62	361.43	425.62	536.23	73.26	86.88	100.11	125.37	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2014	310.73	361.13	425.30	536.87	73.27	86.37	100.18	125.64	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2015	312.55	362.90	427.42	540.51	73.31	85.95	100.25	125.92	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2016	312.67	362.67	427.21	541.11	73.36	85.55	100.33	126.20	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2017	312.76	362.45	427.05	541.68	73.38	85.18	100.40	126.48	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2018	312.83	362.36	426.93	542.17	73.40	85.00	100.47	126.74	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2019	312.90	362.36	426.83	542.59	73.43	84.95	100.55	126.99	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2020	312.97	362.38	426.75	542.98	73.53	84.99	100.64	127.22	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2021	313.02	362.45	426.70	543.23	73.59	85.09	100.71	127.38	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2022	313.04	362.53	426.64	543.44	73.64	85.18	100.77	127.51	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2023	313.02	362.58	426.57	543.61	73.67	85.26	100.82	127.66	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2024	312.99	362.62	426.51	543.73	73.68	85.33	100.86	127.80	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2025	312.98	362.66	426.46	543.87	73.70	85.40	100.90	127.95	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2026	310.82	360.18	423.37	540.16	73.71	85.47	100.92	128.08	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2027	310.83	360.25	423.29	540.31	73.73	85.52	100.94	128.21	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2028	310.83	360.32	423.22	540.46	73.74	85.58	100.95	128.32	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2029	310.82	360.40	423.14	540.60	73.74	85.63	100.95	128.43	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2030	310.81	360.47	423.04	540.76	73.75	85.67	100.95	128.53	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2031	310.80	360.55	422.99	540.92	73.75	85.72	100.96	128.63	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2032	310.80	360.63	422.94	541.09	73.76	85.77	100.96	128.73	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2033	310.80	360.70	422.90	541.24	73.76	85.81	100.96	128.82	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2034	310.79	360.76	422.87	541.38	73.76	85.85	100.97	128.90	
С	Santa Barbara-South of Santa Ynez Ran	Winter	2035	310.78	360.82	422.83	541.50	73.77	85.88	100.97	128.98	
С	Santa Clara (SF)	Annual	2010	329.54	379.42	451.34	568.91	72.72	84.35	99.27	124.50	
С	Santa Clara (SF)	Annual	2011	329.74	379.85	451.25	569.47	72.79	84.25	99.38	124.72	
С	Santa Clara (SF)	Annual	2012	329.96	380.27	451.20	570.08	72.88	84.20	99.53	124.96	
С	Santa Clara (SF)	Annual	2013	330.20	380.67	451.15	570.74	72.98	84.20	99.67	125.22	
С	Santa Clara (SF)	Annual	2014	330.42	381.04	451.13	571.39	73.07	84.19	99.80	125.48	
C	Santa Clara (SF)	Annual	2015	330.66	381.39	451.11	572.06	73.19	84.22	99.92	125.76	
С	Santa Clara (SF)	Annual	2016	330.88	381.76	451.11	572.69	73.31	84.28	100.05	126.03	
С	Santa Clara (SF)	Annual	2017	331.05	382.11	451.10	573.29	73.40	84.35	100.15	126.31	
С	Santa Clara (SF)	Annual	2018	331.20	382.41	451.10	573.81	73.48	84.42	100.25	126.57	
C	Santa Clara (SF)	Annual	2019	331.33	382.70	451.11	574.27	73.56	84.54		126.81	
C	Santa Clara (SF)	Annual	2020	331.44	382.97	451.11	574.68	73.67	84.69	100.45	127.04	
C	Santa Clara (SF)	Annual	2021	331.53	383.22	451.12	575.01	73.75	84.85	100.45	127.23	
o O	Santa Clara (SF)	Annual	2021	331.58	383.42	451.12	575.30	73.81	84.99	100.63	127.38	
c C	Santa Clara (SF)	Annual	2022	331.60	383.59	451.12	575.52	73.85	85.11	100.03	127.56	
C	Santa Clara (SF)	Annual	2023	331.59	383.72	451.11	575.69	73.88	85.22	100.75	127.72	
C	Santa Clara (SF)	Annual	2025	331.60	383.84	451.11	575.86	73.91	85.32	100.73	127.72	
C C	Santa Clara (SF)	Annual	2025	331.62	383.98	451.10	576.04	73.93	85.42	100.80	128.02	
C	Santa Clara (SF)	Annual	2020	331.63	384.13	451.09	576.04	73.94	85.51		128.15	
\sim	oanta olala (ol-)	miliudi	2021	551.03	504.13	40 1.00	510.20	13.54	00.01	100.07	120.13	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	I a anti-an	1			200 D		1		CO2 Starting (g/trip LDA LDT1 LDT2 73.95 85.59 100.89 73.96 85.67 100.91 73.97 85.74 100.93		
	Location		.,		O2 Runni						
_	0	Season	Year	LDA	LDT1	LDT2	MDV				MDV
С	Santa Clara (SF)	Annual	2028	331.63	384.27	451.07	576.37				128.27
C	Santa Clara (SF)	Annual	2029	331.63	384.42	451.05	576.54				128.38
C_	Santa Clara (SF)	Annual	2030	331.63	384.57	451.04	576.71				128.49
C	Santa Clara (SF)	Annual	2031	331.63	384.73	451.03	576.89	73.97	85.82	100.94	128.60
С	Santa Clara (SF)	Annual	2032	331.62	384.87	451.03	577.08	73.98	85.89	100.95	128.70
С	Santa Clara (SF)	Annual	2033	331.62	385.01	451.02	577.25	73.98	85.95	100.95	128.80
С	Santa Clara (SF)	Annual	2034	331.62	385.12	451.01	577.41	73.99	86.01	100.96	128.88
С	Santa Clara (SF)	Annual	2035	331.62	385.22	451.00	577.55	73.99	86.06	100.97	128.96
С	Santa Clara (SF)	Summer	2010	355.01	405.62	485.21	611.43	72.72	84.35	99.27	124.50
С	Santa Clara (SF)	Summer	2011	355.38	406.43	485.18	611.92	72.79	84.25	99.38	124.72
С	Santa Clara (SF)	Summer	2012	355.73	407.17	485.18	612.54	72.88	84.20	99.53	124.96
С	Santa Clara (SF)	Summer	2013	356.08	407.85	485.21	613.25	72.98	84.20	99.67	125.22
С	Santa Clara (SF)	Summer	2014	356.38	408.44	485.27	614.00	73.07	84.19	99.80	125.48
С	Santa Clara (SF)	Summer	2015	356.67	408.98	485.34	614.82	73.19	84.22	99.92	125.76
С	Santa Clara (SF)	Summer	2016	356.93	409.53	485.41	615.61	73.31	84.28	100.05	126.03
С	Santa Clara (SF)	Summer	2017	357.13	410.03	485.47	616.36	73.40	84.35	100.15	126.31
С	Santa Clara (SF)	Summer	2018	357.28	410.48	485.51	617.01	73.48	84.42	100.25	126.57
С	Santa Clara (SF)	Summer	2019	357.41	410.89	485.53	617.56	73.56	84.54	100.35	126.81
С	Santa Clara (SF)	Summer	2020	357.52	411.27	485.53	618.06	73.67	84.69	100.45	127.04
С	Santa Clara (SF)	Summer	2021	357.60	411.59	485.53	618.46	73.75	84.85	100.55	127.23
С	Santa Clara (SF)	Summer	2022	357.65	411.88	485.52	618.80	73.81	84.99	100.63	127.38
С	Santa Clara (SF)	Summer	2023	357.67	412.12	485.51	619.06	73.85	85.11	100.70	127.56
С	Santa Clara (SF)	Summer	2024	357.67	412.32	485.49	619.25	73.88	85.22	100.75	127.72
С	Santa Clara (SF)	Summer	2025	357.67	412.50	485.48	619.43	73.91	85.32	100.80	127.87
С	Santa Clara (SF)	Summer	2026	357.69	412.71	485.46	619.61	73.93	85.42	100.84	128.02
С	Santa Clara (SF)	Summer	2027	357.71	412.91	485.44	619.78	73.94	85.51	100.87	128.15
C	Santa Clara (SF)	Summer	2028	357.72	413.11	485.42	619.95	73.95	85.59	100.89	128.27
C	Santa Clara (SF)	Summer	2029	357.73	413.32	485.41	620.13	73.96	85.67	100.91	128.38
C	Santa Clara (SF)	Summer	2030	357.73	413.53	485.40	620.32	73.97	85.74	100.93	128.49
C	Santa Clara (SF)	Summer	2031	357.73	413.75	485.39	620.53	73.97	85.82	100.94	128.60
С	Santa Clara (SF)	Summer	2032	357.74	413.95	485.38	620.74	73.98	85.89	100.95	128.70
С	Santa Clara (SF)	Summer	2033	357.74	414.12	485.38	620.94	73.98	85.95	100.95	128.80
C	Santa Clara (SF)	Summer	2034	357.74	414.27	485.37	621.13	73.99	86.01	100.96	128.88
С	Santa Clara (SF)	Summer	2035	357.73	414.39		621.30			100.97	128.96
С	Santa Clara (SF)	Winter	2010	325.35	375.11	445.76	561.90	72.72	84.35	99.27	124.50
C	Santa Clara (SF)	Winter	2011	325.51	375.47	445.67	562.47	72.79	84.25	99.38	124.72
C	Santa Clara (SF)	Winter	2011	325.71	375.83	445.60	563.09	72.88	84.20	99.53	124.72
C	Santa Clara (SF)	Winter	2012	325.93	376.19	445.54	563.73	72.98	84.20	99.53	124.90
C	Santa Clara (SF)		2013	326.15			564.37	73.07	84.19	99.80	125.22
	Santa Clara (SF) Santa Clara (SF)	Winter		326.15	376.52	445.50					
C	` '	Winter	2015		376.85	445.47	565.01	73.19	84.22	99.92	125.76
С	Santa Clara (SF)	Winter	2016	326.59	377.19	445.45	565.62	73.31	84.28	100.05	126.03
С	Santa Clara (SF)	Winter	2017	326.76	377.50	445.44	566.19	73.40	84.35	100.15	126.31
C	Santa Clara (SF)	Winter	2018	326.90	377.78	445.43	566.70	73.48	84.42	100.25	126.57
С	Santa Clara (SF)	Winter	2019	327.03	378.05	445.44	567.14	73.56	84.54	100.35	126.81
С	Santa Clara (SF)	Winter	2020	327.15	378.31	445.44	567.53	73.67	84.69	100.45	127.04
С	Santa Clara (SF)	Winter	2021	327.23	378.54	445.45	567.85	73.75	84.85	100.55	127.23
C	Santa Clara (SF)	Winter	2022	327.28	378.74	445.45	568.13	73.81	84.99	100.63	127.38
C	Santa Clara (SF)	Winter	2023	327.30	378.89	445.45	568.35	73.85	85.11	100.70	127.56
С	Santa Clara (SF)	Winter	2024	327.30	379.01	445.44	568.51	73.88	85.22	100.75	127.72
С	Santa Clara (SF)	Winter	2025	327.30	379.11	445.44	568.68	73.91	85.32	100.80	127.87
С	Santa Clara (SF)	Winter	2026	327.32	379.25	445.43	568.86	73.93	85.42	100.84	128.02
С	Santa Clara (SF)	Winter	2027	327.33	379.38	445.42	569.02	73.94	85.51	100.87	128.15
С	Santa Clara (SF)	Winter	2028	327.33	379.52	445.41	569.19	73.95	85.59	100.89	128.27
С	Santa Clara (SF)	Winter	2029	327.33	379.66	445.39	569.35	73.96	85.67	100.91	128.38

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT)	(73.97 85.74 100.93 73.97 85.82 100.94 73.98 85.89 100.95 73.98 85.95 100.95		
	Location	Season	Year	LDA	LDT1	LDT2	MDV				MDV
С	Santa Clara (SF)	Winter	2030	327.33	379.80	445.38	569.52				128.49
C	Santa Clara (SF)	Winter	2030	327.32	379.94	445.37	569.70				128.60
C	Santa Clara (SF)	Winter	2031	327.32	380.08	445.37	569.89				128.70
C	Santa Clara (SF)	Winter	2032	327.32	380.21	445.36	570.06				128.80
C	Santa Clara (SF)	Winter	2034	327.32	380.32	445.35	570.21	73.99	86.01	100.96	128.88
C	Santa Clara (SF)	Winter	2035	327.31	380.42	445.34	570.34	73.99	86.06	100.97	128.96
С	Santa Cruz (NCC)	Annual	2010	342.18	398.70	471.90	588.13	72.83	89.70	99.97	123.98
С	Santa Cruz (NCC)	Annual	2011	344.76	401.21	474.70	593.14	72.81	88.62	99.97	124.15
C	Santa Cruz (NCC)	Annual	2012	344.81	400.83	474.13	593.83	72.75	87.71	100.01	124.36
C	Santa Cruz (NCC)	Annual	2013	344.95	400.57	473.67	594.62	72.78	87.04	100.08	124.60
C	Santa Cruz (NCC)	Annual	2014	345.06	400.34	473.31	595.40	72.76	86.42	100.14	124.86
C	Santa Cruz (NCC)	Annual	2015	345.22	400.10	473.04	596.22	72.81	85.81	100.22	125.15
С	Santa Cruz (NCC)	Annual	2016	345.38	399.90	472.82	597.00	72.88	85.29	100.22	125.44
С	Santa Cruz (NCC)	Annual	2017	345.51	399.79	472.64	597.74	72.93	84.93	100.39	125.75
С	Santa Cruz (NCC)	Annual	2018	345.60	399.69	472.51	598.40	72.95	84.60	100.46	126.03
С	Santa Cruz (NCC)	Annual	2019	345.68	399.71	472.40	598.98	72.99	84.49	100.53	126.31
С	Santa Cruz (NCC)	Annual	2020	345.78	399.78	472.32	599.51	73.09	84.55	100.62	126.57
С	Santa Cruz (NCC)	Annual	2021	347.98	402.45	475.22	603.70	73.17	84.68	100.70	126.78
С	Santa Cruz (NCC)	Annual	2022	348.01	402.58	475.14	604.04	73.23	84.80	100.77	126.94
С	Santa Cruz (NCC)	Annual	2023	347.99	402.69	475.06	604.31	73.26	84.91	100.82	127.15
С	Santa Cruz (NCC)	Annual	2024	347.94	402.76	474.98	604.50	73.27	85.00		127.33
С	Santa Cruz (NCC)	Annual	2025	347.93	402.83	474.91	604.71	73.30	85.09	100.90	127.51
С	Santa Cruz (NCC)	Annual	2026	347.93	402.92	474.83	604.93	73.32	85.18	100.92	127.68
С	Santa Cruz (NCC)	Annual	2027	347.94	403.00	474.74	605.14	73.33	85.25	100.94	127.83
С	Santa Cruz (NCC)	Annual	2028	347.93	403.10	474.65	605.36	73.34	85.31	100.95	127.98
С	Santa Cruz (NCC)	Annual	2029	347.92	403.20	474.53	605.57	73.35	85.38	100.95	128.11
С	Santa Cruz (NCC)	Annual	2030	347.91	403.30	474.43	605.80	73.35	85.44	100.94	128.24
С	Santa Cruz (NCC)	Annual	2031	347.90	403.41	474.37	606.04	73.36	85.50	100.95	128.37
С	Santa Cruz (NCC)	Annual	2032	347.90	403.52	474.32	606.30	73.37	85.56	100.95	128.50
С	Santa Cruz (NCC)	Annual	2033	347.90	403.62	474.28	606.52	73.37	85.61	100.96	128.62
С	Santa Cruz (NCC)	Annual	2034	347.89	403.71	474.24	606.73	73.38	85.66	100.96	128.72
С	Santa Cruz (NCC)	Annual	2035	347.88	403.77	474.20	606.91	73.38	85.70	100.96	128.83
С	Santa Cruz (NCC)	Summer	2010	359.20	416.81	494.15	616.49	72.83	89.70	99.97	123.98
С	Santa Cruz (NCC)	Summer	2011	362.08	419.64	497.38	621.70	72.81	88.62	99.97	124.15
С	Santa Cruz (NCC)	Summer	2012	362.25	419.43	497.01	622.43	72.75	87.71	100.01	124.36
С	Santa Cruz (NCC)	Summer	2013	362.49	419.31	496.73	623.32	72.78	87.04	100.08	124.60
С	Santa Cruz (NCC)	Summer	2014	362.67	419.21	496.51	624.22	72.76	86.42	100.14	124.86
С	Santa Cruz (NCC)	Summer	2015	362.88	419.11	496.33	625.19	72.81	85.81	100.22	125.15
С	Santa Cruz (NCC)	Summer	2016	363.08	419.04	496.18	626.11	72.88	85.29	100.31	125.44
С	Santa Cruz (NCC)	Summer	2017	363.22	419.05	496.05	626.99	72.93	84.93	100.39	125.75
С	Santa Cruz (NCC)	Summer	2018	363.31	419.05	495.92	627.77	72.95	84.60	100.46	126.03
С	Santa Cruz (NCC)	Summer	2019	363.39	419.15	495.82	628.45	72.99	84.49	100.53	126.31
С	Santa Cruz (NCC)	Summer	2020	363.48	419.29	495.74	629.06	73.09	84.55	100.62	126.57
С	Santa Cruz (NCC)	Summer	2021	365.79	422.13	498.77	633.49	73.17	84.68	100.70	126.78
С	Santa Cruz (NCC)	Summer	2022	365.81	422.31	498.69	633.89	73.23	84.80	100.77	126.94
С	Santa Cruz (NCC)	Summer	2023	365.79	422.46	498.61	634.19	73.26	84.91	100.82	127.15
С	Santa Cruz (NCC)	Summer	2024	365.75	422.57	498.54	634.39	73.27	85.00	100.86	127.33
С	Santa Cruz (NCC)	Summer	2025	365.74	422.66	498.48	634.61	73.30	85.09	100.90	127.51
С	Santa Cruz (NCC)	Summer	2026	365.75	422.78	498.40	634.82	73.32	85.18	100.92	127.68
C	Santa Cruz (NCC)	Summer	2027	365.76	422.88	498.33	635.04	73.33	85.25	100.94	127.83
С	Santa Cruz (NCC)	Summer	2028	365.76	422.99	498.25	635.25	73.34	85.31	100.95	127.98
С	Santa Cruz (NCC)	Summer	2029	365.75	423.11	498.15	635.48	73.35	85.38	100.95	128.11
С	Santa Cruz (NCC)	Summer	2030	365.75	423.23	498.06	635.71	73.35	85.44	100.94	128.24
С	Santa Cruz (NCC)	Summer	2031	365.75	423.36	498.02	635.98	73.36	85.50	100.95	128.37

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		I		CO2 Dunni	na (a/\/NAT	7		COO Cto	etina (altr	in)
	Location	C	V		1	ng (g/VMT				rting (g/tr	
_	Conta Caus (NICC)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Santa Cruz (NCC)	Summer	2032	365.75	423.49	497.98	636.26	73.37	85.56	100.95 100.96	128.50
С	Santa Cruz (NCC)	Summer	2033	365.75	423.60	497.95	636.52	73.37	85.61		128.62
С	Santa Cruz (NCC)	Summer	2034	365.75	423.70	497.91	636.76	73.38	85.66	i e	128.72
C	Santa Cruz (NCC)	Summer	2035	365.74	423.77	497.88	636.97	73.38	85.70	100.96	128.83
С	Santa Cruz (NCC)	Winter	2010	341.89	398.39	471.51	587.64	72.83	89.70	99.97	123.98
С	Santa Cruz (NCC)	Winter	2011	344.46	400.89	474.31	592.65	72.81	88.62	99.97	124.15
С	Santa Cruz (NCC)	Winter	2012	344.51	400.51	473.73	593.34	72.75	87.71	100.01	124.36
С	Santa Cruz (NCC)	Winter	2013	344.64	400.25	473.27	594.13	72.78	87.04	100.08	124.60
С	Santa Cruz (NCC)	Winter	2014	344.75	400.01	472.91	594.90	72.76	86.42	100.14	124.86
С	Santa Cruz (NCC)	Winter	2015	344.91	399.77	472.63	595.72	72.81	85.81	-	125.15
С	Santa Cruz (NCC)	Winter	2016	345.08	399.57	472.41	596.49	72.88	85.29	100.31	125.44
С	Santa Cruz (NCC)	Winter	2017	345.20	399.46	472.24	597.23	72.93	84.93	100.39	125.75
С	Santa Cruz (NCC)	Winter	2018	345.29	399.35	472.10	597.89	72.95	84.60	100.46	126.03
С	Santa Cruz (NCC)	Winter	2019	345.38	399.37	472.00	598.47	72.99	84.49	100.53	126.31
С	Santa Cruz (NCC)	Winter	2020	345.47	399.45	471.92	598.99	73.09	84.55	100.62	126.57
С	Santa Cruz (NCC)	Winter	2021	347.68	402.11	474.81	603.18	73.17	84.68	100.70	126.78
С	Santa Cruz (NCC)	Winter	2022	347.70	402.24	474.73	603.53	73.23	84.80	100.77	126.94
С	Santa Cruz (NCC)	Winter	2023	347.69	402.34	474.65	603.79	73.26	84.91	100.82	127.15
С	Santa Cruz (NCC)	Winter	2024	347.64	402.42	474.57	603.98	73.27	85.00	100.86	127.33
С	Santa Cruz (NCC)	Winter	2025	347.62	402.49	474.51	604.19	73.30	85.09	100.90	127.51
С	Santa Cruz (NCC)	Winter	2026	347.63	402.58	474.42	604.41	73.32	85.18	100.92	127.68
С	Santa Cruz (NCC)	Winter	2027	347.63	402.66	474.33	604.63	73.33	85.25	100.94	127.83
С	Santa Cruz (NCC)	Winter	2028	347.63	402.75	474.24	604.84	73.34	85.31	100.95	127.98
С	Santa Cruz (NCC)	Winter	2029	347.61	402.85	474.12	605.05	73.35	85.38	100.95	128.11
С	Santa Cruz (NCC)	Winter	2030	347.60	402.96	474.02	605.28	73.35	85.44	100.94	128.24
С	Santa Cruz (NCC)	Winter	2031	347.60	403.07	473.96	605.52	73.36	85.50	100.95	128.37
С	Santa Cruz (NCC)	Winter	2032	347.59	403.18	473.91	605.78	73.37	85.56	100.95	128.50
С	Santa Cruz (NCC)	Winter	2033	347.59	403.27	473.87	606.01	73.37	85.61	100.96	128.62
С	Santa Cruz (NCC)	Winter	2034	347.58	403.36	473.83	606.21	73.38	85.66	100.96	128.72
С	Santa Cruz (NCC)	Winter	2035	347.58	403.43	473.79	606.39	73.38	85.70	100.96	128.83
С	Shasta (SV)	Annual	2010	350.80	413.29	482.10	601.62	74.15	98.71	101.24	125.46
С	Shasta (SV)	Annual	2011	350.90	412.33	481.45	602.23	73.97	96.26	101.09	125.49
С	Shasta (SV)	Annual	2012	351.01	411.55	480.95	602.95	73.79	94.20	101.00	125.59
С	Shasta (SV)	Annual	2013	351.16	410.88	480.56	603.76	73.67		100.93	
С	Shasta (SV)	Annual	2014	351.28	410.22	480.26	604.58	73.54	90.71		125.88
С	Shasta (SV)	Annual	2015	351.43	409.72	480.02	605.45	73.48		100.76	126.07
С	Shasta (SV)	Annual	2016	351.59	409.32	479.82	606.30	73.48		100.75	126.28
С	Shasta (SV)	Annual	2017	351.70	408.85	479.65	607.09	73.46		100.68	126.51
С	Shasta (SV)	Annual	2018	351.78	408.50	479.51	607.77	73.42	85.93		126.73
С	Shasta (SV)	Annual	2019	351.86	408.40	479.39	608.38	73.43	85.58		126.93
С	Shasta (SV)	Annual	2020	351.92	408.34	479.30	608.94	73.52	85.46		127.12
C	Shasta (SV)	Annual	2021	351.97	408.41	479.21	609.29	73.59	85.54		127.12
C	Shasta (SV)	Annual	2022	352.00	408.47	479.13	609.57	73.64		100.70	
C	Shasta (SV)	Annual	2022	351.99	408.52	479.13	609.77	73.67		100.87	127.40
C	Shasta (SV)	Annual	2023	351.96	408.57	478.97	609.93	73.69		100.90	127.40
С	Shasta (SV)	Annual	2024	351.96	408.62	478.91	610.13	73.71			127.72
C	Shasta (SV)	Annual	2025	351.98	408.69	478.84	610.13	73.73		100.95	127.72
C	Shasta (SV)	Annual	2020	351.99	408.74	478.77	610.55	73.74			127.09
C C			2027	352.00	408.74	478.71		73.74	85.92		128.18
	Shasta (SV)	Annual					610.77				
С	Shasta (SV)	Annual	2029	352.00	408.87	478.63	610.99	73.76			128.31
C	Shasta (SV)	Annual	2030	351.99	408.94	478.56	611.21	73.76			128.43
С	Shasta (SV)	Annual	2031	351.99	409.00	478.53	611.45	73.77	86.04		128.55
С	Shasta (SV)	Annual	2032	351.99	409.07	478.50	611.69	73.78			128.67
С	Shasta (SV)	Annual	2033	351.98	409.12	478.47	611.91	73.78	86.11	100.97	128.77

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Lacation	1			CO2 Dunni	na (a/\/NAT	`	+ + + + + +		(n)	
	Location	0			O2 Runni						
С	Shasta (SV)	Season Annual	Year 2034	LDA 351.98	LDT1 409.16	LDT2 478.44	MDV 612.11				MDV 128.87
C	Shasta (SV)	Annual	2034	351.97	409.10	478.42	612.11	73.79	86.17	100.97	128.96
C	Shasta (SV)	Summer	2010	377.12	440.81	516.16	644.42	74.15	98.71	100.97	125.46
C	Shasta (SV)	Summer	2010	377.45	440.35	515.97	645.10	73.97	96.26	101.24	125.49
C	Shasta (SV)	Summer	2012	377.75	439.98	515.82	645.96	73.79	94.20	101.00	125.59
С	Shasta (SV)	Summer	2013	378.03	439.65	515.70	646.99	73.67	92.45	100.93	125.73
С	Shasta (SV)	Summer	2014	378.26	439.31	515.62	648.05	73.54	90.71	100.85	125.88
С	Shasta (SV)	Summer	2015	378.49	439.05	515.56	649.19	73.48	89.34	100.76	126.07
C	Shasta (SV)	Summer	2016	378.71	438.86	515.49	650.32	73.48	88.23	100.75	126.28
C	Shasta (SV)	Summer	2017	378.85	438.66	515.40	651.36	73.46	86.94	100.68	126.51
С	Shasta (SV)	Summer	2018	378.93	438.50	515.27	652.24	73.42	85.93	100.65	126.73
С	Shasta (SV)	Summer	2019	379.01	438.48	515.17	653.03	73.43	85.58	100.66	126.93
С	Shasta (SV)	Summer	2020	379.07	438.49	515.07	653.75	73.52	85.46	100.71	127.12
С	Shasta (SV)	Summer	2021	379.11	438.58	514.97	654.24	73.59	85.54	100.78	127.19
С	Shasta (SV)	Summer	2022	379.12	438.68	514.88	654.63	73.64	85.60	100.83	127.24
С	Shasta (SV)	Summer	2023	379.11	438.76	514.80	654.91	73.67	85.66	100.87	127.40
С	Shasta (SV)	Summer	2024	379.10	438.85	514.73	655.11	73.69	85.71	100.90	127.56
С	Shasta (SV)	Summer	2025	379.11	438.93	514.68	655.32	73.71	85.77	100.93	127.72
С	Shasta (SV)	Summer	2026	379.13	439.02	514.61	655.54	73.73	85.83	100.95	127.89
С	Shasta (SV)	Summer	2027	379.15	439.10	514.56	655.77	73.74	85.87	100.96	128.04
С	Shasta (SV)	Summer	2028	379.16	439.18	514.51	656.00	73.75	85.92	100.97	128.18
С	Shasta (SV)	Summer	2029	379.17	439.28	514.46	656.24	73.76	85.96	100.97	128.31
С	Shasta (SV)	Summer	2030	379.18	439.37	514.41	656.49	73.76	86.00	100.96	128.43
С	Shasta (SV)	Summer	2031	379.17	439.46	514.40	656.77	73.77	86.04	100.96	128.55
С	Shasta (SV)	Summer	2032	379.17	439.53	514.40	657.05	73.78	86.08	100.96	128.67
С	Shasta (SV)	Summer	2033	379.17	439.59	514.38	657.31	73.78	86.11	100.97	128.77
С	Shasta (SV)	Summer	2034	379.16	439.64	514.37	657.55	73.78	86.14	100.97	128.87
С	Shasta (SV)	Summer	2035	379.16	439.67	514.35	657.77	73.79	86.17	100.97	128.96
С	Shasta (SV)	Winter	2010	339.28	401.24	467.18	582.88	74.15	98.71	101.24	125.46
С	Shasta (SV)	Winter	2011	339.28	400.06	466.34	583.46	73.97	96.26	101.09	125.49
С	Shasta (SV)	Winter	2012	339.31	399.10	465.69	584.12	73.79	94.20	101.00	125.59
С	Shasta (SV)	Winter	2013	339.39	398.29	465.18	584.84	73.67	92.45	100.93	125.73
С	Shasta (SV)	Winter	2014	339.47	397.49	464.78	585.56	73.54	90.71	100.85	125.88
С	Shasta (SV)	Winter	2015	339.58	396.87	464.45	586.30	73.48	89.34	100.76	126.07
С	Shasta (SV)	Winter	2016	339.72	396.38	464.21	587.03	73.48	88.23	100.75	126.28
С	Shasta (SV)	Winter	2017	339.82	395.81	464.01	587.71	73.46	86.94	100.68	126.51
С	Shasta (SV)	Winter	2018	339.89	395.36	463.85	588.30	73.42	85.93	100.65	126.73
С	Shasta (SV)	Winter	2019	339.97	395.23	463.73	588.83	73.43			126.93
С	Shasta (SV)	Winter	2020	340.04	395.15	463.64	589.32	73.52	85.46		127.12
С	Shasta (SV)	Winter	2021	340.09	395.20	463.55	589.61	73.59	85.54		127.19
С	Shasta (SV)	Winter	2022	340.12	395.24	463.47	589.84	73.64		100.83	127.24
С	Shasta (SV)	Winter	2023	340.11	395.29	463.39	590.01	73.67		100.87	127.40
С	Shasta (SV)	Winter	2024	340.09	395.32	463.31	590.15	73.69			127.56
С	Shasta (SV)	Winter	2025	340.08	395.35	463.25	590.34	73.71	85.77	100.93	127.72
С	Shasta (SV)	Winter	2026	340.10	395.41	463.18	590.55	73.73	85.83	100.95	127.89
С	Shasta (SV)	Winter	2027	340.11	395.45	463.10	590.76	73.74	85.87	100.96	128.04
C	Shasta (SV)	Winter	2028	340.11	395.50	463.03	590.97	73.75	85.92	100.97	128.18
C	Shasta (SV)	Winter	2029	340.10	395.56	462.95	591.18	73.76	85.96	100.97	128.31
C	Shasta (SV)	Winter	2030	340.09	395.62	462.87	591.39	73.76	86.00		128.43
C	Shasta (SV)	Winter	2031	340.09	395.67	462.82	591.61	73.77	86.04		128.55
C	Shasta (SV)	Winter	2032	340.09	395.73	462.78	591.84	73.78	86.08	100.96	128.67
C	Shasta (SV)	Winter	2033	340.08	395.78	462.74	592.04	73.78	86.11	100.97	128.77
C	Shasta (SV)	Winter	2034	340.08	395.82	462.71	592.22	73.78	86.14	100.97	128.87
С	Shasta (SV)	Winter	2035	340.07	395.85	462.69	592.38	73.79	86.17	100.97	128.96

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	I			CO2 Bunni	na (a/\/NAT	`		COO Ctor	tina (a/tri	(n)
	Location	0			CO2 Runni				CO2 Star		
С	Sierra (MC)	Season Annual	Year 2010	LDA 394.31	LDT1 460.95	LDT2 537.66	MDV 667.48	LDA 75.24	LDT1 95.17	LDT2 101.22	MDV 124.75
c C	Sierra (MC)	Annual	2010	393.91	460.93	536.89	668.54	74.99	93.66	101.22	124.73
C	Sierra (MC)	Annual	2011	393.71	459.20	536.28	669.74	74.85	92.36	100.98	124.99
c C	Sierra (MC)	Annual	2012	393.19	458.30	535.81	670.93	74.35	90.80	100.93	125.18
C	Sierra (MC)	Annual	2014	393.12	457.50	535.44	672.21	74.25	89.29	100.90	125.31
C	Sierra (MC)	Annual	2015	393.22	457.02	535.14	673.47	74.30	88.37	100.90	125.53
C	Sierra (MC)	Annual	2016	393.24	456.69	534.90	674.71	74.27	87.71	100.92	125.76
C	Sierra (MC)	Annual	2017	393.16	456.21	534.68	675.79	74.16	86.66	100.76	126.04
C	Sierra (MC)	Annual	2018	393.07	456.05	534.52	676.75	74.05	86.33	100.74	126.28
С	Sierra (MC)	Annual	2019	393.02	455.89	534.40	677.53	73.99	85.96	100.82	126.51
С	Sierra (MC)	Annual	2020	392.91	455.79	534.29	678.12	74.03	85.85	100.87	126.76
С	Sierra (MC)	Annual	2021	392.57	455.71	534.18	678.52	73.98	85.83	100.91	126.84
С	Sierra (MC)	Annual	2022	392.58	455.55	534.05	678.95	74.03	85.77	100.92	127.02
С	Sierra (MC)	Annual	2023	392.31	455.42	533.96	679.25	74.00	85.73	100.95	127.23
С	Sierra (MC)	Annual	2024	392.00	455.21	533.85	679.49	73.94	85.67	100.96	127.42
С	Sierra (MC)	Annual	2025	391.81	455.26	533.79	679.66	73.93	85.73	100.98	127.58
С	Sierra (MC)	Annual	2026	391.81	455.38	533.71	679.96	73.95	85.81	101.00	127.77
С	Sierra (MC)	Annual	2027	391.82	455.49	533.63	680.24	73.96	85.89	101.01	127.94
С	Sierra (MC)	Annual	2028	391.79	455.60	533.57	680.51	73.97	85.96	101.02	128.10
С	Sierra (MC)	Annual	2029	391.77	455.71	533.49	680.80	73.97	86.02	101.01	128.25
С	Sierra (MC)	Annual	2030	391.72	455.81	533.43	681.08	73.97	86.09	101.01	128.39
С	Sierra (MC)	Annual	2031	391.70	455.92	533.38	681.39	73.98	86.15	101.01	128.53
С	Sierra (MC)	Annual	2032	391.69	456.01	533.35	681.70	73.98	86.20	101.01	128.66
С	Sierra (MC)	Annual	2033	391.68	456.10	533.32	681.99	73.99	86.25	101.01	128.78
С	Sierra (MC)	Annual	2034	391.67	456.18	533.30	682.24	73.99	86.30	101.02	128.89
С	Sierra (MC)	Annual	2035	391.66	456.24	533.28	682.46	73.99	86.34	101.02	129.00
С	Sierra (MC)	Summer	2010	417.17	483.16	568.10	703.78	75.24	95.17	101.22	124.75
С	Sierra (MC)	Summer	2011	417.07	483.15	567.61	705.13	74.99	93.66	101.08	124.84
С	Sierra (MC)	Summer	2012	417.11	483.07	567.23	706.66	74.85	92.36	100.98	124.99
С	Sierra (MC)	Summer	2013	416.81	482.81	566.93	708.19	74.35	90.80	100.93	125.18
С	Sierra (MC)	Summer	2014	416.85	482.52	566.72	709.83	74.25	89.29	100.90	125.31
С	Sierra (MC)	Summer	2015	417.03	482.41	566.56	711.46	74.30	88.37	100.90	125.53
С	Sierra (MC)	Summer	2016	417.11	482.32	566.42	713.05	74.27	87.71	100.92	125.76
С	Sierra (MC)	Summer	2017	417.07	482.13	566.32	714.42	74.16		100.76	126.04
С	Sierra (MC)	Summer	2018	416.99	482.09	566.20	715.64	74.05	86.33	100.74	126.28
С	Sierra (MC)	Summer	2019	416.95	482.09	566.09	716.63	73.99	85.96	100.82	126.51
C	Sierra (MC)	Summer	2020	416.84	482.12	565.99	717.36	74.03	85.85		126.76
С	Sierra (MC)	Summer	2021	416.51	482.14	565.90	717.92	73.98	85.83		126.84
C C	Sierra (MC)	Summer	2022	416.51	482.11	565.79	718.46	74.03	85.77	100.92	127.02
C C	Sierra (MC)	Summer	2023	416.26	482.09	565.70	718.85	74.00	85.73		127.23
C C	Sierra (MC)	Summer	2024	415.97	482.00	565.61	719.16	73.94	85.67	100.96	127.42
<u>C</u>	Sierra (MC)	Summer	2025	415.79	482.07	565.55	719.41	73.93		100.98	127.58
C C	Sierra (MC)	Summer	2026	415.80	482.23	565.48	719.74	73.95		101.00	127.77
C C	Sierra (MC)	Summer	2027	415.82	482.38	565.42	720.07	73.96		101.01	127.94
<u>C</u>	Sierra (MC)	Summer	2028	415.81	482.52	565.37	720.41	73.97		101.02	128.10
C C	Sierra (MC)	Summer	2029	415.80	482.68	565.30	720.76	73.97		101.01	128.25
<u>С</u>	Sierra (MC)	Summer	2030	415.77	482.82	565.25	721.10	73.97		101.01	128.39
C C	Sierra (MC) Sierra (MC)	Summer	2031	415.77 415.76	482.97	565.22	721.46	73.98 73.98		101.01	128.53
C	Sierra (MC)	Summer	2032 2033	415.76	483.08 483.19	565.20 565.18	721.82 722.16	73.98		101.01 101.01	128.66 128.78
<u>с</u> С	Sierra (MC)	Summer	2033	415.75	483.29	565.16	722.16	73.99		101.01	128.89
c C	Sierra (MC)	Summer	2034	415.74	483.36	565.14	722.72	73.99	86.34	101.02	129.00
C	Sierra (MC)	Winter	2010	390.52	457.27	532.61	661.46	75.24	95.17	101.02	124.75
C	Sierra (MC)	Winter	2010	390.06	456.18	531.79	662.48	74.99		-	124.73
_	J.J. 4 (1110)		-011	555.00	,00.10	501.13	JUZ.70	. 4.00	55.00		. 4-7.04

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	I a anti-a a	CO2 Running (g/VMT) CO2 Starting (g/trip)										
	Location		.,					CO2 Starting (g/trip)				
	0, (140)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV	
С	Sierra (MC)	Winter	2012	389.83	455.24	531.15	663.62	74.85	92.36	100.98	124.99	
С	Sierra (MC)	Winter	2013	389.27	454.24	530.65	664.75	74.35	90.80		125.18	
C	Sierra (MC)	Winter	2014	389.18	453.35	530.26	665.97	74.25	89.29	100.90	125.31	
С	Sierra (MC)	Winter	2015	389.27	452.81	529.93	667.17	74.30	88.37	100.90	125.53	
С	Sierra (MC)	Winter	2016	389.28	452.44	529.67	668.35	74.27	87.71	100.92	125.76	
С	Sierra (MC)	Winter	2017	389.20	451.91	529.44	669.38	74.16	86.66	100.76	126.04	
С	Sierra (MC)	Winter	2018	389.10	451.73	529.27	670.31	74.05	86.33	100.74	126.28	
С	Sierra (MC)	Winter	2019	389.05	451.54	529.14	671.05	73.99	85.96	100.82	126.51	
С	Sierra (MC)	Winter	2020	388.94	451.43	529.03	671.61	74.03	85.85	100.87	126.76	
С	Sierra (MC)	Winter	2021	388.60	451.33	528.92	671.99	73.98	85.83	100.91	126.84	
С	Sierra (MC)	Winter	2022	388.61	451.15	528.78	672.40	74.03	85.77	100.92	127.02	
С	Sierra (MC)	Winter	2023	388.34	451.00	528.70	672.69	74.00	85.73	100.95	127.23	
С	Sierra (MC)	Winter	2024	388.02	450.77	528.58	672.91	73.94	85.67	100.96	127.42	
С	Sierra (MC)	Winter	2025	387.84	450.82	528.52	673.07	73.93	85.73	100.98	127.58	
С	Sierra (MC)	Winter	2026	387.83	450.93	528.44	673.36	73.95	85.81	101.00	127.77	
С	Sierra (MC)	Winter	2027	387.85	451.03	528.36	673.63	73.96	85.89	101.01	127.94	
С	Sierra (MC)	Winter	2028	387.81	451.14	528.30	673.89	73.97	85.96	101.02	128.10	
С	Sierra (MC)	Winter	2029	387.79	451.24	528.22	674.17	73.97	86.02	101.01	128.25	
С	Sierra (MC)	Winter	2030	387.74	451.33	528.15	674.45	73.97	86.09	101.01	128.39	
С	Sierra (MC)	Winter	2031	387.71	451.44	528.10	674.74	73.98	86.15	101.01	128.53	
С	Sierra (MC)	Winter	2032	387.70	451.52	528.07	675.05	73.98	86.20	101.01	128.66	
С	Sierra (MC)	Winter	2033	387.69	451.61	528.04	675.33	73.99	86.25	101.01	128.78	
С	Sierra (MC)	Winter	2034	387.68	451.68	528.01	675.57	73.99	86.30	101.02	128.89	
С	Sierra (MC)	Winter	2035	387.67	451.74	527.99	675.79	73.99	86.34	101.02	129.00	
С	Siskiyou (NEP)	Annual	2010	378.80	444.35	519.95	649.03	74.19	93.56		125.12	
С	Siskiyou (NEP)	Annual	2011	378.73	443.52	519.19	649.67	74.04	92.11	102.01	125.20	
С	Siskiyou (NEP)	Annual	2012	378.70	442.82	518.58	650.49	73.88	90.89	101.82	125.30	
С	Siskiyou (NEP)	Annual	2013	378.69	442.25	518.06	651.35	73.68	89.89	101.54	125.46	
C	Siskiyou (NEP)	Annual	2014	378.76	441.72	517.67	652.21	73.60	88.92	101.36	125.61	
С	Siskiyou (NEP)	Annual	2015	378.86	441.26	517.36	653.09	73.55	88.04	101.18	125.82	
C	Siskiyou (NEP)	Annual	2016	378.97	440.88	517.10	653.95	73.55	87.27	101.06	126.05	
С	Siskiyou (NEP)	Annual	2017	379.02	440.51	516.88	654.72	73.49	86.50	100.90	126.29	
С	Siskiyou (NEP)	Annual	2018	379.03	440.25	516.71	655.39	73.41	85.98	100.79	126.52	
С	Siskiyou (NEP)	Annual	2019	379.07	440.11	516.58	655.97	73.39		100.76	126.74	
С	Siskiyou (NEP)	Annual	2020	379.14	439.98	516.47	656.46	73.48	85.54	100.80	126.95	
С	Siskiyou (NEP)	Annual	2021	379.12	439.88	516.35	656.80	73.52	85.53		127.11	
C	Siskiyou (NEP)	Annual	2022	379.05	439.72	516.23	657.04	73.53	85.50		127.11	
C	Siskiyou (NEP)	Annual	2023	378.90	439.60	516.12	657.19	73.51	85.48		127.36	
C	Siskiyou (NEP)	Annual	2024	378.77	439.53	516.02	657.33	73.48	85.50	100.03	127.52	
C	Siskiyou (NEP)	Annual	2024	378.71	439.58	515.02	657.44	73.49	85.56	100.91	127.52	
C	Siskiyou (NEP)		2025		439.56	515.87	657.62	73.49	85.65		127.87	
C		Annual		378.72								
	Siskiyou (NEP)	Annual	2027	378.72	439.84	515.80	657.81	73.52	85.73	100.97	127.97	
С	Siskiyou (NEP)	Annual	2028	378.72	439.97	515.74	658.01	73.53	85.81	100.98	128.11	
С	Siskiyou (NEP)	Annual	2029	378.70	440.10	515.67	658.20	73.53	85.88	100.98	128.23	
С	Siskiyou (NEP)	Annual	2030	378.68	440.21	515.58	658.40	73.54	85.95	100.97	128.36	
С	Siskiyou (NEP)	Annual	2031	378.67	440.34	515.53	658.68	73.54	86.01	100.97	128.49	
С	Siskiyou (NEP)	Annual	2032	378.67	440.44	515.49	658.96	73.55	86.07	100.98	128.62	
C	Siskiyou (NEP)	Annual	2033	378.66	440.54	515.46	659.20	73.55	86.13	100.98	128.73	
С	Siskiyou (NEP)	Annual	2034	378.65	440.63	515.42	659.41	73.56	86.18	100.98	128.83	
С	Siskiyou (NEP)	Annual	2035	378.64	440.70	515.40	659.60	73.56	86.22	100.99	128.93	
С	Siskiyou (NEP)	Summer	2010	393.78	458.70	539.46	673.02	74.19	93.56		125.12	
С	Siskiyou (NEP)	Summer	2011	393.90	458.44	538.93	673.75	74.04			125.20	
С	Siskiyou (NEP)	Summer	2012	394.02	458.19	538.51	674.72	73.88	90.89		125.30	
С	Siskiyou (NEP)	Summer	2013	394.12	457.97	538.18	675.77	73.68	89.89	101.54	125.46	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	li .											
	Location				O2 Runni			CO2 Starting (g/trip)				
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV	
С	Siskiyou (NEP)	Summer	2014	394.26	457.73	537.93	676.82	73.60	88.92	101.36	125.61	
С	Siskiyou (NEP)	Summer	2015	394.41	457.52	537.74	677.91	73.55	88.04	101.18	125.82	
С	Siskiyou (NEP)	Summer	2016	394.55	457.35	537.58	678.96	73.55	87.27	101.06	126.05	
С	Siskiyou (NEP)	Summer	2017	394.62	457.17	537.43	679.91	73.49	86.50	100.90	126.29	
С	Siskiyou (NEP)	Summer	2018	394.63	457.04	537.29	680.74	73.41	85.98	100.79	126.52	
С	Siskiyou (NEP)	Summer	2019	394.66	457.01	537.18	681.46	73.39	85.68	100.76	126.74	
С	Siskiyou (NEP)	Summer	2020	394.72	456.98	537.09	682.06	73.48	85.54	100.80	126.95	
С	Siskiyou (NEP)	Summer	2021	394.69	456.95	536.97	682.49	73.52	85.53	100.84	127.11	
С	Siskiyou (NEP)	Summer	2022	394.62	456.88	536.86	682.82	73.53	85.50	100.87	127.20	
С	Siskiyou (NEP)	Summer	2023	394.48	456.83	536.76	683.03	73.51	85.48	100.89	127.36	
С	Siskiyou (NEP)	Summer	2024	394.35	456.84	536.67	683.22	73.48	85.50	100.91	127.52	
С	Siskiyou (NEP)	Summer	2025	394.30	456.94	536.61	683.38	73.49	85.56	100.93	127.67	
С	Siskiyou (NEP)	Summer	2026	394.32	457.11	536.53	683.57	73.51	85.65	100.95	127.82	
С	Siskiyou (NEP)	Summer	2027	394.33	457.28	536.46	683.78	73.52	85.73	100.97	127.97	
С	Siskiyou (NEP)	Summer	2028	394.34	457.44	536.40	684.00	73.53	85.81	100.98	128.11	
С	Siskiyou (NEP)	Summer	2029	394.33	457.61	536.34	684.23	73.53	85.88	100.98	128.23	
С	Siskiyou (NEP)	Summer	2030	394.32	457.77	536.26	684.47	73.54	85.95	100.97	128.36	
С	Siskiyou (NEP)	Summer	2031	394.32	457.91	536.23	684.79	73.54	86.01	100.97	128.49	
С	Siskiyou (NEP)	Summer	2032	394.32	458.04	536.21	685.10	73.55	86.07	100.98	128.62	
С	Siskiyou (NEP)	Summer	2033	394.31	458.15	536.18	685.38	73.55	86.13	100.98	128.73	
С	Siskiyou (NEP)	Summer	2034	394.30	458.25	536.16	685.63	73.56	86.18	100.98	128.83	
С	Siskiyou (NEP)	Summer	2035	394.29	458.31	536.14	685.85	73.56	86.22	100.99	128.93	
С	Siskiyou (NEP)	Winter	2010	373.71	439.47	513.32	640.88	74.19	93.56	102.24	125.12	
С	Siskiyou (NEP)	Winter	2011	373.57	438.45	512.48	641.49	74.04	92.11	102.01	125.20	
С	Siskiyou (NEP)	Winter	2012	373.50	437.60	511.81	642.25	73.88	90.89	101.82	125.30	
C	Siskiyou (NEP)	Winter	2013	373.45	436.91	511.23	643.06	73.68	89.89	101.54	125.46	
С	Siskiyou (NEP)	Winter	2014	373.49	436.28	510.79	643.86	73.60	88.92	101.36	125.61	
C	Siskiyou (NEP)	Winter	2015	373.58	435.74	510.43	644.66	73.55	88.04	101.18	125.82	
C	Siskiyou (NEP)	Winter	2016	373.68	435.28	510.15	645.45	73.55	87.27	101.06	126.05	
C	Siskiyou (NEP)	Winter	2017	373.73	434.85	509.90	646.16	73.49	86.50	100.90	126.29	
C	Siskiyou (NEP)	Winter	2018	373.74	434.55	509.71	646.78	73.41	85.98	100.79	126.52	
С	Siskiyou (NEP)	Winter	2019	373.78	434.37	509.58	647.31	73.39	85.68	100.76	126.74	
С	Siskiyou (NEP)	Winter	2020	373.85	434.21	509.47	647.77	73.48	85.54	100.80	126.95	
С	Siskiyou (NEP)	Winter	2021	373.83	434.08	509.34	648.08	73.52		100.84	127.11	
С	Siskiyou (NEP)	Winter	2022	373.76	433.89	509.22	648.29	73.53	85.50	100.87	127.20	
С	Siskiyou (NEP)	Winter	2023	373.61	433.74	509.10	648.41	73.51	85.48		127.36	
C	Siskiyou (NEP)	Winter	2024	373.47	433.65	509.00	648.53	73.48		100.03	127.52	
C	Siskiyou (NEP)	Winter	2025	373.42	433.68	508.93	648.63	73.49	85.56		127.67	
C	Siskiyou (NEP)	Winter	2023	373.42	433.81	508.85	648.81	73.49	85.65	100.95	127.82	
C	Siskiyou (NEP)	Winter	2020	373.42	433.91	508.79	648.99	73.51	85.73	100.93	127.02	
C	Siskiyou (NEP)	Winter	2027	373.42	433.92	508.79	649.17	73.52	85.81	100.97	128.11	
C	Siskiyou (NEP)	Winter	2028	373.41	434.03	508.65	649.17	73.53	85.88	100.98	128.23	
C	Siskiyou (NEP)		2029		434.14		649.55	73.53		100.98	128.23	
		Winter		373.36		508.56			85.95 86.01			
С	Siskiyou (NEP)	Winter	2031	373.36	434.37	508.50	649.81	73.54	86.01	100.97	128.49	
С	Siskiyou (NEP)	Winter	2032	373.35	434.47	508.45	650.08	73.55	86.07	100.98	128.62	
C	Siskiyou (NEP)	Winter	2033	373.34	434.56	508.42	650.30	73.55	86.13	100.98	128.73	
C	Siskiyou (NEP)	Winter	2034	373.34	434.64	508.38	650.51	73.56	86.18	100.98	128.83	
С	Siskiyou (NEP)	Winter	2035	373.33	434.71	508.36	650.69	73.56	86.22	100.99	128.93	
C	Solano (SF)	Annual	2010	341.84	392.72	467.77	590.01	73.22	84.56	99.66	124.82	
C C	Solano (SF)	Annual	2011	342.07	393.39	467.67	590.47	73.26	84.38	99.73	124.98	
С	Solano (SF)	Annual	2012	342.31	394.02	467.59	591.01	73.28	84.33	99.81	125.17	
C	Solano (SF)	Annual	2013	342.55	394.58	467.54	591.61	73.32	84.30	99.90	125.38	
C	Solano (SF)	Annual	2014	342.76	395.08	467.51	592.23	73.35	84.27	99.99	125.61	
С	Solano (SF)	Annual	2015	342.97	395.55	467.49	592.87	73.38	84.28	100.07	125.85	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

<u> </u>	Location	1			CO2 Runni	na (a/\/MT	1	CO2 Starting (g/trip)					
	Location	Cassan	Voor										
_	0-1 (05)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
С	Solano (SF)	Annual	2016	343.17	395.96	467.48	593.49	73.44	84.27	100.15	126.09		
С	Solano (SF)	Annual	2017	343.32	396.33	467.47	594.08	73.48	84.28		126.34		
C	Solano (SF)	Annual	2018	343.45	396.64	467.47	594.62	73.51	84.28	100.28	126.59		
C	Solano (SF)	Annual	2019	343.58	396.96	467.47	595.08	73.57	84.39	100.35	126.82		
С	Solano (SF)	Annual	2020	343.67	397.24	467.47	595.50	73.66	84.54	100.44	127.04		
С	Solano (SF)	Annual	2021	343.75	397.51	467.47	595.82	73.74	84.71	100.53	127.19		
С	Solano (SF)	Annual	2022	343.79	397.75	467.46	596.09	73.80	84.87	100.61	127.33		
С	Solano (SF)	Annual	2023	343.81	397.93	467.45	596.30	73.84	85.01	100.68	127.49		
С	Solano (SF)	Annual	2024	343.81	398.09	467.44	596.45	73.86	85.13	100.74	127.65		
С	Solano (SF)	Annual	2025	343.82	398.22	467.44	596.62	73.88	85.24	100.79	127.80		
С	Solano (SF)	Annual	2026	343.84	398.37	467.43	596.79	73.91	85.35	100.83	127.95		
С	Solano (SF)	Annual	2027	343.85	398.52	467.42	596.95	73.92	85.44	100.86	128.08		
С	Solano (SF)	Annual	2028	343.86	398.66	467.41	597.12	73.93	85.53	100.88	128.20		
С	Solano (SF)	Annual	2029	343.86	398.80	467.39	597.29	73.94	85.62	100.90	128.31		
С	Solano (SF)	Annual	2030	343.86	398.94	467.38	597.46	73.95	85.70	100.91	128.42		
С	Solano (SF)	Annual	2031	343.86	399.08	467.38	597.67	73.95	85.78	100.93	128.53		
С	Solano (SF)	Annual	2032	343.86	399.22	467.37	597.88	73.96	85.86	100.93	128.64		
С	Solano (SF)	Annual	2033	343.86	399.33	467.36	598.08	73.96	85.93	100.94	128.74		
С	Solano (SF)	Annual	2034	343.86	399.44	467.35	598.25	73.97	86.00	100.95	128.83		
С	Solano (SF)	Annual	2035	343.85	399.53	467.34	598.40	73.97	86.05	100.95	128.92		
С	Solano (SF)	Summer	2010	368.80	420.88	503.66	634.87	73.22	84.56	99.66	124.82		
С	Solano (SF)	Summer	2011	369.20	422.00	503.59	635.19	73.26	84.38	99.73	124.98		
С	Solano (SF)	Summer	2012	369.56	422.99	503.57	635.69	73.28	84.33	99.81	125.17		
С	Solano (SF)	Summer	2013	369.90	423.83	503.59	636.34	73.32	84.30	99.90	125.38		
С	Solano (SF)	Summer	2014	370.19	424.57	503.65	637.06	73.35	84.27	99.99	125.61		
С	Solano (SF)	Summer	2015	370.46	425.22	503.73	637.86	73.38	84.28	100.07	125.85		
С	Solano (SF)	Summer	2016	370.71	425.78	503.82	638.66	73.44	84.27	100.15	126.09		
С	Solano (SF)	Summer	2017	370.89	426.29	503.89	639.43	73.48	84.28	100.20	126.34		
С	Solano (SF)	Summer	2018	371.03	426.70	503.92	640.11	73.51	84.28	100.28	126.59		
С	Solano (SF)	Summer	2019	371.15	427.11	503.94	640.69	73.57	84.39	100.35	126.82		
С	Solano (SF)	Summer	2020	371.25	427.47	503.95	641.22	73.66	84.54	100.44	127.04		
C	Solano (SF)	Summer	2021	371.33	427.82	503.93	641.62	73.74	84.71	100.53	127.19		
C	Solano (SF)	Summer	2022	371.37	428.13	503.90	641.96	73.80	84.87	100.61	127.33		
C	Solano (SF)	Summer	2023	371.39			642.20	73.84		100.68	127.49		
C	Solano (SF)	Summer	2024	371.40	428.59	503.87	642.36	73.86	85.13		127.65		
C	Solano (SF)	Summer	2025	371.41	428.78	503.86	642.52	73.88		100.79	127.80		
C	Solano (SF)	Summer	2026	371.43	428.97	503.85	642.69	73.91		100.83	127.95		
C	Solano (SF)	Summer	2027	371.44	429.16	503.84	642.85	73.92	85.44		128.08		
C	Solano (SF)	Summer	2028	371.46	429.35	503.83	643.02	73.93	85.53		128.20		
C	Solano (SF)	Summer	2029	371.46	429.54	503.82	643.19	73.94	85.62	100.90	128.31		
C	Solano (SF)	Summer	2030	371.47	429.73	503.81	643.37	73.95	85.70		128.42		
C	Solano (SF)	Summer	2030	371.47	429.73	503.80	643.63	73.95	85.78		128.53		
C	Solano (SF)	Summer	2031	371.47	430.10	503.78	643.88	73.96		100.93	128.64		
C	·		2032	371.47				73.96	85.93		128.74		
C	Solano (SF)	Summer			430.24	503.77	644.12						
	Solano (SF)	Summer	2034	371.47	430.38	503.77	644.34	73.97	86.00		128.83		
C C	Solano (SF)	Summer	2035	371.47	430.48	503.76	644.54	73.97	86.05	100.95	128.92		
C C	Solano (SF)	Winter	2010	336.93	387.60	461.24	581.85	73.22	84.56	99.66	124.82		
C C	Solano (SF)	Winter	2011	337.14	388.18	461.13	582.33	73.26	84.38	99.73	124.98		
C	Solano (SF)	Winter	2012	337.35	388.75	461.05	582.88	73.28	84.33	99.81	125.17		
C	Solano (SF)	Winter	2013	337.57	389.26	460.99	583.48	73.32	84.30	99.90	125.38		
С	Solano (SF)	Winter	2014	337.77	389.72	460.94	584.07	73.35	84.27	99.99	125.61		
C	Solano (SF)	Winter	2015	337.97	390.15	460.90	584.69	73.38	84.28		125.85		
С	Solano (SF)	Winter	2016	338.16	390.53	460.87	585.28	73.44		100.15	126.09		
С	Solano (SF)	Winter	2017	338.31	390.89	460.85	585.84	73.48	84.28	100.20	126.34		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

l	Location	l			CO2 Runni	na (a/\/MT	7		CO2 Star	ting (a/tr	in)
	Location	Cassan	Voor	LDA	LDT1		,	LDA	LDT1		MDV
_	Salana (SE)	Season	Year			LDT2	MDV 506.24			LDT2	
С	Solano (SF)	Winter	2018	338.44	391.17	460.84	586.34 586.78	73.51	84.28	100.28	126.59
С	Solano (SF)	Winter	2019	338.56	391.48	460.84		73.57	84.39	100.35	126.82
С	Solano (SF)	Winter	2020	338.66	391.75	460.83	587.18	73.66	84.54	100.44	127.04
С	Solano (SF)	Winter	2021	338.74	392.00	460.84	587.49	73.74	84.71	100.53	127.19
С	Solano (SF)	Winter	2022	338.78	392.22	460.83	587.75	73.80	84.87	100.61	127.33
С	Solano (SF)	Winter	2023	338.79	392.40	460.83	587.95	73.84	85.01	100.68	127.49
С	Solano (SF)	Winter	2024	338.79	392.54	460.82	588.10	73.86	85.13	100.74	127.65
С	Solano (SF)	Winter	2025	338.80	392.67	460.81	588.27	73.88	85.24	100.79	127.80
С	Solano (SF)	Winter	2026	338.82	392.81	460.80	588.44	73.91	85.35	100.83	127.95
С	Solano (SF)	Winter	2027	338.84	392.94	460.79	588.61	73.92	85.44	100.86	128.08
С	Solano (SF)	Winter	2028	338.84	393.08	460.78	588.77	73.93	85.53	100.88	128.20
С	Solano (SF)	Winter	2029	338.84	393.21	460.77	588.94	73.94	85.62	100.90	128.31
С	Solano (SF)	Winter	2030	338.84	393.34	460.76	589.11	73.95	85.70	100.91	128.42
С	Solano (SF)	Winter	2031	338.84	393.47	460.75	589.31	73.95	85.78	100.93	128.53
С	Solano (SF)	Winter	2032	338.84	393.60	460.74	589.52	73.96	85.86	100.93	128.64
С	Solano (SF)	Winter	2033	338.84	393.71	460.74	589.70	73.96	85.93	100.94	128.74
С	Solano (SF)	Winter	2034	338.83	393.81	460.73	589.87	73.97	86.00	100.95	128.83
С	Solano (SF)	Winter	2035	338.83	393.90	460.72	590.01	73.97	86.05	100.95	128.92
С	Solano (SV)	Annual	2010	361.72	414.56	494.70	624.60	73.68	84.80	100.13	125.07
С	Solano (SV)	Annual	2011	361.94	415.33	494.60	625.06	73.63	84.64	100.12	125.23
С	Solano (SV)	Annual	2012	362.12	416.01	494.53	625.61	73.53	84.49	100.15	125.40
С	Solano (SV)	Annual	2013	362.32	416.57	494.48	626.21	73.46	84.35	100.21	125.60
С	Solano (SV)	Annual	2014	362.52	417.08	494.45	626.83	73.42	84.23	100.22	125.81
С	Solano (SV)	Annual	2015	362.70	417.55	494.44	627.46	73.39	84.20	100.24	126.04
С	Solano (SV)	Annual	2016	371.75	428.17	506.54	643.44	73.44	84.21	100.30	126.28
С	Solano (SV)	Annual	2017	371.90	428.52	506.54	644.06	73.44	84.13	100.29	126.51
С	Solano (SV)	Annual	2018	372.04	428.84	506.54	644.61	73.47	84.18	100.31	126.74
С	Solano (SV)	Annual	2019	372.18	429.19	506.54	645.09	73.51	84.31	100.36	126.94
С	Solano (SV)	Annual	2020	372.30	429.49	506.54	645.54	73.61	84.45	100.45	127.14
С	Solano (SV)	Annual	2021	372.41	429.77	506.54	645.87	73.70	84.61	100.54	127.29
С	Solano (SV)	Annual	2022	372.46	430.00	506.53	646.17	73.76	84.76	100.62	127.44
С	Solano (SV)	Annual	2023	372.49	430.19	506.52	646.37	73.80	84.88	100.69	127.60
С	Solano (SV)	Annual	2024	372.51	430.37	506.51	646.51	73.83	85.01	100.74	127.74
С	Solano (SV)	Annual	2025	372.53	430.53	506.49	646.67	73.86		100.79	127.89
С	Solano (SV)	Annual	2026	375.02	433.55	509.84	651.12	73.88	85.22	100.83	128.03
C	Solano (SV)	Annual	2027	375.04	433.71	509.83	651.28	73.90	85.31		128.15
C	Solano (SV)	Annual	2028	375.06	433.87	509.82	651.44	73.91		100.88	128.26
C	Solano (SV)	Annual	2029	375.06	434.03	509.81	651.60	73.92		100.90	128.37
С	Solano (SV)	Annual	2030	375.06	434.19	509.80	651.77	73.92	85.56		128.47
С	Solano (SV)	Annual	2031	375.06	434.35	509.79	651.99	73.93	85.64	100.93	128.58
С	Solano (SV)	Annual	2031	375.06	434.50	509.79	652.21	73.93	85.71	100.94	128.68
C	Solano (SV)	Annual	2032	375.06	434.63	509.78	652.41	73.94		100.94	128.78
C	Solano (SV)	Annual	2033	375.06	434.74	509.77	652.59	73.94		100.94	128.87
C C	·		2034	375.06			652.75				128.95
C C	Solano (SV)	Annual Summer		396.63	434.82 451.00	509.76 541.05	682.70	73.94 73.68		100.96	125.07
	Solano (SV)		2010								
С	Solano (SV)	Summer	2011	397.01	452.35	540.98	682.98	73.63		100.12	125.23
С	Solano (SV)	Summer	2012	397.34	453.51	540.96	683.47	73.53		100.15	125.40
С	Solano (SV)	Summer	2013	397.66	454.46	540.99	684.11	73.46		100.21	125.60
С	Solano (SV)	Summer	2014	397.96	455.28	541.09	684.86	73.42		100.22	125.81
С	Solano (SV)	Summer	2015	398.22	455.97	541.22	685.68	73.39		100.24	126.04
С	Solano (SV)	Summer	2016	408.16	467.64	554.55	703.24	73.44			126.28
С	Solano (SV)	Summer	2017	408.35	468.15	554.68	704.08	73.44		100.29	126.51
С	Solano (SV)	Summer	2018	408.51	468.56	554.75	704.81	73.47		100.31	126.74
С	Solano (SV)	Summer	2019	408.65	469.03	554.77	705.45	73.51	84.31	100.36	126.94

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/VMT)	CO2 Starting (g/trip)					
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
С	Solano (SV)	Summer	2020	408.77	469.44	554.78	706.04	73.61	84.45	100.45	127.14		
С	Solano (SV)	Summer	2021	408.88	469.80	554.77	706.47	73.70	84.61		127.29		
С	Solano (SV)	Summer	2022	408.94	470.12	554.74	706.85	73.76	84.76	100.62	127.44		
С	Solano (SV)	Summer	2023	408.97	470.39	554.71	707.11	73.80	84.88		127.60		
С	Solano (SV)	Summer	2024	409.00	470.66	554.66	707.27	73.83	85.01		127.74		
C	Solano (SV)	Summer	2025	409.02	470.89	554.62	707.42	73.86	85.11	100.79	127.89		
C	Solano (SV)	Summer	2026	411.74	474.21	558.28	712.22	73.88	85.22	100.83	128.03		
c	Solano (SV)	Summer	2027	411.77	474.42	558.28	712.36	73.90	85.31	100.86	128.15		
С	Solano (SV)	Summer	2028	411.78	474.63	558.28	712.51	73.91	85.40	100.88	128.26		
С	Solano (SV)	Summer	2029	411.79	474.86	558.27	712.66	73.92	85.48	100.90	128.37		
С	Solano (SV)	Summer	2030	411.80	475.08	558.27	712.84	73.92	85.56	100.92	128.47		
С	Solano (SV)	Summer	2031	411.79	475.31	558.26	713.12	73.93	85.64	100.93	128.58		
С	Solano (SV)	Summer	2032	411.79	475.50	558.25	713.41	73.93	85.71	100.94	128.68		
С	Solano (SV)	Summer	2033	411.79	475.67	558.24	713.67	73.94	85.78	100.94	128.78		
С	Solano (SV)	Summer	2034	411.79	475.81	558.23	713.92	73.94	85.84	100.95	128.87		
C	Solano (SV)	Summer	2035	411.78	475.92	558.22	714.15	73.94	85.90	100.96	128.95		
С	Solano (SV)	Winter	2010	353.45	405.93	483.73	610.84	73.68	84.80	100.13	125.07		
С	Solano (SV)	Winter	2011	353.63	406.57	483.61	611.35	73.63	84.64	100.12	125.23		
С	Solano (SV)	Winter	2012	353.78	407.13	483.53	611.91	73.53	84.49	100.15	125.40		
С	Solano (SV)	Winter	2013	353.95	407.60	483.47	612.50	73.46	84.35	100.21	125.60		
С	Solano (SV)	Winter	2014	354.13	408.03	483.41	613.09	73.42	84.23	100.22	125.81		
С	Solano (SV)	Winter	2015	354.29	408.45	483.37	613.68	73.39	84.20	100.24	126.04		
С	Solano (SV)	Winter	2016	363.12	418.81	495.16	629.27	73.44	84.21	100.30	126.28		
С	Solano (SV)	Winter	2017	363.26	419.12	495.13	629.83	73.44	84.13	100.29	126.51		
С	Solano (SV)	Winter	2018	363.40	419.42	495.11	630.33	73.47	84.18	100.31	126.74		
С	Solano (SV)	Winter	2019	363.53	419.75	495.10	630.78	73.51	84.31	100.36	126.94		
С	Solano (SV)	Winter	2020	363.65	420.02	495.10	631.20	73.61	84.45	100.45	127.14		
С	Solano (SV)	Winter	2021	363.76	420.27	495.11	631.50	73.70	84.61	100.54	127.29		
С	Solano (SV)	Winter	2022	363.81	420.49	495.10	631.78	73.76	84.76	100.62	127.44		
С	Solano (SV)	Winter	2023	363.84	420.66	495.10	631.97	73.80	84.88	100.69	127.60		
С	Solano (SV)	Winter	2024	363.86	420.82	495.09	632.10	73.83	85.01	100.74	127.74		
С	Solano (SV)	Winter	2025	363.88	420.96	495.08	632.26	73.86	85.11	100.79	127.89		
С	Solano (SV)	Winter	2026	366.31	423.90	498.35	636.62	73.88	85.22	100.83	128.03		
С	Solano (SV)	Winter	2027	366.33	424.05	498.34	636.78	73.90	85.31	100.86	128.15		
С	Solano (SV)	Winter	2028	366.34	424.20	498.33	636.95	73.91	85.40	100.88	128.26		
С	Solano (SV)	Winter	2029	366.34	424.35	498.31	637.11	73.92	85.48	100.90	128.37		
С	Solano (SV)	Winter	2030	366.34	424.49	498.30	637.28	73.92	85.56	100.92	128.47		
С	Solano (SV)	Winter	2031	366.35	424.64	498.30	637.49	73.93	85.64	100.93	128.58		
С	Solano (SV)	Winter	2032	366.35	424.77	498.29	637.69	73.93	85.71	100.94	128.68		
С	Solano (SV)	Winter	2033	366.35	424.89	498.28	637.88	73.94	85.78	100.94	128.78		
С	Solano (SV)	Winter	2034	366.35	424.99	498.28	638.04	73.94	85.84	100.95	128.87		
С	Solano (SV)	Winter	2035	366.34	425.08	498.27	638.19	73.94	85.90	100.96	128.95		
С	Sonoma (NC)	Annual	2010	390.51	449.32	534.32	668.22	73.44	86.67	100.89	124.24		
С	Sonoma (NC)	Annual	2011	390.41	449.46	533.78	668.92	73.35	86.07	100.76	124.42		
С	Sonoma (NC)	Annual	2012	390.39	449.72	533.36	669.75	73.28	85.75	100.71	124.64		
С	Sonoma (NC)	Annual	2013	390.45	449.93	533.03	670.64	73.24	85.48	100.70	124.89		
С	Sonoma (NC)	Annual	2014	390.51	450.12	532.77	671.53	73.21	85.23	100.66	125.14		
С	Sonoma (NC)	Annual	2015	390.56	450.29	532.56	672.43	73.15		100.59	125.42		
С	Sonoma (NC)	Annual	2016	389.58	449.24	530.90	671.41	73.14	84.86	100.60	125.69		
С	Sonoma (NC)	Annual	2017	389.62	449.43	530.76	672.22	73.11	84.74	100.59	125.97		
С	Sonoma (NC)	Annual	2018	389.63	449.60	530.64	672.91	73.05	84.67	100.59	126.25		
С	Sonoma (NC)	Annual	2019	389.66	449.79	530.55	673.52	73.04	84.68	100.60	126.51		
С	Sonoma (NC)	Annual	2020	389.72	449.99	530.48	674.07	73.12	84.77	100.66	126.75		
С	Sonoma (NC)	Annual	2021	389.70	450.13	530.40	674.51	73.17	84.88	100.73	126.95		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1			CO2 Runni	na (a/\/MT	7	CO2 Starting (g/trip)					
	Location	Cassan	Voor										
_	Sanama (NC)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
С	Sonoma (NC)	Annual	2022	389.64	450.20	530.29	674.87	73.19	84.96	100.77	127.13		
C	Sonoma (NC)	Annual	2023	389.45	450.24	530.20	675.12	73.19	85.04		127.31		
C	Sonoma (NC)	Annual	2024	389.28	450.28	530.12	675.30	73.17	85.12	100.85	127.48		
C	Sonoma (NC)	Annual	2025	389.20	450.39	530.07	675.47	73.17	85.21	100.89	127.63		
C	Sonoma (NC)	Annual	2026	388.38	449.63	528.86	674.20	73.19	85.33	100.92	127.79		
<u>C</u>	Sonoma (NC)	Annual	2027	388.39	449.84	528.80	674.40	73.21	85.43	100.94	127.93		
С	Sonoma (NC)	Annual	2028	388.39	450.05	528.74	674.61	73.21	85.53	100.95	128.07		
С	Sonoma (NC)	Annual	2029	388.37	450.26	528.66	674.83	73.22	85.63	100.96	128.20		
С	Sonoma (NC)	Annual	2030	388.34	450.46	528.57	675.05	73.22	85.71	100.96	128.32		
С	Sonoma (NC)	Annual	2031	388.34	450.68	528.53	675.33	73.23	85.80	100.96	128.45		
С	Sonoma (NC)	Annual	2032	388.33	450.87	528.49	675.61	73.23	85.88	100.97	128.57		
С	Sonoma (NC)	Annual	2033	388.32	451.04	528.45	675.87	73.24	85.96	100.97	128.69		
С	Sonoma (NC)	Annual	2034	388.31	451.20	528.43	676.10	73.25	86.03	100.98	128.79		
С	Sonoma (NC)	Annual	2035	388.30	451.32	528.40	676.31	73.25	86.08	100.98	128.89		
С	Sonoma (NC)	Summer	2010	405.40	463.97	554.11	693.02	73.44	86.67	100.89	124.24		
С	Sonoma (NC)	Summer	2011	405.46	464.55	553.73	693.76	73.35	86.07	100.76	124.42		
С	Sonoma (NC)	Summer	2012	405.58	465.14	553.43	694.67	73.28	85.75	100.71	124.64		
С	Sonoma (NC)	Summer	2013	405.73	465.65	553.21	695.68	73.24	85.48	100.70	124.89		
С	Sonoma (NC)	Summer	2014	405.87	466.08	553.06	696.69	73.21	85.23	100.66	125.14		
С	Sonoma (NC)	Summer	2015	405.97	466.45	552.95	697.74	73.15	84.99	100.59	125.42		
С	Sonoma (NC)	Summer	2016	404.98	465.53	551.32	696.79	73.14	84.86	100.60	125.69		
С	Sonoma (NC)	Summer	2017	405.05	465.86	551.23	697.73	73.11	84.74	100.59	125.97		
С	Sonoma (NC)	Summer	2018	405.05	466.14	551.15	698.52	73.05	84.67	100.59	126.25		
С	Sonoma (NC)	Summer	2019	405.08	466.43	551.09	699.22	73.04	84.68	100.60	126.51		
С	Sonoma (NC)	Summer	2020	405.14	466.72	551.02	699.85	73.12	84.77	100.66	126.75		
С	Sonoma (NC)	Summer	2021	405.12	466.94	550.95	700.35	73.17	84.88	100.73	126.95		
С	Sonoma (NC)	Summer	2022	405.06	467.10	550.86	700.77	73.19	84.96	100.77	127.13		
С	Sonoma (NC)	Summer	2023	404.88	467.22	550.78	701.06	73.19	85.04	100.81	127.31		
С	Sonoma (NC)	Summer	2024	404.72	467.34	550.70	701.27	73.17	85.12	100.85	127.48		
С	Sonoma (NC)	Summer	2025	404.64	467.50	550.65	701.46	73.17	85.21	100.89	127.63		
С	Sonoma (NC)	Summer	2026	403.80	466.76	549.40	700.14	73.19	85.33	100.92	127.79		
С	Sonoma (NC)	Summer	2027	403.82	467.03	549.34	700.34	73.21	85.43	100.94	127.93		
С	Sonoma (NC)	Summer	2028	403.82	467.29	549.29	700.56	73.21	85.53	100.95	128.07		
С	Sonoma (NC)	Summer	2029	403.81	467.55	549.22	700.79	73.22	85.63	100.96	128.20		
С	Sonoma (NC)	Summer	2030	403.80	467.80	549.13	701.03	73.22	85.71	100.96	128.32		
С	Sonoma (NC)	Summer	2031	403.80	468.07	549.10	701.35	73.23		100.96	128.45		
С	Sonoma (NC)	Summer	2032	403.79	468.29	549.07	701.67	73.23	85.88		128.57		
С	Sonoma (NC)	Summer	2033	403.79	468.49	549.04	701.96	73.24	85.96		128.69		
C	Sonoma (NC)	Summer	2034	403.78	468.67	549.01	702.23	73.25	86.03	100.98	128.79		
С	Sonoma (NC)	Summer	2035	403.77	468.80	548.99	702.46	73.25	86.08	100.98	128.89		
C	Sonoma (NC)	Winter	2010	383.18	442.11	524.58	656.01	73.44	86.67	100.89	124.24		
С	Sonoma (NC)	Winter	2011	383.00	442.03	523.97	656.70	73.35	86.07	100.76	124.42		
С	Sonoma (NC)	Winter	2012	382.92	442.12	523.49	657.49	73.28	85.75		124.64		
С	Sonoma (NC)	Winter	2012	382.92	442.20	523.10	658.32	73.24	85.48		124.89		
С	Sonoma (NC)	Winter	2014	382.95	442.27	522.78	659.14	73.21	85.23	100.76	125.14		
С	Sonoma (NC)	Winter	2015	382.97	442.33	522.70	659.97	73.15	84.99		125.42		
C	Sonoma (NC)	Winter	2016	382.00	441.23	520.85	658.92	73.14			125.69		
C	Sonoma (NC)	Winter	2017	382.03	441.35	520.68	659.67	73.14	84.74	100.59	125.09		
C	Sonoma (NC)	Winter	2017	382.04	441.46	520.55	660.31	73.11	84.67	100.59	126.25		
<u>с</u> С	Sonoma (NC)	Winter	2019	382.06	441.60	520.35	660.88	73.03	84.68		126.23		
C	· ·	Winter	2019	382.13	441.75		661.39		84.77	100.66	126.51		
C C	Sonoma (NC)					520.37		73.12					
_	Sonoma (NC)	Winter	2021	382.11	441.85	520.28	661.79	73.17	84.88		126.95		
C	Sonoma (NC)	Winter	2022	382.05	441.88	520.16	662.13	73.19	84.96		127.13		
С	Sonoma (NC)	Winter	2023	381.86	441.88	520.07	662.35	73.19	85.04	100.81	127.31		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	l			CO2 Runni	na (a/\/MT	١	CO2 Starting (g/trip)					
	Location	Socoon	Voor	LDA			MDV						
С	Sonoma (NC)	Season Winter	Year 2024	381.68	LDT1 441.89	LDT2 519.99	662.52	73.17	85.12	100.85	127.48		
C	,												
	Sonoma (NC)	Winter	2025	381.60	441.97	519.94	662.68	73.17	85.21	100.89	127.63		
<u>C</u>	Sonoma (NC)	Winter	2026	380.80	441.20	518.76	661.43	73.19	85.33	100.92	127.79		
<u>C</u>	Sonoma (NC)	Winter	2027	380.81	441.38	518.69	661.63	73.21	85.43	100.94	127.93		
C_	Sonoma (NC)	Winter	2028	380.79	441.56	518.63	661.84	73.21	85.53	100.95	128.07		
C	Sonoma (NC)	Winter	2029	380.77	441.75	518.54	662.05	73.22	85.63	100.96	128.20		
C	Sonoma (NC)	Winter	2030	380.74	441.93	518.44	662.26	73.22	85.71	100.96	128.32		
C	Sonoma (NC)	Winter	2031	380.73	442.12	518.40	662.52	73.23	85.80	100.96	128.45		
С	Sonoma (NC)	Winter	2032	380.72	442.30	518.36	662.79	73.23	85.88	100.97	128.57		
C	Sonoma (NC)	Winter	2033	380.71	442.46	518.33	663.03	73.24	85.96	100.97	128.69		
С	Sonoma (NC)	Winter	2034	380.70	442.60	518.30	663.25	73.25	86.03	100.98	128.79		
С	Sonoma (NC)	Winter	2035	380.69	442.72	518.27	663.43	73.25	86.08	100.98	128.89		
С	Sonoma (SF)	Annual	2010	337.75	387.87	461.89	580.89	73.29	85.42	99.94	124.71		
С	Sonoma (SF)	Annual	2011	337.74	388.23	461.68	581.45	73.21	85.10	99.96	124.87		
С	Sonoma (SF)	Annual	2012	337.78	388.61	461.51	582.06	73.15	84.87	100.01	125.06		
С	Sonoma (SF)	Annual	2013	337.89	388.97	461.38	582.74	73.14	84.69	100.06	125.28		
С	Sonoma (SF)	Annual	2014	337.98	389.31	461.27	583.41	73.12	84.55	100.09	125.51		
С	Sonoma (SF)	Annual	2015	338.11	389.63	461.19	584.10	73.14	84.44	100.14	125.76		
С	Sonoma (SF)	Annual	2016	338.27	389.97	461.13	584.74	73.20	84.38	100.20	126.01		
С	Sonoma (SF)	Annual	2017	338.37	390.26	461.08	585.37	73.22	84.32	100.23	126.26		
С	Sonoma (SF)	Annual	2018	338.47	390.53	461.05	585.92	73.25	84.30	100.30	126.51		
С	Sonoma (SF)	Annual	2019	338.56	390.82	461.02	586.41	73.29	84.40	100.37	126.74		
С	Sonoma (SF)	Annual	2020	338.66	391.09	461.01	586.85	73.39	84.53	100.46	126.96		
С	Sonoma (SF)	Annual	2021	338.74	391.37	461.00	587.19	73.47	84.71	100.55	127.13		
С	Sonoma (SF)	Annual	2022	338.77	391.60	460.98	587.46	73.53	84.86	100.63	127.25		
С	Sonoma (SF)	Annual	2023	338.78	391.79	460.96	587.68	73.57	85.00	100.70	127.43		
С	Sonoma (SF)	Annual	2024	338.76	391.93	460.93	587.83	73.60	85.12	100.75	127.59		
С	Sonoma (SF)	Annual	2025	338.75	392.07	460.92	588.01	73.62	85.23	100.80	127.74		
С	Sonoma (SF)	Annual	2026	338.77	392.22	460.89	588.19	73.64	85.34	100.84	127.90		
С	Sonoma (SF)	Annual	2027	338.78	392.38	460.87	588.37	73.66	85.43	100.87	128.03		
С	Sonoma (SF)	Annual	2028	338.78	392.54	460.84	588.55	73.67	85.53	100.89	128.16		
С	Sonoma (SF)	Annual	2029	338.78	392.70	460.81	588.73	73.68	85.62	100.90	128.28		
С	Sonoma (SF)	Annual	2030	338.76	392.87	460.79	588.92	73.68	85.70	100.92	128.40		
С	Sonoma (SF)	Annual	2031	338.76	393.04	460.77	589.13	73.69	85.78	100.93	128.51		
С	Sonoma (SF)	Annual	2032	338.76	393.20	460.76	589.35	73.69	85.86		128.62		
С	Sonoma (SF)	Annual	2033	338.75	393.34	460.74	589.54	73.70		100.94	128.73		
С	Sonoma (SF)	Annual	2034	338.75	393.47	460.73	589.72	73.70		100.95	128.82		
С	Sonoma (SF)	Annual	2035	338.74	393.58	460.71	589.88	73.71	86.06		128.91		
C	Sonoma (SF)	Summer	2010	362.22	413.09	494.52	621.95	73.29	85.42	99.94	124.71		
C	Sonoma (SF)	Summer	2011	362.43	413.89	494.43	622.45	73.21	85.10		124.87		
C	Sonoma (SF)	Summer	2012	362.64	414.65	494.39	623.09	73.15		100.01	125.06		
C	Sonoma (SF)	Summer	2012	362.88	415.33	494.38	623.85	73.14		100.01	125.28		
C	Sonoma (SF)	Summer	2013	363.07	415.93	494.41	624.65	73.14	84.55		125.26		
C	Sonoma (SF)	Summer	2014	363.28	416.48	494.41	625.51	73.12			125.76		
c C	Sonoma (SF)	Summer	2016	363.48	417.01	494.48	626.33	73.14	84.38		126.01		
c C	·	Summer	2016	363.46	417.01	494.48		73.20		100.20	126.01		
<u>с</u> С	Sonoma (SF)	Summer	2017	363.71	417.48	494.51	627.12 627.81	73.25		100.23	126.26		
C	Sonoma (SF)												
_	Sonoma (SF)	Summer	2019	363.81	418.29	494.51	628.42	73.29	84.40		126.74		
C	Sonoma (SF)	Summer	2020	363.90	418.65	494.49	628.96	73.39	84.53	100.46	126.96		
C C	Sonoma (SF)	Summer	2021	363.97	419.02	494.47	629.37	73.47	84.71	100.55	127.13		
С	Sonoma (SF)	Summer	2022	364.00	419.34	494.43	629.72	73.53	84.86		127.25		
C	Sonoma (SF)	Summer	2023	364.01	419.60	494.40	629.97	73.57		100.70	127.43		
C	Sonoma (SF)	Summer	2024	364.00	419.81	494.37	630.15	73.60	85.12		127.59		
С	Sonoma (SF)	Summer	2025	364.00	420.01	494.34	630.33	73.62	85.23	100.80	127.74		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

Season Year LDA LDT LDT MDV LDA LDT		Location	I			°∩2 Runni	na (a/\/MT)	CO2 Starting (g/trip)					
 Sonoma (SF) Summer (2006) Sonoma (SF) Summer (2017) Sal (3) (40) (40) (40) (40) (40) (40) (40) (40		Location	Sooson	Voor										
 C. Sonoma (SF) Summer (207) 384 03 490.04 490.40 490.20 630.69 73.66 85.43 100.87 120.0 Sonoma (SF) Summer (2029) 364 04 420.87 494.27 631.00 73.68 85.62 100.90 122.2 Sonoma (SF) Summer (203) 384.04 420.87 494.27 631.00 73.68 85.70 100.90 122.2 Sonoma (SF) Summer (203) 384.04 421.71 494.25 631.20 73.68 85.70 100.90 122.2 Sonoma (SF) Summer (203) 384.06 421.71 494.22 631.77 73.68 85.68 100.94 122.6 Sonoma (SF) Summer (2033) 384.06 421.71 494.20 632.22 73.70 85.00 100.95 122.8 C. Sonoma (SF) Summer (2033) 384.06 421.71 494.20 632.22 73.70 85.00 100.95 122.8 200.00 122.8 200.00 123.8 200.00 123.8 200.00 124.8 200.00 125.8 200.00 125.9 200.00 125.0 200.00 125.0 200.00 200.00	<u></u>	Sanama (SE)												
 C Sonoma (SF) Summer COS SONOMA (SF) Winter CONDOMA (SF) 		· · ·	1											
C Comma (SF) Summer 2009 384.04 420.27 431.06 73.68 86.26 10.09 122.2 C Sonoma (SF) Summer 2031 384.04 421.03 494.25 631.26 73.68 85.79 100.92 128.2 G Sonoma (SF) Summer 2033 384.04 421.32 494.22 631.77 73.69 85.68 100.94 122.6 G Sonoma (SF) Summer 2033 384.04 421.71 494.21 632.02 73.70 85.00 100.95 122.8 G Sonoma (SF) Summer 2038 384.04 421.97 494.21 632.42 73.70 86.00 100.95 123.8 G Sonoma (SF) Winter 2010 334.63 384.68 467.75 575.67 73.21 85.10 99.96 124.8 G Sonoma (SF) Winter 2010 334.73 385.20 457.16 575.15 73.14 84.86 1		, ,	1											
C Sonoma (SF) Summer 2030 384.04 421.09 494.25 631.26 73.86 85.76 100.32 122.65 C Sonoma (SF) Summer 2031 364.04 421.30 494.25 631.51 73.69 85.76 100.32 122.65 C Sonoma (SF) Summer 2032 364.05 421.33 494.22 631.77 73.69 85.86 100.34 128.65 C Sonoma (SF) Summer 2033 364.05 421.71 494.21 632.00 73.70 85.39 100.34 128.65 C Sonoma (SF) Summer 2034 364.04 421.87 494.20 632.02 73.70 86.00 100.35 128.85 C Sonoma (SF) Summer 2035 384.04 421.87 494.20 632.02 73.70 86.00 100.35 128.85 C Sonoma (SF) Winter 2010 33.46.04 421.87 494.20 632.02 73.70 86.00 100.35 128.85 C Sonoma (SF) Winter 2010 334.60 384.97 457.51 576.23 73.21 85.10 99.96 124.85 C Sonoma (SF) Winter 2011 334.60 384.97 457.51 576.23 73.21 85.10 99.96 124.85 C Sonoma (SF) Winter 2012 334.62 385.30 457.33 576.85 73.15 84.87 100.01 125.25 C Sonoma (SF) Winter 2014 334.70 385.92 457.05 578.16 73.14 84.69 100.06 125.2 C Sonoma (SF) Winter 2015 335.06 385.92 457.05 578.16 73.14 84.09 100.06 125.2 C Sonoma (SF) Winter 2016 335.06 386.53 456.80 579.45 73.20 84.38 100.02 126.5 C Sonoma (SF) Winter 2016 335.06 386.53 456.80 579.45 73.20 84.38 100.02 126.5 C Sonoma (SF) Winter 2016 335.06 386.53 456.80 579.45 73.20 84.30 100.06 125.2 C Sonoma (SF) Winter 2016 335.06 386.53 456.80 579.45 73.20 84.30 100.01 125.7 C Sonoma (SF) Winter 2016 335.66 386.53 456.80 579.45 73.20 84.30 100.01 125.7 C Sonoma (SF) Winter 2016 335.50 387.05 456.80 579.45 73.00 84.30 100.30 126.5 C Sonoma (SF) Winter 2016 335.50 385.00 456.80 579.45 73.20 84.30 100.30 126.5 C Sonoma (SF) Winter 2018 335.25 387.05 456.80 579.45 73.30 84.00 100.30 126.5 C Sonoma (SF) Winter 2020 335.55 388.00 456.80 580.06 73.32 84.30 100.30 126.5 C Sonoma (SF) Winter 2020 335.55 388.80 456.67 586.20 73.30 84.00 100.30 126.5 C Sonoma (SF) Winter 2020 335.57 388.81 456.67 582.00 73.37 85.00 100.30 126.5 C Sonoma (SF) Winter 2020 335.57 388.81 456.67 582.00 73.30 84.00 100.30 126.5 C Sonoma (SF) Winter 2020 335.57 388.80 456.67 582.00 73.30 84.00 100.30 126.5 C Sonoma (SF) Winter 2020 335.57 388.91 456.67 582.00 73.30		, ,												
C Sonoma (SF) Summer 2031 384.04 421.32 494.23 631.51 73.69 85.78 100.33 122.65 Sonoma (SF) Summer 2032 364.05 421.53 494.22 631.57 73.69 85.86 100.34 128.6 C Sonoma (SF) Summer 2033 384.05 421.71 494.21 632.00 73.70 85.39 100.34 128.7 C Sonoma (SF) Summer 2035 384.05 421.71 494.21 632.00 73.70 85.39 100.34 128.7 C Sonoma (SF) Summer 2035 384.05 421.71 494.21 632.00 73.70 85.39 100.34 128.7 C Sonoma (SF) Summer 2035 384.05 421.71 494.21 632.00 73.70 85.39 100.34 128.7 C Sonoma (SF) Summer 2035 384.04 421.99 494.18 632.22 73.70 86.00 100.95 128.9 C Sonoma (SF) Winter 2010 33.46.33 384.66 457.75 575.67 73.29 85.42 99.94 124.7 C Sonoma (SF) Winter 2011 334.60 385.30 457.33 576.25 73.21 85.10 99.96 124.9 C Sonoma (SF) Winter 2012 334.62 385.30 457.33 576.25 73.21 85.10 99.96 122.9 C Sonoma (SF) Winter 2013 334.71 395.62 457.18 577.51 73.14 84.69 100.01 125.0 C Sonoma (SF) Winter 2014 334.67 385.62 457.18 577.51 73.14 84.69 100.01 125.0 C Sonoma (SF) Winter 2014 334.87 385.92 457.05 576.87 73.20 84.38 100.20 125.5 C Sonoma (SF) Winter 2016 335.06 386.53 456.89 579.45 73.20 84.38 100.20 125.5 C Sonoma (SF) Winter 2016 335.06 386.53 456.89 579.45 73.20 84.38 100.20 125.5 C Sonoma (SF) Winter 2017 335.16 386.53 456.89 579.45 73.20 84.38 100.20 126.2 C Sonoma (SF) Winter 2018 335.26 387.05 456.79 580.69 73.25 84.30 100.31 126.2 C Sonoma (SF) Winter 2019 335.50 387.05 456.79 580.69 73.25 84.30 100.31 126.2 C Sonoma (SF) Winter 2019 335.50 387.05 456.79 580.69 73.25 84.30 100.31 126.2 C Sonoma (SF) Winter 2019 335.55 388.85 456.70 582.00 73.79 84.70 100.31 126.7 C Sonoma (SF) Winter 2019 335.55 388.85 456.70 582.00 73.79 84.70 100.31 126.7 C Sonoma (SF) Winter 2020 335.55 388.85 456.70 582.00 73.79 84.70 100.31 126.2 C Sonoma (SF) Winter 2020 335.55 388.85 456.70 582.00 73.79 85.00 100.70 126.7 C Sonoma (SF) Winter 2020 335.55 389.89 456.65 583.74 73.60 85.74 100.03 122.7 C Sonoma (SF) Winter 2020 335.55 389.89 456.60 583.74 73.60 85.74 100.03 122.7 C Sonoma (SF) Winter 2020 335.55 389.89 456.60 583.74 73.60 85.74 100.03		, ,												
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C Sonoma (SF) Winter 2014 334.78 385.92 457.05 578.16 73.12 84.55 100.09 125.5 C Sonoma (SF) Winter 2015 334.91 386.21 466.96 578.83 73.14 84.44 100.14 125.7 C Sonoma (SF) Winter 2017 335.16 386.80 456.83 580.06 73.22 84.32 100.23 126.2 C Sonoma (SF) Winter 2018 335.62 387.06 465.79 580.59 73.25 84.30 100.30 126.0 C Sonoma (SF) Winter 2018 335.26 387.06 465.79 580.59 73.25 84.30 100.30 126.0 C Sonoma (SF) Winter 2018 335.26 387.06 465.79 580.19 73.25 84.30 100.30 126.5 C Sonoma (SF) Winter 2018 335.25 387.39 456.75 581.50 73.39 84.53 100.46 126.9 C Sonoma (SF) Winter 2020 335.45 387.59 456.75 581.50 73.39 84.53 100.46 126.9 C Sonoma (SF) Winter 2021 335.53 387.85 456.74 581.92 73.47 84.71 100.55 127.1 C Sonoma (SF) Winter 2023 335.64 386.86 456.75 581.20 73.49 84.53 100.46 126.9 C Sonoma (SF) Winter 2023 335.56 386.86 456.75 581.20 73.69 86.00 100.70 127.4 C Sonoma (SF) Winter 2023 335.57 388.25 456.87 581.9 73.60 85.10 100.70 127.4 C Sonoma (SF) Winter 2024 335.55 381.89 456.68 582.45 73.60 85.12 100.80 127.7 C Sonoma (SF) Winter 2024 335.55 388.39 456.68 582.45 73.60 85.12 100.80 127.7 C Sonoma (SF) Winter 2026 335.56 386.66 456.66 582.81 73.64 85.34 100.84 127.9 C Sonoma (SF) Winter 2028 335.57 388.81 456.67 582.29 73.66 85.34 100.84 127.9 C Sonoma (SF) Winter 2028 335.57 388.81 456.65 582.29 73.66 85.34 100.84 127.9 C Sonoma (SF) Winter 2023 335.54 388.73 456.65 583.35 73.68 85.62 100.90 122.7 C Sonoma (SF) Winter 2023 335.54 388.73 456.65 583.37 73.68 85.74 100.87 122.6 C Sonoma (SF) Winter 2023 335.55 389.84 456.65 583.37 73.68 85.74 100.94 122.9 C Sonoma (SF) Winter 2023 335.55 389.84 456.65 583.37 73.68 85.04 100.94 122.9 C Sonoma (SF) Winter 2023 335.55 389.84 456.65 583.37 73.88 85.04 100.92 128.2 C Sonoma (SF) Winter 2024 335.55 389.84 456.65 583.74 73.68 85.74 100.92 128.2 C Sonoma (SF) Winter 2024 335.55 389.84 456.65 583.37 73.88 85.04 100.92 128.2 C Sonoma (SF) Winter 2024 335.55 389.84 456.65 583.37 73.88 85.04 100.92 128.2 C Sonoma (SF) Winter 2	С	Sonoma (SF)	Winter	2012	334.62	385.30	457.33	576.85	73.15	84.87	100.01	125.06		
C Sonoma (SF) Winter 2015 334.91 386.21 456.96 578.83 73.14 84.44 100.14 125.77 C Sonoma (SF) Winter 2016 335.06 386.53 456.89 574.5 73.20 34.38 100.20 126.2	С	Sonoma (SF)		2013	334.71	385.62		577.51	_	84.69	100.06	125.28		
C Sonoma (SF) Winter 2016 335.06 386.53 456.89 579.45 73.20 84.38 100.20 126.0 C Sonoma (SF) Winter 2017 335.16 386.80 456.83 580.06 73.22 84.32 100.23 126.2 C Sonoma (SF) Winter 2018 335.26 387.05 465.79 580.59 73.29 84.30 100.30 126.5 C Sonoma (SF) Winter 2019 335.35 387.33 456.77 581.07 73.29 84.40 100.37 126.7 C Sonoma (SF) Winter 2020 335.45 387.59 456.75 581.50 73.39 84.53 100.46 126.9 C Sonoma (SF) Winter 2021 335.53 887.85 456.77 581.07 73.29 84.40 100.37 126.7 C Sonoma (SF) Winter 2022 335.56 388.08 456.72 582.00 73.39 84.53 100.46 126.9 C Sonoma (SF) Winter 2022 335.56 388.08 456.72 582.00 73.57 84.71 100.55 127.1 C Sonoma (SF) Winter 2023 335.57 388.25 456.70 582.50 73.57 850.00 100.70 127.4 C Sonoma (SF) Winter 2024 335.55 388.39 456.68 582.45 73.65 851.20 100.40 127.7 C Sonoma (SF) Winter 2024 335.55 388.39 456.68 582.45 73.65 851.20 100.70 127.5 C Sonoma (SF) Winter 2024 335.55 888.50 456.70 582.50 73.67 85.00 100.70 127.4 C Sonoma (SF) Winter 2025 335.54 388.51 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2026 335.56 388.68 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2026 335.56 388.68 456.64 582.89 73.66 85.12 100.75 127.5 C Sonoma (SF) Winter 2028 335.57 388.87 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2028 335.57 388.97 456.59 583.17 73.67 85.53 100.89 128.1 C Sonoma (SF) Winter 2029 335.56 389.12 456.56 583.95 73.68 85.43 100.84 127.9 C Sonoma (SF) Winter 2023 335.55 389.44 456.52 582.99 73.68 85.43 100.84 127.9 C Sonoma (SF) Winter 2031 335.55 389.44 456.52 583.74 73.69 85.78 100.99 128.4 C Sonoma (SF) Winter 2031 335.55 389.44 456.52 583.74 73.69 85.78 100.99 128.4 C Sonoma (SF) Winter 2031 335.55 389.47 456.59 583.17 73.67 85.53 100.89 128.1 C Sonoma (SF) Winter 2031 335.54 389.59 1456.50 583.96 73.89 85.60 100.94 128.6 C Sonoma (SF) Winter 2031 335.54 389.59 146.60 583.74 73.69 85.79 100.92 124.6 C Sonoma (SF) Winter 2034 335.55 389.47 146.65 599.10 73.39 85.60 100.99 128.4 C Sonoma (SF) Winter 2034 335.55 389.47 146.65 599.10 73.39 85.60 1	С	Sonoma (SF)		2014	334.78	385.92	457.05	578.16	73.12	84.55	100.09	125.51		
C Sonoma (SF) Winter 2017 335.16 386.80 456.83 580.06 73.22 84.32 100.23 126.2 C Sonoma (SF) Winter 2018 335.26 387.05 456.79 580.59 73.25 84.30 100.30 126.5 C Sonoma (SF) Winter 2020 335.45 387.33 456.77 581.07 3.29 84.40 100.37 126.5 C Sonoma (SF) Winter 2020 335.45 387.39 456.75 581.50 73.39 84.53 100.46 126.9 C Sonoma (SF) Winter 2021 335.53 387.85 456.75 581.50 73.39 84.53 100.46 126.9 C Sonoma (SF) Winter 2022 335.56 388.08 456.75 581.20 73.47 84.71 100.55 127.1 C Sonoma (SF) Winter 2023 335.57 388.25 456.70 582.30 73.57 85.00 100.70 127.4 C Sonoma (SF) Winter 2023 335.57 388.25 456.70 582.30 73.57 85.00 100.70 127.4 C Sonoma (SF) Winter 2024 335.56 388.08 456.70 582.30 73.57 85.00 100.70 127.5 C Sonoma (SF) Winter 2024 335.57 388.25 466.70 582.30 73.57 85.00 100.70 127.4 C Sonoma (SF) Winter 2024 335.57 388.51 456.67 582.62 73.60 85.12 100.75 127.5 C Sonoma (SF) Winter 2026 335.56 388.93 456.88 582.46 73.60 85.12 100.75 127.5 C Sonoma (SF) Winter 2026 335.56 388.91 456.62 582.99 73.66 85.12 100.75 127.5 C Sonoma (SF) Winter 2028 335.57 388.81 456.62 582.99 73.66 85.43 100.87 128.0 C Sonoma (SF) Winter 2028 335.57 388.91 456.62 582.99 73.66 85.43 100.87 128.0 C Sonoma (SF) Winter 2028 335.57 388.91 456.62 582.99 73.66 85.43 100.87 128.0 C Sonoma (SF) Winter 2029 335.56 389.94 456.50 583.57 73.68 85.51 100.89 128.1 C Sonoma (SF) Winter 2029 335.56 389.94 456.50 583.57 73.68 85.78 100.99 128.4 C Sonoma (SF) Winter 2029 335.56 389.94 456.50 583.57 73.68 85.78 100.99 128.4 C Sonoma (SF) Winter 2029 335.56 389.94 456.50 583.57 73.68 85.78 100.99 128.6 C Sonoma (SF) Winter 2029 335.57 389.81 456.60 583.57 73.68 85.78 100.99 128.6 C Sonoma (SF) Winter 2031 335.57 389.81 456.60 583.57 73.68 85.78 100.99 128.6 C Sonoma (SF) Winter 2031 335.57 389.91 476.61 599.10 73.30 85.01 100.99 128.6 C Sonoma (SF) Winter 2031 335.57 389.91 476.61 599.10 73.30 85.01 100.99 128.6 C Sonoma (SF) Winter 2031 335.57 389.91 476.61 599.10 73.30 85.01 100.99 128.6 C Sonoma (SF) Winter 2	С	Sonoma (SF)		2015	334.91	386.21	456.96	578.83	73.14	84.44	100.14	125.76		
C Sonoma (SF) Winter 2018 335.26 387.05 456.79 580.59 73.25 84.30 100.30 126.5 C Sonoma (SF) Winter 2019 335.35 387.33 456.77 581.07 73.29 84.40 100.37 126.7 C Sonoma (SF) Winter 2020 335.45 387.59 456.75 581.67 73.29 84.40 100.37 126.7 C Sonoma (SF) Winter 2021 335.53 387.85 456.74 581.82 73.47 84.71 100.55 127.1 C Sonoma (SF) Winter 2021 335.56 388.08 456.72 582.09 73.53 84.86 100.63 127.2 C Sonoma (SF) Winter 2023 335.56 388.08 456.72 582.09 73.53 84.86 100.63 127.2 C Sonoma (SF) Winter 2024 335.55 388.39 456.68 582.45 73.60 85.12 100.70 127.4 C Sonoma (SF) Winter 2024 335.55 388.39 456.68 582.45 73.60 85.12 100.70 127.4 C Sonoma (SF) Winter 2025 335.54 388.51 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2026 335.56 388.66 456.64 582.81 73.64 85.34 100.84 127.9 C Sonoma (SF) Winter 2026 335.56 388.66 456.64 582.81 73.64 85.34 100.84 127.9 C Sonoma (SF) Winter 2028 335.57 388.97 456.59 583.17 73.67 85.53 100.89 128.1 C Sonoma (SF) Winter 2028 335.57 388.97 456.59 583.17 73.67 85.53 100.89 128.1 C Sonoma (SF) Winter 2028 335.56 389.26 456.55 583.35 73.68 85.62 100.90 128.2 C Sonoma (SF) Winter 2030 335.56 389.28 456.53 583.54 73.68 85.70 100.92 128.2 C Sonoma (SF) Winter 2031 335.55 389.24 456.52 583.74 73.69 85.70 100.92 128.2 C Sonoma (SF) Winter 2031 335.54 389.99 456.50 583.84 73.69 85.76 100.99 128.2 C Sonoma (SF) Winter 2033 335.54 389.99 456.50 583.84 73.69 85.78 100.99 128.2 C Sonoma (SF) Winter 2033 335.54 389.97 456.49 584.15 73.70 85.93 100.99 128.2 C Sonoma (SF) Winter 2031 335.55 389.94 456.50 583.94 73.69 85.78 100.99 128.2 C Sonoma (SF) Winter 2034 335.53 389.96 456.47 584.37 73.70 85.93 100.99 128.2 C Sonoma (SF) Winter 2034 335.54 389.97 456.45 584.47 73.71 86.06 100.99 128.2 C Sonoma (SF) Winter 2034 335.54 389.97 456.45 584.47 73.71 86.06 100.99 128.2 C Sonoma (SF) Winter 2034 335.54 389.99 456.60 583.87 73.89 85.81 100.21 124.2 C Sonoma (SF) Winter 2034 335.54 389.97 456.45 584.47 73.71 86.06 100.99 128.2 C Sonoma (SF) Winter 2034 335.54 389.97 456.45 583.47 73.79 86.80 100.9	С	Sonoma (SF)		2016	335.06	386.53	456.89	579.45	73.20	84.38	100.20	126.01		
C Sonoma (SF) Winter 2019 335.35 387.33 456.77 581.07 73.29 84.40 100.37 126.7. C Sonoma (SF) Winter 2020 335.45 387.59 456.75 581.50 73.39 84.53 100.48 126.9. C Sonoma (SF) Winter 2021 335.53 387.85 466.74 581.26 73.39 84.53 100.48 126.9. C Sonoma (SF) Winter 2022 335.56 388.08 456.72 582.09 73.53 84.86 100.63 127.2. C Sonoma (SF) Winter 2023 335.57 388.25 456.70 582.30 73.57 85.00 100.70 127.4. C Sonoma (SF) Winter 2024 335.55 388.39 456.86 582.45 73.60 85.12 100.75 127.5. C Sonoma (SF) Winter 2025 335.54 388.51 456.67 582.26 73.62 85.23 100.80 127.7. C Sonoma (SF) Winter 2025 335.54 388.51 456.67 582.26 73.62 85.23 100.80 127.7. C Sonoma (SF) Winter 2026 335.56 388.86 456.64 582.81 73.64 85.34 100.84 127.9. C Sonoma (SF) Winter 2026 335.57 388.87 456.69 583.17 73.67 85.53 100.80 127.7. C Sonoma (SF) Winter 2028 335.57 388.81 456.67 582.26 73.62 85.23 100.80 127.7. C Sonoma (SF) Winter 2028 335.57 388.97 456.69 583.17 73.67 85.53 100.89 128.1. C Sonoma (SF) Winter 2028 335.57 389.97 456.59 583.17 73.67 85.53 100.89 128.1. C Sonoma (SF) Winter 2029 335.56 389.12 456.56 583.35 73.68 85.70 100.92 128.2. C Sonoma (SF) Winter 2031 335.55 389.48 456.50 583.36 73.68 85.70 100.92 128.2. C Sonoma (SF) Winter 2031 335.55 389.48 456.50 583.36 73.68 85.70 100.92 128.2. C Sonoma (SF) Winter 2031 335.55 389.48 456.50 583.36 73.69 85.8 100.94 128.6. C Sonoma (SF) Winter 2034 335.54 389.59 456.50 583.96 73.69 85.8 100.94 128.6. C Sonoma (SF) Winter 2034 335.54 389.57 476.81 598.46 73.30 85.31 100.91 128.2. C Sonoma (SF) Winter 2034 335.54 389.97 456.50 583.96 73.69 85.8 100.99 128.2. C Sonoma (SF) Winter 2034 335.53 389.86 456.49 584.12 73.70 85.03 100.99 128.2. C Sonoma (SF) Winter 2034 335.54 389.57 476.31 598.46 73.30 85.31 100.91 128.2. C Sonoma (SF) Winter 2034 335.54 389.57 476.31 598.46 73.30 85.31 100.91 128.2. C Sonoma (SF) Winter 2034 335.54 489.57 476.31 598.46 73.30 85.31 100.91 128.2. C Sonoma (SF) Winter 2034 335.54 489.97 476.41 598.47 73.79 86.06 100.99 128.2. C Sonoma (SF) Winter 2034 335.54 489.97 476.31 59	С	Sonoma (SF)	Winter	2017	335.16	386.80	456.83	580.06	73.22	84.32	100.23	126.26		
C Sonoma (SF) Winter 2020 335.45 387.59 456.75 581.50 73.39 84.53 100.46 126.90 C Sonoma (SF) Winter 2021 335.53 387.85 456.74 581.82 73.47 84.71 100.55 127.1 C Sonoma (SF) Winter 2022 335.56 388.08 456.72 582.09 73.53 84.86 100.63 127.2 C Sonoma (SF) Winter 2023 335.57 388.25 456.70 582.30 73.57 85.00 100.70 127.4 C Sonoma (SF) Winter 2024 335.55 388.39 456.68 582.45 73.60 85.12 100.75 127.5 C Sonoma (SF) Winter 2025 335.54 386.51 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2026 335.56 388.68 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2026 335.56 388.61 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2026 335.56 388.61 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2026 335.56 388.61 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2026 335.57 388.81 456.62 582.99 73.66 85.43 100.87 128.0 C Sonoma (SF) Winter 2028 335.56 389.97 456.59 583.17 73.67 85.53 100.89 128.1 C Sonoma (SF) Winter 2028 335.56 389.97 456.59 583.17 73.67 85.53 100.89 128.1 C Sonoma (SF) Winter 2030 335.55 389.12 456.55 583.54 73.68 85.70 100.92 128.4 C Sonoma (SF) Winter 2031 335.55 389.12 456.55 583.54 73.68 85.70 100.93 128.5 C Sonoma (SF) Winter 2031 335.55 389.44 456.52 583.74 73.69 85.70 100.93 128.5 C Sonoma (SF) Winter 2032 335.54 389.59 456.50 583.96 73.69 85.86 100.94 128.6 C Sonoma (SF) Winter 2034 335.55 389.94 456.65 583.35 73.68 85.70 100.92 128.4 C Sonoma (SF) Winter 2034 335.54 389.59 456.50 583.96 73.69 85.86 100.94 128.6 C Sonoma (SF) Winter 2034 335.54 389.59 456.50 583.96 73.69 85.86 100.94 128.6 C Sonoma (SF) Winter 2034 335.54 389.59 456.50 583.96 73.69 85.86 100.94 128.6 C Sonoma (SF) Winter 2034 335.54 389.79 456.45 584.37 73.70 86.00 100.95 128.8 C Sonoma (SF) Winter 2034 335.54 389.97 456.45 584.37 73.70 86.00 100.95 128.8 C Sonoma (SF) Winter 2034 335.54 389.97 456.60 583.36 73.90 85.91 100.92 124.60 C Stanislaus (SJV) Annual 2010 347.92 399.76 476.16 599.10 73.30 85.02 100.19 124.5 C Stanislaus (SJ	С	Sonoma (SF)	Winter	2018	335.26	387.05	456.79	580.59	73.25	84.30	100.30	126.51		
C Sonoma (SF) Winter 2021 335.53 387.85 456.74 581.82 73.47 84.71 100.55 127.11 C Sonoma (SF) Winter 2022 335.56 388.08 456.72 582.09 73.53 84.86 100.63 127.2 C Sonoma (SF) Winter 2024 335.56 388.08 456.72 582.09 73.53 84.86 100.63 127.2 C Sonoma (SF) Winter 2024 335.55 388.39 456.68 582.45 73.60 85.12 100.75 127.5 C Sonoma (SF) Winter 2025 335.54 388.51 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2026 335.56 388.86 456.64 582.81 73.64 85.34 100.84 127.9 C Sonoma (SF) Winter 2026 335.56 388.81 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2027 335.57 388.81 456.62 582.99 73.66 85.43 100.84 127.9 C Sonoma (SF) Winter 2028 335.56 388.81 456.62 582.99 73.66 85.43 100.84 127.9 C Sonoma (SF) Winter 2028 335.56 389.12 456.59 583.17 73.67 85.53 100.89 128.1 C Sonoma (SF) Winter 2029 335.56 389.12 456.56 583.35 73.68 85.62 100.90 128.2 C Sonoma (SF) Winter 2039 335.55 389.28 456.55 583.54 73.68 85.62 100.90 128.2 C Sonoma (SF) Winter 2031 335.55 389.28 456.55 583.54 73.68 85.60 100.92 128.4 C Sonoma (SF) Winter 2031 335.55 389.28 456.55 583.54 73.68 85.70 100.92 128.4 C Sonoma (SF) Winter 2032 335.54 389.99 456.55 583.96 73.69 85.86 100.94 128.6 C Sonoma (SF) Winter 2032 335.54 389.99 456.50 583.96 73.69 85.86 100.94 128.6 C Sonoma (SF) Winter 2034 335.55 389.66 456.47 584.37 73.70 85.93 100.94 128.7 C Sonoma (SF) Winter 2034 335.54 389.73 456.49 584.15 73.70 85.93 100.94 128.7 C Sonoma (SF) Winter 2034 335.54 389.73 456.49 584.15 73.70 85.93 100.94 128.7 C Sonoma (SF) Winter 2034 335.54 389.73 456.49 584.15 73.70 85.93 100.94 128.6 C Stanislaus (SJV) Annual 2010 347.54 398.75 476.31 589.46 73.30 85.31 100.21 124.2 C Stanislaus (SJV) Annual 2010 347.54 398.75 476.18 599.10 73.30 85.01 100.21 124.2 C Stanislaus (SJV) Annual 2011 347.92 399.76 476.16 599.10 73.30 86.02 100.19 124.5 C Stanislaus (SJV) Annual 2013 348.56 401.83 475.18 601.34 73.34 84.51 100.27 125.2 C Stanislaus (SJV) Annual 2015 348.86 401.83 475.18 601.34 73.34 84.61 100.29 125.5 C Stanislaus (SJV) Annual 2016 348.81 401.83	С	Sonoma (SF)	Winter	2019	335.35	387.33	456.77	581.07	73.29	84.40	100.37	126.74		
C Sonoma (SF) Winter 2022 335.56 388.08 456.72 582.09 73.53 84.86 100.63 127.2 C Sonoma (SF) Winter 2023 335.57 388.25 456.70 582.30 73.57 85.00 100.70 127.4 C Sonoma (SF) Winter 2024 335.55 388.39 456.68 582.45 73.60 85.12 100.75 127.5 C Sonoma (SF) Winter 2025 335.54 388.51 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2026 335.56 388.66 456.64 582.81 73.64 85.34 100.84 127.9 C Sonoma (SF) Winter 2026 335.57 388.81 456.62 582.99 73.66 85.43 100.87 128.0 C Sonoma (SF) Winter 2028 335.57 388.81 456.62 582.99 73.66 85.43 100.87 128.0 C Sonoma (SF) Winter 2028 335.56 389.12 456.59 583.17 73.66 85.43 100.87 128.0 C Sonoma (SF) Winter 2028 335.56 389.12 456.55 583.35 73.68 85.62 100.90 128.2 C Sonoma (SF) Winter 2029 335.56 389.21 456.53 583.55 73.68 85.62 100.90 128.2 C Sonoma (SF) Winter 2030 335.55 389.28 456.53 583.54 73.68 85.70 100.92 128.4 C Sonoma (SF) Winter 2031 335.55 389.28 456.53 583.56 73.69 85.78 100.93 128.5 C Sonoma (SF) Winter 2032 335.54 389.59 456.50 583.96 73.69 85.78 100.93 128.5 C Sonoma (SF) Winter 2032 335.54 389.59 456.50 583.96 73.69 85.78 100.93 128.5 C Sonoma (SF) Winter 2032 335.54 389.73 456.49 584.15 73.70 85.93 100.94 128.6 C Sonoma (SF) Winter 2032 335.54 389.73 456.49 584.15 73.70 86.00 100.95 128.8 C Sonoma (SF) Winter 2034 335.53 389.86 456.47 584.32 73.70 86.00 100.95 128.8 C Sonoma (SF) Winter 2034 335.53 389.87 456.49 584.15 73.70 86.00 100.95 128.8 C Stanislaus (SJV) Annual 2010 347.54 398.75 476.31 598.86 73.30 85.31 100.21 124.2 C Stanislaus (SJV) Annual 2012 347.75 399.91 475.41 598.86 73.30 85.91 100.21 124.2 C Stanislaus (SJV) Annual 2013 348.56 401.83 475.15 603.86 73.39 84.46 100.29 125.5 C Stanislaus (SJV) Annual 2016 348.81 402.38 475.15 603.86 73.39 84.46 100.29 125.5 C Stanislaus (SJV) Annual 2018 348.86 401.83 475.15 603.8 73.8 84.81 100.42 126.7 C Stanislaus (SJV) Annual 2019 348.89 408.89 481.21 612.65 73.71 84.09 100.35 126.5 C Stanislaus (SJV) Annual 2020 353.83 408.99 481.21 612.65 73.71 84.09 100	С	Sonoma (SF)	Winter	2020	335.45	387.59	456.75	581.50	73.39	84.53	100.46	126.96		
C Sonoma (SF) Winter 2023 335.57 388.25 456.70 582.30 73.57 85.00 100.70 127.4 C Sonoma (SF) Winter 2024 335.55 388.39 456.68 582.45 73.60 85.12 100.75 127.5 C Sonoma (SF) Winter 2026 335.54 388.51 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2026 335.56 388.61 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2028 335.57 388.81 456.62 582.99 73.66 85.43 100.87 128.0 C Sonoma (SF) Winter 2028 335.57 388.81 456.62 582.99 73.66 85.43 100.87 128.0 C Sonoma (SF) Winter 2028 335.56 388.91 456.65 583.39 73.67 85.53 100.89 128.1 C Sonoma (SF) Winter 2029 335.56 389.12 456.59 583.17 73.67 85.53 100.89 128.1 C Sonoma (SF) Winter 2030 335.55 389.28 456.53 583.54 73.68 85.62 100.90 128.2 C Sonoma (SF) Winter 2031 335.55 389.44 456.52 583.74 73.69 85.78 100.93 128.5 C Sonoma (SF) Winter 2032 335.54 389.89 456.50 583.96 73.69 85.86 100.94 128.6 C Sonoma (SF) Winter 2033 335.54 389.59 456.50 583.96 73.69 85.86 100.94 128.6 C Sonoma (SF) Winter 2033 335.54 389.73 456.49 584.15 73.70 85.93 100.91 128.6 C Sonoma (SF) Winter 2034 335.55 389.87 456.50 583.96 73.69 85.86 100.94 128.6 C Sonoma (SF) Winter 2034 335.55 389.87 456.49 584.15 73.70 85.93 100.91 128.6 C Sonoma (SF) Winter 2034 335.55 389.97 456.45 584.47 73.71 86.06 100.95 128.8 C Sonoma (SF) Winter 2034 335.55 389.97 456.45 584.47 73.71 86.06 100.95 128.8 C Stanislaus (SJV) Annual 2010 347.54 398.75 476.31 598.46 73.30 85.01 100.21 124.2 C Stanislaus (SJV) Annual 2011 347.54 398.75 476.31 598.84 73.30 85.01 100.21 124.2 C Stanislaus (SJV) Annual 2012 347.75 39.91 475.41 598.84 73.30 85.01 100.27 125.2 C Stanislaus (SJV) Annual 2013 348.56 401.83 475.15 601.34 73.34 84.51 100.27 125.2 C Stanislaus (SJV) Annual 2016 348.81 402.38 475.15 603.08 73.51 84.39 100.35 125.6 C Stanislaus (SJV) Annual 2016 348.81 402.38 475.15 603.08 73.51 84.39 100.35 125.6 C Stanislaus (SJV) Annual 2018 353.62 408.87 448.23 615.09 73.88 85.14 100.24 126.6 C Stanislaus (SJV) Annual 2018 353.62 408.87 448.23 615.09 73.88 85.14 100.42 126.6 C Stanislaus (SJV) Annual 2020 3	С	Sonoma (SF)	Winter	2021	335.53	387.85	456.74	581.82	73.47	84.71	100.55	127.13		
C Sonoma (SF) Winter 2023 335.57 388.25 456.70 582.30 73.57 85.00 100.70 127.4 C Sonoma (SF) Winter 2024 335.55 388.39 456.68 582.45 73.60 85.12 100.75 127.5 C Sonoma (SF) Winter 2026 335.54 388.51 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2026 335.56 388.61 456.67 582.62 73.62 85.23 100.80 127.7 C Sonoma (SF) Winter 2028 335.57 388.81 456.62 582.99 73.66 85.43 100.87 128.0 C Sonoma (SF) Winter 2028 335.57 388.81 456.62 582.99 73.66 85.43 100.87 128.0 C Sonoma (SF) Winter 2028 335.56 388.91 456.65 583.39 73.67 85.53 100.89 128.1 C Sonoma (SF) Winter 2029 335.56 389.12 456.59 583.17 73.67 85.53 100.89 128.1 C Sonoma (SF) Winter 2030 335.55 389.28 456.53 583.54 73.68 85.62 100.90 128.2 C Sonoma (SF) Winter 2031 335.55 389.44 456.52 583.74 73.69 85.78 100.93 128.5 C Sonoma (SF) Winter 2032 335.54 389.89 456.50 583.96 73.69 85.86 100.94 128.6 C Sonoma (SF) Winter 2033 335.54 389.59 456.50 583.96 73.69 85.86 100.94 128.6 C Sonoma (SF) Winter 2033 335.54 389.73 456.49 584.15 73.70 85.93 100.91 128.6 C Sonoma (SF) Winter 2034 335.55 389.87 456.50 583.96 73.69 85.86 100.94 128.6 C Sonoma (SF) Winter 2034 335.55 389.87 456.49 584.15 73.70 85.93 100.91 128.6 C Sonoma (SF) Winter 2034 335.55 389.97 456.45 584.47 73.71 86.06 100.95 128.89 C Stanislaus (SJV) Annual 2010 347.54 398.75 476.31 598.46 73.30 85.01 100.21 124.2 C Stanislaus (SJV) Annual 2010 347.57 399.91 475.41 598.84 73.30 85.01 100.21 124.2 C Stanislaus (SJV) Annual 2014 348.84 401.83 475.95 601.34 73.34 84.51 100.27 125.2 C Stanislaus (SJV) Annual 2016 348.81 402.38 475.15 603.08 73.51 84.39 100.35 128.6 C Stanislaus (SJV) Annual 2016 348.81 402.38 475.15 603.08 73.51 84.39 100.35 126.2 C Stanislaus (SJV) Annual 2016 348.87 401.83 475.15 603.08 73.51 84.39 100.35 126.2 C Stanislaus (SJV) Annual 2016 348.81 402.38 475.15 603.08 73.51 84.39 100.35 126.2 C Stanislaus (SJV) Annual 2018 353.62 408.37 481.26 611.54 73.55 84.40 100.38 125.8 C Stanislaus (SJV) Annual 2018 353.62 408.37 481.26 611.54 73.55 84.40 100.35 126.2 C Stanislaus (SJV) Annual	С	Sonoma (SF)	Winter	2022	335.56	388.08	456.72	582.09	73.53	84.86	100.63	127.25		
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C Stanislaus (SJV) Annual 2025 354.87 411.01 482.37 615.70 73.92 85.35 100.83 127.92 Stanislaus (SJV) Annual 2026 355.36 411.70 482.95 616.63 73.94 85.46 100.86 128.00	С	Stanislaus (SJV)	Annual	2023		410.60	482.25	615.09	73.88	85.14	100.74	127.59		
C Stanislaus (SJV) Annual 2026 355.36 411.70 482.95 616.63 73.94 85.46 100.86 128.00	С	Stanislaus (SJV)	Annual	2024	354.87	410.88	482.39	615.50	73.90	85.25	100.79	127.76		
	С	Stanislaus (SJV)	Annual	2025	354.87	411.01	482.37	615.70	73.92	85.35	100.83	127.93		
C Stanislaus (SJV) Annual 2027 355.37 411.85 482.93 616.79 73.96 85.55 100.89 128.2	С	Stanislaus (SJV)	Annual	2026	355.36	411.70	482.95	616.63	73.94	85.46	100.86	128.08		
	С	Stanislaus (SJV)	Annual	2027	355.37	411.85	482.93	616.79	73.96	85.55	100.89	128.21		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

Season Year LDA LDT LDT2 MDV LDA LDT1 LDT2 MDV LDA LDT1 LDT2 MDV	$\overline{}$	Location				CO2 Bunni	na (a/\/MT	`		202 Stor	tina (a/tr	in\
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C Stanislaus (SJV) Summer 2026 391.61 450.61 529.49 675.31 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Summer 2026 391.12 451.38 530.07 676.21 73.94 85.45 100.86 128.06 C Stanislaus (SJV) Summer 2027 391.16 451.60 530.04 676.22 73.94 85.45 100.89 128.23 C Stanislaus (SJV) Summer 2028 391.19 451.60 530.04 676.62 73.94 85.65 100.89 128.23 C Stanislaus (SJV) Summer 2028 391.29 452.04 530.03 676.66 73.97 85.64 100.91 128.33 C Stanislaus (SJV) Summer 2039 391.22 452.04 530.02 676.62 73.98 85.72 100.92 128.45 C Stanislaus (SJV) Summer 2030 391.24 452.26 530.01 676.80 73.98 85.80 100.93 128.65 C Stanislaus (SJV) Summer 2031 391.23 452.46 530.01 676.80 73.98 85.80 100.93 128.65 C Stanislaus (SJV) Summer 2032 391.23 452.46 530.04 677.30 73.99 85.98 100.94 128.67 C Stanislaus (SJV) Summer 2032 391.23 452.64 530.04 677.30 73.99 85.95 100.95 128.77 C Stanislaus (SJV) Summer 2033 391.23 452.78 530.05 677.55 74.00 86.01 100.95 128.67 C Stanislaus (SJV) Summer 2034 391.23 452.91 530.06 677.79 74.00 86.07 100.96 128.95 C Stanislaus (SJV) Summer 2035 391.23 452.91 530.06 677.79 74.00 86.07 100.96 128.95 C Stanislaus (SJV) Winter 2010 335.86 387.20 460.31 579.35 73.30 85.31 100.21 124.25 C Stanislaus (SJV) Winter 2011 335.86 387.20 460.31 579.35 73.30 85.01 100.96 129.25 C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.79 100.22 124.65 C Stanislaus (SJV) Winter 2013 336.63 387.81 459.53 579.14 73.30 84.79 100.22 124.65 C Stanislaus (SJV) Winter 2014 336.63 388.74 469.95 581.38 73.39 84.46 100.29 125.56 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.86 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.86 C Stanislaus (SJV) Winter 2018 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.05 C Stanislaus (SJV) Winter 2018 341.29 395.08 464.80 592.04 73.71 84.70 100.51 127.05 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.88 594.13 73.89 85.55 100.08 127.75 C Stanislaus (SJV) Winter 2023 342.33 396.88	С	Stanislaus (SJV)	Summer	2023	390.52	450.11	529.44	674.71	73.88	85.14	100.74	127.59
C Stanislaus (SJV) Summer 2026 391.12 451.38 530.07 676.21 73.94 85.46 100.86 128.06 C Stanislaus (SJV) Summer 2027 391.16 451.60 530.04 676.32 73.96 85.55 100.89 128.21 C Stanislaus (SJV) Summer 2028 391.19 451.82 530.03 676.40 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Summer 2029 391.22 452.04 530.02 676.62 73.98 85.07 100.92 128.45 C Stanislaus (SJV) Summer 2030 391.24 452.26 530.01 676.80 73.98 85.60 100.93 128.55 C Stanislaus (SJV) Summer 2031 391.23 452.46 530.03 677.05 73.99 85.88 100.94 128.67 C Stanislaus (SJV) Summer 2031 391.23 452.46 530.03 677.05 73.99 85.88 100.94 128.67 C Stanislaus (SJV) Summer 2032 391.23 452.64 530.04 677.30 73.99 85.85 100.95 128.77 C Stanislaus (SJV) Summer 2033 391.23 452.64 530.04 677.30 73.99 85.85 100.95 128.77 C Stanislaus (SJV) Summer 2033 391.23 452.78 530.05 677.55 74.00 86.01 100.95 128.77 C Stanislaus (SJV) Summer 2034 391.23 452.91 530.06 677.77 74.00 86.07 100.96 128.97 C Stanislaus (SJV) Summer 2034 391.23 452.91 530.06 677.07 74.00 86.07 100.96 128.97 C Stanislaus (SJV) Winter 2010 335.59 386.49 460.56 578.69 73.30 85.31 100.21 124.25 C Stanislaus (SJV) Winter 2011 335.86 387.20 460.31 579.35 73.30 85.31 100.21 124.25 C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.09 100.22 124.65 C Stanislaus (SJV) Winter 2013 336.35 388.28 460.03 580.73 73.33 84.63 100.26 124.65 C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2015 336.31 388.64 459.08 581.38 73.39 84.46 100.29 125.55 C Stanislaus (SJV) Winter 2016 336.51 388.64 459.08 581.38 73.39 84.64 100.29 125.55 C Stanislaus (SJV) Winter 2017 336.70 389.46 458.95 582.89 73.51 84.90 100.32 125.65 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.05 73.58 84.40 100.38 125.65 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.05 73.61 84.54 100.27 125.24 C Stanislaus (SJV) Winter 2019 341.29 395.08 466.89 593.81 73.94 84.66 100.60 127.25 C Stanislaus (SJV) Winter 2022 342.41 393.72 466.61 595.97 73.94 85.65 100.89 127.76 C Stan	С	Stanislaus (SJV)		2024	390.61	450.43	529.53	675.12	73.90	85.25	100.79	127.76
C Stanislaus (SJV) Summer 2027 391.16 451.60 530.04 676.32 73.96 85.55 100.89 128.21 C Stanislaus (SJV) Summer 2028 391.19 451.82 530.03 676.46 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Summer 2029 391.22 452.04 530.02 676.62 73.98 85.72 100.92 128.45 C Stanislaus (SJV) Summer 2030 391.24 452.26 530.01 676.80 73.98 85.80 100.93 128.55 C Stanislaus (SJV) Summer 2031 391.23 452.46 530.03 677.05 73.99 85.88 100.94 128.67 C Stanislaus (SJV) Summer 2032 391.23 452.46 530.04 677.30 73.99 85.95 100.95 128.77 C Stanislaus (SJV) Summer 2033 391.23 452.64 530.04 677.30 73.99 85.95 100.95 128.77 C Stanislaus (SJV) Summer 2033 391.23 452.64 530.04 677.30 73.99 85.95 100.95 128.77 C Stanislaus (SJV) Summer 2033 391.23 452.69 530.05 677.55 74.00 86.01 100.95 128.67 C Stanislaus (SJV) Summer 2034 391.23 452.78 530.05 677.55 74.00 86.01 100.95 128.87 C Stanislaus (SJV) Summer 2035 391.22 453.00 530.06 677.79 74.00 86.01 100.96 128.95 C Stanislaus (SJV) Winter 2010 335.59 386.49 460.56 578.69 73.30 85.21 100.21 124.25 C Stanislaus (SJV) Winter 2011 335.86 387.20 460.31 579.35 73.30 85.31 100.21 124.25 C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.79 100.22 124.65 C Stanislaus (SJV) Winter 2013 336.33 388.64 459.03 580.73 73.33 84.63 100.26 124.65 C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.85 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.85 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 125.54 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 466.01 595.07 73.71 84.70 100.51 127.05 C Stanislaus (SJV) Winter 2021 342.27 396.52 466.89 593.81 73.99 85.26 100.79 127.76 C Stanislaus (SJV) Winter 2020 342.47 397.27 466.01 595.07 73.94 85.64 100.68 127.76 C Stanislaus (SJV) Winter 2023 342.47 397.27		,	Summer	2025		450.61	529.49	675.31	73.92	85.35	100.83	127.93
C Stanislaus (SJV) Summer 2028 391.19 451.82 530.03 676.46 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Summer 2029 391.22 452.04 530.02 676.62 73.98 85.72 100.92 128.45 C Stanislaus (SJV) Summer 2030 391.24 452.26 530.01 676.80 73.98 85.80 100.93 128.56 C Stanislaus (SJV) Summer 2031 391.23 452.46 530.03 677.05 73.99 85.88 100.94 128.67 C Stanislaus (SJV) Summer 2031 391.23 452.46 530.04 677.30 73.99 85.88 100.94 128.67 C Stanislaus (SJV) Summer 2032 391.23 452.64 530.04 677.30 73.99 85.85 100.95 128.77 C Stanislaus (SJV) Summer 2033 391.23 452.76 530.05 677.55 74.00 86.01 100.95 128.75 C Stanislaus (SJV) Summer 2034 391.23 452.76 530.05 677.55 74.00 86.01 100.95 128.75 C Stanislaus (SJV) Summer 2034 391.23 452.91 530.06 677.79 74.00 86.07 100.96 128.95 C Stanislaus (SJV) Summer 2035 391.22 453.00 530.06 677.79 74.00 86.07 100.96 128.95 C Stanislaus (SJV) Winter 2010 335.89 386.49 460.56 578.69 73.30 85.31 100.21 124.56 C Stanislaus (SJV) Winter 2011 335.86 387.20 460.31 579.35 73.30 85.31 100.21 124.56 C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.79 100.22 124.65 C Stanislaus (SJV) Winter 2013 336.39 388.28 460.03 580.73 73.33 84.63 100.26 124.96 C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.39 84.61 100.27 125.24 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.85 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.85 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2021 342.27 395.52 465.89 593.81 73.79 84.66 100.60 127.22 C Stanislaus (SJV) Winter 2021 342.27 395.52 465.89 593.81 73.79 84.66 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 465.89 593.81 73.79 84.66 100.60 127.22 C Stanislaus (SJV) Winter 2023 342.33 396.88 465.86 594.38 73.98 85.64 100.079 127.76 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.60 594.81 73.90 85.55 100.69 127.76 C Sta	С	Stanislaus (SJV)	Summer	2026	391.12	451.38	530.07	676.21	73.94	85.46	100.86	128.08
C Stanislaus (SJV) Summer 2029 391.22 452.04 530.02 676.62 73.98 85.72 100.92 128.45 C Stanislaus (SJV) Summer 2030 391.24 452.26 530.01 676.80 73.98 85.70 100.93 128.55 C Stanislaus (SJV) Summer 2031 391.23 452.46 530.03 677.05 73.99 85.88 100.93 128.56 C Stanislaus (SJV) Summer 2032 391.23 452.64 530.03 677.05 73.99 85.95 100.95 128.77 C Stanislaus (SJV) Summer 2032 391.23 452.64 530.05 677.55 74.00 86.01 100.95 128.87 C Stanislaus (SJV) Summer 2034 391.23 452.91 530.06 677.79 74.00 86.07 100.96 128.95 C Stanislaus (SJV) Summer 2035 391.22 453.00 530.06 677.79 74.00 86.07 100.96 128.95 C Stanislaus (SJV) Winter 2010 335.59 386.49 460.56 578.69 73.30 85.31 100.96 129.05 C Stanislaus (SJV) Winter 2011 335.86 387.20 460.31 579.35 73.30 85.21 000.19 124.56 C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.79 100.22 124.65 C Stanislaus (SJV) Winter 2013 336.39 388.28 460.03 580.73 73.33 84.63 100.26 124.96 C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.86 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.86 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.86 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.81 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2020 342.31 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2023 342.33 396.88 465.86 594.81 73.90 85.55 100.79 127.76 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.60 596.91 73.94 85.64 100.68 127.40 C Stanislaus (SJV) Winter 2025 342.47 397.27	С	Stanislaus (SJV)	Summer	2027	391.16	451.60	530.04	676.32	73.96	85.55	100.89	128.21
C Stanislaus (SJV) Summer 2030 391.24 452.26 530.01 676.80 73.98 85.80 100.93 128.56 C Stanislaus (SJV) Summer 2031 391.23 452.46 530.03 677.05 73.99 85.88 100.94 128.67 C Stanislaus (SJV) Summer 2032 391.23 452.46 530.04 677.30 73.99 85.85 100.95 128.77 C Stanislaus (SJV) Summer 2033 391.23 452.78 530.06 677.35 74.00 86.01 100.95 128.87 C Stanislaus (SJV) Summer 2034 391.23 452.91 530.06 677.55 74.00 86.07 100.96 128.93 C Stanislaus (SJV) Summer 2034 391.23 452.91 530.06 677.79 74.00 86.07 100.96 128.93 C Stanislaus (SJV) Summer 2035 391.22 453.00 530.06 678.01 74.00 86.12 100.96 129.03 C Stanislaus (SJV) Winter 2010 335.59 386.49 460.56 578.69 73.30 85.31 100.21 124.25 C Stanislaus (SJV) Winter 2011 335.86 387.20 460.31 579.35 73.30 85.02 100.19 124.55 C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.79 100.22 124.65 C Stanislaus (SJV) Winter 2013 336.39 388.28 460.03 580.73 73.33 84.63 100.26 124.96 C Stanislaus (SJV) Winter 2014 336.63 388.28 460.03 580.73 73.33 84.61 100.26 124.96 C Stanislaus (SJV) Winter 2015 336.31 388.64 459.00 581.38 73.39 84.46 100.29 125.55 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.85 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.85 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.55 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.80 591.02 73.55 84.40 100.38 126.55 C Stanislaus (SJV) Winter 2020 341.40 395.35 466.89 593.81 73.79 84.86 100.60 127.25 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.25 C Stanislaus (SJV) Winter 2023 342.33 396.88 466.80 594.38 73.99 85.56 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.33 396.88 466.80 594.38 73.99 85.56 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.33 396.88 465.86 594.38 73.99 85.56 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.37 396.52 465.89 593.81 73.79 84.86 100.60 127.25 C Stanislaus (SJV) Winter 2023 342.37 398.06 466.59 596.15 73.99 85.56 100.68 127.40 C Stan	С	Stanislaus (SJV)	Summer	2028	391.19	451.82	530.03	676.46	73.97	85.64	100.91	128.34
C Stanislaus (SJV) Summer 2031 391.23 452.46 530.03 677.05 73.99 85.88 100.94 128.67 C Stanislaus (SJV) Summer 2032 391.23 452.64 530.04 677.30 73.99 85.95 100.95 128.77 C Stanislaus (SJV) Summer 2033 391.23 452.64 530.04 677.30 73.99 85.95 100.95 128.87 C Stanislaus (SJV) Summer 2034 391.23 452.78 530.05 677.55 74.00 86.01 100.95 128.87 C Stanislaus (SJV) Summer 2034 391.23 452.91 530.06 677.79 74.00 86.07 100.96 128.95 C Stanislaus (SJV) Summer 2035 391.22 453.00 530.06 677.79 74.00 86.07 100.96 128.95 C Stanislaus (SJV) Winter 2010 335.59 386.49 460.56 578.69 73.30 85.31 100.21 124.26 C Stanislaus (SJV) Winter 2011 335.66 387.20 460.31 579.35 73.30 85.02 100.19 124.56 C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.79 100.22 124.66 C Stanislaus (SJV) Winter 2013 336.39 388.28 460.03 580.73 73.33 84.63 100.26 124.96 C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.86 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.86 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2018 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2020 341.40 395.35 466.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 466.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.37 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.01 595.01 73.94 85.55 100.79 127.76 C Stanislaus (SJV) Winter 2024 342.47 397.27 466.61 595.97 73.94 85.64 100.86 128.00 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.61 595.97 73.94 85.64 100.86 128.00 C Stan	С	Stanislaus (SJV)	Summer	2029	391.22	452.04	530.02	676.62	73.98	85.72	100.92	128.45
C Stanislaus (SJV) Summer 2032 391.23 452.64 530.04 677.30 73.99 85.95 100.95 128.77 C Stanislaus (SJV) Summer 2033 391.23 452.78 530.05 677.55 74.00 86.01 100.95 128.87 C Stanislaus (SJV) Summer 2034 391.23 452.78 530.06 677.79 74.00 86.07 100.96 128.95 C Stanislaus (SJV) Summer 2035 391.22 453.00 530.06 677.79 74.00 86.07 100.96 128.95 C Stanislaus (SJV) Winter 2010 335.59 386.49 460.56 578.69 73.30 85.31 100.21 124.26 C Stanislaus (SJV) Winter 2011 335.86 387.20 460.31 579.35 73.30 85.02 100.11 124.26 C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.79 100.22 124.66 C Stanislaus (SJV) Winter 2013 336.39 388.28 460.03 580.73 73.33 84.63 100.26 124.96 C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2015 336.31 388.64 459.08 581.38 73.39 84.46 100.29 125.56 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.86 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.86 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.42 126.77 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.06 127.22 C Stanislaus (SJV) Winter 2023 342.31 396.72 466.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.01 595.07 73.94 85.55 100.79 127.76 C Stanislaus (SJV) Winter 2024 342.47 397.72 466.61 595.97 73.94 85.64 100.86 128.00 C Stanislaus (SJV) Winter 2024 342.47 397.74 466.01 595.97 73.94 85.64 100.86 128.00 C Stanislaus (SJV) Winter 2025 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.20 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.64 100.86 128.00 C Stan	С	Stanislaus (SJV)	Summer	2030	391.24	452.26	530.01	676.80	73.98	85.80	100.93	128.56
C Stanislaus (SJV) Summer 2033 391.23 452.78 530.05 677.55 74.00 86.01 100.95 128.87 C Stanislaus (SJV) Summer 2034 391.23 452.91 530.06 677.79 74.00 86.07 100.96 128.95 C Stanislaus (SJV) Summer 2035 391.22 453.00 530.06 678.01 74.00 86.12 100.96 129.05 C Stanislaus (SJV) Winter 2010 335.59 386.49 460.56 578.69 73.30 85.31 100.21 124.25 C Stanislaus (SJV) Winter 2011 335.86 387.20 460.31 579.35 73.30 85.02 100.19 124.56 C Stanislaus (SJV) Winter 2013 336.69 387.18 459.53 579.15 73.30 84.79 100.22 124.65 C Stanislaus (SJV) Winter 2013 336.69 388.28 460.03 580.73 73.33 84.63 100.26 124.96 C Stanislaus (SJV) Winter 2014 336.63 388.27 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2015 336.31 388.64 459.05 581.38 73.39 84.46 100.29 125.56 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.86 C Stanislaus (SJV) Winter 2017 336.70 389.46 458.95 582.89 73.51 84.39 100.35 126.22 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2023 342.31 396.72 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2023 342.31 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2023 342.31 396.72 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2023 342.31 396.72 465.88 594.38 73.88 85.14 100.74 127.55 C Stanislaus (SJV) Winter 2023 342.31 396.72 465.88 594.38 73.88 85.14 100.74 127.55 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.99 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.99 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.01 595.01 73.92 85.35 100.83 127.95 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.99 85.25 100.09 127.76 C Stanislaus (SJV) Winter 2024 342.97 398.06 466.59 596.15 73.96 85.55 100.89 127.76 C Stan	С	Stanislaus (SJV)	Summer	2031	391.23	452.46	530.03	677.05	73.99	85.88	100.94	128.67
C Stanislaus (SJV) Summer 2034 391.23 452.91 530.06 677.79 74.00 86.07 100.96 128.95 C Stanislaus (SJV) Summer 2035 391.22 453.00 530.06 678.01 74.00 86.12 100.96 129.03 C Stanislaus (SJV) Winter 2010 335.59 386.49 460.56 578.69 73.30 85.31 100.21 124.26 C Stanislaus (SJV) Winter 2011 335.86 387.20 460.31 579.35 73.30 85.02 100.19 124.56 C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.79 100.22 124.96 C Stanislaus (SJV) Winter 2013 336.39 388.28 460.03 580.73 73.33 84.63 100.26 124.96 C Stanislaus (SJV) Winter 2014 336.63 388.74 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2015 336.31 388.64 459.08 581.38 73.39 84.46 100.29 125.56 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.88 C Stanislaus (SJV) Winter 2017 336.70 389.46 458.95 582.89 73.51 84.39 100.35 126.22 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2023 342.37 396.52 465.88 594.38 73.88 85.14 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.37 396.52 465.88 594.38 73.98 85.54 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.37 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2024 342.46 397.07 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2024 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2024 342.47 397.27 466.01 595.07 73.94 85.46 100.86 128.00 C Stanislaus (SJV) Winter 2024 342.47 397.27 466.01 595.07 73.96 85.55 100.89 127.76 C Stanislaus (SJV) Winter 2024 342.47 397.27 466.01 595.07 73.96 85.55 100.89 127.76 C Stanislaus (SJV) Winter 2024 342.47 397.27 466.01 595.07 73.96 85.55 100.89 127.76 C Stanislaus (SJV) Winter 2024 342.97 398.06 466.59 596.15 73.96 85.55 100.99 128.20 C Stan	С	Stanislaus (SJV)	Summer	2032	391.23	452.64	530.04	677.30	73.99	85.95	100.95	128.77
C Stanislaus (SJV) Summer 2035 391.22 453.00 530.06 678.01 74.00 86.12 100.96 129.03 C Stanislaus (SJV) Winter 2010 335.59 386.49 460.56 578.69 73.30 85.31 100.21 124.26 C Stanislaus (SJV) Winter 2011 335.86 387.20 460.31 579.35 73.30 85.02 100.19 124.50 C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.79 100.22 124.66 C Stanislaus (SJV) Winter 2013 336.39 388.28 460.03 580.73 73.33 84.63 100.26 124.96 C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2015 336.31 388.64 459.08 581.38 73.39 84.46 100.29 125.56 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.88 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.68 127.42 C Stanislaus (SJV) Winter 2021 342.27 395.02 465.89 593.81 73.99 84.86 100.60 127.26 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.99 84.86 100.60 127.26 C Stanislaus (SJV) Winter 2023 342.31 396.72 466.01 595.01 73.92 85.35 100.83 127.76 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.26 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.26 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.26 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.26 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.26 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.59 596.15 73.97 85.64 100.91 128.36 C Stanislaus (SJV) Winter 2028 342.97 398.09	С	Stanislaus (SJV)	Summer	2033	391.23	452.78	530.05	677.55	74.00	86.01	100.95	128.87
C Stanislaus (SJV) Winter 2010 335.59 386.49 460.56 578.69 73.30 85.31 100.21 124.26 C Stanislaus (SJV) Winter 2011 335.86 387.20 460.31 579.35 73.30 85.02 100.19 124.50 C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.79 100.22 124.66 C Stanislaus (SJV) Winter 2013 336.63 388.28 460.03 580.73 73.33 84.63 100.26 124.96 C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2015 336.31 388.64 459.08 581.38 73.39 84.46 100.29 125.56 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.80 C Stanislaus (SJV) Winter 2017 336.70 389.46 458.95 582.89 73.51 84.39 100.35 126.22 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.02 73.55 84.40 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2021 342.31 396.72 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2023 342.31 396.72 465.89 594.38 73.88 85.14 100.74 127.55 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2024 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.97 398.06 466.61 595.97 73.94 85.46 100.86 128.06 C Stanislaus (SJV) Winter 2026 342.97 399.09 466.61 595.97 73.94 85.46 100.86 128.06 C Stanislaus (SJV) Winter 2026 342.97 398.09 466.65 596.32 73.97 85.64 100.91 128.30 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.65 596.32 73.97 85.64 100.91 128.30 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.65 596.32 73.97 85.64 100.91 128.30 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.65 596.32 73.97 85.64 100.91 128.30 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.67 596.32 73.97 85.64 100.91 128.30 C Stanislaus (SJV) Winter 2028 342.97 398.91 466.67 596.32 73.97 85.64 100.91 128.30 C Stan			Summer									128.95
C Stanislaus (SJV) Winter 2011 335.86 387.20 460.31 579.35 73.30 85.02 100.19 124.50 C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.79 100.22 124.65 C Stanislaus (SJV) Winter 2013 336.39 388.28 460.03 580.73 73.33 84.63 100.26 124.96 C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2015 336.31 388.64 459.08 581.38 73.39 84.46 100.29 125.56 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.85 C Stanislaus (SJV) Winter 2017 336.70 389.46 458.95 582.89 73.51 84.39 100.35 126.22 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 465.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.33 396.88 465.86 594.38 73.89 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.99 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2024 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.06 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.57 596.32 73.97 85.64 100.91 128.34 C Stan	С	Stanislaus (SJV)	Summer	2035	391.22	453.00	530.06	678.01	74.00	86.12	100.96	129.03
C Stanislaus (SJV) Winter 2012 335.65 387.18 459.53 579.14 73.30 84.79 100.22 124.65 C Stanislaus (SJV) Winter 2013 336.39 388.28 460.03 580.73 73.33 84.63 100.26 124.96 C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2015 336.31 388.64 459.08 581.38 73.39 84.46 100.29 125.56 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.85 C Stanislaus (SJV) Winter 2017 336.70 389.46 458.95 582.89 73.51 84.39 100.35 126.22 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2023 342.31 396.72 465.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.31 396.72 465.88 594.33 73.88 85.14 100.74 127.55 C Stanislaus (SJV) Winter 2023 342.31 396.72 465.88 594.33 73.88 85.14 100.74 127.55 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2024 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.30 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.30 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.06 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.25 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.57 596.32 73.97 85.64 100.91 128.35 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.35 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.35 C Stanislaus (SJV)	С	Stanislaus (SJV)	Winter	2010	335.59	386.49	460.56	578.69	73.30	85.31	100.21	124.28
C Stanislaus (SJV) Winter 2013 336.39 388.28 460.03 580.73 73.33 84.63 100.26 124.96 C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2015 336.31 388.64 459.08 581.38 73.39 84.46 100.29 125.56 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.88 C Stanislaus (SJV) Winter 2017 336.70 389.46 458.95 582.89 73.51 84.39 100.35 126.22 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 465.88 594.13 73.88 85.14 100.74 127.56 C Stanislaus (SJV) Winter 2023 342.33 396.88 465.86 594.38 73.88 85.14 100.74 127.56 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.06 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.26 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.26 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.26 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.57 596.32 73.97 85.64 100.91 128.36	С	Stanislaus (SJV)	Winter	2011	335.86	387.20	460.31	579.35	73.30	85.02	100.19	124.50
C Stanislaus (SJV) Winter 2014 336.63 388.77 459.91 581.48 73.34 84.51 100.27 125.24 C Stanislaus (SJV) Winter 2015 336.31 388.64 459.08 581.38 73.39 84.46 100.29 125.56 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.85 C Stanislaus (SJV) Winter 2017 336.70 389.46 458.95 582.89 73.51 84.39 100.35 126.22 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 465.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.33 396.88 465.86 594.38 73.88 85.14 100.74 127.55 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.27 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.27 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.09 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19				2012	335.65	387.18	459.53	579.14	73.30	84.79	100.22	124.69
C Stanislaus (SJV) Winter 2015 336.31 388.64 459.08 581.38 73.39 84.46 100.29 125.56 C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.86 C Stanislaus (SJV) Winter 2017 336.70 389.46 458.95 582.89 73.51 84.39 100.35 126.22 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.51 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 465.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.31 396.72 465.86 594.38 73.88 85.14 100.74 127.50 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2024 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.61 595.97 73.94 85.46 100.86 128.06 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.06 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.25 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.32 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.32 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.32 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.32 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.32 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.32 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.32 C Stanislaus (SJV)			Winter	2013	336.39	388.28	460.03	580.73	73.33	84.63	100.26	124.96
C Stanislaus (SJV) Winter 2016 336.53 389.08 459.00 582.17 73.47 84.42 100.33 125.86 C Stanislaus (SJV) Winter 2017 336.70 389.46 458.95 582.89 73.51 84.39 100.35 126.22 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.51 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 465.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.33 396.88 465.86 594.38 73.88 85.14 100.74 127.59 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.06 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.25 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19	С	Stanislaus (SJV)	Winter	2014	336.63	388.77	459.91	581.48	73.34	84.51	100.27	125.24
C Stanislaus (SJV) Winter 2017 336.70 389.46 458.95 582.89 73.51 84.39 100.35 126.22 C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.51 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 465.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.33 396.88 465.86 594.38 73.88 85.14 100.74 127.59 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.06 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.24 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19	С	Stanislaus (SJV)	Winter	2015	336.31	388.64	459.08	581.38	73.39	84.46	100.29	125.56
C Stanislaus (SJV) Winter 2018 341.17 394.78 464.84 591.02 73.55 84.40 100.38 126.57 C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 465.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.31 396.88 465.86 594.38 73.88 85.14 100.74 127.55 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.08 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.24 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34 C Stanislaus (SJV)		, ,	Winter	2016	336.53	389.08	459.00	582.17	73.47	84.42	100.33	125.89
C Stanislaus (SJV) Winter 2019 341.29 395.08 464.81 591.56 73.61 84.54 100.42 126.77 C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 465.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.31 396.88 465.86 594.38 73.88 85.14 100.74 127.55 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.24 C Stanislaus (SJV) Winter 2028 342.97 398.06 466.57 596.32 73.97 85.64 100.91 128.34	С	Stanislaus (SJV)	Winter	2017	336.70	389.46	458.95	582.89	73.51	84.39	100.35	126.22
C Stanislaus (SJV) Winter 2020 341.40 395.35 464.80 592.04 73.71 84.70 100.51 127.02 C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 465.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.33 396.88 465.86 594.38 73.88 85.14 100.74 127.50 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.70 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.05 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.21 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34	С	Stanislaus (SJV)	Winter	2018	341.17	394.78	464.84	591.02	73.55	84.40	100.38	126.51
C Stanislaus (SJV) Winter 2021 342.27 396.52 465.89 593.81 73.79 84.86 100.60 127.22 C Stanislaus (SJV) Winter 2022 342.31 396.72 465.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.33 396.88 465.86 594.38 73.88 85.14 100.74 127.50 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.08 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.21 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34	С	Stanislaus (SJV)	Winter	2019	341.29	395.08	464.81	591.56	73.61	84.54	100.42	126.77
C Stanislaus (SJV) Winter 2022 342.31 396.72 465.88 594.13 73.84 85.01 100.68 127.40 C Stanislaus (SJV) Winter 2023 342.33 396.88 465.86 594.38 73.88 85.14 100.74 127.59 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.08 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.24 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34	С	Stanislaus (SJV)	Winter	2020	341.40	395.35	464.80	592.04	73.71	84.70	100.51	127.02
C Stanislaus (SJV) Winter 2023 342.33 396.88 465.86 594.38 73.88 85.14 100.74 127.55 C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.08 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.24 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34	С	Stanislaus (SJV)	Winter	2021	342.27	396.52	465.89	593.81	73.79	84.86	100.60	127.22
C Stanislaus (SJV) Winter 2024 342.46 397.16 466.03 594.81 73.90 85.25 100.79 127.76 C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.08 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.24 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34	С	Stanislaus (SJV)	Winter	2022	342.31	396.72	465.88	594.13	73.84	85.01	100.68	127.40
C Stanislaus (SJV) Winter 2025 342.47 397.27 466.01 595.01 73.92 85.35 100.83 127.93 C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.08 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.21 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34	С	Stanislaus (SJV)	Winter	2023	342.33	396.88	465.86	594.38	73.88	85.14	100.74	127.59
C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.08 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.21 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34	С	Stanislaus (SJV)	Winter	2024	342.46	397.16	466.03	594.81	73.90	85.25	100.79	127.76
C Stanislaus (SJV) Winter 2026 342.95 397.93 466.61 595.97 73.94 85.46 100.86 128.08 C Stanislaus (SJV) Winter 2027 342.97 398.06 466.59 596.15 73.96 85.55 100.89 128.21 C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34	С	Stanislaus (SJV)	Winter	2025	342.47	397.27	466.01	595.01	73.92	85.35	100.83	127.93
C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34	С	Stanislaus (SJV)	Winter	2026	342.95	397.93	466.61	595.97	73.94	85.46	100.86	128.08
C Stanislaus (SJV) Winter 2028 342.97 398.19 466.57 596.32 73.97 85.64 100.91 128.34				2027	342.97		466.59					128.21
				2028								128.34
		, ,	Winter	2029	342.97	398.32	466.55	596.50	73.98	85.72	100.92	128.45

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	h											
	Location				CO2 Runni	,,,		CO2 Starting (g/trip)				
	0. 11 (0.00)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV	
С	Stanislaus (SJV)	Winter	2030	342.97	398.44	466.53	596.68	73.98	85.80	100.93	128.56	
C	Stanislaus (SJV)	Winter	2031	342.97	398.56	466.52	596.87	73.99	85.88	100.94	128.67	
С	Stanislaus (SJV)	Winter	2032	342.97	398.67	466.51	597.07	73.99	85.95	100.95	128.77	
С	Stanislaus (SJV)	Winter	2033	342.97	398.77	466.50	597.24	74.00	86.01	100.95	128.87	
С	Stanislaus (SJV)	Winter	2034	342.97	398.86	466.49	597.40	74.00	86.07	100.96	128.95	
С	Stanislaus (SJV)	Winter	2035	342.97	398.93	466.48	597.54	74.00	86.12	100.96	129.03	
С	Sutter (SV)	Annual	2010	318.92	373.37	437.75	547.81	73.35	93.29	100.32	124.62	
С	Sutter (SV)	Annual	2011	319.09	372.86	437.29	548.53	73.38	91.65	100.31	124.85	
С	Sutter (SV)	Annual	2012	319.27	372.51	436.94	549.31	73.42	90.37	100.33	125.11	
С	Sutter (SV)	Annual	2013	319.44	372.11	436.67	550.12	73.45	89.10	100.35	125.39	
С	Sutter (SV)	Annual	2014	319.59	371.91	436.46	550.89	73.47	88.28	100.38	125.67	
С	Sutter (SV)	Annual	2015	319.76	371.61	436.29	551.68	73.54	87.32	100.43	125.96	
С	Sutter (SV)	Annual	2016	319.90	371.42	436.15	552.41	73.59	86.63	100.48	126.25	
С	Sutter (SV)	Annual	2017	320.00	371.27	436.03	553.09	73.62	86.04	100.51	126.55	
С	Sutter (SV)	Annual	2018	320.08	371.06	435.93	553.68	73.65	85.42	100.55	126.82	
С	Sutter (SV)	Annual	2019	319.95	370.85	435.58	553.80	73.68	85.29	100.60	127.06	
С	Sutter (SV)	Annual	2020	320.03	370.87	435.52	554.22	73.77	85.28	100.67	127.27	
С	Sutter (SV)	Annual	2021	320.09	371.00	435.45	554.53	73.84	85.39	100.74	127.43	
С	Sutter (SV)	Annual	2022	320.10	371.10	435.39	554.80	73.89	85.49	100.80	127.58	
С	Sutter (SV)	Annual	2023	320.09	371.18	435.33	555.01	73.92	85.56	100.84	127.75	
С	Sutter (SV)	Annual	2024	320.06	371.22	435.28	555.15	73.94	85.63	100.88	127.90	
С	Sutter (SV)	Annual	2025	320.07	371.28	435.23	555.29	73.96		100.91	128.05	
C	Sutter (SV)	Annual	2026	320.08	371.36	435.18	555.44	73.98	85.76	100.93	128.18	
С	Sutter (SV)	Annual	2027	320.09	371.42	435.13	555.59	73.99	85.82	100.95	128.31	
C	Sutter (SV)	Annual	2028	320.10	371.49	435.09	555.75	74.00	85.87	100.96	128.42	
C	Sutter (SV)	Annual	2029	320.10	371.57	435.03	555.90	74.01	85.91	100.96	128.53	
С	Sutter (SV)	Annual	2030	320.10	371.64	434.98	556.07	74.01	85.96	100.96	128.63	
С	Sutter (SV)	Annual	2031	320.09	371.71	434.96	556.25	74.02	86.00	100.97	128.73	
C	Sutter (SV)	Annual	2032	320.09	371.77	434.94	556.44	74.02	86.04	100.97	128.83	
C	Sutter (SV)	Annual	2032	320.08	371.83	434.92	556.61	74.03	86.08	100.97	128.92	
C	Sutter (SV)	Annual	2034	320.08	371.88	434.90	556.76	74.03	86.11	100.98	129.00	
C		Annual	2034	320.07	371.92	434.88	556.90	74.03	86.14	100.98	129.00	
C	Sutter (SV)	Summer	2033	354.18	409.96	483.57	606.30	73.35	93.29	100.98	124.62	
_	Sutter (SV)											
C	Sutter (SV)	Summer	2011	354.64			607.07	73.38		100.31		
С	Sutter (SV)	Summer	2012	355.05	410.47	483.72	608.00	73.42	90.37	100.33	125.11	
С	Sutter (SV)	Summer	2013	355.40	410.65	483.78	609.02	73.45	_	100.35	125.39	
С	Sutter (SV)	Summer	2014	355.68	410.81	483.83	610.04	73.47		100.38	125.67	
С	Sutter (SV)	Summer	2015	355.95	410.91	483.85	611.10	73.54			125.96	
С	Sutter (SV)	Summer	2016	356.16	411.00	483.85	612.11	73.59	86.63	100.48	126.25	
С	Sutter (SV)	Summer	2017	356.29	411.07	483.81	613.03	73.62	86.04	100.51	126.55	
С	Sutter (SV)	Summer	2018	356.37	411.10	483.72	613.81	73.65	85.42	100.55	126.82	
С	Sutter (SV)	Summer	2019	356.22	410.93	483.33	614.02	73.68	85.29		127.06	
С	Sutter (SV)	Summer	2020	356.26	410.99	483.23	614.53	73.77		100.67	127.27	
С	Sutter (SV)	Summer	2021	356.29	411.17	483.13	614.91	73.84		100.74	127.43	
С	Sutter (SV)	Summer	2022	356.29	411.33	483.05	615.24	73.89		100.80	127.58	
С	Sutter (SV)	Summer	2023	356.27	411.46	482.98	615.49	73.92		100.84	127.75	
С	Sutter (SV)	Summer	2024	356.26	411.55	482.91	615.61	73.94	85.63		127.90	
С	Sutter (SV)	Summer	2025	356.28	411.64	482.86	615.74	73.96	85.70	100.91	128.05	
С	Sutter (SV)	Summer	2026	356.31	411.75	482.80	615.87	73.98	85.76	100.93	128.18	
С	Sutter (SV)	Summer	2027	356.33	411.83	482.77	616.01	73.99	85.82	100.95	128.31	
С	Sutter (SV)	Summer	2028	356.36	411.94	482.75	616.16	74.00	85.87	100.96	128.42	
С	Sutter (SV)	Summer	2029	356.37	412.05	482.71	616.33	74.01	85.91	100.96	128.53	
С	Sutter (SV)	Summer	2030	356.38	412.16	482.69	616.52	74.01	85.96	100.96	128.63	
С	Sutter (SV)	Summer	2031	356.37	412.24	482.71	616.77	74.02	86.00	100.97	128.73	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	7	CO2 Starting (g/trip)					
-	Location	Casasa	V										
_	0.44-7.4000	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV		
С	Sutter (SV)	Summer	2032	356.36	412.32	482.72	617.01	74.02	86.04	100.97	128.83		
C	Sutter (SV)	Summer	2033	356.35	412.39	482.72	617.23	74.03	86.08		128.92		
C	Sutter (SV)	Summer	2034	356.34	412.46	482.72	617.45	74.03	86.11	100.98	129.00		
C	Sutter (SV)	Summer	2035	356.34	412.51	482.71	617.63	74.03	86.14	100.98	129.08		
С	Sutter (SV)	Winter	2010	308.69	362.76	424.46	530.84	73.35	93.29	100.32	124.62		
С	Sutter (SV)	Winter	2011	308.77	362.02	423.84	531.54	73.38	91.65	100.31	124.85		
С	Sutter (SV)	Winter	2012	308.88	361.49	423.37	532.28	73.42	90.37	100.33	125.11		
С	Sutter (SV)	Winter	2013	309.01	360.92	423.00	533.03	73.45	89.10	100.35	125.39		
С	Sutter (SV)	Winter	2014	309.11	360.62	422.71	533.73	73.47	88.28	100.38	125.67		
С	Sutter (SV)	Winter	2015	309.25	360.21	422.48	534.44	73.54	87.32	100.43	125.96		
С	Sutter (SV)	Winter	2016	309.38	359.94	422.31	535.09	73.59	86.63	100.48	126.25		
С	Sutter (SV)	Winter	2017	309.47	359.72	422.17	535.69	73.62	86.04	100.51	126.55		
С	Sutter (SV)	Winter	2018	309.55	359.44	422.06	536.23	73.65	85.42	100.55	126.82		
С	Sutter (SV)	Winter	2019	309.43	359.22	421.72	536.32	73.68	85.29	100.60	127.06		
С	Sutter (SV)	Winter	2020	309.51	359.22	421.66	536.71	73.77	85.28	100.67	127.27		
С	Sutter (SV)	Winter	2021	309.58	359.34	421.61	537.00	73.84	85.39	100.74	127.43		
С	Sutter (SV)	Winter	2022	309.60	359.42	421.56	537.26	73.89	85.49	100.80	127.58		
С	Sutter (SV)	Winter	2023	309.59	359.48	421.50	537.45	73.92	85.56	100.84	127.75		
С	Sutter (SV)	Winter	2024	309.55	359.52	421.45	537.60	73.94	85.63	100.88	127.90		
С	Sutter (SV)	Winter	2025	309.55	359.57	421.41	537.75	73.96	85.70	100.91	128.05		
С	Sutter (SV)	Winter	2026	309.57	359.64	421.35	537.90	73.98	85.76	100.93	128.18		
С	Sutter (SV)	Winter	2027	309.57	359.69	421.30	538.05	73.99	85.82	100.95	128.31		
С	Sutter (SV)	Winter	2028	309.58	359.75	421.25	538.21	74.00	85.87	100.96	128.42		
С	Sutter (SV)	Winter	2029	309.57	359.81	421.19	538.36	74.01	85.91	100.96	128.53		
С	Sutter (SV)	Winter	2030	309.56	359.88	421.13	538.52	74.01	85.96	100.96	128.63		
С	Sutter (SV)	Winter	2031	309.56	359.94	421.10	538.69	74.02	86.00	100.97	128.73		
С	Sutter (SV)	Winter	2032	309.56	360.00	421.07	538.86	74.02	86.04	100.97	128.83		
С	Sutter (SV)	Winter	2033	309.56	360.05	421.04	539.01	74.03	86.08	100.97	128.92		
С	Sutter (SV)	Winter	2034	309.55	360.10	421.02	539.15	74.03	86.11	100.98	129.00		
С	Sutter (SV)	Winter	2035	309.55	360.14	421.00	539.27	74.03	86.14	100.98	129.08		
С	Tehama (SV)	Annual	2010	347.71	408.08	478.44	596.20	73.92	97.65	101.75	125.26		
С	Tehama (SV)	Annual	2011	347.75	407.21	477.63	596.79	73.75	95.12	101.53	125.31		
С	Tehama (SV)	Annual	2012	347.86	406.66	477.01	597.48	73.65	93.32	101.40	125.42		
С	Tehama (SV)	Annual	2013	347.97	406.10	476.53	598.29	73.54	91.52	101.28	125.55		
С	Tehama (SV)	Annual	2014	348.09	405.68	476.15	599.09	73.46	90.11	101.17	125.71		
С	Tehama (SV)	Annual	2015	348.24	405.38	475.85	599.96	73.44	88.97	101.03	125.89		
С	Tehama (SV)	Annual	2016	348.39	405.05	475.61	600.78	73.43		100.95	126.12		
С	Tehama (SV)	Annual	2017	348.50	404.72	475.41	601.55	73.42	86.61	100.84	126.35		
C	Tehama (SV)	Annual	2018	348.57	404.51	475.24	602.23	73.38	85.79		126.58		
С	Tehama (SV)	Annual	2019	348.67	404.46	475.11	602.83	73.42	85.46		126.78		
C	Tehama (SV)	Annual	2020	348.75	404.42	475.00	603.36	73.52	85.32		126.99		
C	Tehama (SV)	Annual	2021	348.82	404.51	474.91	603.73	73.60			127.12		
С	Tehama (SV)	Annual	2022	348.84	404.58	474.81	603.99	73.65		100.88	127.15		
С	Tehama (SV)	Annual	2023	348.83	404.65	474.72	604.17	73.68			127.13		
С	Tehama (SV)	Annual	2024	348.79	404.72	474.64	604.33	73.69	85.61		127.48		
C	Tehama (SV)	Annual	2025	348.78	404.72	474.58	604.54	73.71	85.67	100.94	127.40		
С	Tehama (SV)	Annual	2026	348.80	404.76	474.51	604.75	73.74			127.82		
C	Tehama (SV)	Annual	2027	348.82	404.95	474.43	604.73	73.75	85.80		127.98		
C	Tehama (SV)	Annual	2027	348.82	404.93	474.43	605.19	73.76	85.86	100.99	128.12		
<u>с</u> С	Tehama (SV)	Annual	2028	348.82	405.02	474.28	605.40	73.77	85.91	100.99	128.26		
<u>с</u> С	·		2029	348.81	405.11	474.20	605.62		85.96		128.38		
C	Tehama (SV)	Annual						73.77					
	Tehama (SV)	Annual	2031	348.81	405.27	474.16	605.87	73.78	86.01		128.51		
C	Tehama (SV)	Annual	2032	348.81	405.34	474.13	606.13	73.78	86.06		128.63		
С	Tehama (SV)	Annual	2033	348.80	405.40	474.10	606.35	73.79	80.10	100.97	128.74		

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1			CO2 Bunni	na (a/\/MT	VMT) CO2 Starting (g/trip)					
	Location	0	\/		CO2 Runni							
_	T-1 (O) ()	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV	
<u>C</u>	Tehama (SV)	Annual	2034	348.80	405.45	474.07	606.55	73.79	86.14		128.85	
C	Tehama (SV)	Annual	2035	348.79	405.50	474.05	606.73	73.80	86.17		128.94	
С	Tehama (SV)	Summer	2010	383.41	444.94	524.62	654.31	73.92	97.65		125.26	
С	Tehama (SV)	Summer	2011	383.77	445.00	524.52	654.97	73.75	95.12		125.31	
С	Tehama (SV)	Summer	2012	384.14	445.10	524.43	655.86	73.65	93.32		125.42	
С	Tehama (SV)	Summer	2013	384.45	445.13	524.35	656.99	73.54	91.52	101.28	125.55	
С	Tehama (SV)	Summer	2014	384.73	445.13	524.29	658.11	73.46	90.11	101.17	125.71	
С	Tehama (SV)	Summer	2015	385.00	445.18	524.25	659.39	73.44	88.97	101.03	125.89	
С	Tehama (SV)	Summer	2016	385.23	445.19	524.18	660.60	73.43	87.78	100.95	126.12	
С	Tehama (SV)	Summer	2017	385.39	445.19	524.07	661.71	73.42	86.61	100.84	126.35	
С	Tehama (SV)	Summer	2018	385.47	445.18	523.93	662.69	73.38	85.79	100.77	126.58	
С	Tehama (SV)	Summer	2019	385.58	445.24	523.81	663.55	73.42	85.46	100.74	126.78	
С	Tehama (SV)	Summer	2020	385.65	445.32	523.70	664.29	73.52	85.32	100.77	126.99	
С	Tehama (SV)	Summer	2021	385.70	445.43	523.58	664.83	73.60	85.40	100.84	127.12	
С	Tehama (SV)	Summer	2022	385.72	445.55	523.48	665.26	73.65	85.48	100.88	127.15	
С	Tehama (SV)	Summer	2023	385.71	445.67	523.40	665.55	73.68	85.54	100.91	127.32	
С	Tehama (SV)	Summer	2024	385.66	445.84	523.33	665.79	73.69	85.61	100.94	127.48	
С	Tehama (SV)	Summer	2025	385.66	445.99	523.29	666.03	73.71	85.67	100.96	127.66	
С	Tehama (SV)	Summer	2026	385.69	446.14	523.22	666.24	73.74	85.74	100.98	127.82	
С	Tehama (SV)	Summer	2027	385.72	446.27	523.16	666.46	73.75	85.80	100.99	127.98	
С	Tehama (SV)	Summer	2028	385.74	446.39	523.12	666.69	73.76	85.86	100.99	128.12	
С	Tehama (SV)	Summer	2029	385.76	446.52	523.06	666.94	73.77	85.91	100.98	128.26	
С	Tehama (SV)	Summer	2030	385.77	446.65	523.02	667.20	73.77	85.96	100.97	128.38	
С	Tehama (SV)	Summer	2031	385.77	446.77	523.01	667.51	73.78	86.01	100.97	128.51	
С	Tehama (SV)	Summer	2032	385.77	446.86	523.00	667.82	73.78	86.06	100.97	128.63	
С	Tehama (SV)	Summer	2033	385.77	446.94	522.99	668.11	73.79	86.10	100.97	128.74	
С	Tehama (SV)	Summer	2034	385.77	447.00	522.97	668.39	73.79	86.14	100.97	128.85	
С	Tehama (SV)	Summer	2035	385.76	447.05	522.96	668.63	73.80	86.17	100.98	128.94	
С	Tehama (SV)	Winter	2010	339.88	399.98	468.30	583.44	73.92	97.65	101.75	125.26	
С	Tehama (SV)	Winter	2011	339.84	398.91	467.33	584.01	73.75	95.12	101.53	125.31	
С	Tehama (SV)	Winter	2012	339.89	398.22	466.60	584.66	73.65	93.32	101.40	125.42	
С	Tehama (SV)	Winter	2013	339.96	397.53	466.03	585.41	73.54	91.52	101.28	125.55	
С	Tehama (SV)	Winter	2014	340.05	397.02	465.58	586.13	73.46	90.11	101.17	125.71	
С	Tehama (SV)	Winter	2015	340.18	396.64	465.23	586.91	73.44	88.97	101.03	125.89	
С	Tehama (SV)	Winter	2016	340.30	396.23	464.95	587.65	73.43	87.78	100.95	126.12	
С	Tehama (SV)	Winter	2017	340.40	395.84	464.72	588.34	73.42	86.61	100.84	126.35	
С	Tehama (SV)	Winter	2018	340.46	395.57	464.55	588.96	73.38	85.79		126.58	
С	Tehama (SV)	Winter	2019	340.57	395.50	464.42	589.50	73.42	85.46	100.74	126.78	
С	Tehama (SV)	Winter	2020	340.65	395.45	464.31	589.99	73.52	85.32	100.77	126.99	
С	Tehama (SV)	Winter	2021	340.72	395.53	464.22	590.32	73.60		100.84	127.12	
С	Tehama (SV)	Winter	2022	340.75		464.13	590.54	73.65	85.48		127.15	
C	Tehama (SV)	Winter	2023	340.74		464.04	590.70	73.68	85.54		127.32	
С	Tehama (SV)	Winter	2024	340.69		463.95	590.84	73.69	85.61		127.48	
С	Tehama (SV)	Winter	2025	340.69	395.73	463.89	591.04	73.71	85.67	100.96	127.66	
C	Tehama (SV)	Winter	2026	340.71	395.81	463.81	591.25	73.74	85.74		127.82	
С	Tehama (SV)	Winter	2027	340.72	395.87	463.73	591.47	73.75	85.80		127.98	
С	Tehama (SV)	Winter	2028	340.72	395.94	463.66	591.68	73.76	85.86		128.12	
C	Tehama (SV)	Winter	2029	340.71	396.01	463.57	591.89	73.77	85.91	100.98	128.26	
C	Tehama (SV)	Winter	2030	340.70	396.08	463.49	592.11	73.77	85.96	100.97	128.38	
C	Tehama (SV)	Winter	2031	340.69	396.15	463.44	592.34	73.78	86.01	100.97	128.51	
C	Tehama (SV)	Winter	2032	340.69	396.22	463.40	592.58	73.78	86.06		128.63	
С	Tehama (SV)	Winter	2032	340.69	396.28	463.36	592.79	73.79	86.10		128.74	
C	Tehama (SV)	Winter	2034	340.68	396.33	463.33	592.79	73.79	86.14		128.85	
С	Tehama (SV)	Winter	2035	340.68		463.31	593.14	73.80		100.98	128.94	
ľ	i silalila (OV)	4 V II ILGI	2000	UTU.00	000.00	-700.0 I	000.14	, 5.00	50.17	100.00	120.04	

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location				CO2 Runni	na (a/\/MT	`		CO2 Star	tina (a/tri	n)
	Location	Cassan	Voor								
_	T-i:4 (NC)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
C	Trinity (NC)	Annual	2010	418.09	487.84	574.09	715.19	74.90	92.99	102.21	125.69
С	Trinity (NC)	Annual	2011	417.85	486.98	572.91	715.90	74.77	91.52	101.90	125.69
С	Trinity (NC)	Annual	2012	417.49	486.30	572.01	716.66	74.38	90.31	101.80	125.77
С	Trinity (NC)	Annual	2013	417.29	485.72	571.27	717.54	74.11	89.30	101.63	125.88
С	Trinity (NC)	Annual	2014	417.30	485.26	570.68	718.45	74.02	88.48	101.43	125.98
С	Trinity (NC)	Annual	2015	417.20	484.84	570.20	719.31	73.81	87.68	101.29	126.15
С	Trinity (NC)	Annual	2016	417.21	484.59	569.80	720.22	73.74	87.14	101.13	126.34
С	Trinity (NC)	Annual	2017	417.18	484.28	569.49	721.03	73.63	86.51	101.07	126.56
С	Trinity (NC)	Annual	2018	417.15	483.99	569.22	721.67	73.54	85.93	100.99	126.78
С	Trinity (NC)	Annual	2019	417.05	483.85	568.99	722.23	73.40	85.63	100.89	126.97
С	Trinity (NC)	Annual	2020	417.08	483.72	568.81	722.69	73.47	85.48	100.93	127.16
С	Trinity (NC)	Annual	2021	417.02	483.56	568.64	722.95	73.51	85.45	100.98	127.20
С	Trinity (NC)	Annual	2022	416.96	483.49	568.47	723.19	73.53	85.47	101.00	127.30
С	Trinity (NC)	Annual	2023	416.81	483.40	568.28	723.33	73.52	85.47	101.00	127.46
С	Trinity (NC)	Annual	2024	416.55	483.36	568.13	723.43	73.46	85.51	101.02	127.61
С	Trinity (NC)	Annual	2025	416.37	483.39	568.02	723.46	73.44	85.56	101.04	127.73
С	Trinity (NC)	Annual	2026	416.37	483.57	567.87	723.62	73.46	85.66	101.04	127.88
С	Trinity (NC)	Annual	2027	416.36	483.73	567.74	723.82	73.47	85.75	101.05	128.02
С	Trinity (NC)	Annual	2028	416.34	483.90	567.63	724.04	73.47	85.83	101.05	128.17
С	Trinity (NC)	Annual	2029	416.30	484.08	567.45	724.24	73.47	85.91	101.03	128.29
С	Trinity (NC)	Annual	2030	416.26	484.24	567.32	724.45	73.47	85.98	101.01	128.41
С	Trinity (NC)	Annual	2031	416.26	484.41	567.24	724.73	73.48	86.05	101.01	128.54
С	Trinity (NC)	Annual	2032	416.25	484.55	567.18	725.01	73.48	86.12	101.01	128.66
С	Trinity (NC)	Annual	2033	416.24	484.67	567.13	725.26	73.49	86.17	101.01	128.78
С	Trinity (NC)	Annual	2034	416.24	484.78	567.09	725.48	73.49	86.23	101.01	128.88
С	Trinity (NC)	Annual	2035	416.23	484.86	567.05	725.68	73.50	86.27	101.01	128.97
С	Trinity (NC)	Summer	2010	427.59	496.70	586.45	730.35	74.90	92.99	102.21	125.69
С	Trinity (NC)	Summer	2011	427.49	496.26	585.45	731.14	74.77	91.52	101.90	125.69
С	Trinity (NC)	Summer	2012	427.24	495.90	584.69	732.01	74.38	90.31	101.80	125.77
С	Trinity (NC)	Summer	2013	427.13	495.58	584.07	733.04	74.11	89.30	101.63	125.88
С	Trinity (NC)	Summer	2014	427.18	495.32	583.59	734.09	74.02	88.48	101.43	125.98
С	Trinity (NC)	Summer	2015	427.12	495.08	583.19	735.09	73.81	87.68	101.29	126.15
С	Trinity (NC)	Summer	2016	427.16		582.86	736.16	73.74	87.14	101.13	126.34
С	Trinity (NC)	Summer	2017	427.13		582.58	737.09	73.63	86.51	101.07	126.56
С	Trinity (NC)	Summer	2018	427.09	494.61	582.34	737.83	73.54	85.93	100.99	126.78
С	Trinity (NC)	Summer	2019	426.99	494.56	582.13	738.48	73.40	_		126.97
С	Trinity (NC)	Summer	2020	427.02	494.51	581.96	739.02	73.47	85.48		127.16
C	Trinity (NC)	Summer	2021	426.96	494.42	581.80	739.36	73.51	85.45	100.98	127.20
С	Trinity (NC)	Summer	2022	426.90	494.41	581.63	739.65	73.53	85.47	101.00	127.30
С	Trinity (NC)	Summer	2023	426.75	494.37	581.45	739.84	73.52	85.47	101.00	127.46
C	Trinity (NC)	Summer	2024	426.50	494.37	581.32	739.98	73.46	85.51	101.02	127.61
C	Trinity (NC)	Summer	2025	426.32	494.44	581.21	740.06	73.44	85.56	101.04	127.73
С	Trinity (NC)	Summer	2026	426.33	494.65	581.06	740.22	73.46		101.04	127.73
С	Trinity (NC)	Summer	2020	426.33	494.84	580.95	740.22	73.47	85.75		128.02
C	Trinity (NC)	Summer	2027	426.32	494.04	580.84	740.44	73.47	85.83	101.05	128.17
C		Summer	2028	426.32	495.05	580.68	740.67	73.47	85.91		128.29
C C	Trinity (NC)	Summer	2029	426.29	495.26	580.55	740.90	73.47	85.98	101.03 101.01	128.41
C	Trinity (NC)										
	Trinity (NC)	Summer	2031	426.26	495.65	580.49	741.43	73.48	86.05	101.01	128.54
С	Trinity (NC)	Summer	2032	426.25	495.81	580.43	741.74	73.48	86.12	101.01	128.66
C	Trinity (NC)	Summer	2033	426.25	495.94	580.39	742.01	73.49	86.17	101.01	128.78
С	Trinity (NC)	Summer	2034	426.24	496.05	580.35	742.25	73.49	86.23	101.01	128.88
С	Trinity (NC)	Summer	2035	426.23	496.13	580.31	742.47	73.50	86.27	101.01	128.97
С	Trinity (NC)	Winter	2010	410.15	480.44	563.75	702.52	74.90	92.99		125.69
С	Trinity (NC)	Winter	2011	409.80	479.23	562.42	703.15	74.77	91.52	101.90	125.69

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	<u> </u>			CO2 Runni	na (a/\/MT	7		CO2 Star	ting (a/tri	n)
-	Location	Casasa	V								
_	Trinity (NC)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
C C	Trinity (NC)	Winter	2012	409.34	478.27	561.40	703.82	74.38	90.31	101.80	125.77
C	Trinity (NC)	Winter	2013	409.07	477.47	560.57	704.58	74.11	89.30		125.88
С	Trinity (NC)	Winter	2014	409.04	476.85	559.89	705.37	74.02	88.48	101.43	125.98
C	Trinity (NC)	Winter	2015	408.90	476.28	559.34	706.11	73.81	87.68	101.29	126.15
С	Trinity (NC)	Winter	2016	408.90	475.91	558.88	706.90	73.74	87.14	101.13	126.34
С	Trinity (NC)	Winter	2017	408.86	475.49	558.54	707.60	73.63	86.51	101.07	126.56
С	Trinity (NC)	Winter	2018	408.83	475.10	558.24	708.16	73.54	85.93	100.99	126.78
С	Trinity (NC)	Winter	2019	408.73	474.90	557.99	708.64	73.40	85.63	100.89	126.97
С	Trinity (NC)	Winter	2020	408.76	474.70	557.81	709.04	73.47	85.48	100.93	127.16
С	Trinity (NC)	Winter	2021	408.71	474.47	557.65	709.23	73.51	85.45	100.98	127.20
С	Trinity (NC)	Winter	2022	408.65	474.36	557.46	709.42	73.53	85.47	101.00	127.30
С	Trinity (NC)	Winter	2023	408.50	474.23	557.26	709.52	73.52	85.47	101.00	127.46
С	Trinity (NC)	Winter	2024	408.24	474.14	557.10	709.59	73.46	85.51	101.02	127.61
С	Trinity (NC)	Winter	2025	408.05	474.15	556.99	709.59	73.44	85.56	101.04	127.73
С	Trinity (NC)	Winter	2026	408.04	474.30	556.83	709.73	73.46	85.66	101.04	127.88
С	Trinity (NC)	Winter	2027	408.03	474.43	556.70	709.93	73.47	85.75	101.05	128.02
С	Trinity (NC)	Winter	2028	407.99	474.58	556.58	710.14	73.47	85.83	101.05	128.17
С	Trinity (NC)	Winter	2029	407.95	474.73	556.39	710.32	73.47	85.91	101.03	128.29
С	Trinity (NC)	Winter	2030	407.90	474.86	556.25	710.50	73.47	85.98	101.01	128.41
С	Trinity (NC)	Winter	2031	407.89	475.01	556.16	710.77	73.48	86.05	101.01	128.54
С	Trinity (NC)	Winter	2032	407.89	475.14	556.09	711.03	73.48	86.12	101.01	128.66
С	Trinity (NC)	Winter	2033	407.88	475.25	556.04	711.25	73.49	86.17	101.01	128.78
С	Trinity (NC)	Winter	2034	407.87	475.35	555.99	711.45	73.49	86.23	101.01	128.88
С	Trinity (NC)	Winter	2035	407.86	475.43	555.96	711.63	73.50	86.27	101.01	128.97
С	Tulare (SJV)	Annual	2010	336.36	385.47	460.79	577.56	73.50	85.81	100.77	124.48
С	Tulare (SJV)	Annual	2011	336.57	386.30	460.48	578.46	73.48	85.49	100.70	124.76
С	Tulare (SJV)	Annual	2012	336.33	386.39	459.69	578.44	73.48	85.24	100.68	125.00
С	Tulare (SJV)	Annual	2013	335.07	385.21	457.53	576.70	73.50	85.03	100.65	125.26
С	Tulare (SJV)	Annual	2014	335.24	385.64	457.39	577.46	73.52	84.88	100.59	125.53
С	Tulare (SJV)	Annual	2015	332.48	382.78	453.30	573.37	73.54	84.80	100.57	125.86
С	Tulare (SJV)	Annual	2016	332.66	383.22	453.22	574.24	73.60	84.76	100.58	126.18
С	Tulare (SJV)	Annual	2017	332.78	383.58	453.15	575.03	73.62	84.70	100.55	126.50
С	Tulare (SJV)	Annual	2018	330.99	381.76	450.54	572.51	73.64	84.68	100.55	126.81
С	Tulare (SJV)	Annual	2019	331.07		450.49	573.12	73.68	84.78	100.57	127.09
С	Tulare (SJV)	Annual	2020	331.14	382.41	450.44	573.65	73.77	84.92	100.64	127.34
С	Tulare (SJV)	Annual	2021	332.08	383.64	451.61	575.50	73.83		100.71	127.52
С	Tulare (SJV)	Annual	2022	332.08	383.82	451.55	575.74	73.88		100.77	127.66
C	Tulare (SJV)	Annual	2023	332.06	383.97	451.49	575.93	73.91		100.82	127.83
C	Tulare (SJV)	Annual	2024	331.57	383.61	450.80	575.35	73.92	85.42	100.86	128.00
С	Tulare (SJV)	Annual	2025	331.58	383.79	450.78	575.58	73.94	85.52	100.89	128.17
C	Tulare (SJV)	Annual	2026	328.97	380.93	447.18	571.21	73.96	85.62		128.32
C	Tulare (SJV)	Annual	2027	328.98	381.09	447.14	571.39	73.98	85.71	100.93	128.45
С	Tulare (SJV)	Annual	2028	328.99	381.26	447.12	571.56	73.99	85.79		128.57
С	Tulare (SJV)	Annual	2029	328.99	381.42	447.08	571.73	73.99	85.87	100.95	128.68
С	Tulare (SJV)	Annual	2030	328.99	381.57	447.05	571.90	73.99	85.94		128.78
С	Tulare (SJV)	Annual	2031	328.99	381.72	447.04	572.06	74.00	86.01		128.88
С	Tulare (SJV)	Annual	2031	328.98	381.84	447.02	572.22	74.00	86.07	100.97	128.97
C	Tulare (SJV)	Annual	2032	328.98	381.96	447.00	572.37	74.00	86.12	100.98	129.05
C	Tulare (SJV)	Annual	2033	328.98	382.05	446.99	572.50	74.01	86.17	100.98	129.03
C	Tulare (SJV)	Annual	2034	328.97	382.13	446.97	572.62	74.01	86.21	100.98	129.12
C C	Tulare (SJV)										
_		Summer	2010	370.07	419.00	504.64	633.62	73.50	85.81		124.48
С	Tulare (SJV)	Summer	2011	370.60	420.85	504.80	634.63	73.48	85.49		124.76
C	Tulare (SJV)	Summer	2012	370.51	421.55	504.22	634.57	73.48			125.00
С	Tulare (SJV)	Summer	2013	369.24	420.74	502.10	632.71	73.50	85.03	100.65	125.26

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(CO2 Runni	na (a/\/MT)	(CO2 Star	tina (a/tri	n)
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Tulare (SJV)	Summer	2014	369.50	421.59	502.20	633.64	73.52	84.88	100.59	125.53
C	Tulare (SJV)	Summer	2014	366.59			629.41	73.54	84.80		125.86
C	Tulare (SJV)	Summer		366.85	418.86 419.64	497.98 498.09	630.59	73.60			126.18
C	,	1	2016						84.76		
C	Tulare (SJV)	Summer	2017	367.01	420.29	498.14	631.63	73.62	84.70		126.50 126.81
	Tulare (SJV)	Summer	2018	365.07	418.53	495.39	629.07	73.64	84.68	100.55	
C	Tulare (SJV)	Summer	2019	365.18	419.08	495.40	629.88	73.68	84.78	100.57	127.09
С	Tulare (SJV)	Summer	2020	365.26	419.55	495.38	630.57	73.77	84.92	100.64	127.34
С	Tulare (SJV)	Summer	2021	366.23	420.93	496.59	632.55	73.83	85.06	100.71	127.52
С	Tulare (SJV)	Summer	2022	366.18	421.15	496.47	632.78	73.88	85.19	100.77	127.66
С	Tulare (SJV)	Summer	2023	366.13	421.35	496.36	632.94	73.91	85.30	100.82	127.83
С	Tulare (SJV)	Summer	2024	365.61	421.09	495.65	632.36	73.92	85.42	100.86	128.00
С	Tulare (SJV)	Summer	2025	365.65	421.39	495.65	632.65	73.94	85.52	100.89	128.17
С	Tulare (SJV)	Summer	2026	362.79	418.33	491.72	627.85	73.96	85.62	100.91	128.32
С	Tulare (SJV)	Summer	2027	362.81	418.59	491.69	628.03	73.98	85.71	100.93	128.45
С	Tulare (SJV)	Summer	2028	362.84	418.83	491.68	628.22	73.99	85.79	100.95	128.57
С	Tulare (SJV)	Summer	2029	362.86	419.09	491.67	628.41	73.99	85.87	100.95	128.68
С	Tulare (SJV)	Summer	2030	362.87	419.31	491.65	628.60	73.99	85.94	100.96	128.78
С	Tulare (SJV)	Summer	2031	362.87	419.53	491.64	628.76	74.00	86.01	100.97	128.88
С	Tulare (SJV)	Summer	2032	362.86	419.70	491.62	628.93	74.00	86.07	100.97	128.97
С	Tulare (SJV)	Summer	2033	362.85	419.85	491.61	629.09	74.01	86.12	100.98	129.05
С	Tulare (SJV)	Summer	2034	362.85	419.98	491.60	629.26	74.01	86.17	100.98	129.12
С	Tulare (SJV)	Summer	2035	362.84	420.07	491.58	629.40	74.01	86.21	100.99	129.19
С	Tulare (SJV)	Winter	2010	322.59	371.77	442.88	554.67	73.50	85.81	100.77	124.48
С	Tulare (SJV)	Winter	2011	322.67	372.19	442.39	555.52	73.48	85.49	100.70	124.76
С	Tulare (SJV)	Winter	2012	322.38	372.04	441.51	555.52	73.48	85.24	100.68	125.00
С	Tulare (SJV)	Winter	2013	321.12	370.70	439.32	553.83	73.50	85.03	100.65	125.26
С	Tulare (SJV)	Winter	2014	321.25	370.96	439.09	554.52	73.52	84.88	100.59	125.53
С	Tulare (SJV)	Winter	2015	318.55	368.04	435.04	550.47	73.54	84.80	100.57	125.86
С	Tulare (SJV)	Winter	2016	318.70	368.34	434.89	551.22	73.60	84.76	100.58	126.18
С	Tulare (SJV)	Winter	2017	318.79	368.59	434.76	551.90	73.62	84.70	100.55	126.50
С	Tulare (SJV)	Winter	2018	317.06	366.73	432.20	549.39	73.64	84.68	100.55	126.81
С	Tulare (SJV)	Winter	2019	317.13	366.99	432.13	549.92	73.68	84.78	100.57	127.09
C	Tulare (SJV)	Winter	2020	317.20	367.23	432.08	550.39	73.77	84.92	100.64	127.34
С	Tulare (SJV)	Winter	2021	318.13			552.19			100.71	127.52
С	Tulare (SJV)	Winter	2022	318.15	368.57	433.19	552.43	73.88	85.19		127.66
С	Tulare (SJV)	Winter	2023	318.14	368.69	433.15	552.63	73.91		100.82	127.83
С	Tulare (SJV)	Winter	2024	317.65	368.30	432.48	552.05	73.92		100.86	128.00
C	Tulare (SJV)	Winter	2025	317.66	368.42	432.44	552.26	73.94	85.52		128.17
С	Tulare (SJV)	Winter	2025	315.14	365.64	432.44	548.06	73.94	85.62	100.89	128.32
C	Tulare (SJV)	Winter	2020	315.14	365.77	428.93	548.23	73.98	85.71	100.91	128.45
C	Tulare (SJV)		2027			428.90	548.40	73.99	85.79	100.95	128.57
C	` '	Winter		315.15	365.90						
	Tulare (SJV)	Winter	2029	315.14	366.02	428.86	548.56	73.99	85.87	100.95	128.68
С	Tulare (SJV)	Winter	2030	315.14	366.14	428.82	548.72	73.99	85.94		128.78
С	Tulare (SJV)	Winter	2031	315.14	366.26	428.80	548.88	74.00	86.01		128.88
C	Tulare (SJV)	Winter	2032	315.14	366.37	428.79	549.04	74.00	86.07	100.97	128.97
C	Tulare (SJV)	Winter	2033	315.13	366.46	428.77	549.17	74.01	86.12		129.05
C	Tulare (SJV)	Winter	2034	315.13	366.55	428.75	549.30	74.01	86.17	100.98	129.12
С	Tulare (SJV)	Winter	2035	315.13	366.62	428.73	549.40	74.01	86.21	100.99	129.19
С	Tuolumne (MC)	Annual	2010	351.80	409.05	482.29	602.53	74.53	90.23	101.65	124.41
С	Tuolumne (MC)	Annual	2011	351.82	408.95	481.75	603.20	74.32	89.28		124.55
С	Tuolumne (MC)	Annual	2012	351.88	408.91	481.33	604.01	74.15	88.59		124.74
С	Tuolumne (MC)	Annual	2013	351.99	408.83	480.99	604.89	74.02	87.89	101.25	124.97
С	Tuolumne (MC)	Annual	2014	352.09	408.75	480.72	605.77	73.90	87.27	101.07	125.20
С	Tuolumne (MC)	Annual	2015	352.23	408.71	480.51	606.66	73.86	86.74	100.95	125.47

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

Season Vear LDA LDT		Language	ı			200 B	(0 / 0 /T	<u>, </u>	CO2 Starting (g/trin)						
C Truclumne (MC) Annual 2016 362.33 408.71 480.34 607.53 73.81 88.85 100.89 125.75 T Toolumne (MC) Annual 2018 352.40 480.86 490.19 608.02 73.73 85.87 100.79 126.32 T TOOLUMNE (MC) Annual 2019 352.60 408.06 479.86 608.07 33.64 85.55 100.74 126.32 T TOOLUMNE (MC) Annual 2019 352.60 408.06 479.86 608.07 33.64 85.56 100.74 126.32 T TOOLUMNE (MC) Annual 2019 352.60 408.06 479.86 608.07 33.64 85.56 100.74 126.32 T TOOLUMNE (MC) Annual 2019 352.60 408.06 479.86 608.07 33.64 85.56 100.74 126.32 T TOOLUMNE (MC) Annual 2021 352.62 408.71 479.91 610.12 73.76 85.36 100.79 126.82 408.72 479.91 610.12 73.76 85.36 100.79 126.82 408.72 479.91 610.12 73.76 85.36 100.79 126.82 408.72 479.91 610.12 73.76 85.36 100.79 127.02		Location		.,											
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C Tuolumne (MC) Summer 2034 381.09 442.15 517.24 661.33 73.83 86.19 100.99 128.88 C Tuolumne (MC) Summer 2035 381.08 442.22 517.22 661.55 73.83 86.23 101.00 128.97 C Tuolumne (MC) Winter 2010 345.75 403.14 474.37 592.78 74.53 90.23 101.65 124.41 C Tuolumne (MC) Winter 2011 345.71 402.84 473.77 593.43 74.32 89.28 101.47 124.55 C Tuolumne (MC) Winter 2012 345.72 402.64 473.30 594.19 74.15 88.59 101.37 124.74 C Tuolumne (MC) Winter 2013 345.79 402.42 472.91 595.00 74.02 87.89 101.25 124.97 C Tuolumne (MC) Winter 2014 345.87 402.24 472.59 595.82 73.90 87.27 101.07 125.20 C Tuolumne (MC) Winter 2015 345.99 402.12 472.33 596.64 73.86 86.74 100.95 125.47 C Tuolumne (MC) Winter 2016 346.08 402.05 472.13 597.43 73.81 86.35 100.89 125.75		` '										128.78			
C Tuolumne (MC) Summer 2035 381.08 442.22 517.22 661.55 73.83 86.23 101.00 128.97 C Tuolumne (MC) Winter 2010 345.75 403.14 474.37 592.78 74.53 90.23 101.65 124.41 C Tuolumne (MC) Winter 2011 345.71 402.84 473.77 593.43 74.32 89.28 101.47 124.55 C Tuolumne (MC) Winter 2012 345.72 402.64 473.30 594.19 74.15 88.59 101.37 124.74 C Tuolumne (MC) Winter 2013 345.79 402.42 472.91 595.00 74.02 87.89 101.25 124.97 C Tuolumne (MC) Winter 2014 345.87 402.24 472.59 595.82 73.90 87.27 101.07 125.20 C Tuolumne (MC) Winter 2015 345.99 402.12 472.33 596.64 7		` '										128.88			
C Tuolumne (MC) Winter 2010 345.75 403.14 474.37 592.78 74.53 90.23 101.65 124.41 C Tuolumne (MC) Winter 2011 345.71 402.84 473.77 593.43 74.32 89.28 101.47 124.55 C Tuolumne (MC) Winter 2012 345.72 402.64 473.30 594.19 74.15 88.59 101.37 124.74 C Tuolumne (MC) Winter 2013 345.79 402.42 472.91 595.00 74.02 87.89 101.25 124.97 C Tuolumne (MC) Winter 2014 345.87 402.24 472.59 595.82 73.90 87.27 101.07 125.20 C Tuolumne (MC) Winter 2015 345.89 402.12 472.33 596.64 73.86 86.74 100.95 125.47 C Tuolumne (MC) Winter 2016 346.08 402.05 472.13 597.43 73.81 86.35 100.89 125.75	_	,										128.97			
C Tuolumne (MC) Winter 2011 345.71 402.84 473.77 593.43 74.32 89.28 101.47 124.55 C Tuolumne (MC) Winter 2012 345.72 402.64 473.30 594.19 74.15 88.59 101.37 124.74 C Tuolumne (MC) Winter 2013 345.79 402.42 472.91 595.00 74.02 87.89 101.25 124.97 C Tuolumne (MC) Winter 2014 345.87 402.24 472.59 595.82 73.90 87.27 101.07 125.20 C Tuolumne (MC) Winter 2015 345.99 402.12 472.33 596.64 73.86 86.74 100.95 125.47 C Tuolumne (MC) Winter 2016 346.08 402.05 472.13 597.43 73.81 86.35 100.89 125.75		,										124.41			
C Tuolumne (MC) Winter 2012 345.72 402.64 473.30 594.19 74.15 88.59 101.37 124.74 C Tuolumne (MC) Winter 2013 345.79 402.42 472.91 595.00 74.02 87.89 101.25 124.97 C Tuolumne (MC) Winter 2014 345.87 402.24 472.59 595.82 73.90 87.27 101.07 125.20 C Tuolumne (MC) Winter 2015 345.99 402.12 472.33 596.64 73.86 86.74 100.95 125.47 C Tuolumne (MC) Winter 2016 346.08 402.05 472.13 597.43 73.81 86.35 100.89 125.75												124.55			
C Tuolumne (MC) Winter 2013 345.79 402.42 472.91 595.00 74.02 87.89 101.25 124.97 C Tuolumne (MC) Winter 2014 345.87 402.24 472.59 595.82 73.90 87.27 101.07 125.20 C Tuolumne (MC) Winter 2015 345.99 402.12 472.33 596.64 73.86 86.74 100.95 125.47 C Tuolumne (MC) Winter 2016 346.08 402.05 472.13 597.43 73.81 86.35 100.89 125.75		` '										124.74			
C Tuolumne (MC) Winter 2014 345.87 402.24 472.59 595.82 73.90 87.27 101.07 125.20 C Tuolumne (MC) Winter 2015 345.99 402.12 472.33 596.64 73.86 86.74 100.95 125.47 C Tuolumne (MC) Winter 2016 346.08 402.05 472.13 597.43 73.81 86.35 100.89 125.75		,										124.97			
C Tuolumne (MC) Winter 2015 345.99 402.12 472.33 596.64 73.86 86.74 100.95 125.47 C Tuolumne (MC) Winter 2016 346.08 402.05 472.13 597.43 73.81 86.35 100.89 125.75												125.20			
C Tuolumne (MC) Winter 2016 346.08 402.05 472.13 597.43 73.81 86.35 100.89 125.75												125.47			
												125.75			
C I	С	Tuolumne (MC)	Winter	2017	346.14	401.95	471.96	598.16	73.73	85.87	100.79	126.04			

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

Season Year LDA LDT LDT2 MDV LDA LDT1 LDT2 MDV LDA LDT1 LDT2 MDV LDA LDT3 LDT2 MDV LDA LDT3 LDT4 LDT5 LDT4 LDT5 L		Location	1	Γ		CO2 Bunni	na (a/\/NAT	`		CO2 Ctor	tina (altri	n)
 □ Tuolumne (MC) □ Winter 		Location		.,								
Unitarie (MC) Winter 2019 346.24 401.87 471.73 599.34 73.64 85.35 100.74 126.55	_	Tuelumene (MC)										
Vinter 2020 346.28 401.88 371.68 599.83 73.71 85.33 100.76 126.85 126.8	_	,										
Tuolumne (MC)	_	,										
 □ Tuolumne (MC) □ Tuolumne (MC) □ Winter 2022 346.16 401.81 471.41 600.68 73.77 85.39 100.83 127.5 Tuolumne (MC) Winter 2022 346.16 401.81 471.34 600.68 73.77 85.42 100.83 127.5 Tuolumne (MC) Winter 2026 346.04 401.84 471.35 600.65 73.76 85.64 100.89 127.5 Tuolumne (MC) Winter 2026 346.05 402.06 471.25 601.91 73.76 85.51 100.93 127.5 Tuolumne (MC) Winter 2027 346.05 402.06 471.26 601.38 73.79 85.72 100.97 122.6 Tuolumne (MC) Winter 2028 346.04 402.17 471.14 601.65 73.80 85.72 100.99 128.5 Tuolumne (MC) Winter 2031 346.01 402.28 471.08 601.74 73.80 85.72 100.98 122.5 Tuolumne (MC) Winter 2031 346.01 402.59 470.99 602.79 73.82 86.01 10.99 122.5 Tuolumne (MC) Winter 2032 346.01 402.75 470.95 602.79 73.83 86.19 10.99 122.6 Tu		,		_								
Columnne (MC) Winter 2023 348.16 401.81 471.41 600.86 73.77 85.42 00.087 127.5	_	,										
Tuolumne (MC) Winter 2024 346.10 401.78 471.34 600.85 73.76 85.46 500.88 127.75		,										
C Tuolumne (MC) Winter 2025 346.04 401.84 471.30 601.01 73.76 85.53 300.93 127.25 G Tuolumne (MC) Winter 2026 346.05 401.96 471.25 601.19 73.78 85.63 100.95 127.6 G Tuolumne (MC) Winter 2027 346.05 402.06 471.20 601.38 73.79 85.72 100.97 128.0 G Tuolumne (MC) Winter 2028 346.04 402.28 471.08 601.73 33.81 85.91 100.98 128.6 G Tuolumne (MC) Winter 2030 346.02 402.38 471.02 601.93 73.81 85.94 100.98 128.6 G Tuolumne (MC) Winter 2033 346.01 402.69 470.99 602.59 73.82 86.10 100.98 128.6 G Tuolumne (MC) Winter 2033 346.01 402.67 470.96 602.59 73.82 86.13 100.99 128.8 G Tuolumne	_	,										
Tuolumne (MC) Winter 2026 346.05 401.96 471.25 601.19 73.76 85.63 100.95 127.6		,		-								
Comparison Winter 2027 346.05 402.06 471.05 601.38 73.79 85.72 100.97 128.05		, ,										
Common C		,		-								
Company Comp	_	,										
Tuolumne (MC) Winter 2030 346.02 402.38 471.02 601.93 73.81 85.94 100.98 128.4		,		-								
Tuolumne (MC) Winter 2031 346.01 402.49 470.99 602.16 73.81 86.01 100.98 128.5	С	,										128.30
Tuolumne (MC) Winter 2032 346.01 402.59 470.97 602.39 73.82 86.08 100.98 128.60	С	, ,										128.42
C Tuolumne (MC) Winter 2033 346.01 402.67 470.95 602.59 73.82 86.13 100.99 128.7 C Tuolumne (MC) Winter 2034 346.01 402.75 470.93 602.77 73.83 86.13 100.99 128.7 C Tuolumne (MC) Winter 2034 346.01 402.75 470.93 602.77 73.83 86.23 101.00 10 128.5 C Ventura (SCC) Annual 2010 333.21 383.06 456.23 576.41 73.39 83.96 99.49 125.1 C Ventura (SCC) Annual 2011 334.06 384.40 457.06 576.10 73.37 83.90 99.58 125.5 C Ventura (SCC) Annual 2012 334.23 384.93 456.97 578.64 73.39 83.99 99.58 125.5 C Ventura (SCC) Annual 2013 334.46 385.44 456.97 579.27 73.37 83.99 99.58 125.5 C Ventura (SCC) Annual 2014 334.61 385.87 456.92 579.81 73.35 83.99 99.10 125.0 C Ventura (SCC) Annual 2016 337.13 389.18 458.85 584.69 73.42 84.08 100.11 126.4 C Ventura (SCC) Annual 2016 337.13 389.18 458.85 584.69 73.42 84.08 100.11 126.4 C Ventura (SCC) Annual 2016 337.13 389.86 459.82 586.65 73.47 84.25 100.29 126.5 C Ventura (SCC) Annual 2018 337.37 389.86 459.82 586.65 73.47 84.25 100.29 126.5 C Ventura (SCC) Annual 2019 338.59 391.47 461.34 587.98 73.51 84.41 100.38 127.1 C Ventura (SCC) Annual 2019 338.59 391.47 461.34 587.98 73.51 84.45 100.20 126.6 C Ventura (SCC) Annual 2019 338.59 391.47 461.34 587.98 73.51 84.45 100.03 125.7 C Ventura (SCC) Annual 2021 340.66 394.41 683.90 592.14 73.73 84.90 100.91 126.2 C Ventura (SCC) Annual 2022 340.66 394.41 683.90 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2022 340.66 394.41 683.90 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2024 340.67 394.58 463.80 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2024 342.61 396.57 465.87 595.19 73.88 85.7 100.57 127.4 C Ventura (SCC) Annual 2024 342.13 396.57 465.87 595.19 73.88 85.56 100.99 122.6 C Ventura (SCC) Annual 2024 342.13 396.57 465.87 595.19 73.88 85.56 100.99 122.6 C Ventura (SCC) Annual 2026 342.13 396.57 465.87 595.19 73.88 85.56 100.99 122.6 C Ventura (SCC) Annual 2028 342.17 397.01 465.82 595.67 73.88 85.56 100.99 122.6 C Ventura (SCC) Annual 2023 343.79 399.50 466.80 195.97 73.88 85.96 100.99 122.5 C Ventura (SCC) Annual 2	С	,										128.55
C Tuolumne (MC) Winter 2034 346.01 402.75 470.93 602.77 73.83 86.19 100.99 128.8 C Tuolumne (MC) Winter 2035 346.00 402.81 470.91 602.77 73.83 86.19 100.09 128.8 C Tuolumne (MC) Winter 2035 346.00 402.81 470.91 602.93 73.83 86.29 101.00 128.8 C Ventura (SCC) Annual 2011 334.06 384.40 457.06 578.10 73.37 83.90 99.58 125.3 C Ventura (SCC) Annual 2012 334.23 384.93 456.97 578.64 73.35 83.91 99.99 125.5 C Ventura (SCC) Annual 2013 334.46 385.44 456.97 578.64 73.35 83.99 199.91 125.5 C Ventura (SCC) Annual 2014 334.61 385.87 456.92 578.81 73.35 83.99 99.91 125.5 C Ventura (SCC) Annual 2015 336.96 388.79 458.98 584.16 73.37 84.01 100.00 126.2 C Ventura (SCC) Annual 2016 337.13 389.18 459.85 584.69 73.42 84.08 100.10 12 26.6 C Ventura (SCC) Annual 2017 337.26 389.54 459.83 585.20 73.44 84.15 100.20 126.6 C Ventura (SCC) Annual 2018 337.37 389.86 459.83 585.20 73.44 84.15 100.20 126.6 C Ventura (SCC) Annual 2019 335.59 391.47 461.34 587.98 73.51 84.41 100.38 127.5 C Ventura (SCC) Annual 2019 335.59 391.47 461.34 587.98 73.51 84.41 100.38 127.5 C Ventura (SCC) Annual 2021 340.62 394.18 463.90 591.89 73.68 84.75 100.57 127.4 C Ventura (SCC) Annual 2022 340.66 394.41 463.89 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2024 342.13 396.57 465.87 595.19 73.81 85.26 100.77 127.4 C Ventura (SCC) Annual 2024 342.13 396.57 465.87 595.19 73.81 85.26 100.91 127.7 C Ventura (SCC) Annual 2024 342.13 396.57 465.87 595.19 73.81 85.51 100.77 127.5 C Ventura (SCC) Annual 2024 342.13 396.57 465.87 595.19 73.81 85.50 100.91 127.7 C Ventura (SCC) Annual 2024 342.13 396.57 465.87 595.19 73.81 85.50 100.97 127.5 C Ventura (SCC) Annual 2024 342.13 396.57 465.87 595.19 73.81 85.50 100.91 128.6 C Ventura (SCC) Annual 2024 342.13 396.57 465.87 595.19 73.81 85.50 100.91 128.6 C Ventura (SCC) Annual 2029 342.16 396.77 465.80 595.81 73.88 85.91 100.95 128.5 C Ventura (SCC) Annual 2029 342.17 397.01 465.84 595.51 73.88 85.91 100.95 128.5 C Ventura (SCC) Annual 2034 343.79 399.80 460.00 599.17	С											128.67
C Tuolumne (MC) Winter 2035 346.00 402.81 470.91 602.93 73.83 86.23 101.00 128.9 Ventura (SCC) Annual 2010 333.21 383.06 456.23 576.41 73.39 83.96 99.49 18 125.5 C Ventura (SCC) Annual 2011 334.06 384.40 457.06 578.10 73.39 83.99 99.99 18 125.5 C Ventura (SCC) Annual 2012 334.23 384.93 456.97 578.64 73.35 83.91 99.69 125.5 C Ventura (SCC) Annual 2013 334.46 385.47 456.92 579.81 73.35 83.99 99.09 125.5 C Ventura (SCC) Annual 2014 334.81 385.87 456.92 579.81 73.35 83.99 99.01 125.5 C Ventura (SCC) Annual 2015 336.96 388.79 458.88 584.16 73.37 84.01 100.00 126.2 C Ventura (SCC) Annual 2016 337.13 389.18 459.85 584.69 73.42 84.08 100.11 126.6 C Ventura (SCC) Annual 2017 337.26 385.54 458.83 585.20 73.44 84.15 100.29 126.5 C Ventura (SCC) Annual 2018 337.37 389.86 459.82 586.65 73.47 84.25 100.29 126.5 C Ventura (SCC) Annual 2018 337.37 389.86 459.82 586.65 73.47 84.25 100.29 126.5 C Ventura (SCC) Annual 2019 338.59 391.47 461.34 587.98 73.51 84.41 100.38 127.7 C Ventura (SCC) Annual 2021 340.62 394.18 463.90 591.89 73.86 84.75 100.65 127.6 C Ventura (SCC) Annual 2021 340.66 394.41 463.89 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2021 340.67 394.58 653.87 595.04 73.86 84.75 100.65 127.6 C Ventura (SCC) Annual 2024 342.13 396.57 465.87 595.19 73.86 84.75 100.65 127.6 C Ventura (SCC) Annual 2026 342.15 396.72 468.85 595.67 73.85 85.56 100.94 128.6 C Ventura (SCC) Annual 2029 342.15 396.72 468.85 595.67 73.86 86.75 100.90 122.4 C Ventura (SCC) Annual 2029 342.17 397.01 465.82 595.67 73.86 86.70 100.71 127.9 C Ventura (SCC) Annual 2023 340.67 394.58 465.90 599.19 73.86 86.70 100.71 127.9 C Ventura (SCC) Annual 2029 342.17 397.01 465.80 595.67 73.85 85.56 100.90 122.4 C Ventura (SCC) Annual 2023 342.77 397.01 465.80 595.67 73.86 86.70 100.91 128.6 C Ventura (SCC) Annual 2023 342.77 397.01 465.80 595.67 73.86 86.00 100.91 128.6 C Ventura (SCC) Annual 2031 343.80 399.30 466.00 599.13 73.88 86.00 100.91 128.6 C Ventura (SCC) Annual 2034 343.79 399.50 466.00 599.13 73.88 86.00 100.91 128.	C	,		-								128.78
Ventura (SCC)	С											128.88
C Ventura (SCC) Annual 2011 334.06 384.40 457.06 578.10 73.37 83.90 99.58 125.3 C Ventura (SCC) Annual 2012 334.23 384.33 456.97 578.64 73.35 83.91 99.69 125.5 C Ventura (SCC) Annual 2013 334.26 385.44 456.97 579.27 73.37 83.94 99.69 125.5 C Ventura (SCC) Annual 2014 334.61 385.67 456.92 579.81 73.35 83.94 99.80 125.5 C Ventura (SCC) Annual 2015 336.96 388.79 459.88 584.16 73.37 84.01 100.00 126.2 C Ventura (SCC) Annual 2016 337.13 389.18 459.85 584.69 73.42 84.08 100.11 126.4 C Ventura (SCC) Annual 2017 337.26 389.54 459.85 584.69 73.42 84.08 100.11 126.4 C Ventura (SCC) Annual 2018 337.37 389.86 459.85 584.69 73.47 84.25 100.29 126.5 C Ventura (SCC) Annual 2018 337.37 389.86 459.82 585.65 73.47 84.25 100.29 126.5 C Ventura (SCC) Annual 2019 338.89 391.47 461.34 587.98 73.51 84.41 100.38 127.1 C Ventura (SCC) Annual 2021 340.62 394.18 463.89 592.18 73.68 84.75 100.57 127.4 C Ventura (SCC) Annual 2021 340.67 394.86 463.89 592.31 73.77 85.03 100.71 127.7 C Ventura (SCC) Annual 2022 340.66 394.41 463.89 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2023 340.67 394.86 463.88 592.33 73.77 85.03 100.71 127.7 C Ventura (SCC) Annual 2024 340.67 394.86 463.88 592.33 73.77 85.03 100.71 127.7 C Ventura (SCC) Annual 2026 342.13 396.67 465.87 595.04 73.79 85.03 100.71 127.7 C Ventura (SCC) Annual 2028 342.15 396.72 465.85 595.36 73.83 85.51 100.77 127.5 C Ventura (SCC) Annual 2028 342.17 397.10 465.82 595.51 73.84 85.66 100.88 128.3 C Ventura (SCC) Annual 2029 342.17 397.10 465.80 595.51 73.88 85.56 100.81 128.2 C Ventura (SCC) Annual 2029 342.17 397.10 465.80 595.51 73.88 85.56 100.90 128.4 C Ventura (SCC) Annual 2029 342.17 397.10 465.82 595.57 73.86 85.57 100.90 128.4 C Ventura (SCC) Annual 2029 342.17 397.10 465.80 595.51 73.88 85.56 100.90 128.4 C Ventura (SCC) Annual 2029 342.17 397.10 465.80 595.51 73.88 85.66 100.90 128.4 C Ventura (SCC) Annual 2030 342.17 397.01 465.80 595.51 73.88 85.66 100.90 128.4 C Ventura (SCC) Annual 2031 343.87 399.60 465.80 595.51 73.88 85.60 100.90 128.4 C Ventura (SCC) Annual 20	С	Tuolumne (MC)										128.97
Ventura (SCC)	С	Ventura (SCC)	Annual	2010	333.21		456.23			83.96		125.11
C Ventura (SCC) Annual 2013 334.46 385.44 456.97 579.27 73.37 83.94 99.80 125.7 C Ventura (SCC) Annual 2014 334.61 336.57 465.92 579.81 73.35 83.96 99.91 125.5 C Ventura (SCC) Annual 2016 337.13 389.81 459.88 584.16 73.37 84.01 100.00 126.2 C Ventura (SCC) Annual 2016 337.13 389.81 459.85 584.69 73.42 84.08 100.11 126.4 C Ventura (SCC) Annual 2016 337.37 389.54 459.83 585.20 73.44 84.15 100.20 126.6 C Ventura (SCC) Annual 2018 337.37 389.86 459.83 585.20 73.44 84.15 100.20 126.6 C Ventura (SCC) Annual 2018 337.37 389.86 459.83 585.20 73.44 84.15 100.20 126.6 C Ventura (SCC) Annual 2018 337.37 389.86 459.83 585.20 73.44 84.15 100.20 126.6 C Ventura (SCC) Annual 2020 338.68 391.75 461.34 588.35 73.61 84.59 100.49 127.3 C Ventura (SCC) Annual 2020 338.68 391.75 461.34 588.35 73.61 84.59 100.49 127.3 C Ventura (SCC) Annual 2021 340.62 394.18 463.90 591.89 73.68 84.75 100.57 127.4 C Ventura (SCC) Annual 2022 340.66 394.41 463.89 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2022 340.66 394.41 463.89 592.14 73.79 85.03 100.71 127.7 C Ventura (SCC) Annual 2024 342.13 396.43 465.87 595.04 73.79 85.15 100.77 127.9 C Ventura (SCC) Annual 2024 342.13 396.67 465.87 595.19 73.81 85.26 100.81 128.0 C Ventura (SCC) Annual 2026 342.13 396.72 465.85 595.67 73.85 85.55 100.90 128.6 C Ventura (SCC) Annual 2028 342.17 397.16 465.80 595.67 73.85 85.55 100.90 128.6 C Ventura (SCC) Annual 2029 342.17 397.16 465.80 595.81 73.86 85.85 100.90 128.6 C Ventura (SCC) Annual 2030 342.17 397.16 465.80 595.81 73.88 85.81 100.99 128.6 C Ventura (SCC) Annual 2033 343.79 399.83 467.99 599.07 73.86 85.51 100.99 128.6 C Ventura (SCC) Annual 2034 343.79 399.50 468.00 599.13 73.88 85.91 100.99 128.6 C Ventura (SCC) Annual 2034 343.79 399.63 467.99 599.27 73.88 85.91 100.99 128.6 C Ventura (SCC) Annual 2035 343.79 399.81 467.97 599.52 73.88 86.06 100.99 128.6 C Ventura (SCC) Summer 2010 347.83 398.16 476.48 600.42 73.35 83.94 99.80 125.7 C Ventura (SCC) Summer 2010 347.83 398.16 476.48 600.42 73.35 83.94 99.80 125.7 C Ventura (SCC) Summer 20	С	Ventura (SCC)	Annual	2011								125.31
C Ventura (SCC) Annual 2014 334.61 385.87 456.92 579.81 73.35 83.96 99.91 125.55 C Ventura (SCC) Annual 2015 336.96 388.79 459.88 584.16 73.37 84.01 100.00 1262.6 C Ventura (SCC) Annual 2016 337.31 389.18 459.85 584.96 73.42 84.08 100.11 126.4 C Ventura (SCC) Annual 2017 337.26 389.54 459.83 585.20 73.44 84.15 100.20 126.6 C Ventura (SCC) Annual 2018 337.37 389.86 459.82 585.65 73.47 84.25 100.29 126.5 C Ventura (SCC) Annual 2019 335.59 391.47 461.34 587.98 73.51 84.41 100.38 127.1 C Ventura (SCC) Annual 2020 383.88 391.87 461.34 587.98 73.51 84.41 100.38 127.3 C Ventura (SCC) Annual 2020 383.88 391.87 461.34 587.98 73.68 84.75 100.57 127.4 C Ventura (SCC) Annual 2022 340.62 394.18 463.90 591.89 73.68 84.75 100.57 127.4 C Ventura (SCC) Annual 2022 340.66 394.41 463.89 592.31 73.77 85.00 100.65 127.6 C Ventura (SCC) Annual 2023 340.67 394.58 463.88 592.33 73.77 85.00 100.65 127.6 C Ventura (SCC) Annual 2024 342.13 396.43 465.87 595.04 73.79 85.15 100.77 127.5 C Ventura (SCC) Annual 2024 342.13 396.57 465.87 595.19 73.81 85.26 100.81 128.0 C Ventura (SCC) Annual 2026 342.15 396.72 465.85 595.06 73.83 85.37 100.85 128.0 C Ventura (SCC) Annual 2028 342.17 397.16 465.80 595.81 73.86 85.46 100.88 128.3 C Ventura (SCC) Annual 2028 342.17 397.16 465.80 595.81 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2028 342.17 397.16 465.80 595.81 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2033 343.79 399.50 468.00 599.97 73.86 85.77 100.95 128.5 C Ventura (SCC) Annual 2034 343.79 399.50 468.00 599.97 73.86 85.77 100.99 128.5 C Ventura (SCC) Annual 2034 343.79 399.50 468.00 599.97 73.88 85.90 100.99 128.5 C Ventura (SCC) Annual 2034 343.79 399.50 468.00 599.97 73.88 85.90 100.99 128.5 C Ventura (SCC) Annual 2034 343.79 399.50 468.00 599.13 73.88 85.90 100.99 128.5 C Ventura (SCC) Annual 2034 343.79 399.50 468.00 599.13 73.88 85.90 100.99 128.5 C Ventura (SCC) Annual 2035 343.79 399.50 468.00 599.13 73.88 85.90 100.99 128.5 C Ventura (SCC) Summer 2010 348.87 400.46 476.48 604.	С	Ventura (SCC)	Annual	2012	334.23	384.93	456.97	578.64	73.35	83.91		125.52
C Ventura (SCC) Annual 2015 336.96 388.79 459.88 584.16 73.37 84.01 100.00 126.2 C Ventura (SCC) Annual 2016 337.13 389.18 459.85 584.69 73.42 84.08 100.11 126.4 C Ventura (SCC) Annual 2017 337.26 389.54 459.83 585.20 73.44 84.15 100.20 126.6 C Ventura (SCC) Annual 2018 337.37 389.86 459.82 585.65 73.47 84.25 100.29 126.6 C Ventura (SCC) Annual 2019 338.59 391.47 461.34 587.98 73.51 84.41 100.38 127.1 C Ventura (SCC) Annual 2020 338.68 391.75 461.34 588.35 73.61 84.58 100.48 127.3 C Ventura (SCC) Annual 2020 338.68 391.75 461.34 588.35 73.61 84.75 100.57 127.3 C Ventura (SCC) Annual 2022 340.66 394.41 463.89 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2022 340.66 394.41 463.89 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2022 340.66 394.41 463.89 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2024 342.13 396.43 465.87 595.04 73.79 85.15 100.77 127.7 C Ventura (SCC) Annual 2024 342.13 396.43 465.87 595.19 73.81 85.26 100.81 128.2 C Ventura (SCC) Annual 2026 342.13 396.57 465.87 595.19 73.81 85.26 100.81 128.2 C Ventura (SCC) Annual 2026 342.13 396.67 465.87 595.19 73.81 85.26 100.81 128.2 C Ventura (SCC) Annual 2026 342.15 396.72 465.85 595.36 73.83 85.71 100.85 128.2 C Ventura (SCC) Annual 2028 342.17 397.01 465.82 595.67 73.85 85.56 100.90 128.4 C Ventura (SCC) Annual 2028 342.17 397.01 465.80 595.17 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2030 342.17 397.01 465.89 595.97 73.86 85.67 100.93 128.6 C Ventura (SCC) Annual 2033 343.79 399.50 468.00 599.13 73.88 85.81 100.94 128.7 C Ventura (SCC) Annual 2033 343.79 399.84 467.97 599.52 73.88 85.94 100.96 128.5 C Ventura (SCC) Annual 2033 343.79 399.84 467.97 599.52 73.88 85.94 100.99 128.6 C Ventura (SCC) Annual 2034 343.80 399.36 468.01 599.13 73.88 85.91 100.99 128.6 C Ventura (SCC) Annual 2033 343.79 399.84 467.97 599.52 73.88 85.94 100.99 128.6 C Ventura (SCC) Annual 2033 343.79 399.84 467.97 599.52 73.88 85.94 100.99 128.6 C Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.69 73.37 83.94 99.69 125.5 C Ventura (SCC) Summer	С	Ventura (SCC)	Annual	2013	334.46	385.44	456.97	579.27	73.37	83.94	99.80	125.74
Ventura (SCC)	С	Ventura (SCC)	Annual	2014	334.61	385.87	456.92	579.81	73.35	83.96	99.91	125.96
Ventura (SCC)	С	Ventura (SCC)	Annual	2015	336.96	388.79	459.88	584.16	73.37	84.01	100.00	126.20
C Ventura (SCC)	С	Ventura (SCC)	Annual	2016	337.13		459.85	584.69	73.42	84.08	100.11	126.44
C Ventura (SCC) Annual 2019 338.59 391.47 461.34 587.98 73.51 84.41 100.38 127.1 C Ventura (SCC) Annual 2020 338.68 391.75 461.34 588.35 73.61 84.58 100.48 127.3 C Ventura (SCC) Annual 2021 340.62 394.18 463.90 591.89 73.68 84.75 100.57 127.4 C Ventura (SCC) Annual 2022 340.66 394.41 463.89 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2023 340.67 394.58 463.88 592.33 73.77 85.03 100.71 127.7 C Ventura (SCC) Annual 2023 340.67 394.58 463.88 592.33 73.77 85.03 100.71 127.6 C Ventura (SCC) Annual 2024 342.13 396.43 465.87 595.04 73.79 85.15 100.77 127.9 C Ventura (SCC) Annual 2025 342.13 396.57 465.87 595.19 73.81 85.26 100.81 128.0 C Ventura (SCC) Annual 2026 342.15 396.72 465.85 595.36 73.83 85.37 100.85 128.2 C Ventura (SCC) Annual 2027 342.16 396.87 465.84 595.51 73.84 85.46 100.88 128.3 C Ventura (SCC) Annual 2028 342.17 397.01 465.82 595.67 73.85 85.55 100.90 128.4 C Ventura (SCC) Annual 2028 342.17 397.16 465.80 595.81 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2029 342.17 397.16 465.80 595.87 73.85 85.55 100.90 128.4 C Ventura (SCC) Annual 2030 342.17 397.16 465.80 595.87 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2031 343.80 399.36 468.01 598.97 73.86 85.67 100.95 128.6 C Ventura (SCC) Annual 2033 343.79 399.50 468.00 599.13 73.88 85.87 100.95 128.6 C Ventura (SCC) Annual 2033 343.79 399.50 468.00 599.13 73.88 85.87 100.95 128.6 C Ventura (SCC) Annual 2034 343.79 399.84 467.99 599.27 73.88 85.94 100.96 128.5 C Ventura (SCC) Annual 2034 343.79 399.84 467.99 599.27 73.88 85.94 100.95 128.5 C Ventura (SCC) Summer 2011 348.87 399.76 476.48 602.48 73.37 83.90 99.58 125.3 C Ventura (SCC) Summer 2011 348.89 400.46 476.42 602.99 73.35 83.91 99.69 125.5 C Ventura (SCC) Summer 2013 349.27 401.14 476.48 603.66 73.37 83.94 99.80 125.5 C Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.47 73.48 84.15 100.00 126.6 C Ventura (SCC) Summer 2016 352.44 406.30 479.66 610.04 73.44 84.15 100.00 126.6 C Ventura (SCC) Summer 2016 352.44 406.31 479.66 610.05 7	С	Ventura (SCC)	Annual	2017	337.26	389.54	459.83	585.20	73.44	84.15	100.20	126.68
C Ventura (SCC) Annual 2020 338.68 391.75 461.34 588.35 73.61 84.58 100.48 127.3 C Ventura (SCC) Annual 2021 340.62 394.18 463.90 591.89 73.68 84.75 100.57 127.4 C Ventura (SCC) Annual 2022 340.66 394.41 463.89 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2023 340.67 394.58 463.88 592.33 73.77 85.03 100.71 127.7 C Ventura (SCC) Annual 2024 342.13 396.43 465.87 595.04 73.79 85.15 100.77 127.9 C Ventura (SCC) Annual 2025 342.13 396.57 465.87 595.04 73.79 85.03 100.71 127.9 C Ventura (SCC) Annual 2026 342.15 396.72 465.85 595.36 73.81 85.26 100.81 128.0 C Ventura (SCC) Annual 2027 342.16 396.87 465.84 595.51 73.84 85.46 100.88 128.3 C Ventura (SCC) Annual 2028 342.17 397.01 465.82 595.67 73.85 85.55 100.90 128.4 C Ventura (SCC) Annual 2029 342.17 397.01 465.80 595.81 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2029 342.17 397.01 465.80 595.81 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2029 342.17 397.01 595.81 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2029 342.17 397.01 595.81 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2029 342.17 397.01 595.87 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2030 342.17 397.01 595.87 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2031 343.80 399.36 468.01 599.91 73.88 85.91 100.95 128.6 C Ventura (SCC) Annual 2031 343.80 399.36 468.01 599.91 73.88 85.87 100.95 128.6 C Ventura (SCC) Annual 2033 343.79 399.50 468.00 599.13 73.88 85.91 100.95 128.6 C Ventura (SCC) Annual 2034 343.79 399.84 467.99 599.27 73.88 85.94 100.96 128.5 C Ventura (SCC) Annual 2034 343.79 399.84 467.97 599.52 73.89 86.06 100.96 128.5 C Ventura (SCC) Summer 2010 347.83 398.81 475.48 602.48 73.37 83.90 99.89 125.5 C Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.90 99.89 125.5 C Ventura (SCC) Summer 2011 349.97 401.14 476.48 603.66 73.37 83.94 99.80 125.5 C Ventura (SCC) Summer 2011 349.97 401.14 476.48 603.66 73.37 83.94 99.80 125.5 C Ventura (SCC) Summer 2016 352.14 406.80 476.42 602.99 73.35 83.91 99.91 125.5 C Ventura (SCC) Summer 2016 352.14 406.81 406.11 479.6	С	Ventura (SCC)	Annual	2018	337.37	389.86	459.82	585.65	73.47	84.25	100.29	126.90
C Ventura (SCC) Annual 2021 340.62 394.18 463.90 591.89 73.68 84.75 100.57 127.4 C Ventura (SCC) Annual 2022 340.66 394.41 463.89 592.14 73.73 84.90 100.65 127.6 C Ventura (SCC) Annual 2023 340.67 394.58 463.88 592.33 73.77 85.03 100.71 127.7 C Ventura (SCC) Annual 2024 342.13 396.43 465.87 595.04 73.79 85.15 100.77 127.9 C Ventura (SCC) Annual 2025 342.13 396.47 465.87 595.19 73.81 85.26 100.81 128.2 C Ventura (SCC) Annual 2026 342.15 396.72 465.85 595.36 73.83 85.37 100.85 128.2 C Ventura (SCC) Annual 2027 342.16 396.87 465.86 595.67 73.85 85.55 100.90 128.4 C Ventura (SCC) Annual 2028 342.17 397.01 465.82 595.67 73.85 85.55 100.90 128.4 C Ventura (SCC) Annual 2029 342.17 397.16 465.80 595.81 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2030 342.17 397.31 465.79 595.97 73.86 85.72 100.93 128.6 C Ventura (SCC) Annual 2031 343.80 399.36 468.01 598.97 73.87 85.80 100.94 128.7 C Ventura (SCC) Annual 2032 343.79 399.50 468.01 598.97 73.88 85.94 100.95 128.8 C Ventura (SCC) Annual 2033 343.79 399.50 468.00 599.13 73.88 85.91 100.95 128.8 C Ventura (SCC) Annual 2033 343.79 399.50 468.00 599.13 73.88 85.91 100.95 128.8 C Ventura (SCC) Annual 2033 343.79 399.50 468.00 599.13 73.88 85.91 100.95 128.8 C Ventura (SCC) Annual 2033 343.79 399.50 468.00 599.13 73.88 85.91 100.95 128.8 C Ventura (SCC) Annual 2033 343.79 399.50 468.00 599.13 73.88 85.91 100.95 128.8 C Ventura (SCC) Annual 2033 343.79 399.50 468.00 599.13 73.88 85.91 100.95 128.8 C Ventura (SCC) Annual 2033 343.79 399.64 467.98 599.27 73.88 85.94 100.95 128.8 C Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.79 73.39 83.96 99.49 125.5 C Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.90 99.58 125.5 C Ventura (SCC) Summer 2013 349.45 401.68 476.48 602.48 73.37 83.90 99.95 125.5 C Ventura (SCC) Summer 2016 352.14 401.68 476.48 604.47 73.35 83.99 99.91 125.5 C Ventura (SCC) Summer 2016 352.14 406.80 476.42 602.99 73.35 83.91 99.90 125.5 C Ventura (SCC) Summer 2016 352.14 406.80 476.42 602.99 73.35 83.91 99.91 125.5 C Ventura (SCC) Summer 2016	С	Ventura (SCC)	Annual	2019	338.59	391.47	461.34	587.98	73.51	84.41	100.38	127.11
C Ventura (SCC) Annual 2022 340.66 394.41 463.89 592.14 73.73 84.90 100.65 127.60 Ventura (SCC) Annual 2023 340.67 394.58 463.88 592.33 73.77 85.03 100.71 127.70 Ventura (SCC) Annual 2024 342.13 396.43 465.87 595.04 73.79 85.15 100.77 127.90 Ventura (SCC) Annual 2025 342.13 396.57 465.87 595.04 73.79 85.15 100.77 127.90 Ventura (SCC) Annual 2026 342.15 396.72 465.85 595.36 73.83 85.37 100.85 128.20 Ventura (SCC) Annual 2027 342.16 396.87 465.84 595.51 73.84 85.46 100.88 128.30 Ventura (SCC) Annual 2028 342.17 397.01 465.82 595.67 73.85 85.55 100.90 128.40 Ventura (SCC) Annual 2028 342.17 397.01 465.80 595.81 73.86 85.64 100.92 128.50 Ventura (SCC) Annual 2029 342.17 397.16 465.80 595.81 73.86 85.64 100.92 128.50 Ventura (SCC) Annual 2030 342.17 397.31 465.79 595.97 73.86 85.64 100.93 128.60 Ventura (SCC) Annual 2031 343.80 399.36 468.01 598.97 73.87 85.80 100.94 128.70 Ventura (SCC) Annual 2032 343.79 399.50 468.00 599.13 73.88 85.94 100.95 128.80 Ventura (SCC) Annual 2033 343.79 399.63 467.99 599.27 73.88 85.94 100.96 128.80 Ventura (SCC) Annual 2034 343.79 399.63 467.99 599.27 73.88 85.94 100.96 128.80 Ventura (SCC) Annual 2035 343.79 399.86 467.99 599.27 73.88 85.94 100.96 128.80 Ventura (SCC) Annual 2035 343.79 399.86 467.99 599.27 73.88 85.94 100.96 128.80 Ventura (SCC) Annual 2035 343.79 399.86 467.99 599.27 73.88 85.94 100.96 128.80 Ventura (SCC) Annual 2034 343.79 399.86 467.99 599.27 73.88 85.94 100.96 128.80 Ventura (SCC) Summer 2010 347.83 398.15 475.88 600.79 73.39 83.96 99.49 125.10 Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.99 99.59 125.50 Ventura (SCC) Summer 2013 349.47 401.14 476.48 603.66 73.37 83.99 99.59 125.50 Ventura (SCC) Summer 2016 352.44 405.80 479.65 609.45 73.44 84.15 100.20 126.60 Ventura (SCC) Summer 2016 352.44 405.30 479.65 609.45 73.44 84.15 100.20 126.60 Ventura (SCC) Summer 2016 352.44 405.30 479.65 609.45 73.44 84.15 100.20 126.60 Ventura (SCC) Summer 2016 352.44 405.30 479.65 609.45 73.47 84.25 100.29 126.50 Ventura (SCC) Summer 2016 352.44 405.30 479.65	С	Ventura (SCC)	Annual	2020	338.68	391.75	461.34	588.35	73.61	84.58	100.48	127.31
C Ventura (SCC)	С	Ventura (SCC)	Annual	2021	340.62	394.18	463.90	591.89	73.68	84.75	100.57	127.48
C Ventura (SCC) Annual 2024 342.13 396.43 465.87 595.04 73.79 85.15 100.77 127.95 Ventura (SCC) Annual 2025 342.13 396.57 465.87 595.19 73.81 85.26 100.81 128.05 Ventura (SCC) Annual 2026 342.15 396.72 465.85 595.36 73.83 85.37 100.85 128.25 Ventura (SCC) Annual 2027 342.16 396.87 465.84 595.51 73.84 85.46 100.88 128.35 Ventura (SCC) Annual 2028 342.17 397.01 465.82 595.67 73.85 85.55 100.90 128.45 Ventura (SCC) Annual 2029 342.17 397.16 465.80 595.81 73.86 85.65 100.90 128.45 Ventura (SCC) Annual 2030 342.17 397.16 465.80 595.81 73.86 85.67 100.93 128.65 Ventura (SCC) Annual 2030 342.17 397.31 465.79 595.97 73.86 85.72 100.93 128.65 Ventura (SCC) Annual 2031 343.80 399.36 468.01 598.97 73.87 85.80 100.94 128.75 Ventura (SCC) Annual 2032 343.79 399.50 468.00 599.13 73.88 85.97 100.95 128.55 Ventura (SCC) Annual 2033 343.79 399.63 467.99 599.27 73.88 85.97 100.96 128.55 Ventura (SCC) Annual 2034 343.79 399.64 467.99 599.27 73.88 86.00 100.96 128.55 Ventura (SCC) Annual 2035 343.79 399.64 467.99 599.27 73.88 86.00 100.96 128.55 Ventura (SCC) Annual 2035 343.79 399.84 467.97 599.52 73.89 86.06 100.97 129.05 Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.79 73.39 83.96 99.49 125.15 Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.90 99.58 125.55 Ventura (SCC) Summer 2012 348.98 400.46 476.42 602.99 73.35 83.91 99.69 125.55 Ventura (SCC) Summer 2013 349.24 401.14 476.48 604.24 73.35 83.96 99.91 125.55 Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.55 Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.55 Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.55 Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.55 Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.55 Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.55 Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.55 Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 7	С	Ventura (SCC)	Annual	2022	340.66			592.14	73.73	84.90	100.65	127.62
C Ventura (SCC) Annual 2025 342.13 396.57 465.87 595.19 73.81 85.26 100.81 128.00 Ventura (SCC) Annual 2026 342.15 396.72 465.85 595.36 73.83 85.37 100.85 128.20 Ventura (SCC) Annual 2027 342.16 396.87 465.84 595.51 73.84 85.46 100.88 128.30 Ventura (SCC) Annual 2028 342.17 397.01 465.82 595.67 73.85 85.55 100.90 128.40 Ventura (SCC) Annual 2029 342.17 397.16 465.80 595.81 73.86 85.64 100.92 128.50 Ventura (SCC) Annual 2030 342.17 397.31 465.79 595.97 73.86 85.72 100.93 128.60 Ventura (SCC) Annual 2031 343.80 399.36 468.01 598.97 73.87 85.80 100.94 128.70 Ventura (SCC) Annual 2032 343.79 399.50 468.00 599.13 73.88 85.87 100.95 128.80 Ventura (SCC) Annual 2033 343.79 399.63 467.99 599.27 73.88 85.94 100.95 128.80 Ventura (SCC) Annual 2034 343.79 399.63 467.99 599.27 73.88 86.00 100.96 128.90 Ventura (SCC) Annual 2034 343.79 399.84 467.97 599.52 73.89 86.06 100.97 129.00 Ventura (SCC) Annual 2035 343.79 399.84 467.97 599.52 73.89 86.06 100.97 129.00 Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.79 73.39 83.96 99.49 125.10 Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.90 99.58 125.30 Ventura (SCC) Summer 2012 348.98 400.46 476.42 602.99 73.35 83.91 99.69 125.50 Ventura (SCC) Summer 2013 349.27 401.14 476.48 603.66 73.37 83.94 99.80 125.70 Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.50 Ventura (SCC) Summer 2015 351.94 404.82 479.63 608.85 73.37 84.01 100.00 126.20 Ventura (SCC) Summer 2016 352.14 405.30 479.66 610.04 73.44 84.15 100.20 126.60 Ventura (SCC) Summer 2017 352.28 405.73 479.66 610.04 73.44 84.15 100.20 126.60 Ventura (SCC) Summer 2017 352.28 405.73 479.66 610.05 73.47 84.25 100.29 126.60 Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.60 Ventura (SCC)	С	Ventura (SCC)	Annual	2023	340.67	394.58	463.88	592.33	73.77	85.03	100.71	127.78
C Ventura (SCC) Annual 2026 342.15 396.72 465.85 595.36 73.83 85.37 100.85 128.2 C Ventura (SCC) Annual 2027 342.16 396.87 465.84 595.51 73.84 85.46 100.88 128.3 C Ventura (SCC) Annual 2028 342.17 397.01 465.82 595.67 73.85 85.55 100.90 128.4 C Ventura (SCC) Annual 2029 342.17 397.16 465.80 595.81 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2030 342.17 397.31 465.79 595.97 73.86 85.72 100.93 128.6 C Ventura (SCC) Annual 2031 343.80 399.36 468.01 599.97 73.87 85.80 100.94 128.5 C Ventura (SCC) Annual 2033 343.79 399.50 468.00 599.13 73.88 </td <td>С</td> <td>Ventura (SCC)</td> <td>Annual</td> <td>2024</td> <td>342.13</td> <td>396.43</td> <td>465.87</td> <td>595.04</td> <td>73.79</td> <td>85.15</td> <td>100.77</td> <td>127.93</td>	С	Ventura (SCC)	Annual	2024	342.13	396.43	465.87	595.04	73.79	85.15	100.77	127.93
C Ventura (SCC) Annual 2027 342.16 396.87 465.84 595.51 73.84 85.46 100.88 128.3 C Ventura (SCC) Annual 2028 342.17 397.01 465.82 595.67 73.85 85.55 100.90 128.4 C Ventura (SCC) Annual 2029 342.17 397.16 465.80 595.81 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2030 342.17 397.31 465.79 595.97 73.86 85.72 100.93 128.6 C Ventura (SCC) Annual 2031 343.80 399.36 468.01 598.97 73.87 85.80 100.94 128.7 C Ventura (SCC) Annual 2032 343.79 399.50 468.00 599.13 73.88 85.87 100.95 128.8 C Ventura (SCC) Annual 2033 343.79 399.63 467.99 599.27 73.88 </td <td>С</td> <td>Ventura (SCC)</td> <td>Annual</td> <td>2025</td> <td>342.13</td> <td>396.57</td> <td>465.87</td> <td>595.19</td> <td>73.81</td> <td>85.26</td> <td>100.81</td> <td>128.07</td>	С	Ventura (SCC)	Annual	2025	342.13	396.57	465.87	595.19	73.81	85.26	100.81	128.07
C Ventura (SCC) Annual 2028 342.17 397.01 465.82 595.67 73.85 85.55 100.90 128.45 C Ventura (SCC) Annual 2029 342.17 397.16 465.80 595.81 73.86 85.64 100.92 128.55 C Ventura (SCC) Annual 2030 342.17 397.31 465.79 595.97 73.86 85.72 100.93 128.65 C Ventura (SCC) Annual 2031 343.80 399.36 468.01 598.97 73.87 85.80 100.94 128.75 C Ventura (SCC) Annual 2032 343.79 399.50 468.00 599.13 73.88 85.87 100.95 128.85 C Ventura (SCC) Annual 2033 343.79 399.63 467.99 599.27 73.88 85.94 100.96 128.95 C Ventura (SCC) Annual 2034 343.79 399.74 467.98 599.40 73.88 86.00 100.96 128.95 C Ventura (SCC) Annual 2035 343.79 399.84 467.97 599.52 73.89 86.06 100.97 129.05 C Ventura (SCC) Annual 2035 343.79 399.84 467.97 599.52 73.89 86.06 100.97 129.05 C Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.79 73.39 83.96 99.49 125.13 C Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.90 99.58 125.33 C Ventura (SCC) Summer 2012 348.98 400.46 476.42 602.99 73.35 83.91 99.69 125.55 C Ventura (SCC) Summer 2013 349.27 401.14 476.48 603.66 73.37 83.94 99.80 125.73 C Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.93 C Ventura (SCC) Summer 2016 352.14 405.30 479.65 609.45 73.42 84.08 100.11 126.43 C Ventura (SCC) Summer 2016 352.14 405.30 479.65 609.45 73.42 84.08 100.11 126.43 C Ventura (SCC) Summer 2017 352.28 405.73 479.66 610.04 73.44 84.15 100.20 126.65 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.65 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.65 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.65 C Ventura (SCC)	С	Ventura (SCC)	Annual	2026	342.15	396.72	465.85	595.36	73.83	85.37	100.85	128.21
C Ventura (SCC) Annual 2029 342.17 397.16 465.80 595.81 73.86 85.64 100.92 128.5 C Ventura (SCC) Annual 2030 342.17 397.31 465.79 595.97 73.86 85.72 100.93 128.6 C Ventura (SCC) Annual 2031 343.80 399.36 468.01 598.97 73.87 85.80 100.94 128.7 C Ventura (SCC) Annual 2032 343.79 399.50 468.00 599.13 73.88 85.87 100.95 128.8 C Ventura (SCC) Annual 2033 343.79 399.63 467.99 599.27 73.88 85.94 100.96 128.9 C Ventura (SCC) Annual 2034 343.79 399.74 467.98 599.40 73.88 86.00 100.96 128.9 C Ventura (SCC) Annual 2035 343.79 399.84 467.97 599.52 73.89 86.06 100.97 129.0 C Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.79 73.39 83.96 99.49 125.1 C Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.90 99.58 125.3 C Ventura (SCC) Summer 2012 348.98 400.46 476.42 602.99 73.35 83.91 99.69 125.5 C Ventura (SCC) Summer 2013 349.27 401.14 476.48 603.66 73.37 83.94 99.80 125.7 C Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.9 C Ventura (SCC) Summer 2015 351.94 404.82 479.63 608.85 73.37 84.01 100.00 126.2 C Ventura (SCC) Summer 2016 352.14 405.30 479.65 609.45 73.42 84.08 100.11 126.4 C Ventura (SCC) Summer 2017 352.28 405.73 479.66 610.04 73.44 84.15 100.20 126.65 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.65 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.65	С	Ventura (SCC)	Annual	2027	342.16	396.87	465.84	595.51	73.84	85.46	100.88	128.33
C Ventura (SCC) Annual 2030 342.17 397.31 465.79 595.97 73.86 85.72 100.93 128.6 C Ventura (SCC) Annual 2031 343.80 399.36 468.01 598.97 73.87 85.80 100.94 128.7 C Ventura (SCC) Annual 2032 343.79 399.50 468.00 599.13 73.88 85.87 100.95 128.8 C Ventura (SCC) Annual 2033 343.79 399.63 467.99 599.27 73.88 85.94 100.96 128.9 C Ventura (SCC) Annual 2034 343.79 399.74 467.98 599.40 73.88 86.00 100.96 128.9 C Ventura (SCC) Annual 2035 343.79 399.84 467.97 599.52 73.89 86.06 100.97 129.0 C Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.79 73.39 </td <td>С</td> <td>Ventura (SCC)</td> <td>Annual</td> <td>2028</td> <td>342.17</td> <td>397.01</td> <td>465.82</td> <td>595.67</td> <td>73.85</td> <td>85.55</td> <td>100.90</td> <td>128.45</td>	С	Ventura (SCC)	Annual	2028	342.17	397.01	465.82	595.67	73.85	85.55	100.90	128.45
C Ventura (SCC) Annual 2031 343.80 399.36 468.01 598.97 73.87 85.80 100.94 128.7 C Ventura (SCC) Annual 2032 343.79 399.50 468.00 599.13 73.88 85.87 100.95 128.8 C Ventura (SCC) Annual 2033 343.79 399.63 467.99 599.27 73.88 85.94 100.96 128.9 C Ventura (SCC) Annual 2034 343.79 399.74 467.98 599.40 73.88 86.00 100.96 128.9 C Ventura (SCC) Annual 2035 343.79 399.84 467.97 599.52 73.89 86.06 100.97 129.0 C Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.79 73.39 83.96 99.49 125.1 C Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 <td>С</td> <td>Ventura (SCC)</td> <td>Annual</td> <td>2029</td> <td></td> <td>397.16</td> <td>465.80</td> <td></td> <td>73.86</td> <td>85.64</td> <td></td> <td>128.55</td>	С	Ventura (SCC)	Annual	2029		397.16	465.80		73.86	85.64		128.55
C Ventura (SCC) Annual 2032 343.79 399.50 468.00 599.13 73.88 85.87 100.95 128.82 C Ventura (SCC) Annual 2033 343.79 399.63 467.99 599.27 73.88 85.94 100.96 128.93 C Ventura (SCC) Annual 2034 343.79 399.74 467.98 599.40 73.88 86.00 100.96 128.93 C Ventura (SCC) Annual 2035 343.79 399.84 467.97 599.52 73.89 86.06 100.97 129.00 C Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.79 73.39 83.96 99.49 125.10 C Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.90 99.58 125.30 C Ventura (SCC) Summer 2012 348.98 400.46 476.42 602.99 73.35 83.91 99.69 125.50 C Ventura (SCC) Summer 2013 349.27 401.14 476.48 603.66 73.37 83.94 99.80 125.70 C Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.90 C Ventura (SCC) Summer 2015 351.94 404.82 479.63 608.85 73.37 84.01 100.00 126.20 C Ventura (SCC) Summer 2016 352.14 405.30 479.65 609.45 73.42 84.08 100.11 126.40 C Ventura (SCC) Summer 2017 352.28 405.73 479.66 610.04 73.44 84.15 100.20 126.60 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.60 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.60 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.60 C Ventura (SCC)	С	Ventura (SCC)	Annual	2030		397.31	465.79	595.97	73.86	85.72	100.93	128.65
C Ventura (SCC) Annual 2033 343.79 399.63 467.99 599.27 73.88 85.94 100.96 128.93 C Ventura (SCC) Annual 2034 343.79 399.74 467.98 599.40 73.88 86.00 100.96 128.93 C Ventura (SCC) Annual 2035 343.79 399.84 467.97 599.52 73.89 86.06 100.97 129.00 C Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.79 73.39 83.96 99.49 125.1 C Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.90 99.58 125.3 C Ventura (SCC) Summer 2012 348.98 400.46 476.42 602.99 73.35 83.91 99.69 125.5 C Ventura (SCC) Summer 2013 349.27 401.14 476.48 604.24 73.35 </td <td>С</td> <td>Ventura (SCC)</td> <td>Annual</td> <td>2031</td> <td>343.80</td> <td>399.36</td> <td>468.01</td> <td>598.97</td> <td>73.87</td> <td>85.80</td> <td>100.94</td> <td>128.74</td>	С	Ventura (SCC)	Annual	2031	343.80	399.36	468.01	598.97	73.87	85.80	100.94	128.74
C Ventura (SCC) Annual 2034 343.79 399.74 467.98 599.40 73.88 86.00 100.96 128.9 C Ventura (SCC) Annual 2035 343.79 399.84 467.97 599.52 73.89 86.06 100.97 129.0 C Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.79 73.39 83.96 99.49 125.1 C Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.90 99.58 125.3 C Ventura (SCC) Summer 2012 348.98 400.46 476.42 602.99 73.35 83.91 99.69 125.5 C Ventura (SCC) Summer 2013 349.27 401.14 476.48 603.66 73.37 83.94 99.80 125.7 C Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35	С	Ventura (SCC)	Annual	2032	343.79	399.50	468.00	599.13	73.88	85.87	100.95	128.83
C Ventura (SCC) Annual 2035 343.79 399.84 467.97 599.52 73.89 86.06 100.97 129.00 C Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.79 73.39 83.96 99.49 125.1 C Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.90 99.58 125.3 C Ventura (SCC) Summer 2012 348.98 400.46 476.42 602.99 73.35 83.91 99.69 125.5 C Ventura (SCC) Summer 2013 349.27 401.14 476.48 603.66 73.37 83.94 99.80 125.7 C Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.9 C Ventura (SCC) Summer 2015 351.94 404.82 479.63 608.85 73.37	С	Ventura (SCC)	Annual	2033	343.79	399.63	467.99	599.27	73.88	85.94	100.96	128.92
C Ventura (SCC) Summer 2010 347.83 398.15 475.58 600.79 73.39 83.96 99.49 125.1 C Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.90 99.58 125.3 C Ventura (SCC) Summer 2012 348.98 400.46 476.42 602.99 73.35 83.91 99.69 125.5 C Ventura (SCC) Summer 2013 349.27 401.14 476.48 603.66 73.37 83.94 99.80 125.7 C Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.9 C Ventura (SCC) Summer 2015 351.94 404.82 479.63 608.85 73.37 84.01 100.00 126.2 C Ventura (SCC) Summer 2016 352.14 405.30 479.65 609.45 73.42	С	Ventura (SCC)	Annual	2034	343.79	399.74	467.98	599.40	73.88	86.00	100.96	128.99
C Ventura (SCC) Summer 2011 348.77 399.76 476.48 602.48 73.37 83.90 99.58 125.3 C Ventura (SCC) Summer 2012 348.98 400.46 476.42 602.99 73.35 83.91 99.69 125.5 C Ventura (SCC) Summer 2013 349.27 401.14 476.48 603.66 73.37 83.94 99.80 125.7 C Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.9 C Ventura (SCC) Summer 2015 351.94 404.82 479.63 608.85 73.37 84.01 100.00 126.2 C Ventura (SCC) Summer 2016 352.14 405.30 479.65 609.45 73.42 84.08 100.11 126.4 C Ventura (SCC) Summer 2017 352.28 405.73 479.66 610.04 73.44	С	Ventura (SCC)	Annual	2035	343.79	399.84	467.97	599.52	73.89	86.06	100.97	129.06
C Ventura (SCC) Summer 2012 348.98 400.46 476.42 602.99 73.35 83.91 99.69 125.5 C Ventura (SCC) Summer 2013 349.27 401.14 476.48 603.66 73.37 83.94 99.80 125.7 C Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.9 C Ventura (SCC) Summer 2015 351.94 404.82 479.63 608.85 73.37 84.01 100.00 126.2 C Ventura (SCC) Summer 2016 352.14 405.30 479.65 609.45 73.42 84.08 100.11 126.4 C Ventura (SCC) Summer 2017 352.28 405.73 479.66 610.04 73.44 84.15 100.20 126.60 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 <td>С</td> <td>Ventura (SCC)</td> <td>Summer</td> <td>2010</td> <td>347.83</td> <td>398.15</td> <td>475.58</td> <td>600.79</td> <td>73.39</td> <td>83.96</td> <td>99.49</td> <td>125.11</td>	С	Ventura (SCC)	Summer	2010	347.83	398.15	475.58	600.79	73.39	83.96	99.49	125.11
C Ventura (SCC) Summer 2013 349.27 401.14 476.48 603.66 73.37 83.94 99.80 125.7 C Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.9 C Ventura (SCC) Summer 2015 351.94 404.82 479.63 608.85 73.37 84.01 100.00 126.2 C Ventura (SCC) Summer 2016 352.14 405.30 479.65 609.45 73.42 84.08 100.11 126.4 C Ventura (SCC) Summer 2017 352.28 405.73 479.66 610.04 73.44 84.15 100.20 126.6 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.04 73.47 84.25 100.29 126.9	С	Ventura (SCC)	Summer	2011	348.77	399.76	476.48	602.48	73.37	83.90	99.58	125.31
C Ventura (SCC) Summer 2014 349.45 401.68 476.48 604.24 73.35 83.96 99.91 125.93 C Ventura (SCC) Summer 2015 351.94 404.82 479.63 608.85 73.37 84.01 100.00 126.23 C Ventura (SCC) Summer 2016 352.14 405.30 479.65 609.45 73.42 84.08 100.11 126.43 C Ventura (SCC) Summer 2017 352.28 405.73 479.66 610.04 73.44 84.15 100.20 126.63 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.63	С	Ventura (SCC)	Summer	2012	348.98	400.46	476.42	602.99	73.35	83.91	99.69	125.52
C Ventura (SCC) Summer 2015 351.94 404.82 479.63 608.85 73.37 84.01 100.00 126.2 C Ventura (SCC) Summer 2016 352.14 405.30 479.65 609.45 73.42 84.08 100.11 126.4 C Ventura (SCC) Summer 2017 352.28 405.73 479.66 610.04 73.44 84.15 100.20 126.6 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.9	С	Ventura (SCC)	Summer	2013	349.27	401.14	476.48	603.66	73.37	83.94	99.80	125.74
C Ventura (SCC) Summer 2016 352.14 405.30 479.65 609.45 73.42 84.08 100.11 126.4 C Ventura (SCC) Summer 2017 352.28 405.73 479.66 610.04 73.44 84.15 100.20 126.6 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.9	С	Ventura (SCC)	Summer	2014	349.45	401.68	476.48	604.24	73.35	83.96	99.91	125.96
C Ventura (SCC) Summer 2017 352.28 405.73 479.66 610.04 73.44 84.15 100.20 126.6 C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.9	С	Ventura (SCC)	Summer	2015	351.94	404.82	479.63	608.85	73.37	84.01	100.00	126.20
C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.9	С	Ventura (SCC)	Summer	2016	352.14	405.30	479.65	609.45	73.42	84.08	100.11	126.44
C Ventura (SCC) Summer 2018 352.41 406.11 479.66 610.55 73.47 84.25 100.29 126.9	С	Ventura (SCC)	Summer	2017	352.28	405.73	479.66	610.04	73.44	84.15	100.20	126.68
C Ventura (SCC) Summer 2019 353.67 407.82 481.25 613.02 73.51 84.41 100.38 127.1	С	Ventura (SCC)	Summer	2018	352.41	406.11	479.66	610.55	73.47	84.25	100.29	126.90
	С	Ventura (SCC)	Summer	2019	353.67	407.82	481.25	613.02	73.51	84.41	100.38	127.11

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	I			CO2 Dunni	na (a/\/NAT	`	CO2 Starting (g/trip)						
	Location		.,		O2 Runni									
_	V((200)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV			
С	Ventura (SCC)	Summer	2020	353.77	408.15	481.25	613.43	73.61	84.58	100.48	127.31			
C	Ventura (SCC)	Summer	2021	355.80	410.74	483.94	617.18	73.68	84.75		127.48			
С	Ventura (SCC)	Summer	2022	355.84	411.01	483.93	617.47	73.73	84.90		127.62			
C	Ventura (SCC)	Summer	2023	355.85	411.23	483.92	617.68	73.77	85.03	100.71	127.78			
С	Ventura (SCC)	Summer	2024	357.40	413.22	486.02	620.55	73.79	85.15	100.77	127.93			
С	Ventura (SCC)	Summer	2025	357.40	413.40	486.01	620.72	73.81	85.26	100.81	128.07			
С	Ventura (SCC)	Summer	2026	357.42	413.59	486.00	620.90	73.83	85.37	100.85	128.21			
С	Ventura (SCC)	Summer	2027	357.43	413.77	485.98	621.06	73.84	85.46	100.88	128.33			
С	Ventura (SCC)	Summer	2028	357.44	413.94	485.96	621.21	73.85	85.55	100.90	128.45			
С	Ventura (SCC)	Summer	2029	357.45	414.12	485.94	621.36	73.86	85.64	100.92	128.55			
С	Ventura (SCC)	Summer	2030	357.45	414.30	485.93	621.52	73.86	85.72	100.93	128.65			
С	Ventura (SCC)	Summer	2031	359.14	416.47	488.25	624.65	73.87	85.80	100.94	128.74			
С	Ventura (SCC)	Summer	2032	359.14	416.64	488.24	624.81	73.88	85.87	100.95	128.83			
С	Ventura (SCC)	Summer	2033	359.14	416.79	488.23	624.96	73.88	85.94	100.96	128.92			
С	Ventura (SCC)	Summer	2034	359.13	416.92	488.22	625.10	73.88	86.00	100.96	128.99			
С	Ventura (SCC)	Summer	2035	359.13	417.02	488.21	625.23	73.89	86.06	100.97	129.06			
С	Ventura (SCC)	Winter	2010	330.44	380.19	452.56	571.78	73.39	83.96	99.49	125.11			
С	Ventura (SCC)	Winter	2011	331.27	381.49	453.38	573.48	73.37	83.90	99.58	125.31			
С	Ventura (SCC)	Winter	2012	331.43	381.98	453.29	574.02	73.35	83.91	99.69	125.52			
С	Ventura (SCC)	Winter	2013	331.65	382.46	453.27	574.64	73.37	83.94	99.80	125.74			
С	Ventura (SCC)	Winter	2014	331.80	382.87	453.21	575.18	73.35	83.96	99.91	125.96			
С	Ventura (SCC)	Winter	2015	334.12	385.75	456.13	579.48	73.37	84.01	100.00	126.20			
С	Ventura (SCC)	Winter	2016	334.29	386.12	456.10	579.99	73.42	84.08	100.11	126.44			
С	Ventura (SCC)	Winter	2017	334.41	386.47	456.07	580.49	73.44	84.15	100.20	126.68			
С	Ventura (SCC)	Winter	2018	334.52	386.78	456.06	580.93	73.47	84.25	100.29	126.90			
С	Ventura (SCC)	Winter	2019	335.73	388.37	457.57	583.24	73.51	84.41	100.38	127.11			
С	Ventura (SCC)	Winter	2020	335.82	388.65	457.57	583.59	73.61	84.58	100.48	127.31			
С	Ventura (SCC)	Winter	2021	337.74	391.05	460.10	587.10	73.68	84.75	100.57	127.48			
С	Ventura (SCC)	Winter	2022	337.78	391.26	460.10	587.34	73.73	84.90	100.65	127.62			
С	Ventura (SCC)	Winter	2023	337.80	391.43	460.09	587.53	73.77	85.03	100.71	127.78			
С	Ventura (SCC)	Winter	2024	339.24	393.25	462.06	590.20	73.79	85.15	100.77	127.93			
С	Ventura (SCC)	Winter	2025	339.24	393.38	462.05	590.36	73.81	85.26	100.81	128.07			
С	Ventura (SCC)	Winter	2026	339.26	393.53	462.04	590.52	73.83	85.37	100.85	128.21			
C	Ventura (SCC)	Winter	2027	339.27	393.67	462.02	590.68	73.84		100.88				
С	Ventura (SCC)	Winter	2028	339.28	393.81	462.01	590.83	73.85	85.55		128.45			
С	Ventura (SCC)	Winter	2029	339.28	393.95	461.99	590.98	73.86		100.92	128.55			
С	Ventura (SCC)	Winter	2030	339.28	394.09	461.98	591.13	73.86	85.72	100.93	128.65			
C	Ventura (SCC)	Winter	2031	340.89	396.12	464.18	594.11	73.87	85.80		128.74			
С	Ventura (SCC)	Winter	2032	340.89	396.26	464.17	594.27	73.88	85.87	100.95	128.83			
C	Ventura (SCC)	Winter	2032	340.89	396.38	464.16	594.41	73.88	85.94	100.96	128.92			
C	Ventura (SCC)	Winter	2034	340.89	396.49	464.15	594.54	73.88	86.00	100.96	128.99			
C	Ventura (SCC)	Winter	2035	340.88	396.58	464.14	594.65	73.89	86.06	100.97	129.06			
С	Yolo (SV)	Annual	2010	336.72	387.12	461.65	581.89	72.73	85.31	99.86	124.93			
C	Yolo (SV)	Annual	2010	336.97	387.81	461.52	582.48	72.77	85.00	99.91	125.14			
C	Yolo (SV)	Annual	2011	337.24	388.46	461.43	583.14	72.83	84.86	99.98	125.14			
C	· ·		2012	337.49	389.01	461.43	583.82	72.90	84.70		125.63			
C	Yolo (SV) Yolo (SV)	Annual	2013	337.72	389.50	461.33		72.96	84.61	100.04	125.89			
		Annual					584.51							
C	Yolo (SV)	Annual	2015	337.96	389.95	461.30	585.20	73.06	84.57	100.16	126.15			
С	Yolo (SV)	Annual	2016	338.17	390.35	461.29	585.85	73.15	84.56	100.24	126.41			
С	Yolo (SV)	Annual	2017	338.34	390.69	461.27	586.46	73.23	84.51	100.28	126.67			
C	Yolo (SV)	Annual	2018	338.49	390.99	461.25	586.98	73.31	84.52	100.34	126.91			
С	Yolo (SV)	Annual	2019	337.20	389.64	459.31	584.97	73.38	84.60		127.12			
С	Yolo (SV)	Annual	2020	337.30	389.89	459.30	585.36	73.47	84.72	100.49	127.33			
С	Yolo (SV)	Annual	2021	337.38	390.13	459.28	585.66	73.55	84.88	100.58	127.49			

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location	1			CO2 Bunni	na (a/\/MT	`		CO2 Star	tina (a/tri	n)
	Location	C	V		CO2 Runni						
_	V-1- (0\0)	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
<u>C</u>	Yolo (SV)	Annual	2022	337.43	390.34	459.26	585.92	73.61	85.01	100.66	127.63
C	Yolo (SV)	Annual	2023	337.45	390.51	459.24	586.13	73.65	85.13		127.79
С	Yolo (SV)	Annual	2024	337.46	390.65	459.23	586.27	73.67	85.24	100.77	127.93
С	Yolo (SV)	Annual	2025	337.46	390.78	459.21	586.42	73.70	85.33	100.81	128.07
С	Yolo (SV)	Annual	2026	337.48	390.92	459.20	586.59	73.72	85.43	100.85	128.21
C	Yolo (SV)	Annual	2027	337.50	391.06	459.19	586.76	73.73	85.51	100.88	128.33
С	Yolo (SV)	Annual	2028	337.51	391.21	459.18	586.92	73.74	85.59	100.90	128.44
С	Yolo (SV)	Annual	2029	337.51	391.35	459.16	587.08	73.75	85.67	100.92	128.55
С	Yolo (SV)	Annual	2030	337.52	391.49	459.15	587.25	73.75	85.74	100.93	128.65
С	Yolo (SV)	Annual	2031	337.52	391.63	459.14	587.41	73.76	85.81	100.94	128.74
С	Yolo (SV)	Annual	2032	337.52	391.76	459.13	587.58	73.77	85.88	100.95	128.83
С	Yolo (SV)	Annual	2033	337.52	391.88	459.12	587.73	73.77	85.94	100.95	128.92
С	Yolo (SV)	Annual	2034	337.52	391.98	459.11	587.88	73.77	85.99	100.96	129.00
С	Yolo (SV)	Annual	2035	337.52	392.07	459.10	588.00	73.78	86.04	100.96	129.07
С	Yolo (SV)	Summer	2010	372.26	423.83	508.64	641.11	72.73	85.31	99.86	124.93
С	Yolo (SV)	Summer	2011	372.71	425.23	508.71	641.62	72.77	85.00	99.91	125.14
С	Yolo (SV)	Summer	2012	373.13	426.43	508.79	642.30	72.83	84.86	99.98	125.38
С	Yolo (SV)	Summer	2013	373.50	427.43	508.90	643.09	72.90	84.70	100.04	125.63
С	Yolo (SV)	Summer	2014	373.83	428.27	509.03	643.94	72.96	84.61	100.12	125.89
С	Yolo (SV)	Summer	2015	374.13	429.00	509.16	644.86	73.06	84.57	100.16	126.15
С	Yolo (SV)	Summer	2016	374.39	429.62	509.25	645.72	73.15	84.56	100.24	126.41
С	Yolo (SV)	Summer	2017	374.59	430.15	509.32	646.54	73.23	84.51	100.28	126.67
С	Yolo (SV)	Summer	2018	374.75	430.58	509.32	647.21	73.31	84.52	100.34	126.91
С	Yolo (SV)	Summer	2019	373.25	429.11	507.09	644.96	73.38	84.60	100.41	127.12
С	Yolo (SV)	Summer	2020	373.34	429.45	507.05	645.44	73.47	84.72	100.49	127.33
С	Yolo (SV)	Summer	2021	373.41	429.79	506.99	645.81	73.55	84.88	100.58	127.49
С	Yolo (SV)	Summer	2022	373.45	430.08	506.94	646.13	73.61	85.01	100.66	127.63
С	Yolo (SV)	Summer	2023	373.47	430.33	506.89	646.38	73.65	85.13	100.72	127.79
С	Yolo (SV)	Summer	2024	373.48	430.55	506.85	646.54	73.67	85.24	100.77	127.93
С	Yolo (SV)	Summer	2025	373.49	430.75	506.82	646.69	73.70	85.33	100.81	128.07
С	Yolo (SV)	Summer	2026	373.51	430.95	506.82	646.89	73.72	85.43	100.85	128.21
С	Yolo (SV)	Summer	2027	373.52	431.16	506.83	647.07	73.73	85.51	100.88	128.33
С	Yolo (SV)	Summer	2028	373.54	431.36	506.84	647.25	73.74	85.59	100.90	128.44
С	Yolo (SV)	Summer	2029	373.55	431.57	506.84	647.44	73.75	85.67	100.92	128.55
С	Yolo (SV)	Summer	2030	373.55	431.77	506.84	647.62	73.75	85.74	100.93	128.65
С	Yolo (SV)	Summer	2031	373.56	431.98	506.84	647.80	73.76	85.81	100.94	128.74
С	Yolo (SV)	Summer	2032	373.57	432.16	506.83	647.98	73.77	85.88	100.95	128.83
С	Yolo (SV)	Summer	2033	373.58	432.31	506.82	648.16	73.77	85.94	100.95	128.92
С	Yolo (SV)	Summer	2034	373.58	432.44	506.81	648.34	73.77	85.99	100.96	129.00
С	Yolo (SV)	Summer	2035	373.58	432.55	506.80	648.50	73.78	86.04	100.96	129.07
С	Yolo (SV)	Winter	2010	327.05	377.13	448.86	565.78	72.73	85.31	99.86	124.93
C	Yolo (SV)	Winter	2011	327.25	377.62	448.68	566.39	72.77	85.00	99.91	125.14
C	Yolo (SV)	Winter	2012	327.47	378.13	448.54	567.03	72.83	84.86	99.98	125.38
C	Yolo (SV)	Winter	2013	327.69	378.55	448.43	567.69	72.90	84.70	100.04	125.63
С	Yolo (SV)	Winter	2014	327.89	378.94	448.35	568.33	72.96	84.61	100.12	125.89
С	Yolo (SV)	Winter	2015	328.11	379.32	448.28	568.96	73.06	84.57	100.16	126.15
С	Yolo (SV)	Winter	2016	328.31	379.66	448.23	569.55	73.15	84.56	100.10	126.41
С	Yolo (SV)	Winter	2017	328.47	379.95	448.19	570.10	73.23	84.51	100.28	126.67
С	Yolo (SV)	Winter	2018	328.62	380.21	448.17	570.58	73.31	84.52	100.34	126.91
C	Yolo (SV)	Winter	2019	327.41	378.92	446.34	568.68	73.38	84.60	100.41	127.12
C	Yolo (SV)	Winter	2020	327.51	379.14	446.33	569.04	73.47	84.72	100.41	127.12
c C	Yolo (SV)	Winter	2020	327.59	379.14	446.32	569.33	73.55	84.88		127.49
C	Yolo (SV)	Winter	2021	327.64	379.55	446.32	569.57	73.61	85.01		127.49
C	Yolo (SV)	Winter	2022	327.66		446.30	569.76	73.65			127.03
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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location		I	(CO2 Runni	na (a/\/MT)	(CO2 Star	tina (a/tri	n)
	Location	Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Yolo (SV)	Winter	2024	327.67	379.81	446.29	569.90	73.67	85.24	100.77	127.93
<u>с</u> С	· ·	Winter	2024	327.68		446.28	570.05	73.70	85.33		128.07
_	Yolo (SV)				379.92						
C C	Yolo (SV)	Winter	2026	327.70	380.05	446.27	570.22	73.72	85.43		128.21
C	Yolo (SV)	Winter	2027	327.72	380.18	446.25	570.38	73.73	85.51		128.33
C	Yolo (SV)	Winter	2028	327.73	380.30	446.23	570.54	73.74	85.59	100.90	128.44
С	Yolo (SV)	Winter	2029	327.73	380.42	446.21	570.69	73.75	85.67	100.92	128.55
С	Yolo (SV)	Winter	2030	327.73	380.55	446.20	570.85	73.75	85.74	100.93	128.65
С	Yolo (SV)	Winter	2031	327.73	380.67	446.19	571.01	73.76	85.81	100.94	128.74
С	Yolo (SV)	Winter	2032	327.73	380.79	446.18	571.17	73.77	85.88	100.95	128.83
С	Yolo (SV)	Winter	2033	327.73	380.89	446.17	571.32	73.77	85.94	100.95	128.92
С	Yolo (SV)	Winter	2034	327.73	380.99	446.16	571.45	73.77	85.99	100.96	129.00
С	Yolo (SV)	Winter	2035	327.72	381.07	446.15	571.57	73.78	86.04	100.96	129.07
С	Yuba (SV)	Annual	2010	331.71	387.20	455.73	569.14	73.59	94.17	100.78	124.81
С	Yuba (SV)	Annual	2011	331.88	386.92	455.13	569.94	73.55	92.48	100.68	124.98
С	Yuba (SV)	Annual	2012	332.08	386.74	454.68	570.82	73.57	91.09	100.67	125.20
С	Yuba (SV)	Annual	2013	332.28	386.58	454.33	571.76	73.58	89.86	100.67	125.45
С	Yuba (SV)	Annual	2014	332.43	386.50	454.06	572.63	73.55	88.96	100.63	125.71
С	Yuba (SV)	Annual	2015	332.60	386.32	453.85	573.51	73.58	87.83	100.63	125.99
С	Yuba (SV)	Annual	2016	332.76	386.25	453.68	574.33	73.63	87.10	100.62	126.28
С	Yuba (SV)	Annual	2017	332.89	386.13	453.53	575.09	73.67	86.26	100.64	126.56
С	Yuba (SV)	Annual	2018	332.95	386.05	453.40	575.74	73.66	85.67	100.67	126.82
С	Yuba (SV)	Annual	2019	329.78	382.30	448.92	570.68	73.66	85.36	100.69	127.05
С	Yuba (SV)	Annual	2020	329.83	382.32	448.84	571.12	73.74	85.30	100.76	127.28
С	Yuba (SV)	Annual	2021	329.87	382.43	448.77	571.46	73.80	85.40	100.82	127.44
С	Yuba (SV)	Annual	2022	329.88	382.52	448.70	571.71	73.85	85.48	100.87	127.53
С	Yuba (SV)	Annual	2023	329.88	382.59	448.64	571.92	73.88	85.55	100.91	127.71
С	Yuba (SV)	Annual	2024	329.85	382.67	448.59	572.07	73.89	85.63	100.94	127.87
С	Yuba (SV)	Annual	2025	329.83	382.75	448.55	572.24	73.90	85.70	100.96	128.02
С	Yuba (SV)	Annual	2026	329.85	382.83	448.50	572.40	73.92	85.77	100.98	128.17
С	Yuba (SV)	Annual	2027	329.86	382.89	448.45	572.55	73.94	85.83	100.99	128.30
С	Yuba (SV)	Annual	2028	329.87	382.96	448.40	572.72	73.95	85.88	101.00	128.42
С	Yuba (SV)	Annual	2029	329.87	383.04	448.35	572.89	73.95	85.93	101.00	128.53
С	Yuba (SV)	Annual	2030	329.86	383.11	448.30	573.07	73.96	85.98	100.99	128.64
C	Yuba (SV)	Annual	2031	329.86			573.23	73.96		100.99	
C	Yuba (SV)	Annual	2032	329.86	383.24	448.26	573.41	73.96	86.07	101.00	128.84
С	Yuba (SV)	Annual	2033	329.86	383.30	448.24	573.57	73.97			128.93
С	Yuba (SV)	Annual	2034	329.86	383.35	448.22	573.72	73.97	_	101.00	129.01
С	Yuba (SV)	Annual	2035	329.85	383.39	448.21	573.85	73.98		101.00	129.08
С	Yuba (SV)	Summer	2010	368.33	425.28	503.39	628.81	73.59	94.17	100.78	124.81
C	Yuba (SV)	Summer	2011	368.82	425.88	503.44	629.79	73.55	92.48		124.98
C	Yuba (SV)	Summer	2011	369.28	426.40	503.45	630.96	73.57	91.09		125.20
C	Yuba (SV)	Summer	2012	369.67	426.80	503.45	632.27	73.58	89.86		125.45
	\ /										
C	Yuba (SV)	Summer	2014	369.96	427.10	503.47	633.51	73.55		100.63	125.71
С	Yuba (SV)	Summer	2015	370.23	427.34	503.46	634.77	73.58	87.83		125.99
С	Yuba (SV)	Summer	2016	370.46	427.52	503.42	635.97	73.63		100.62	126.28
С	Yuba (SV)	Summer	2017	370.61	427.67	503.33	637.05	73.67			126.56
C	Yuba (SV)	Summer	2018	370.68	427.77	503.20	637.94	73.66	85.67	100.67	126.82
C	Yuba (SV)	Summer	2019	367.12	423.68	498.20	632.43	73.66	85.36		127.05
С	Yuba (SV)	Summer	2020	367.15	423.74	498.07	632.99	73.74	85.30		127.28
C	Yuba (SV)	Summer	2021	367.16	423.89	497.95	633.41	73.80	85.40		127.44
С	Yuba (SV)	Summer	2022	367.15	424.03	497.86	633.76	73.85		100.87	127.53
С	Yuba (SV)	Summer	2023	367.14	424.15	497.79	634.02	73.88		100.91	127.71
С	Yuba (SV)	Summer	2024	367.11	424.30	497.73	634.20	73.89	85.63		127.87
С	Yuba (SV)	Summer	2025	367.09	424.44	497.70	634.39	73.90	85.70	100.96	128.02

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			(O2 Runni	ng (a/VMT	-)	(CO2 Sta	rting (g/tr	ip)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
С	Yuba (SV)	Summer	2026	367.12	424.53	497.64	634.51	73.92	85.77	100.98	128.17
С	Yuba (SV)	Summer	2027	367.15	424.62	497.59	634.66	73.94	85.83		128.30
С	Yuba (SV)	Summer	2028	367.18	424.72	497.56	634.82	73.95	85.88		128.42
С	Yuba (SV)	Summer	2029	367.20	424.83	497.53	635.01	73.95	85.93		128.53
С	Yuba (SV)	Summer	2030	367.22	424.95	497.51	635.21	73.96	85.98	100.99	128.64
С	Yuba (SV)	Summer	2031	367.22	425.04	497.51	635.38	73.96	86.03	100.99	128.74
С	Yuba (SV)	Summer	2032	367.23	425.12	497.51	635.56	73.96	86.07	101.00	128.84
С	Yuba (SV)	Summer	2033	367.23	425.19	497.51	635.76	73.97	86.11	101.00	128.93
С	Yuba (SV)	Summer	2034	367.23	425.26	497.50	635.95	73.97	86.15	101.00	129.01
С	Yuba (SV)	Summer	2035	367.22	425.31	497.50	636.13	73.98	86.18	101.00	129.08
С	Yuba (SV)	Winter	2010	322.00	377.10	443.10	553.32	73.59	94.17	100.78	124.81
С	Yuba (SV)	Winter	2011	322.08	376.59	442.32	554.07	73.55	92.48	100.68	124.98
С	Yuba (SV)	Winter	2012	322.22	376.23	441.75	554.87	73.57	91.09	100.67	125.20
С	Yuba (SV)	Winter	2013	322.37	375.91	441.30	555.71	73.58	89.86	100.67	125.45
С	Yuba (SV)	Winter	2014	322.48	375.73	440.96	556.49	73.55	88.96	100.63	125.71
С	Yuba (SV)	Winter	2015	322.62	375.45	440.69	557.26	73.58	87.83	100.63	125.99
С	Yuba (SV)	Winter	2016	322.77	375.30	440.49	557.99	73.63	87.10	100.62	126.28
С	Yuba (SV)	Winter	2017	322.88	375.11	440.32	558.67	73.67	86.26	100.64	126.56
С	Yuba (SV)	Winter	2018	322.95	374.99	440.20	559.25	73.66	85.67	100.67	126.82
С	Yuba (SV)	Winter	2019	319.88	371.33	435.86	554.31	73.66	85.36	100.69	127.05
С	Yuba (SV)	Winter	2020	319.94	371.34	435.79	554.72	73.74	85.30	100.76	127.28
С	Yuba (SV)	Winter	2021	319.98	371.44	435.73	555.03	73.80	85.40	100.82	127.44
С	Yuba (SV)	Winter	2022	320.00	371.52	435.67	555.26	73.85	85.48	100.87	127.53
С	Yuba (SV)	Winter	2023	320.00	371.57	435.61	555.46	73.88	85.55	100.91	127.71
С	Yuba (SV)	Winter	2024	319.98	371.63	435.57	555.60	73.89	85.63	100.94	127.87
С	Yuba (SV)	Winter	2025	319.96	371.70	435.52	555.77	73.90	85.70	100.96	128.02
С	Yuba (SV)	Winter	2026	319.97	371.77	435.47	555.93	73.92	85.77	100.98	128.17
С	Yuba (SV)	Winter	2027	319.97	371.83	435.42	556.09	73.94	85.83	100.99	128.30
С	Yuba (SV)	Winter	2028	319.97	371.89	435.37	556.26	73.95	85.88	101.00	128.42
С	Yuba (SV)	Winter	2029	319.97	371.96	435.31	556.42	73.95	85.93		128.53
С	Yuba (SV)	Winter	2030	319.96	372.02	435.26	556.59	73.96	85.98	100.99	128.64
С	Yuba (SV)	Winter	2031	319.96	372.08	435.22	556.76	73.96	86.03	100.99	128.74
С	Yuba (SV)	Winter	2032	319.96	372.14	435.20	556.93	73.96	86.07	101.00	128.84
	Yuba (SV)	Winter	2033	319.95	372.19	435.18	557.08	73.97	86.11	101.00	
С	Yuba (SV)	Winter	2034	319.95	372.24	435.15	557.22	73.97	86.15	101.00	129.01
С	Yuba (SV)	Winter	2035	319.95	372.27	435.14	557.34	73.98	86.18	101.00	129.08
S	State	Annual	2010	348.30	399.84	476.00	599.04	73.17	84.92	99.67	124.99
S	State	Annual	2011	348.67	400.62	476.13	599.97	73.18	84.72	99.73	125.19
S	State	Annual	2012	348.78	401.01	475.89	600.42	73.21	84.60		125.41
S	State	Annual	2013	348.91	401.36	475.66	600.88	73.26	84.51	99.92	125.64
S	State	Annual	2014	349.03	401.70	475.49	601.40	73.30	84.45		125.88
S	State	Annual	2015	349.34	402.17	475.56	602.18	73.36	84.42		126.13
S	State	Annual	2016	349.52	402.53	475.51	602.82	73.43	84.42		126.39
S	State	Annual	2017	349.60	402.79	475.40	603.33	73.48		100.27	126.64
S	State	Annual	2018	349.73	403.11	475.42	603.91	73.51		100.34	126.88
S	State	Annual	2019	349.43	402.96	474.90	603.76	73.56	84.57		127.10
S	State	Annual	2020	349.47	403.17	474.82	604.08	73.66		100.51	127.31
S	State	Annual	2021	349.92	403.86	475.37	605.14	73.73		100.60	127.48
S	State	Annual	2022	349.89	404.04	475.31	605.39	73.78	85.02	100.68	127.63
S	State	Annual	2023	349.84	404.17	475.26	605.57	73.81	85.14		127.79
S	State	Annual	2024	350.69	405.29	476.43	607.26	73.83	85.25		127.94
S	State	Annual	2025	350.63	405.38	476.38	607.40	73.85	85.35		128.09
S	State	Annual	2026	350.65	405.61	476.40	607.67	73.86	85.45		128.23
S	State	Annual	2027	350.61	405.72	476.34	607.80	73.88	85.54	100.89	128.35

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

		I	-		200.5	/ 8	, I	CO2 Starting (g/trip)						
	Location				CO2 Runni									
L		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV			
S	State	Annual	2028	350.56	405.84	476.28	607.92	73.89	85.62	100.91	128.46			
S	State	Annual	2029	350.51	405.95	476.21	608.04	73.90	85.70	100.93	128.57			
S	State	Annual	2030	350.45	406.07	476.14	608.17	73.90	85.77	100.94	128.66			
S	State	Annual	2031	350.80	406.69	476.65	609.06	73.90	85.85	100.95	128.76			
S	State	Annual	2032	350.74	406.81	476.61	609.20	73.91	85.92	100.95	128.85			
S	State	Annual	2033	350.68	406.91	476.58	609.32	73.91	85.98	100.96	128.93			
S	State	Annual	2034	350.62	407.00	476.54	609.43	73.92	86.04	100.97	129.01			
S	State	Annual	2035	350.56	407.07	476.50	609.52	73.92	86.09	100.97	129.08			
S	State	Summer	2010	371.32	424.00	506.45	638.85	73.17	84.92	99.67	124.99			
S	State	Summer	2011	371.88	425.31	506.78	639.81	73.18	84.72	99.73	125.19			
S	State	Summer	2012	372.11	426.09	506.67	640.31	73.21	84.60	99.83	125.41			
S	State	Summer	2013	372.33	426.77	506.57	640.88	73.26	84.51	99.92	125.64			
S	State	Summer	2014	372.54	427.37	506.54	641.54	73.30	84.45	100.01	125.88			
S	State	Summer	2015	372.93	428.07	506.76	642.54	73.36	84.42	100.10	126.13			
S	State	Summer	2016	373.17	428.62	506.84	643.39	73.43	84.42	100.19	126.39			
S	State	Summer	2017	373.29	429.04	506.82	644.08	73.48	84.43	100.27	126.64			
S	State	Summer	2018	373.45	429.51	506.92	644.85	73.51	84.45	100.34	126.88			
S	State	Summer	2019	373.16	429.45	506.41	644.82	73.56	84.57	100.42	127.10			
	State	Summer	2020	373.22	429.77	506.36	645.28	73.66	84.72	100.51	127.31			
S	State	Summer	2021	373.74	430.59	506.97	646.50	73.73	84.88	100.60	127.48			
S	State	Summer	2022	373.76	430.86	506.93	646.85	73.78	85.02	100.68	127.63			
S	State	Summer	2023	373.74	431.08	506.89	647.10	73.81	85.14	100.74	127.79			
S	State	Summer	2024	374.69	432.36	508.16	648.94	73.83	85.25	100.79	127.94			
S	State	Summer	2025	374.66	432.54	508.13	649.13	73.85	85.35	100.83	128.09			
S	State	Summer	2026	374.72	432.85	508.19	649.44	73.87	85.45	100.87	128.23			
S	State	Summer	2027	374.71	433.04	508.16	649.59	73.88	85.54	100.89	128.35			
s	State	Summer	2028	374.70	433.23	508.13	649.75	73.89	85.62	100.91	128.46			
s	State	Summer	2029	374.69	433.42	508.10	649.90	73.90	85.70	100.93	128.57			
S	State	Summer	2030	374.67	433.61	508.07	650.06	73.90	85.77	100.94	128.66			
S	State	Summer	2031	375.08	434.34	508.64	651.05	73.90	85.85	100.95	128.76			
S	State	Summer	2032	375.06	434.52	508.63	651.23	73.91	85.92	100.95	128.85			
S	State	Summer	2033	375.04	434.68	508.63	651.41	73.91	85.98	100.96	128.93			
S	State	Summer	2034	375.02	434.82	508.62	651.57	73.92	86.04	100.97	129.01			
S	State	Summer	2035	375.00		508.61	651.72	73.92		100.97	129.08			
S	State	Winter	2010	342.17	393.38	467.85	587.98	73.17	84.92	99.67	124.99			
S	State	Winter	2011	342.48	393.99	467.91	588.87	73.18	84.72	99.73	125.19			
s	State	Winter	2012	342.55	394.26	467.62	589.31	73.21	84.60	99.83	125.41			
S	State	Winter	2012	342.64	394.51	467.33	589.70	73.26	84.51	99.92	125.64			
S	State	Winter	2014	342.74	394.76	467.11	590.16	73.30	84.45	100.01	125.88			
s	State	Winter	2015	343.01	395.15	467.12	590.86	73.36	84.42	100.10	126.13			
s	State	Winter	2016	343.16	395.44	467.02	591.41	73.43	84.42	100.19	126.39			
s	State	Winter	2017	343.21	395.64	466.87	591.83	73.48	84.43	100.13	126.64			
S	State	Winter	2018	343.32	395.91	466.84	592.33	73.51	84.45	100.27	126.88			
S	State	Winter	2019	343.00	395.72	466.30	592.12	73.56	84.57	100.34	127.10			
S	State	Winter	2020	343.02	395.88	466.18	592.12	73.66	84.72	100.42	127.10			
S	State	Winter	2020	343.45	396.53	466.70	593.35	73.73	84.88	100.51	127.48			
s S	State	Winter	2021	343.41	396.67	466.63	593.54	73.78	85.02	100.68	127.40			
_	State	Winter	2022	343.34	396.76	466.55	593.67	73.76	85.14	100.00	127.79			
s S	State	Winter	2023	344.14	396.76	467.67	595.27	73.83	85.25	100.74	127.79			
s S	State	Winter	2024	344.06	397.86	467.59	595.27	73.85	85.35	100.79	127.94			
_														
S	State	Winter	2026	344.06	398.05	467.58	595.60	73.87	85.45	100.87	128.23			
S	State	Winter	2027	344.00	398.13	467.50	595.70	73.88	85.54	100.89	128.35			
S	State	Winter	2028	343.93	398.21	467.41	595.79	73.89	85.62	100.91	128.46			
S	State	Winter	2029	343.86	398.30	467.32	595.88	73.90	85.70	100.93	128.57			

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Table 4.4 Alternative CO2 Emission Factors (Non-Pavley)

	Location			C	O2 Runni	ng (g/VMT	·)	(CO2 Star	ting (g/tri	p)
		Season	Year	LDA	LDT1	LDT2	MDV	LDA	LDT1	LDT2	MDV
S	State	Winter	2030	343.78	398.37	467.23	595.97	73.90	85.77	100.94	128.66
S	State	Winter	2031	344.10	398.94	467.69	596.80	73.90	85.85	100.95	128.76
S	State	Winter	2032	344.02	399.03	467.63	596.90	73.91	85.92	100.95	128.85
S	State	Winter	2033	343.95	399.11	467.57	596.99	73.91	85.98	100.96	128.93
S	State	Winter	2034	343.87	399.17	467.51	597.06	73.92	86.04	100.97	129.01
S	State	Winter	2035	343.80	399.21	467.44	597.12	73.92	86.09	100.97	129.08

Table 5.1 Hearth Usage

	Multi or	Wood	Notural	Dronono	No	Wood	Llours/dov	Doublear	Wood Stove	Wood Ctovo	WoodStove	Wood Ctovo	Wood	Lloure/dov	Hourehroom	Daya Waar
Name	Single Family	Hearth %	Natural Gas %	Propane %	Hearth %	Mass Fireplace	Hours/day Fireplace	Day/year Fireplace	Conventional %	Wood Stove Catalytic %	WoodStove NonCatalytic %	Wood Stove Pellet %	mass Stove	Hours/day Stove	Hours/year Stove	Days/Year Stove
	Home			_		·					_					
Amador County APCD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Alameda	MFH	17	15	0	4	228.8	3.5	11.1	0	2	2	0	582.4	8.5		14
Alpine	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Amador	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Antelope Valley APCD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Bay Area AQMD	MFH	17	15	0	4	228.8	3.5	11.1	0	2	2	0	582.4	8.5		14
Butte County AQMD	MFH	39	43	0	18	5158.4	3.7	150.0	0	9	9	0	3019.2	7.3		150
Butte	MFH	39	43	0	18	5158.4	3.7	150.0	0	9	9	0	3019.2	7.3		150
Calaveras	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Contra Costa	MFH	17	15	0	4	228.8	3.5	11.1	0	2	2	0	582.4	8.5		14
Colusa County APCD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Calaveras County AQMD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Colusa	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Del Norte	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
El Dorado County AQMD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
El Dorado-Lake Tahoe	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
El Dorado-Mountain County	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Feather River AQMD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Fresno	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Great Basin UAPCD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Great Basin Valleys	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Glenn County APCD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Glenn	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Humboldt	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Imperial County APCD	MFH	0	55	0	0	2080	2.8	4.3	0	0	0	0	0.0	0.0		0
Imperial	MFH	0	55	0	0	2080	2.8	4.3	0	0	0	0	0.0	0.0		0
Inyo	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Kern County APCD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Kern-Mojave Desert	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Kern-San Joaquin	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Kings	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Lake	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Los Angeles-Mojave Desert	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Los Angeles-South Coast	MFH	5	85	0	10	1019.2	3.0	25.0	0	5	5	0	999.6	3.0		25
Lassen	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Lake County	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Lassen County APCD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Lake County AQMD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Lake Tahoe	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Madera	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Mariposa County APCD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Marin							3.5		0			0		8.5		
	MFH MFH	17	15 55	0	4	228.8		11.1		2	2		582.4			14
Mariposa		35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Monterey Bay Unified APCD	MFH	0	100	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0		0
Mountain Counties	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Mendocino County AQMD	MFH	5	5	0	90	4992	3.0	116.7	0	20	20	0	4896.0	3.0		117
Mojave Desert	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Mojave Desert AQMD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82

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Table 5.1 Hearth Usage

Memodecin-Partal Inland North MPH S S O 890 4992 3.0 1167. O 20 20 O 6896. 3.0 117.	-																
Name			Wood			No	Wood			Wood Stove				Wood			1
Membracin-Caustrial Mint 5 6 7 0 9 4992 3.0 116.7 0 20 20 0 4896.0 3.0 1177 Membracin-Chaustrial intent North Membracin-Chaustrial intent Nort	Name	_			Propane												
Mercadon Casastal Michael Angle 10 10 10 10 10 10 10 1	ramo	,		Gas %	%			Fireplace	Fireplace		Catalytic %	NonCatalytic %	Pellet %		Stove	Stove	Stove
Memodecin-Partal Inland North MPH S S O 890 4992 3.0 1167. O 20 20 O 6896. 3.0 117.		Home	,,			,,,	· ·· opiaco			,,				0.0.0			
Membroon-Pursal Inland North MPH 5 5 0 90 4992 3.0 116,7 0 20 20 0 4986,0 3.0 117	Mendocino-Coastal	MFH	5	5	0	90	4992	3.0	116.7	0	20	20	0	4896.0	3.0		117
Memoran Huran Inland South MiFH 5 5 0 90 4892 3.0 116.7 0 20 20 0 4896 0 3.0 117	Mendocino-Inland	MFH	5	5	0					0			0				
Memorian	Mendocino-Rural Inland North	MFH	5	5	0	90	4992	3.0	116.7	0	20	20	0	4896.0	3.0		117
Mode County APCD	Mendocino-Rural Inland South	MFH	5	5	0	90	4992	3.0	116.7	0	20	20	0	4896.0	3.0		117
Modes County APCD Mine Mine Mine Mine Mine Mine Mine Mine	Merced	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Morno MRH	Modoc	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Montersy MFH	Modoc County APCD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Napa	Mono	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
North Coast Unified APCD MRH 35 55 0 10 3076.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 North Coast Unified APCD MRH 35 55 0 10 3076.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 North Cast Unified APCD MRH 35 55 0 10 3076.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 North Cast Unified APCD MRH 35 55 0 10 3076.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Northeast Plateau MRH 35 55 0 10 3076.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Northeast Plateau MRH 35 55 0 10 3076.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Northeast Plateau Northern Storma County APCD MRH 35 55 0 10 3076.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Northeast Plateau Northeast Plateau MRH 35 55 0 10 3076.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Northeast Plateau Northe	Monterey	MFH	0	100	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0		0
North Coast Unified APCD MFH	Napa	MFH	17	15	0	4	228.8	3.5	11.1	0	2	2	0	582.4	8.5		14
North Constal Unified APCD MRH	North Coast	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
North Contral Coast MFH 0 100 0 0 0 0 0 0 0	North Coast Unified APCD	MFH	35		0	10	3078.4	3.0	82.0	0	5	5	0	3019.2			82
Novade MFH 35 55 0 10 30784 3.0 82.0 0 5 5 0 30192 3.0 82.0 82.0 0 5 5 0 30192 3.0 82.0 82.0 0 5 5 0 30192 3.0 82.0 82.0 0 5 5 0 30192 3.0 82.0 82.0 0 5 5 0 30192 3.0 82.0 82.0 0 5 5 0 30192 3.0 82.0 82.0 0 5 5 0 30192 3.0 82.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 5 5 0 30192 3.0 82.0 0 0 0 0 0 0 0 0 0	North Central Coast		0		0					0	0	0	0				1
Northean Start AdMD MFH	•	MFH	35		0	10	3078.4						0	3019.2			82
Northern Sierra ADMD Northern Sierra Country APCD MFH	-																
Northern Sonoma Country APCD MFH	la contraction of the contractio									-							
Orange MFH 5 88 0 0 10 10192 3.0 250 0 5 5 0 999.6 3.0 25 Placer Placer County APCD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Lake Tahoe MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 55 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 55 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 55 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties Sealor Search MFH 35 55 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 999.6 3.0 82 Placer-Mountain Counties Search MFH 35 55 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 999.6 3.0 82 Placer-Mountain Counties Search MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 999.6 3.0 82 Placer-Mountain Counties Search MFH 35 85 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 0 999.6 3.0 82 Placer-Mountain Counties MFH 35 85 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 85 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 85 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 85 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 85 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 85 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Placer-Mountain Counties MFH 35 85 0 10 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Pl																	
Placer County APCD Placer Tables Placer Tabl	· · · · · · · · · · · · · · · · · · ·									_	_						
Placer-Lake Tahoe																	
Placer-Mountain Counties MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82	· · · · · · · · · · · · · · · · · · ·																
Placer-Sacramento	 									_							
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Riverside-Mojave Desert SADAMD Riverside-South Coast Riverside-Mojave Desert SADAMD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3919.2 3.0 82.2 82.8 82.0 0 5 5 5 0 3919.2 3.0 82.2 82.8 82.0 0 5 5 5 0 3919.2 3.0 82.2 82.8 82.0 0 5 5 5 0 3919.2 3.0 82.2 82.8 82.0 0 5 5 5 0 3919.2 3.0 82.2 82.8 82.0 0 5 5 5 0 3919.2 3.0 82.2 82.8 82.0 0 5 5 5 0 3919.2 3.0 82.2 82.8 82.0 0 5 5 5 0 3919.2 3.0 82.2 82.8 82.0 0 5 5 5 0 0 3919.2 3.0 82.2 82.8 82.0 0 5 5 5 0 0 3919.2 3.0 82.2 82.2 82.2 82.2 82.2 82.2 82.2 82	•																
Riverside-South Coast Riverside-Mojave Desert SCAQMD Riverside-Mojave Desert Riverside Mojave Desert Riverside-Mojave Desert Riverside-Mojave Desert Riverside-Mojave Desert Riverside-Mojave Desert Riverside-Moja	 																
Riverside-Mojave Desert SCAQMD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 Riverside-Salton Sea MFH 10 80 0 10 457.6 3.0 82.0 0 5 5 5 0 399.6 3.0 82 Sacramento MFH 0 0 0 0 100 0 0.0 0.0 0 0 0 0 0 0 0 0 0	· •																
Riverside-Salton Sea MFH 10 80 0 10 457.6 3.0 82.0 0 5 5 5 0 999.6 3.0 82 Sacramento MFH 0 0 0 0 100 0 0.0 0.0 0 0 0 0 0 0 0.0 0.	 									_							
Sacramento	· •									_							
Santa Barbara County APCD MFH 0 0 0 0 0 0 0 0 0 0 0 0 0	-																
San Benito MFH 0 100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	l-						_				_						
San Bernardino-Mojave Desert MFH							_			-			·				
San Bernardino-South Coast MFH	la contraction of the contractio						_			_							_
Santa Barbara-North of Santa Ynez Santa Barbara-South of Santa Ynez Range South Coast South Coast South Coast AQMD MFH 5 85 0 10 1019.2 3.0 25.0 0 5 5 5 0 999.6 3.0 25 South Central Coast AQMD MFH 5 85 0 10 1019.2 3.0 25.0 0 5 5 5 0 3019.2 3.0 25 South Central Coast South Central Coast MFH 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0											_						
Santa Barbara-South of Santa Ynez Range																	
South Coast	 						_			_	_						
Siskiyou County APCD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 South Coast AQMD MFH 5 85 0 10 1019.2 3.0 25.0 0 5 5 0 399.6 3.0 25 South Central Coast MFH 0 0 0 3078.4 3.0 82.0 0 0 0 3019.2 3.0 82 Santa Clara MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 Santa Cruz MFH 0 100 0 0 0.0 0	~ <u> </u>					_	_			_							
South Coast AQMD MFH 5 85 0 10 1019.2 3.0 25.0 0 5 5 0 999.6 3.0 25 South Central Coast MFH 0 0 0 3078.4 3.0 82.0 0 0 0 3019.2 3.0 82 Santa Clara MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 Santa Cruz MFH 0 100 0																	
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Santa Clara MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 Santa Cruz MFH 0 100 0 0 0.0 0<	South Coast AQMD	MFH	5	85	0	10	1019.2	3.0	25.0	0	5	5	0	999.6	3.0		25
Santa Cruz MFH 0 100 0 0 0.0 0.0 0	South Central Coast	MFH	0	0	0	0	3078.4		82.0	0	0	0	0	3019.2			82
San Diego MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 San Diego MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 San Diego County APCD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 San Francisco MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 San Francisco Bay Area MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 Shasta County AQMD MFH 35 55 0 10 3078.4 3.0 82.0 0 5	Santa Clara	MFH	17	15	0	4	228.8	3.5	11.1	0	2	2	0	582.4	8.5		14
San Diego MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 San Diego County APCD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 San Francisco MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 San Francisco Bay Area MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 Shasta MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 Shasta County AQMD MFH 35 55 0 10 3078.4 3.0 82.0 0 5	Santa Cruz	MFH	0	100	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0		0
San Diego County APCD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 San Francisco MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 San Francisco Bay Area MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 Shasta MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 Shasta County AQMD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82	San Diego	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
San Diego County APCD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 San Francisco MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 San Francisco Bay Area MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 Shasta MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 Shasta County AQMD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82	San Diego	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
San Francisco MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 San Francisco Bay Area MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 Shasta MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 Shasta County AQMD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82	San Diego County APCD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
San Francisco Bay Area MFH 17 15 0 4 228.8 3.5 11.1 0 2 2 0 582.4 8.5 14 Shasta MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 Shasta County AQMD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82	San Francisco				0				11.1	0	2	2	0				
Shasta MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 Shasta County AQMD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82	San Francisco Bay Area		17		0	4				0	2	2	0	582.4			
Shasta County AQMD MFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 0 3019.2 3.0 82	Shasta																
										_						İ	
	Sierra	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82

D-270 September 2016

Table 5.1 Hearth Usage

	Multi or	Wood			No	Wood			Wood Stove				Wood			
Name	Single	Hearth	Natural	Propane	Hearth	Mass	Hours/day	Day/year	Conventional	Wood Stove	WoodStove	Wood Stove	mass	Hours/day	Hours/year	Days/Year
1440	Family	%	Gas %	%	%	Fireplace	Fireplace	Fireplace	%	Catalytic %	NonCatalytic %	Pellet %	Stove	Stove	Stove	Stove
	Home					.,										
Siskiyou	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
San Joaquin	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
San Joaquin Valley	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
San Joaquin Valley Unified APCD	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
San Luis Obispo	MFH	0	0	0	0	0	0.0	0.0	0	0	0	0	2016.0	8.0		60
San Luis Obispo County APCD	MFH	0	0	0	0	0	0.0	0.0	0	0	0	0	2016.0	8.0		60
San Mateo	MFH	17	15	0	4	228.8	3.5	11.1	0	2	2	0	582.4	8.5		14
Sacramento Metropolitan AQMD	MFH	0	0	0	100	0	0.0	0.0	0	0	0	0	0.0	0.0		0
Solano-San Francisco	MFH	17	15	0	4	228.8	3.5	11.1	0	2	2	0	582.4	8.5		14
Solano-Sacramento	MFH	35	55	0	10	4558.4	3.0	82.0	0	5	5	0	4558.4	3.0		82
Sonoma-North Coast	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Sonoma-San Francisco	MFH	17	15	0	4	228.8	3.5	11.1	0	2	2	0	582.4	8.5		14
Salton Sea	MFH	0	55	0	0	2080	2.8	4.3	0	0	0	0	0.0	0.0		0
Stanislaus	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Statewide	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Sutter	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Sacramento Valley	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Tehama	MFH	20	20	0	60	4558.4	3.0	82.0	0	30	30	0	4558.4	3.0		82
Tehama County APCD	MFH	20	20	0	60	4558.4	3.0	82.0	0	30	30	0	4558.4	3.0		82
Trinity	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
•	MFH	35	55	0	10	3078.4	3.0		0	5	5	0		3.0		82
Tulare	MFH	35	55	0	10	3078.4	3.0	82.0 82.0	0	5	5	0	3019.2 3019.2	3.0		82
Tuolumne County APCD																
Tuolumne	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Ventura County APCD	MFH	0	0	0	100	0	0.0	0.0	0	0	0	0	0.0	0.0		0
Ventura	MFH	0	0	0	100	0	0.0	0.0	0	0	0	0	0.0	0.0		0
Yolo	MFH	35	55	0	10	4558.4	3.0	82.0	0	5	5	0	4558.4	3.0		82
Yolo/Solano AQMD	MFH	35	55	0	10	4558.4	3.0	82.0	0	5	5	0	4558.4	3.0		82
Yuba	MFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Amador County APCD	SFH SFH	35	55 25	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Alameda Alpine	SFH	43 35	25 55	0	8 10	228.8 3078.4	3.5 3.0	11.1 82.0	0	<u>4</u> 5	<u>4</u> 5	0	956.8 3019.2	8.5 3.0		21 82
Amador	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Antelope Valley APCD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Bay Area AQMD	SFH	43	25	0	8	228.8	3.5	11.1	0	4	4	0	956.8	8.5		21
Butte County AQMD	SFH	39	43	0	18	5158.4	3.7	150.0	0	9	9	0	3019.2	7.3		150
Butte	SFH	39	43	0	18	5158.4	3.7	150.0	0	9	9	0	3019.2	7.3		150
Calaveras	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2			82
Contra Costa	SFH	43	25	0	8	228.8	3.5	11.1	0	4	4	0	956.8	8.5		21
Colusa County APCD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Calaveras County AQMD Colusa	SFH SFH	35 35	55 55	0	10 10	3078.4 3078.4	3.0 3.0	82.0 82.0	0	<u> </u>	5 5	0	3019.2 3019.2	3.0 3.0		82 82
Del Norte	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
El Dorado County AQMD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
El Dorado-Lake Tahoe	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
El Dorado-Mountain County	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Feather River AQMD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Fresno	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Great Basin UAPCD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Great Basin Valleys	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Glenn County APCD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Glenn	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82

Table 5.1 Hearth Usage

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	Multi or	Wood			No	Wood			Wood Stove				Wood			
Name	Single	Hearth	Natural	Propane	Hearth	Mass	Hours/day	Day/year	Conventional	Wood Stove	WoodStove	Wood Stove	mass	Hours/day	Hours/year	Days/Year
Ivaille	Family	%	Gas %	%	%	Fireplace	Fireplace	Fireplace	%	Catalytic %	NonCatalytic %	Pellet %	Stove	Stove	Stove	Stove
	Home	70			70	riiepiace			70				Slove			
Humboldt	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Imperial County APCD	SFH	0	55	0	0	2080	2.8	4.3	0	0	0	0	0.0	0.0		0
Imperial	SFH	0	55	0	0	2080	2.8	4.3	0	0	0	0	0.0	0.0		0
Inyo	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Kern County APCD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Kern-Mojave Desert	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Kern-San Joaquin	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Kings	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Lake	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Los Angeles-Mojave Desert	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Los Angeles-South Coast	SFH	5	85	0	10	1019.2	3.0	25.0	0	5	5	0	999.6	3.0		25
Lassen	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Lake County	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Lassen County APCD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
									_	-						
Lake County AQMD	SFH SFH	35 35	55 55	0	10 10	3078.4 3078.4	3.0 3.0	82.0 82.0	0	5 5	5 5	0	3019.2	3.0		82 82
Lake Tahoe													3019.2			
Madera	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Mariposa County APCD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Marin	SFH	43	25	0	8	228.8	3.5	11.1	0	4	4	0	956.8	8.5		21
Mariposa	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Monterey Bay Unified APCD	SFH	35	55	0	10	1508	3.0	82.0	0	5	5	0	3120.0	3.0		82
Mountain Counties	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Mendocino County AQMD	SFH	35	30	0	35	4992	3.0	116.7	0	40	40	0	4896.0	3.0		117
Mojave Desert	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Mojave Desert AQMD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Mendocino-Coastal	SFH	35	30	0	35	4992	3.0	116.7	0	40	40	0	4896.0	3.0		117
Mendocino-Inland	SFH	35	30	0	35	4992	3.0	116.7	0	40	40	0	4896.0	3.0		117
Mendocino-Rural Inland North	SFH	35	30	0	35	4992	3.0	116.7	0	40	40	0	4896.0	3.0		117
Mendocino-Rural Inland South	SFH	35	30	0	35	4992	3.0	116.7	0	40	40	0	4896.0	3.0		117
Merced	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Modoc	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Modoc County APCD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Mono	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Monterey	SFH	31	63	0	6	1508	3.0	82.0	0	3	3	0	3120.0	3.0		82
Napa	SFH	43	25	0	8	228.8	3.5	11.1	0	4	4	0	956.8	8.5		21
North Coast	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
North Coast Unified APCD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
North Central Coast	SFH	35	55	0	10	1508	3.0	82.0	0	5	5	0	3120.0	3.0		82
Nevada	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Northeast Plateau	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Northern Sierra AQMD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Northern Sonoma County APCD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Orange	SFH	5	85	0	10	1019.2	3.0	25.0	0	5	5	0	999.6	3.0		25
Placer County APCD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Placer-Lake Tahoe	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Placer-Mountain Counties	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Placer-Sacramento	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Plumas	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Riverside-Mojave Desert MDAQMD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Riverside-South Coast	SFH	5	85	0	10	1019.2	3.0	25.0	0	5	5	0	999.6	3.0		25
Riverside-Mojave Desert SCAQMD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Riverside-Salton Sea	SFH	10	80	0	10	457.6	3.0	82.0	0	5	5	0	999.6	3.0		82
Sacramento	SFH	0	0	0	100	0	0.0	0.0	0	0	0	0	0.0	0.0		0
Santa Barbara County APCD	SFH	0	0	0	0	0	3.0	82.0	0	0	0	0	0.0	3.0		82
San Benito	SFH	32	60	0	8	1508	3.0	82.0	0	4	4	0	3120.0	3.0	İ	82
Can Domico	0111	UŽ	UU		U	1000	5.0	UZ.U				· ·	0.20.0	0.0	<u> </u>	02

Table 5.1 Hearth Usage

San Bernardino-Mejaver Desert	Name	Multi or Single Family Home	Wood Hearth %	Natural Gas %	Propane %	No Hearth %	Wood Mass Fireplace	Hours/day Fireplace	Day/year Fireplace	Wood Stove Conventional %	Wood Stove Catalytic %	WoodStove NonCatalytic %	Wood Stove Pellet %	Wood mass Stove	Hours/day Stove	Hours/year Stove	Days/Year Stove
San Bernardino-South Coast SPH S 88 0 10 101912 3.0 25 0 5 5 0 999.8 3.0 25 25 25 25 25 25 25 2	San Bernardino-Mojave Desert	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
Santa Bantara-Scuth of Santa Yinez Range SPH 0 0 0 0 0 0 0 3.0 82 Siskiyou County APCD SPH 35 55 0 110 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 25 Siskiyou County APCD SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 25 South Count ACMD SPH 35 55 0 10 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 25 South County APCD SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 25 South County APCD SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 25 South County APCD SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 6 6 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 6 6 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 6 6 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 6 6 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 6 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San Diego SPH 35 55 0 10 30784 3.0 82.0 0 5 5 5 0 3919.2 3.0 82 San	San Bernardino-South Coast	SFH	5	85	0	10	1019.2	3.0	25.0	0	5		0	999.6	3.0		25
South Coast SPH 5 85 0 10 10192 30 250 0 5 5 0 399 86 3.0 25 South Coast AOMD SPH 55 85 0 10 3076.4 3.0 82.0 0 5 5 0 3991.6 3.0 82 South Coast SPH 5 85 0 10 10192 3.0 82.0 0 5 5 0 3991.6 3.0 82 South Coast SPH 5 85 0 10 10192 3.0 82.0 0 5 5 0 3991.6 3.0 82 South Coast SPH 5 85 0 10 3076.4 3.0 82.0 0 5 5 0 3991.6 3.0 82 South Coast SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 4 0 956.8 85 21 South Coast SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 4 0 956.8 85 22 South Coast SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 4 0 956.8 85 22 South Coast SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 4 0 956.8 85 22 South Coast SPH 35 55 0 10 3076.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 South Coast SPH 35 55 0 10 3076.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82 South Coast SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 4 0 956.8 85 22 South Francisco Bay/rea SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 4 0 956.8 85 22 Shariffancisco Bay/rea SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 4 0 956.8 85 22 Shariffancisco Bay/rea SPH 35 55 0 10 3076.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 Shariffancisco Bay/rea SPH 35 55 0 10 3076.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 Shariffancisco Bay/rea SPH 35 55 0 10 3076.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 Shariffancisco Bay/rea SPH 35 55 0 10 3076.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 Shariffancisco Bay/rea SPH 35 35 0 10 3076.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 Shariffancisco Bay/rea SPH 35 55 0 10 3076.4 3.0 82.0 0 5 5 0 3019.2 3.0 82 Shariffancisc	Santa Barbara-North of Santa Ynez	SFH	0	0	0	0	0	3.0	82.0	0	0	0	0	0.0	3.0		82
Siskiyany County APCD SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 South Coast AQMD SPH 5 88 8 0 10 10 1019.2 3.0 25.0 0 5 5 5 0 3019.2 3.0 25.0 South Coast AQMD SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 0 3056.8 85.5 21.3 Santa Clara SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 0 3056.8 85.5 21.3 Santa Clara SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 0 3056.8 85.5 21.3 Santa Clara SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 0 3056.8 85.5 21.3 Santa Clara SPH 43 35 35 0 10 3078.4 3.0 82.0 0 5 5 8 0 3019.2 3.0 82.0 82.0 Santa Clara SPH 43 35 35 0 10 3078.4 3.0 82.0 0 5 5 8 0 3019.2 3.0 82.0 Santa Clara SPH 43 35 35 0 10 3078.4 3.0 82.0 0 5 5 8 0 3019.2 3.0 82.0 Santa Clara SPH 43 35 35 0 10 3078.4 3.0 82.0 0 5 5 8 0 3019.2 3.0 82.0 Santa Clara SPH 43 35 35 0 10 3078.4 3.0 82.0 0 5 5 8 0 3019.2 3.0 82.0 Santa Clara SPH 43 35 35 0 10 3078.4 3.0 82.0 0 5 5 8 0 3019.2 3.0 82.0 Santa Clara SPH 43 35 35 0 10 3078.4 3.0 82.0 0 5 5 8 0 3019.2 3.0 82.0 Santa Clara SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 4 0 856.8 85.5 21.3 Santa Clara SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 4 0 856.8 85.5 21.3 Santa Clara SPH 43 25 0 8 228.8 3.5 11.1 0 4 4 4 0 856.8 85.5 21.3 Santa Clara SPH 43 5 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara SPH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82.0 Santa Clara	Santa Barbara-South of Santa Ynez Range	SFH	0	0	0	0	0	3.0	82.0	0	0	0	0	0.0	3.0		82
South Constal AGMO SFH 5 85 0 10 10 10192 3.0 250 0 5 5 0 0 9996 3.0 25 Santa Clara SFH 43 25 0 8 8 228.8 3.5 11.1 0 4 4 4 0 9568 8.5 21 Santa Cruz SFH 43 25 0 10 30784 3.0 820 0 5.5 5.0 30192 3.0 82 Santa Cruz SFH 35 55 0 10 30784 3.0 820 0 5.5 5.5 0 30192 3.0 82 Santa Cruz SFH 35 55 0 10 30784 3.0 820 0 5.5 5.0 30192 3.0 82 Sant Diego SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Diego Courty APCD SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Diego Courty APCD SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Diego Courty APCD SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Diego Courty APCD SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Diego Courty APCD SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Diego Courty APCD SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Diego Courty APCD SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Diego Courty APCD SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Diego Courty APCD SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Diego Courty APCD SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784 3.0 820 0 5 5 5 0 30192 3.0 82 Sant Jacquin Valley SFH 35 55 0 10 30784	South Coast	SFH	5	85	0	10	1019.2	3.0	25.0	0	5	5	0	999.6	3.0		25
South Central Coast SFH 0 0 0 0 0 3078.4 3.0 82.0 0 0 0 0 0 3079.2 3.0 82. Santa Clara SFH 43 25 0 8 228.8 3.5 11.1 0 4 4 4 0 966.8 8.5 21. Santa Clara SFH 43 46 0 11 1 1508 3.0 82.0 0 5.5 5.5 0 3120.0 3.0 82. San Diego SFH 35 55 0 10 3078.4 3.0 82.0 0 5.5 5 0 3079.2 3.0 82. San Diego SFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. San Diego County APCD SFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. San Diego County APCD SFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. San Francisco Bay Area SFH 43 25 0 8 228.8 3.5 11.1 0 4 4 4 0 966.8 8.5 21. Shasta County AOMD SFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Shasta County AOMD SFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. Serra SSH, 36 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3079.2 3.0 82. SERRA SSH, 36 55 0 10 3078.4 3.0	Siskiyou County APCD	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82
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Sant Dego	South Central Coast	SFH	0	0	0	0	3078.4	3.0	82.0	0	0	0	0	3019.2	3.0		82
San Diego	Santa Clara	SFH	43	25	0	8	228.8	3.5	11.1	0	4	4	0	956.8	8.5		21
San Diego County APCD SFH 35 55 0 10 3078.4 3.0 82.0 0 5 5 5 0 3019.2 3.0 82. San Francisco San Fra	Santa Cruz		43	46	0	11	1508	3.0	82.0	0	5.5	5.5	0	3120.0	3.0		82
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	Yuba	SFH	35	55	0	10	3078.4	3.0	82.0	0	5	5	0	3019.2	3.0		82

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Table 5.2 Hearth Emission Factors

	TOG, lb/ton	ROG, lb/ton	CO, lb/ton	SO2, lb/ton	NOX, lb/ton	PM10,	PM2_5,	PB, lb/ton	CO2_BIO,	CO2_NBIO,	CH4, lb/ton	N2O, lb/ton
	of dry	of dry	of dry	of dry	of dry	lb/ton of	lb/ton of	of dry	lb/ton of	lb/ton of	of dry	of dry
	wood	wood	wood	wood	wood	dry wood	dry wood	wood	dry wood	dry wood	wood	wood
Hearth Type	burned	burned	burned	burned	burned	burned	burned	burned	burned	burned	burned	burned
Woodstoves Conventional	83	53	230.8	0.4	2.8	30.6	30.6	0	2952	0	30	0
Woodstoves Catalytic	26.6	15	104.4	0.4	2	20.4	20.4	0	2952	0	11.6	0
Woodstoves Noncatalytic	28	12	140.8	0.4	2	19.6	19.6	0	2952	0	16	0
Woodstoves Pellet	28	15	39.4	0.4	13.8	4.2	4.2	0	2952	0	16	0
Wood Fireplace	229	229	252.6	0.4	2.6	34.6	34.6	0	3400	0	0	0.3
Natural Gas	0.01078431	0.01078431	0.03921569	0.00058824	0.09215686	0.00745098	0.00745098	4.90E-07	0	117.647059	0.0022549	0.00215686
Propane	0.01092896	0.01092896	0.08196721	0	0.1420765	0.00765027	0.00765027	0	0	136.612022	0.00218579	0.00983607
No Fireplace	0	0	0	0	0	0	0	0	0	0	0	0

Notes:

1. Values are based on AP-42 emission factors.

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Table 6.1 Architectural Coating Emission Factors

Name	EMFAC_ID	CoatingType Nonrecidential Exterior	Start Date	End Date	ROG, g/L	Rule Name	Amended Date
	ACAPCD ACAPCD	Nonresidential Exterior Nonresidential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Amador County APCD	ACAPCD ACAPCD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	ACAPCD ALA	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/2011	250 250	Default Default	NULL NULL
	ALA	Nonresidential Exterior	1/1/2012	12/31/2040	150	REG8.3	7/1/2009
	ALA ALA	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
Alameda	ALA ALA	Parking Residential Exterior	1/1/2012 1/1/1900	12/31/2040 12/31/2011	150 250	REG8.3 Default	7/1/2009 NULL
	ALA	Residential Exterior	1/1/2012	12/31/2040	150	REG8.3	7/1/2009
	ALA ALA	Residential Interior Residential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
	ALP ALP	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Alpine	ALP	Parking	1/1/1900	12/31/3000	250	Default	NULL
	ALP ALP	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	AMA AMA	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Amador	AMA	Parking	1/1/1900	12/31/3000	250	Default	NULL
	AMA AMA	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	AVAPCD AVAPCD	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Antelope Valley APCD	AVAPCD	Parking	1/1/1900	12/31/3000	250	Default	NULL
	AVAPCD AVAPCD	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	BAAQMD	Nonresidential Exterior	1/1/1900	12/31/2011	250	Default	NULL 7/1/2000
	BAAQMD BAAQMD	Nonresidential Exterior Nonresidential Interior	1/1/2012	12/31/2040 12/31/2011	150 250	REG8.3 Default	7/1/2009 NULL
Bay Area AQMD	BAAQMD BAAQMD	Nonresidential Interior Parking	1/1/2012 1/1/2012	12/31/2040 12/31/2040	100 150	REG8.3 REG8.3	7/1/2009 7/1/2009
•	BAAQMD BAAQMD	Residential Exterior	1/1/1900	12/31/2011	250	Default REG8.3	NULL 7/1/2009
	BAAQMD	Residential Exterior Residential Interior	1/1/1900	12/31/2040 12/31/2011	150 250	Default	NULL
	BAAQMD BCAQMD	Residential Interior Nonresidential Exterior	1/1/2012 1/1/1900	12/31/2040 12/31/3000	100 250	REG8.3 Default	7/1/2009 NULL
Dutto County A OND	BCAQMD	Nonresidential Interior	1/1/1900	12/31/3000	250	Default	NULL
Butte County AQMD	BCAQMD BCAQMD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	BCAQMD BUT	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
D. 11.	BUT	Nonresidential Interior	1/1/1900	12/31/3000	250	Default	NULL
Butte	BUT BUT	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	BUT CAL	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	CAL	Nonresidential Interior	1/1/1900	12/31/3000	250	Default	NULL
Calaveras	CAL CAL	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	CAL CC	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/2011	250 250	Default Default	NULL NULL
	CC	Nonresidential Exterior	1/1/2012	12/31/2040	150	REG8.3	7/1/2009
	CC	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
Contra Costa	CC CC	Parking	1/1/2012	12/31/2040	150	REG8.3	7/1/2009
	CC	Residential Exterior Residential Exterior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 150	Default REG8.3	NULL 7/1/2009
	CC	Residential Interior Residential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
	CCAPCD	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL
Colusa County APCD	CCAPCD CCAPCD	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	CCAPCD CCAPCD	Residential Exterior Residential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	CCAQMD	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL
Calaveras County AQMD	CCAQMD CCAQMD	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	CCAQMD CCAQMD	Residential Exterior Residential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	COL	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL
Colusa	COL	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	COL COL	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	DN	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL
Del Norte	DN DN	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	DN DN	Residential Exterior Residential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	EDCAPCD	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL
El Dorado County AQMD	EDCAPCD EDCAPCD	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	EDCAPCD	Residential Exterior	1/1/1900	12/31/3000	250	Default	NULL
	EDCAPCD ELDORLT	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
El Dorado-Lake Tahoe	ELDORLT ELDORLT	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	ELDORLT	Residential Exterior	1/1/1900	12/31/3000	250	Default	NULL
	ELDORLT ELDORMC	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
El Dorado-Mountain County	ELDORMC ELDORMC	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
5.445 Mountain Journy	ELDORMC	Residential Exterior	1/1/1900	12/31/3000	250	Default	NULL
	ELDORMC FRAQMD	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Feather River AQMD	FRAQMD FRAQMD	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
i Galiffi Nivel AQIVID	FRAQMD	Residential Exterior	1/1/1900	12/31/3000	250	Default	NULL
	FRAQMD FRES	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/2010	250 250	Default R4601	NULL 12/17/2009
	FRES	Nonresidential Exterior	1/1/2011	12/31/3000	150	R4601	12/17/2009
	FRES FRES	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
Гиоопо	FRES	Parking	1/1/2011	12/31/3000	150	R4601	12/17/2009 12/17/2009
Fresno	FDE6	Residential Exterior	1/1/10/1/1	1 // 3 1 / / / / / /	7511	RAKUT	1
Fresho	FRES FRES FRES	Residential Exterior Residential Exterior Residential Interior	1/1/1900 1/1/2011 1/1/1900	12/31/2010 12/31/3000 12/31/2010	250 150 250	R4601 R4601 R4601	12/17/2009 12/17/2009 12/17/2009

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Table 6.1 Architectural Coating Emission Factors

	<u> </u>	<u> </u>	<u> </u>		ROG,	I	<u> </u>
Name	EMFAC_ID	CoatingType	Start Date	End Date	g/L	Rule Name	Amended Date
	GBUAPCD GBUAPCD	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Great Basin UAPCD	GBUAPCD GBUAPCD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	GBUAPCD GBV	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	GBV	Nonresidential Interior	1/1/1900	12/31/3000	250	Default	NULL
Great Basin Valleys	GBV GBV	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	GBV	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	GCAPCD GCAPCD	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Glenn County APCD	GCAPCD GCAPCD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	GCAPCD	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	GLENN GLENN	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Glenn	GLENN GLENN	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	GLENN	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	HUM HUM	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Humboldt	HUM HUM	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	HUM	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	ICAPCD ICAPCD	Nonresidential Exterior Nonresidential Exterior	1/1/2011 1/1/2011	12/31/2040 12/31/2040	150 150	Default R424	2/23/2010 2/23/2010
	ICAPCD ICAPCD	Nonresidential Interior Nonresidential Interior	1/1/2011 1/1/2011	12/31/2040 12/31/2040	150 150	Default R424	2/23/2010 2/23/2010
Imperial County APCD	ICAPCD	Parking	1/1/2011	12/31/2040	150	Default	2/23/2010
	ICAPCD ICAPCD	Residential Exterior Residential Exterior	1/1/2011 1/1/2011	12/31/2040 12/31/2040	100 100	Default R424	2/23/2010 2/23/2010
	ICAPCD	Residential Interior	1/1/2011	12/31/2040	100	Default	2/23/2010
	ICAPCD IMP	Residential Interior Nonresidential Exterior	1/1/2011 1/1/2011	12/31/2040 12/31/2040	100 150	R424 Default	2/23/2010 2/23/2010
	IMP IMP	Nonresidential Exterior Nonresidential Interior	1/1/2011 1/1/2011	12/31/2040 12/31/2040	150 150	R424 Default	2/23/2010 2/23/2010
lmana:!	IMP IMP	Nonresidential Interior	1/1/2011	12/31/2040	150	R424	2/23/2010
Imperial	IMP	Parking Residential Exterior	1/1/2011 1/1/2011	12/31/2040 12/31/2040	150 100	Default Default	2/23/2010 2/23/2010
	IMP IMP	Residential Exterior Residential Interior	1/1/2011 1/1/2011	12/31/2040 12/31/2040	100 100	R424 Default	2/23/2010 2/23/2010
	IMP	Residential Interior	1/1/2011	12/31/2040	100	R424	2/23/2010
	INY INY	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Inyo	INY INY	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	INY	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	KCAPCD KCAPCD	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Kern County APCD	KCAPCD KCAPCD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	KCAPCD	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	KERNMD KERNMD	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Kern-Mojave Desert	KERNMD KERNMD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	KERNMD	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	KERNSJ KERNSJ	Nonresidential Exterior Nonresidential Exterior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
	KERNSJ KERNSJ	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
Kern-San Joaquin	KERNSJ	Parking	1/1/2011	12/31/3000	150	R4601	12/17/2009
	KERNSJ KERNSJ	Residential Exterior Residential Exterior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
	KERNSJ KERNSJ	Residential Interior Residential Interior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
	KING	Nonresidential Exterior	1/1/1900	12/31/2010	250	R4601	12/17/2009
	KING KING	Nonresidential Exterior Nonresidential Interior	1/1/2011	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
Kings	KING KING	Nonresidential Interior	1/1/2011 1/1/2011	12/31/3000 12/31/3000	150 150	R4601 R4601	12/17/2009 12/17/2009
Kiilgs	KING	Parking Residential Exterior	1/1/1900	12/31/2010	250	R4601	12/17/2009
	KING KING	Residential Exterior Residential Interior	1/1/2011 1/1/1900	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
	KING	Residential Interior Nonresidential Exterior	1/1/2011	12/31/3000	150	R4601	12/17/2009
	LAKE	Nonresidential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Lake	LAKE LAKE	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	LAKE LAMD	Residential Interior Nonresidential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	LAMD	Nonresidential Interior	1/1/1900	12/31/3000	250	Default	NULL
Los Angeles-Mojave Desert	LAMD LAMD	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	LAMD	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	LASC LASC	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250		NULL NULL
Los Angeles-South Coast	LASC LASC	Parking Residential Exterior	1/1/1900	12/31/3000 6/30/2008	100 250		NULL NULL
J. 12 2223. 2333.	LASC	Residential Exterior	7/1/2008	12/31/3000	100		NULL
	LASC LASC	Residential Interior Residential Interior	1/1/1900 7/1/2008	6/30/2008 12/31/3000	100 50		NULL NULL
	LASS LASS	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Lassen	LASS	Parking	1/1/1900	12/31/3000	250	Default	NULL
	LASS LASS	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	LC LC	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Lake County	LC	Parking	1/1/1900	12/31/3000	250	Default	NULL
	LC LC	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	LCAPCD LCAPCD	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Lassen County APCD	LCAPCD	Parking	1/1/1900	12/31/3000	250	Default	NULL
	LCAPCD LCAPCD	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	LCAQMD LCAQMD	Nonresidential Exterior Nonresidential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
II	LCAQMD	Parking	1/1/1900	12/31/3000	250	Default	NULL

Table 6.1 Architectural Coating Emission Factors

			<u> </u>		ROG,	<u> </u> -	<u> </u>
Name	EMFAC_ID	CoatingType	Start Date	End Date	g/L	Rule Name	Amended Date
	LCAQMD LCAQMD	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	LT LT	Nonresidential Exterior Nonresidential Interior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100 100	R218 R218	10/14/2010 10/14/2010
Lake Tahoe	LT LT	Parking Residential Exterior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100 100	R218 R218	10/14/2010 10/14/2010
	LT	Residential Interior	7/1/2011	12/31/3000	100	R218	10/14/2010
	MAD MAD	Nonresidential Exterior Nonresidential Exterior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
	MAD MAD	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
Madera	MAD MAD	Parking Residential Exterior	1/1/2011 1/1/1900	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
	MAD	Residential Exterior	1/1/2011	12/31/3000	150	R4601	12/17/2009
	MAD MAD	Residential Interior Residential Interior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
	MARCAPCD MARCAPCD	Nonresidential Exterior Nonresidential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Mariposa County APCD	MARCAPCD	Parking Residential Exterior	1/1/1900	12/31/3000	250 250	Default	NULL NULL
	MARCAPCD MARCAPCD	Residential Interior	1/1/1900	12/31/3000 12/31/3000	250	Default Default	NULL
	MARIN MARIN	Nonresidential Exterior Nonresidential Exterior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 150	Default REG8.3	NULL 7/1/2009
	MARIN MARIN	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
Marin	MARIN	Parking	1/1/2012	12/31/2040	150	REG8.3	7/1/2009
	MARIN MARIN	Residential Exterior Residential Exterior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 150	Default REG8.3	NULL 7/1/2009
	MARIN MARIN	Residential Interior Residential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
	MARIP	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL
Mariposa	MARIP MARIP	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MARIP MARIP	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MBUAPCD MBUAPCD	Nonresidential Exterior Nonresidential Interior	1/1/2013	12/31/3000 12/31/3000	150 150	R426 R426	8/15/2012 8/15/2012
Monterey Bay Unified APCD	MBUAPCD	Parking	1/1/2013	12/31/3000	150	R426	8/15/2012
	MBUAPCD MBUAPCD	Residential Exterior Residential Interior	1/1/2013 1/1/2013	12/31/3000 12/31/3000	100 100	R426 R426	8/15/2012 8/15/2012
	MC MC	Nonresidential Exterior Nonresidential Interior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100 100	R218 R218	10/14/2010 10/14/2010
Mountain Counties	MC	Parking	7/1/2011	12/31/3000	100	R218	10/14/2010
	MC MC	Residential Exterior Residential Interior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100 100	R218 R218	10/14/2010 10/14/2010
	MCAQMD MCAQMD	Nonresidential Exterior Nonresidential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Mendocino County AQMD	MCAQMD MCAQMD	Parking	1/1/1900	12/31/3000	250	Default	NULL
	MCAQMD	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MD MD	Nonresidential Exterior Nonresidential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Mojave Desert	MD MD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MD	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	MDAQMD MDAQMD	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Mojave Desert AQMD	MDAQMD MDAQMD	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MDAQMD	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	MENC MENC	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Mendocino-Coastal	MENC MENC	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MENC MENI	Residential Interior Nonresidential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MENI	Nonresidential Interior	1/1/1900	12/31/3000	250	Default	NULL
Mendocino-Inland	MENI MENI	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MENI MENRN	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MENRN	Nonresidential Interior	1/1/1900	12/31/3000	250	Default	NULL
Mendocino-Rural Inland North	MENRN MENRN	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MENRN MENRS	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Mandacina Bural Inland Coult	MENRS	Nonresidential Interior	1/1/1900	12/31/3000	250	Default	NULL
Mendocino-Rural Inland South	MENRS MENRS	Parking Residential Exterior	1/1/1900	12/31/3000	250 250	Default Default	NULL NULL
	MENRS MER	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/2010	250 250	Default R4601	NULL 12/17/2009
	MER MER	Nonresidential Exterior Nonresidential Interior	1/1/2011	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
	MER	Nonresidential Interior	1/1/2011	12/31/3000	150	R4601	12/17/2009
Merced	MER MER	Parking Residential Exterior	1/1/2011	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
	MER MER	Residential Exterior Residential Interior	1/1/2011 1/1/1900	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
	MER	Residential Interior	1/1/2011	12/31/3000	150	R4601	12/17/2009
	MOD MOD	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Modoc	MOD MOD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MOD	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	MODCAPCD MODCAPCD	Nonresidential Exterior Nonresidential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Modoc County APCD	MODCAPCD MODCAPCD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MODCAPCD	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	MONO MONO	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Mono	MONO MONO	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	MONO	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	MONT MONT	Nonresidential Exterior Nonresidential Interior	1/1/2013 1/1/2013	12/31/3000 12/31/3000	150 150	R426 R426	8/15/2012 8/15/2012
Monterey	MONT MONT	Parking Residential Exterior	1/1/2013 1/1/2013	12/31/3000 12/31/3000	150 100	R426 R426	8/15/2012 8/15/2012
	MONT	Residential Interior	1/1/2013	12/31/3000 12/31/2011	100	R426	8/15/2012 NULL
	NAPA	Nonresidential Exterior	1/1/1900	7 71 2 7 7 7 7 7 7	,	Default	1 1000

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Table 6.1 Architectural Coating Emission Factors

	<u> </u>	I	Т		ROG,	<u> </u>	T .
Name	EMFAC_ID	CoatingType	Start Date	End Date	g/L	Rule Name	Amended Date
	NAPA NAPA	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
Napa	NAPA NAPA	Parking Residential Exterior	1/1/2012 1/1/1900	12/31/2040 12/31/2011	150 250	REG8.3 Default	7/1/2009 NULL
	NAPA	Residential Exterior	1/1/2012	12/31/2040	150	REG8.3	7/1/2009
	NAPA NAPA	Residential Interior Residential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
	NC NC	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
North Coast	NC	Parking	1/1/1900	12/31/3000	250	Default	NULL
	NC NC	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	NCAPCD NCAPCD	Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
North Coast Unified APCD	NCAPCD	Nonresidential Interior Parking	1/1/1900	12/31/3000	250	Default	NULL
	NCAPCD NCAPCD	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	NCC	Nonresidential Exterior	1/1/2013	12/31/3000	150	R426	8/15/2012
North Central Coast	NCC NCC	Nonresidential Interior Parking	1/1/2013 1/1/2013	12/31/3000 12/31/3000	150 150	R426 R426	8/15/2012 8/15/2012
	NCC NCC	Residential Exterior Residential Interior	1/1/2013 1/1/2013	12/31/3000 12/31/3000	100 100	R426 R426	8/15/2012 8/15/2012
	NEV	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL
Nevada	NEV NEV	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	NEV NEV	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000	250 250	Default Default	NULL NULL
	NP NP	Nonresidential Exterior	1/1/1900	12/31/3000 12/31/3000	250	Default	NULL
Northeast Plateau	NP NP	Nonresidential Interior Parking	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	NP	Residential Exterior	1/1/1900	12/31/3000	250	Default	NULL
	NP NSAQMD	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Northern Sierra AQMD	NSAQMD NSAQMD	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
HORITOTH OIGHA AWIVID	NSAQMD	Residential Exterior	1/1/1900	12/31/3000	250	Default	NULL
	NSAQMD NSCAPCD	Residential Interior Nonresidential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Northorn Sonoma County ADCD	NSCAPCD	Nonresidential Interior	1/1/1900	12/31/3000	250	Default	NULL
Northern Sonoma County APCD	NSCAPCD NSCAPCD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	NSCAPCD ORA	Residential Interior Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default	NULL NULL
	ORA	Nonresidential Interior	1/1/1900	12/31/3000	250		NULL
Orange	ORA ORA	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 6/30/2008	100 250		NULL NULL
•	ORA ORA	Residential Exterior Residential Interior	7/1/2008 1/1/1900	12/31/3000 6/30/2008	100 100		NULL NULL
	ORA	Residential Interior	7/1/2008	12/31/3000	50		NULL
	PCAPCD PCAPCD	Nonresidential Exterior Nonresidential Interior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100 100	R218 R218	10/14/2010 10/14/2010
Placer County APCD	PCAPCD	Parking	7/1/2011	12/31/3000	100	R218	10/14/2010
	PCAPCD PCAPCD	Residential Exterior Residential Interior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100 100	R218 R218	10/14/2010 10/14/2010
	PLACERLT PLACERLT	Nonresidential Exterior Nonresidential Interior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100 100	R218 R218	10/14/2010 10/14/2010
Placer-Lake Tahoe	PLACERLT	Parking	7/1/2011	12/31/3000	100	R218	10/14/2010
	PLACERLT PLACERLT	Residential Exterior Residential Interior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100 100	R218 R218	10/14/2010 10/14/2010
	PLACERMC PLACERMC	Nonresidential Exterior Nonresidential Interior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100 100	R218 R218	10/14/2010 10/14/2010
Placer-Mountain Counties	PLACERMC	Parking	7/1/2011	12/31/3000	100	R218	10/14/2010
	PLACERMC PLACERMC	Residential Exterior Residential Interior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100 100	R218 R218	10/14/2010 10/14/2010
	PLACERSJ PLACERSJ	Nonresidential Exterior Nonresidential Interior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100 100	R218 R218	10/14/2010 10/14/2010
Placer-Sacramento	PLACERSJ	Parking	7/1/2011	12/31/3000	100	R218	10/14/2010
	PLACERSJ PLACERSJ	Residential Exterior Residential Interior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100	R218 R218	10/14/2010 10/14/2010
	PLU PLU	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default Default	NULL
Plumas	PLU	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default	NULL NULL
	PLU PLU	Residential Exterior Residential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	RIVMDAQMD	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL
Riverside-Mojave Desert MDAQMD	RIVMDAQMD RIVMDAQMD	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	RIVMDAQMD RIVMDAQMD	Residential Exterior Residential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	RIVSC	Nonresidential Exterior	1/1/1900	12/31/3000	250	Delauit	NULL
	RIVSC RIVSC	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 100		NULL NULL
Riverside-South Coast	RIVSC RIVSC	Residential Exterior Residential Exterior	1/1/1900 7/1/2008	6/30/2008 12/31/3000	250 100		NULL NULL
	RIVSC	Residential Interior	1/1/1900	6/30/2008	100		NULL
	RIVSC RIVSCAQMD	Residential Interior Nonresidential Exterior	7/1/2008 1/1/1900	12/31/3000 12/31/3000	50 250		NULL NULL
	RIVSCAQMD	Nonresidential Interior	1/1/1900	12/31/3000	250		NULL
Riverside-Mojave Desert SCAQMD	RIVSCAQMD RIVSCAQMD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 6/30/2008	100 250		NULL NULL
	RIVSCAQMD RIVSCAQMD	Residential Exterior Residential Interior	7/1/2008 1/1/1900	12/31/3000 6/30/2008	100 100		NULL NULL
	RIVSCAQMD	Residential Interior	7/1/2008	12/31/3000	50		NULL
	RIVSS RIVSS	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Riverside-Salton Sea	RIVSS RIVSS	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	RIVSS	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	SAC SAC	Nonresidential Exterior Nonresidential Exterior	1/1/1900 1/1/2003	12/31/2002 12/31/2040	100 100	Default R442	10/22/2015 10/22/2015
	SAC	Nonresidential Interior	1/1/1900	12/31/2002	100	Default	10/22/2015
Sacramento	SAC SAC	Nonresidential Interior Parking	1/1/2003 1/1/2003	12/31/2040 12/31/2040	100 100	R442 R442	10/22/2015 10/22/2015
	SAC SAC	Residential Exterior Residential Exterior	1/1/1900 1/1/2003	12/31/2002 12/31/2040	100 100	Default R442	10/22/2015 10/22/2015
	SAC	Residential Interior	1/1/1900	12/31/2002	100	Default	10/22/2015
	SAC SBCAPCD	Residential Interior Nonresidential Exterior	1/1/2003 1/1/2015	12/31/2040 12/31/3000	100 250	R442 Rule 323.1	10/22/2015 6/19/2014
Contr. Death and Co. 1885	SBCAPCD	Nonresidential Interior	1/1/2015	12/31/3000	250	Rule 323.1	6/19/2014
Santa Barbara County APCD	SBCAPCD	Parking	1/1/2015	12/31/3000 12/31/3000	250 100	Rule 323.1 Rule 323.1	6/19/2014

Table 6.1 Architectural Coating Emission Factors

			<u> </u>		ROG,	<u> </u>	<u> </u>
Name	EMFAC_ID SBCAPCD	CoatingType Residential Interior	Start Date 1/1/2015	12/31/3000	g/L 50	Rule Name Rule 323.1	6/19/2014
	SBEN SBEN	Nonresidential Exterior Nonresidential Interior	1/1/2013	12/31/3000	150 150	R426 R426	8/15/2012 8/15/2012
San Benito	SBEN	Parking	1/1/2013	12/31/3000	150	R426	8/15/2012
	SBEN SBEN	Residential Exterior Residential Interior	1/1/2013 1/1/2013	12/31/3000 12/31/3000	100 100	R426 R426	8/15/2012 8/15/2012
	SBERNMD SBERNMD	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
San Bernardino-Mojave Desert	SBERNMD SBERNMD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SBERNMD	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	SBERNSC SBERNSC	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250		NULL NULL
San Bernardino-South Coast	SBERNSC SBERNSC	Parking Residential Exterior	1/1/1900	12/31/3000 6/30/2008	100 250		NULL NULL
	SBERNSC SBERNSC	Residential Exterior	7/1/2008	12/31/3000	100		NULL NULL
	SBERNSC	Residential Interior Residential Interior	7/1/2008	6/30/2008 12/31/3000	50		NULL
	SBN SBN	Nonresidential Exterior Nonresidential Interior	1/1/2015 1/1/2015	12/31/3000 12/31/3000	250 250	Rule 323.1 Rule 323.1	6/19/2014 6/19/2014
Santa Barbara-North of Santa Ynez	SBN SBN	Parking Residential Exterior	1/1/2015 1/1/2015	12/31/3000 12/31/3000	250 100	Rule 323.1 Rule 323.1	6/19/2014 6/19/2014
	SBN	Residential Interior	1/1/2015	12/31/3000	50	Rule 323.1	6/19/2014
	SBS SBS	Nonresidential Exterior Nonresidential Interior	1/1/2015 1/1/2015	12/31/3000 12/31/3000	250 250	Rule 323.1 Rule 323.1	6/19/2014 6/19/2014
Santa Barbara-South of Santa Ynez Range	SBS SBS	Parking Residential Exterior	1/1/2015 1/1/2015	12/31/3000 12/31/3000	250 100	Rule 323.1 Rule 323.1	6/19/2014 6/19/2014
	SBS SC	Residential Interior Nonresidential Exterior	1/1/2015 1/1/1900	12/31/3000 12/31/3000	50 250	Rule 323.1	6/19/2014 NULL
	SC	Nonresidential Interior	1/1/1900	12/31/3000	250		NULL
South Coast	SC SC	Parking Residential Exterior	1/1/1900	12/31/3000 6/30/2008	100 250		NULL NULL
	SC SC	Residential Exterior Residential Interior	7/1/2008 1/1/1900	12/31/3000 6/30/2008	100 100		NULL NULL
	SC	Residential Interior	7/1/2008	12/31/3000	50	Dofoult	NULL
	SCAPCD SCAPCD	Nonresidential Exterior Nonresidential Interior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Siskiyou County APCD	SCAPCD SCAPCD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SCAPCD SCAQMD	Residential Interior Nonresidential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default	NULL NULL
	SCAQMD	Nonresidential Interior	1/1/1900	12/31/3000	250		NULL
South Coast AQMD	SCAQMD SCAQMD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 6/30/2008	100 250		NULL NULL
	SCAQMD SCAQMD	Residential Exterior Residential Interior	7/1/2008 1/1/1900	12/31/3000 6/30/2008	100 100		NULL NULL
	SCAQMD	Residential Interior	7/1/2008	12/31/3000	50	D. (- 1)	NULL
	SCC SCC	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
South Central Coast	SCC SCC	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SCC	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	SCLARA SCLARA	Nonresidential Exterior Nonresidential Exterior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 150	Default REG8.3	NULL 7/1/2009
	SCLARA SCLARA	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
Santa Clara	SCLARA SCLARA	Parking Residential Exterior	1/1/2012 1/1/1900	12/31/2040 12/31/2011	150 250	REG8.3 Default	7/1/2009 NULL
	SCLARA	Residential Exterior	1/1/2012	12/31/2040	150	REG8.3	7/1/2009
	SCLARA SCLARA	Residential Interior Residential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
	SCRUZ SCRUZ	Nonresidential Exterior Nonresidential Interior	1/1/2013 1/1/2013	12/31/3000 12/31/3000	150 150	R426 R426	8/15/2012 8/15/2012
Santa Cruz	SCRUZ	Parking	1/1/2013	12/31/3000	150	R426	8/15/2012
	SCRUZ SCRUZ	Residential Exterior Residential Interior	1/1/2013 1/1/2013	12/31/3000 12/31/3000	100 100	R426 R426	8/15/2012 8/15/2012
	SD SD	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
San Diego	SD SD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SD	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	SDAB SDAB	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
San Diego	SDAB SDAB	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SDAB	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	SDAPCD SDAPCD	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
San Diego County APCD	SDAPCD SDAPCD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SDAPCD SF	Residential Interior Nonresidential Exterior	1/1/1900	12/31/3000 12/31/2011	250 250	Default Default	NULL NULL
	SF	Nonresidential Exterior	1/1/2012	12/31/2040	150	REG8.3	7/1/2009
	SF SF	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
San Francisco	SF SF	Parking Residential Exterior	1/1/2012 1/1/1900	12/31/2040 12/31/2011	150 250	REG8.3 Default	7/1/2009 NULL
	SF	Residential Exterior	1/1/2012	12/31/2040	150	REG8.3	7/1/2009
	SF SF	Residential Interior Residential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
	SFBA SFBA	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
San Francisco Bay Area	SFBA SFBA	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SFBA	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	SHASTA SHASTA	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Shasta	SHASTA SHASTA	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SHASTA	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	SHASTAAQMD SHASTAAQMD	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Shasta County AQMD	SHASTAAQMD SHASTAAQMD	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SHASTAAQMD	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	SIERRA	Nonresidential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SIERRA	Nonresidential Interior					
Sierra	SIERRA SIERRA SIERRA	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL

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Table 6.1 Architectural Coating Emission Factors

		<u> </u>			,		1
Name	EMFAC_ID	CoatingType	Start Date	End Date	ROG, g/L	Rule Name	Amended Date
Siskiyou	SISK SISK	Nonresidential Interior Parking	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SISK SISK	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SJ	Nonresidential Exterior	1/1/1900	12/31/2010	250	R4601	12/17/2009
	SJ SJ	Nonresidential Exterior Nonresidential Interior	1/1/2011 1/1/1900	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
San Joaquin	SJ SJ	Nonresidential Interior Parking	1/1/2011 1/1/2011	12/31/3000 12/31/3000	150 150	R4601 R4601	12/17/2009 12/17/2009
·	SJ SJ	Residential Exterior Residential Exterior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
	SJ	Residential Interior	1/1/1900	12/31/2010	250	R4601	12/17/2009
	SJV	Residential Interior Nonresidential Exterior	1/1/2011 1/1/1900	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
	SJV SJV	Nonresidential Exterior Nonresidential Interior	1/1/2011 1/1/1900	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
One Index Salvelle	SJV	Nonresidential Interior	1/1/2011	12/31/3000	150	R4601	12/17/2009
San Joaquin Valley	SJV	Parking Residential Exterior	1/1/2011 1/1/1900	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
	SJV SJV	Residential Exterior Residential Interior	1/1/2011 1/1/1900	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
	SJV	Residential Interior	1/1/2011	12/31/3000	150	R4601	12/17/2009
	SJVUAPCD SJVUAPCD	Nonresidential Exterior Nonresidential Exterior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
	SJVUAPCD SJVUAPCD	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
San Joaquin Valley Unified APCD	SJVUAPCD	Parking	1/1/2011	12/31/3000	150	R4601	12/17/2009
	SJVUAPCD SJVUAPCD	Residential Exterior Residential Exterior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
	SJVUAPCD SJVUAPCD	Residential Interior Residential Interior	1/1/1900 1/1/2011	12/31/2010 12/31/3000	250 150	R4601 R4601	12/17/2009 12/17/2009
	SLO	Nonresidential Exterior	1/1/1900	12/31/2040	250	R433	3/26/2002
San Luis Obispo	SLO SLO	Nonresidential Interior Parking	1/1/1900	12/31/2040 12/31/2040	250 150	R433 R433	3/26/2002 3/26/2002
	SLO SLO	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/2040 12/31/2040	250 250	R433 R433	3/26/2002 3/26/2002
	SLOCAPCD SLOCAPCD	Nonresidential Exterior Nonresidential Interior	1/1/1900	12/31/2040 12/31/2040	250 250	R433 R433	3/26/2002 3/26/2002
San Luis Obispo County APCD	SLOCAPCD	Parking	1/1/1900	12/31/2040	150	R433	3/26/2002
	SLOCAPCD SLOCAPCD	Residential Exterior Residential Interior	1/1/1900 1/1/1900	12/31/2040 12/31/2040	250 250	R433 R433	3/26/2002 3/26/2002
	SM	Nonresidential Exterior	1/1/1900	12/31/2011	250	Default	NULL
	SM SM	Nonresidential Exterior Nonresidential Interior	1/1/2012 1/1/1900	12/31/2040 12/31/2011	150 250	REG8.3 Default	7/1/2009 NULL
San Mateo	SM SM	Nonresidential Interior Parking	1/1/2012 1/1/2012	12/31/2040 12/31/2040	100 150	REG8.3 REG8.3	7/1/2009 7/1/2009
Can mates	SM	Residential Exterior	1/1/1900	12/31/2011	250	Default	NULL
	SM SM	Residential Exterior Residential Interior	1/1/2012 1/1/1900	12/31/2040 12/31/2011	150 250	REG8.3 Default	7/1/2009 NULL
	SM SMAQMD	Residential Interior Nonresidential Exterior	1/1/2012 1/1/1900	12/31/2040 12/31/2002	100 100	REG8.3 Default	7/1/2009 10/22/2015
	SMAQMD	Nonresidential Exterior	1/1/2003	12/31/2040	100	R442	10/22/2015
	SMAQMD SMAQMD	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2003	12/31/2002 12/31/2040	100	Default R442	10/22/2015 10/22/2015
Sacramento Metropolitan AQMD	SMAQMD SMAQMD	Parking Residential Exterior	1/1/2003 1/1/1900	12/31/2040 12/31/2002	100 100	R442 Default	10/22/2015 10/22/2015
	SMAQMD	Residential Exterior	1/1/2003	12/31/2040	100	R442	10/22/2015
	SMAQMD SMAQMD	Residential Interior Residential Interior	1/1/1900 1/1/2003	12/31/2002 12/31/2040	100	Default R442	10/22/2015 10/22/2015
	SOLSF SOLSF	Nonresidential Exterior Nonresidential Exterior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 150	Default REG8.3	NULL 7/1/2009
	SOLSF	Nonresidential Interior	1/1/1900	12/31/2011	250	Default	NULL
Solano-San Francisco	SOLSF SOLSF	Nonresidential Interior Parking	1/1/2012 1/1/2012	12/31/2040 12/31/2040	100 150	REG8.3 REG8.3	7/1/2009 7/1/2009
	SOLSF SOLSF	Residential Exterior Residential Exterior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 150	Default REG8.3	NULL 7/1/2009
	SOLSF	Residential Interior	1/1/1900	12/31/2011	250	Default	NULL
	SOLSF SOLSJ	Residential Interior Nonresidential Exterior	1/1/2012 1/1/1900	12/31/2040 12/31/3000	100 150	REG8.3 Default	7/1/2009 11/14/2001
	SOLSJ SOLSJ	Nonresidential Exterior Nonresidential Interior	1/1/2003 1/1/1900	12/31/2040 12/31/3000	150 150	R2-14 Default	11/14/2001 11/14/2001
	SOLSJ	Nonresidential Interior	1/1/2003	12/31/2040	150	R2-14	11/14/2001
Solano-Sacramento	SOLSJ SOLSJ	Parking Residential Exterior	1/1/2003 1/1/1900	12/31/2040 12/31/3000	150 100	R2-14 Default	11/14/2001 11/14/2001
	SOLSJ SOLSJ	Residential Exterior Residential Interior	1/1/2003 1/1/1900	12/31/2040 12/31/3000	100 100	R2-14 Default	11/14/2001 11/14/2001
	SOLSJ	Residential Interior	1/1/2003	12/31/2040	100	R2-14	11/14/2001
	SONNC SONNC	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Sonoma-North Coast	SONNC SONNC	Parking Residential Exterior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	SONNC	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	SONSF SONSF	Nonresidential Exterior Nonresidential Exterior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 150	Default REG8.3	NULL 7/1/2009
	SONSF SONSF	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
Sonoma-San Francisco	SONSF	Parking	1/1/2012	12/31/2040	150	REG8.3	7/1/2009
	SONSF SONSF	Residential Exterior Residential Exterior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 150	Default REG8.3	NULL 7/1/2009
	SONSF SONSF	Residential Interior Residential Interior	1/1/1900 1/1/2012	12/31/2011 12/31/2040	250 100	Default REG8.3	NULL 7/1/2009
	SS	Nonresidential Exterior	1/1/2011	12/31/2040	150	R424	2/23/2010
Salton Sea	SS SS	Nonresidential Interior Parking	1/1/2011 1/1/2011	12/31/2040 12/31/2040	150 150	R424 R424	2/23/2010 2/23/2010
	SS	Residential Exterior Residential Interior	1/1/2011	12/31/2040 12/31/2040	100	R424 R424	2/23/2010 2/23/2010
	STAN	Nonresidential Exterior	1/1/1900	12/31/2010	250	R4601	12/17/2009
	STAN STAN	Nonresidential Exterior Nonresidential Interior	1/1/2011 1/1/1900	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
Stanislaus	STAN STAN	Nonresidential Interior Parking	1/1/2011	12/31/3000 12/31/3000	150 150	R4601 R4601	12/17/2009 12/17/2009
<u> </u>	STAN	Residential Exterior	1/1/1900	12/31/2010	250	R4601	12/17/2009
	STAN STAN	Residential Exterior Residential Interior	1/1/2011 1/1/1900	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
	STAN	Residential Interior	1/1/2011	12/31/3000	150	R4601	12/17/2009
	State State	Nonresidential Exterior Nonresidential Interior	1/1/1900 1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Statewide	State State	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	State	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	SUT	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL

Table 6.1 Architectural Coating Emission Factors

Name	EMFAC_ID	CoatingType	Start Date	End Date	ROG, g/L	Rule Name	Amended Date
Sutter	SUT SUT	Nonresidential Interior Parking	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
Callor	SUT	Residential Exterior	1/1/1900	12/31/3000	250	Default	NULL
	SUT	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	SV SV	Nonresidential Exterior Nonresidential Interior	7/1/2011 7/1/2011	12/31/3000 12/31/3000	100	R218 R218	10/14/2010 10/14/2010
Sacramento Valley	SV	Parking	7/1/2011	12/31/3000	100	R218	10/14/2010
	SV SV	Residential Exterior Residential Interior	7/1/2011	12/31/3000	100	R218 R218	10/14/2010
	TEHAPCD	Nonresidential Exterior	7/1/2011 1/1/1900	12/31/3000 12/31/2002	100 250	Default	10/14/2010 NULL
	TEHAPCD	Nonresidential Exterior	1/1/2003	12/31/2040	150	R4.39	8/20/2002
	TEHAPOD	Nonresidential Interior	1/1/1900	12/31/2002	250	Default	NULL
Tehama County APCD	TEHAPCD TEHAPCD	Nonresidential Interior Parking	1/1/2003 1/1/2003	12/31/2040 12/31/2040	150 150	R4.39 R4.39	8/20/2002 8/20/2002
,	TEHAPCD	Residential Exterior	1/1/1900	12/31/2002	250	Default	NULL
	TEHAPOD	Residential Exterior	1/1/2003	12/31/2040	100	R4.39	8/20/2002
	TEHAPCD TEHAPCD	Residential Interior Residential Interior	1/1/1900 1/1/2003	12/31/2002 12/31/2040	250 100	Default R4.39	NULL 8/20/2002
	THE	Nonresidential Exterior	1/1/1900	12/31/2002	250	Default	NULL
	THE	Nonresidential Exterior	1/1/2003	12/31/2040	150	R4.39	8/20/2002
	THE THE	Nonresidential Interior Nonresidential Interior	1/1/1900 1/1/2003	12/31/2002 12/31/2040	250 150	Default R4.39	NULL 8/20/2002
Tehama	THE	Parking	1/1/2003	12/31/2040	150	R4.39	8/20/2002
	THE	Residential Exterior	1/1/1900	12/31/2002	250	Default	NULL
	THE THE	Residential Exterior Residential Interior	1/1/2003 1/1/1900	12/31/2040 12/31/2002	100 250	R4.39 Default	8/20/2002 NULL
	THE	Residential Interior	1/1/2003	12/31/2002	100	R4.39	8/20/2002
	TRI	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL
Tripity	TRI	Nonresidential Interior	1/1/1900	12/31/3000	250	Default	NULL
Trinity	TRI TRI	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
	TRI	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	TUL	Nonresidential Exterior	1/1/1900	12/31/2010	250	R4601	12/17/2009
	TUL TUL	Nonresidential Exterior Nonresidential Interior	1/1/2011 1/1/1900	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
	TUL	Nonresidential Interior	1/1/2011	12/31/3000	150	R4601	12/17/2009
Tulare	TUL	Parking	1/1/2011	12/31/3000	150	R4601	12/17/2009
	TUL TUL	Residential Exterior	1/1/1900	12/31/2010	250	R4601	12/17/2009
	TUL	Residential Exterior Residential Interior	1/1/2011	12/31/3000 12/31/2010	150 250	R4601 R4601	12/17/2009 12/17/2009
	TUL	Residential Interior	1/1/2011	12/31/3000	150	R4601	12/17/2009
	TULAPCD	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL
Tuolumne County APCD	TULAPCD TULAPCD	Nonresidential Interior Parking	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
radianne County Ar GB	TULAPCD	Residential Exterior	1/1/1900	12/31/3000	250	Default	NULL
	TULAPCD	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	TUO	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL
Tuolumne	TUO TUO	Nonresidential Interior Parking	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
rasiannis	TUO	Residential Exterior	1/1/1900	12/31/3000	250	Default	NULL
	TUO	Residential Interior	1/1/1900	12/31/3000	250	Default	NULL
	VCAPCD VCAPCD	Nonresidential Exterior Nonresidential Exterior	1/1/1900 1/1/2004	12/31/2003 1/11/2010	250 150	Default R74.2	NULL 1/12/2010
	VCAPCD	Nonresidential Exterior	1/1/2004	12/31/3000	250	R74.2	1/12/2010
	VCAPCD	Nonresidential Interior	1/1/1900	12/31/2003	250	Default	NULL
	VCAPCD	Nonresidential Interior	1/1/2004	1/11/2010	150	R74.2	1/12/2010
Ventura County APCD	VCAPCD VCAPCD	Nonresidential Interior Parking	1/12/2010	12/31/3000 12/31/3000	250 250	R74.2 R74.2	1/12/2010 1/12/2010
	VCAPCD	Residential Exterior	1/1/1900	12/31/2003	250	Default	NULL
	VCAPCD	Residential Exterior	1/1/2004	1/11/2010	100	R74.2	1/12/2010
	VCAPCD VCAPCD	Residential Exterior Residential Interior	1/12/2010	12/31/3000 12/31/2003	100 250	R74.2 Default	1/12/2010 NULL
	VCAPCD	Residential Interior	1/1/2004	1/11/2010	100	R74.2	1/12/2010
	VCAPCD	Residential Interior	1/12/2010	12/31/3000	75	R74.2	1/12/2010
	VENT VENT	Nonresidential Exterior Nonresidential Exterior	1/1/1900	12/31/2003 1/11/2010	250 150	Default R74.2	NULL 1/12/2010
	VENT	Nonresidential Exterior	1/1/2004	12/31/3000	250	R74.2	1/12/2010
	VENT	Nonresidential Interior	1/1/1900	12/31/2003	250	Default	NULL
	VENT	Nonresidential Interior	1/1/2004	1/11/2010	150	R74.2	1/12/2010
Ventura	VENT VENT	Nonresidential Interior Parking	1/12/2010	12/31/3000 12/31/2003	250 250	R74.2 Default	1/12/2010 NULL
- 5.1.00.00	VENT	Residential Exterior	1/1/1900	12/31/2003	250	Default	NULL
	VENT	Residential Exterior	1/1/2004	1/11/2010	100	R74.2	1/12/2010
	VENT VENT	Residential Exterior Residential Interior	1/12/2010	12/31/3000 12/31/2003	100 250	R74.2 Default	1/12/2010 NULL
	VENT	Residential Interior	1/1/1900	1/11/2010	100	R74.2	1/12/2010
	VENT	Residential Interior	1/12/2010	12/31/3000	75	R74.2	1/12/2010
	YOLO	Nonresidential Exterior	1/1/1900	12/31/3000	150	Default	11/14/2001
	YOLO YOLO	Nonresidential Exterior Nonresidential Interior	1/1/2003	12/31/3000 12/31/3000	150 150	R2-14 Default	11/14/2001 11/14/2001
	YOLO	Nonresidential Interior	1/1/2003	12/31/3000	150	R2-14	11/14/2001
Yolo	YOLO	Parking	1/1/2003	12/31/3000	150	R2-14	11/14/2001
	YOLO YOLO	Residential Exterior Residential Exterior	1/1/1900	12/31/3000 12/31/3000	100	Default R2-14	11/14/2001 11/14/2001
	YOLO	Residential Exterior Residential Interior	1/1/2003	12/31/3000	100	Default	11/14/2001
	YOLO	Residential Interior	1/1/2003	12/31/3000	100	R2-14	11/14/2001
	YSAQMD	Nonresidential Exterior	1/1/1900	12/31/3000	150	Default	11/14/2001
	YSAQMD YSAQMD	Nonresidential Exterior Nonresidential Interior	1/1/2003	12/31/3000 12/31/3000	150 150	R2-14 Default	11/14/2001 11/14/2001
	YSAQMD	Nonresidential Interior	1/1/1900	12/31/3000	150	R2-14	11/14/2001
Yolo/Solano AQMD	YSAQMD	Parking	1/1/2003	12/31/3000	150	R2-14	11/14/2001
	YSAQMD	Residential Exterior	1/1/1900	12/31/3000	100	Default	11/14/2001
	YSAQMD YSAQMD	Residential Exterior Residential Interior	1/1/2003 1/1/1900	12/31/3000 12/31/3000	100	R2-14 Default	11/14/2001 11/14/2001
	YSAQMD	Residential Interior	1/1/1900	12/31/3000	100	R2-14	11/14/2001
	YUBA	Nonresidential Exterior	1/1/1900	12/31/3000	250	Default	NULL
V. L.	YUBA	Nonresidential Interior	1/1/1900	12/31/3000	250	Default	NULL
Yuba	YUBA YUBA	Parking Residential Exterior	1/1/1900	12/31/3000 12/31/3000	250 250	Default Default	NULL NULL
			1, 1, 1000	, 0 1/0000	200	Doiddit	ITULL

Table 7.1 Number of Snow and Summer Days

Default: 0 Snow Days and 180 Summer Days

Location Type	Name	Number Snow Days	Number Summer Days
	Great Basin Valleys	0	180
	Lake County	0	180
	Lake Tahoe	0	180
	Mountain Counties	0	180
	Mojave Desert	0	180
	North Coast	0	180
	North Central Coast	0	180
Air Basin	Northeast Plateau	0	180
	South Coast	0	250
	South Central Coast	0	180
	San Diego	0	180
	San Francisco Bay Area	0	180
	San Joaquin Valley	0	180
	Salton Sea	0	180
	Sacramento Valley	0	180
	Amador County APCD	0	180
	Antelope Valley APCD	0	180
	Bay Area AQMD	0	180
	Butte County AQMD	0	180
	Colusa County APCD	0	180
	Calaveras County AQMD	0	180
	El Dorado County AQMD	0	180
	Feather River AQMD	0	180
	Great Basin UAPCD	0	180
	Glenn County APCD	0	180
	Imperial County APCD	0	180
	Kern County APCD	0	180
	Lassen County APCD	0	180
	Lake County AQMD	0	180
	Mariposa County APCD	0	180
	Monterey Bay Unified APCD	0	250
	Mendocino County AQMD	0	180
Air District	Mojave Desert AQMD	0	180
	Modoc County APCD	0	180
	North Coast Unified APCD	0	180
	Northern Sierra AQMD	0	180
	Northern Sonoma County APCD	0	180
	Placer County APCD	0	180
	Santa Barbara County APCD	0	180
	Siskiyou County APCD	0	180
	South Coast AQMD	0	250
	San Diego County APCD	0	180
	Shasta County AQMD	0	180
	San Joaquin Valley Unified APCD	0	180
	San Luis Obispo County APCD	0	330
	Sacramento Metropolitan AQMD	0	250
	Tehama County APCD	0	180
	Tuolumne County APCD	0	180
	Ventura County APCD	0	180
	Yolo/Solano AQMD	0	180
	Alameda	0	180
	Alpine	0	180
	Amador	0	180
	Butte	0	180
	Calaveras	0	180
	Contra Costa	0	180
	Colusa	0	180
	Del Norte	0	180
	El Dorado-Lake Tahoe	0	180
	El Dorado-Mountain County	0	180
	Fresno	0	180
	Glenn	0	180
	Humboldt	0	180
	Imperial	0	180
	Inyo	0	180

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Table 7.1 Number of Snow and Summer Days

Default: 0 Snow Days and 180 Summer Days

Location Type	Name	Number Snow Days	Number Summer Days
	Kern-Mojave Desert	0	180
	Kern-San Joaquin	0	180
	Kings	0	180
	Lake	0	180
	Los Angeles-Mojave Desert	0	180
	Los Angeles-South Coast	0	250
	Lassen	0	180
	Madera	0	180
	Marin	0	180
	Mariposa	0	180
	Mendocino-Coastal	0	180
	Mendocino-Inland	0	180
	Mendocino-Rural Inland North	0	180
	Mendocino-Rural Inland South	0	180
	Merced	0	180
	Modoc	0	180
	Mono	0	180
	Monterey	0	250
	Napa	0	180
	Nevada	0	180
0 1'	Orange	0	250
Counties	Placer-Lake Tahoe	0	180
	Placer-Mountain Counties	0	180
	Placer-Sacramento	0	180
	Plumas	0	180
	Riverside-Mojave Desert MDAQMD	0	180
	Riverside-South Coast	0	250
	Riverside-Mojave Desert SCAQMD	0	250
	Riverside-Salton Sea	0	180
	Sacramento	0	250
	San Benito	0	250
	San Bernardino-Mojave Desert	0	180
	San Bernardino-South Coast	0	250
	Santa Barbara-North of Santa Ynez	0	180
	Santa Barbara-South of Santa Ynez Range	0	180
	Santa Clara	0	180
	Santa Cruz	0	250
	San Diego	0	180
	San Francisco	0	180
	Shasta	0	180
	Sierra	0	180
	Siskiyou	0	180
	San Joaquin	0	180
		0	330
	San Luis Obispo San Mateo	0	180
	Solano-San Francisco	0	180
	Solano-Sacramento	0	180
	Sonoma-North Coast	0	180
	Sonoma-San Francisco	0	180
	Stanislaus	0	180
	Sutter	0	180
	Tehama	0	180
	Trinity	0	180
	Tulare	0	180
	Tuolumne	0	180
	Ventura	0	180
	Yolo	0	180
	Yuba	0	180
Statewide	Statewide	0	180

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Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Chainsaws	1990	G2	С	0	2	430.1	1525.141	2.131	0.534	7.415	7.415	884.646	36.68
Chainsaws	1990	G2	C	6	15	1449.037	5141.698	9.226	2.555	35.657	35.657	4229.983	123.578
Chainsaws	1990	G2	R	0	2	430.1	1525.141	2.131	0.534	7.415	7.415	884.646	36.68
Chainsaws	1990	G2	R	6	15	1449.037	5141.698	9.226	2.555	35.657	35.657	4229.983	123.578
Chainsaws	2000	G2	С	0	2	270.428	649.378	3.049	0.051	4.093	4.093	884.645	16.368
Chainsaws	2000	G2 G2	C R	6	15 2	1266.497 270.428	2726.472 649.378	9.823 3.049	0.252 0.051	7.183 4.093	7.183 4.093	4229.982 884.645	76.657 16.368
Chainsaws Chainsaws	2000	G2	R	6	15	1266.497	2726.472	9.823	0.051	7.183	7.183	4229.982	76.657
Chainsaws	2005	G2	C	0	2	207.911	510.872	2.825	0.036	2.641	2.641	884.646	12.922
Chainsaws	2005	G2	С	6	15	848.205	2184.762	13.204	0.174	5.288	5.288	4229.983	52.72
Chainsaws	2005	G2	R	0	2	207.911	510.872	2.825	0.036	2.641	2.641	884.646	12.922
Chainsaws	2005	G2	R	6	15	848.205	2184.762	13.204	0.174	5.288	5.288	4229.983	52.72
Chainsaws	2010	G2	С	0	2	162.731	408.317	2.858	0.036	1.705	1.705	884.645	10.114
Chainsaws	2010	G2	C	6	15	766.506	1633.987	13.859	0.174	4.103	4.103	4229.983	47.642
Chainsaws	2010	G2	R	0	2	162.731	408.317	2.858	0.036	1.705	1.705	884.645	10.114
Chainsaws Chainsaws	2010	G2 G2	R C	6	15 2	766.506 155.394	1633.987 394.431	13.859 2.878	0.174 0.036	4.103 1.522	4.103 1.522	4229.983 884.646	47.642 9.658
Chainsaws	2011	G2	C	6	15	759.657	1622.962	13.892	0.030	3.856	3.856	4229.983	47.216
Chainsaws	2011	G2	R	0	2	155.394	394.431	2.878	0.036	1.522	1.522	884.646	9.658
Chainsaws	2011	G2	R	6	15	759.657	1622.962	13.892	0.174	3.856	3.856	4229.983	47.216
Chainsaws	2012	G2	С	0	2	149.004	383.549	2.895	0.036	1.353	1.353	884.646	9.261
Chainsaws	2012	G2	С	6	15	753.368	1613.589	13.92	0.174	3.622	3.622	4229.982	46.825
Chainsaws	2012	G2	R	0	2	149.004	383.549	2.895	0.036	1.353	1.353	884.646	9.261
Chainsaws	2012	G2	R	6	15	753.368	1613.589	13.92	0.174	3.622	3.622	4229.982	46.825
Chainsaws	2013	G2	С	0	2	142.978	373.417	2.911	0.036	1.193	1.193	884.646	8.886
Chainsaws	2013	G2	С	6	15	747.326 142.978	1604.617	13.946 2.911	0.174 0.036	3.399	3.399	4229.981	46.449
Chainsaws Chainsaws	2013 2013	G2 G2	R R	6	2 15	747.326	373.417 1604.617	13.946	0.036	1.193 3.399	1.193 3.399	884.646 4229.981	8.886 46.449
Chainsaws	2014	G2	C	0	2	137.47	364.196	2.923	0.036	1.045	1.045	884.646	8.544
Chainsaws	2014	G2	С	6	15	741.798	1596.381	13.968	0.174	3.192	3.192	4229.983	46.106
Chainsaws	2014	G2	R	0	2	137.47	364.196	2.923	0.036	1.045	1.045	884.646	8.544
Chainsaws	2014	G2	R	6	15	741.798	1596.381	13.968	0.174	3.192	3.192	4229.983	46.106
Chainsaws	2015	G2	С	0	2	132.537	355.824	2.932	0.036	0.913	0.913	884.646	8.237
Chainsaws	2015	G2	С	6	15	736.856	1588.938	13.984	0.174	3.007	3.007	4229.983	45.799
Chainsaws	2015	G2	R	0	2	132.537	355.824	2.932	0.036	0.913	0.913	884.646	8.237
Chainsaws	2015 2016	G2 G2	R C	6	15 2	736.856 129.473	1588.938 350.338	13.984 2.924	0.174 0.036	3.007 0.836	3.007 0.836	4229.983 884.646	45.799 8.047
Chainsaws Chainsaws	2016	G2	C	6	15	733.89	1584.315	13.978	0.036	2.902	2.902	4229.984	45.614
Chainsaws	2016	G2	R	0	2	129.473	350.338	2.924	0.036	0.836	0.836	884.646	8.047
Chainsaws	2016	G2	R	6	15	733.89	1584.315	13.978	0.174	2.902	2.902	4229.984	45.614
Chainsaws	2017	G2	С	0	2	127.281	346.187	2.909	0.036	0.785	0.785	884.646	7.911
Chainsaws	2017	G2	С	6	15	731.828	1580.963	13.963	0.174	2.834	2.834	4229.982	45.486
Chainsaws	2017	G2	R	0	2	127.281	346.187	2.909	0.036	0.785	0.785	884.646	7.911
Chainsaws	2017	G2	R	6	15	731.828	1580.963	13.963	0.174	2.834	2.834	4229.982	45.486
Chainsaws	2018	G2	С	0	2	125.383	342.558	2.894	0.036	0.741	0.741	884.646	7.793
Chainsaws	2018 2018	G2 G2	C R	6 0	15 2	730.055 125.383	1578.05 342.558	13.946 2.894	0.174 0.036	2.775 0.741	2.775 0.741	4229.982 884.646	45.376 7.793
Chainsaws Chainsaws	2018	G2 G2	R	6	15	730.055	1578.05	13.946	0.036	2.775	2.775	4229.982	45.376
Chainsaws	2019	G2	C	0	2	123.704	339.377	2.879	0.036	0.702	0.702	884.646	7.688
Chainsaws	2019	G2	С	6	15	728.478	1575.487	13.93	0.174	2.723	2.723	4229.983	45.278
Chainsaws	2019	G2	R	0	2	123.704	339.377	2.879	0.036	0.702	0.702	884.646	7.688
Chainsaws	2019	G2	R	6	15	728.478	1575.487	13.93	0.174	2.723	2.723	4229.983	45.278
Chainsaws	2020	G2	С	0	2	122.245	336.69	2.866	0.036	0.667	0.667	884.645	7.598
Chainsaws	2020	G2	С	6	15	727.09	1573.283	13.915	0.174	2.675	2.675	4229.983	45.192
Chainsaws	2020	G2	R	0	2	122.245	336.69	2.866	0.036	0.667	0.667	884.645	7.598
Chainsaws Chainsaws	2020 2021	G2 G2	R C	6	15 2	727.09 121.003	1573.283 334.39	13.915 2.861	0.174 0.036	2.675 0.636	2.675 0.636	4229.983 884.646	45.192 7.52
Chainsaws	2021	G2 G2	C	6	15	725.905	1571.385	13.911	0.036	2.633	2.633	4229.982	45.118
Chainsaws	2021	G2	R	0	2	121.003	334.39	2.861	0.036	0.636	0.636	884.646	7.52
Chainsaws	2021	G2	R	6	15	725.905	1571.385	13.911	0.174	2.633	2.633	4229.982	45.118
Chainsaws	2022	G2	С	0	2	120.084	332.625	2.86	0.036	0.61	0.61	884.646	7.463
Chainsaws	2022	G2	С	6	15	725.029	1569.887	13.911	0.174	2.597	2.597	4229.982	45.064
Chainsaws	2022	G2	R	0	2	120.084	332.625	2.86	0.036	0.61	0.61	884.646	7.463
Chainsaws	2022	G2	R	6	15	725.029	1569.887	13.911	0.174	2.597	2.597	4229.982	45.064
Chainsaws	2023	G2	С	0	2	119.275	331.06	2.859	0.036	0.587	0.587	884.645	7.413
Chainsaws	2023	G2 G2	C	6	15	724.255	1568.544	13.911	0.174	2.566	2.566	4229.982	45.015 7.413
Chainsaws Chainsaws	2023 2023	G2 G2	R R	6	2 15	119.275 724.255	331.06 1568.544	2.859 13.911	0.036 0.174	0.587 2.566	0.587 2.566	884.645 4229.982	7.413 45.015
Chainsaws	2023	G2 G2	C	0	2	118.594	329.785	2.858	0.174	0.567	0.567	884.646	7.371
Chainsaws	2024	G2	C	6	15	723.595	1567.432	13.91	0.030	2.538	2.538	4229.983	44.974
Chainsaws	2024	G2	R	0	2	118.594	329.785	2.858	0.036	0.567	0.567	884.646	7.371
Chainsaws	2024	G2	R	6	15	723.595	1567.432	13.91	0.174	2.538	2.538	4229.983	44.974
Chainsaws	2025	G2	С	0	2	118.058	328.877	2.857	0.036	0.551	0.551	884.646	7.337
Chainsaws	2025	G2	С	6	15	723.056	1566.61	13.909	0.174	2.515	2.515	4229.983	44.941
Chainsaws	2025	G2	R	0	2	118.058	328.877	2.857	0.036	0.551	0.551	884.646	7.337
Chainsaws	2025	G2	R	6	15	723.056	1566.61	13.909	0.174	2.515	2.515	4229.983	44.941

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Chainsaws	2030	G2	С	0	2	116.821	327.327	2.847	0.036	0.515	0.515	884.646	7.261
Chainsaws	2030	G2	C	6	15	721.699	1565.005	13.9	0.174	2.463	2.463	4229.983	44.857
Chainsaws	2030	G2	R	0	2	116.821	327.327	2.847	0.036	0.515	0.515	884.646	7.261
Chainsaws	2030	G2	R	6	15	721.699	1565.005	13.9	0.174	2.463	2.463	4229.983	44.857
Chainsaws	2035	G2	С	0	2	116.745	327.292	2.841	0.036	0.514	0.514	884.646	7.256
Chainsaws	2035	G2	С	6	15	721.61	1564.967	13.892	0.174	2.462	2.462	4229.983	44.851
Chainsaws	2035	G2	R	0	2	116.745	327.292	2.841	0.036	0.514	0.514	884.646	7.256
Chainsaws	2035	G2	R C	6	15	721.61	1564.967	13.892	0.174	2.462	2.462	4229.983	44.851
Chainsaws Chainsaws	2040	G2 G2	C	6	2 15	721.596	327.292 1564.968	2.841 13.892	0.036 0.174	0.514 2.462	0.514 2.462	884.646 4229.983	7.255 44.85
Chainsaws	2040	G2	R	0	2	116.734	327.292	2.841	0.036	0.514	0.514	884.646	7.255
Chainsaws	2040	G2	R	6	15	721.596	1564.968	13.892	0.174	2.462	2.462	4229.983	44.85
Chainsaws Preempt	1990	G2	С	6	15	366.304	1299.779	2.281	0.645	9.013	9.013	1069.305	31.239
Chainsaws Preempt	1990	G2	R	6	15	366.304	1299.779	2.281	0.645	9.013	9.013	1069.305	31.239
Chainsaws Preempt	2000	G2	С	6	15	338.395	831.071	2.059	0.061	3.653	3.653	1069.305	20.482
Chainsaws Preempt	2000	G2	R	6	15	338.395	831.071	2.059	0.061	3.653	3.653	1069.305	20.482
Chainsaws Preempt	2005	G2	С	6	15	254.318	635.617	2.838	0.044	2.464	2.464	1069.305	15.807
Chainsaws Preempt	2005	G2	R	6	15	254.318	635.617	2.838	0.044	2.464	2.464	1069.305	15.807
Chainsaws Preempt	2010	G2	С	6	15	209.644	529.056	3.069	0.044	1.449	1.449	1069.305	13.03
Chainsaws Preempt Chainsaws Preempt	2010	G2 G2	R C	6	15 15	209.644	529.056 511.177	3.069 3.112	0.044	1.449 1.257	1.449 1.257	1069.305 1069.305	13.03 12.502
Chainsaws Preempt Chainsaws Preempt	2011	G2 G2	R	6	15	201.143	511.177	3.112	0.044	1.257	1.257	1069.305	12.502
Chainsaws Preempt	2011	G2	C	6	15	193.093	493.759	3.112	0.044	1.096	1.096	1069.305	12.001
Chainsaws Preempt	2012	G2	R	6	15	193.093	493.759	3.149	0.044	1.096	1.096	1069.305	12.001
Chainsaws Preempt	2013	G2	C	6	15	185.768	480.558	3.186	0.044	1.004	1.004	1069.305	11.546
Chainsaws Preempt	2013	G2	R	6	15	185.768	480.558	3.186	0.044	1.004	1.004	1069.305	11.546
Chainsaws Preempt	2014	G2	С	6	15	178.982	469.597	3.222	0.044	0.944	0.944	1069.305	11.124
Chainsaws Preempt	2014	G2	R	6	15	178.982	469.597	3.222	0.044	0.944	0.944	1069.305	11.124
Chainsaws Preempt	2015	G2	С	6	15	172.536	459.286	3.257	0.044	0.892	0.892	1069.305	10.723
Chainsaws Preempt	2015	G2	R	6	15	172.536	459.286	3.257	0.044	0.892	0.892	1069.305	10.723
Chainsaws Preempt	2016	G2	С	6	15	166.528	449.661	3.289	0.044	0.846	0.846	1069.305	10.35
Chainsaws Preempt	2016	G2	R	6	15	166.528	449.661	3.289	0.044	0.846	0.846	1069.305	10.35
Chainsaws Preempt	2017	G2	С	6	15	161.095	440.508	3.319	0.044	0.805	0.805	1069.305	10.012
Chainsaws Preempt	2017	G2 G2	R C	6	15	161.095 156.8	440.508	3.319	0.044	0.805	0.805 0.77	1069.305 1069.305	10.012 9.745
Chainsaws Preempt Chainsaws Preempt	2018	G2 G2	R	6	15 15	156.8	432.052 432.052	3.343 3.343	0.044	0.77 0.77	0.77	1069.305	9.745
Chainsaws Preempt	2019	G2	C	6	15	153.482	424.251	3.361	0.044	0.739	0.739	1069.305	9.539
Chainsaws Preempt	2019	G2	R	6	15	153.482	424.251	3.361	0.044	0.739	0.739	1069.305	9.539
Chainsaws Preempt	2020	G2	С	6	15	150.987	417.321	3.376	0.044	0.711	0.711	1069.305	9.384
Chainsaws Preempt	2020	G2	R	6	15	150.987	417.321	3.376	0.044	0.711	0.711	1069.305	9.384
Chainsaws Preempt	2021	G2	С	6	15	149.069	412.763	3.386	0.044	0.687	0.687	1069.305	9.265
Chainsaws Preempt	2021	G2	R	6	15	149.069	412.763	3.386	0.044	0.687	0.687	1069.305	9.265
Chainsaws Preempt	2022	G2	С	6	15	147.64	409.646	3.395	0.044	0.669	0.669	1069.305	9.176
Chainsaws Preempt	2022	G2	R	6	15	147.64	409.646	3.395	0.044	0.669	0.669	1069.305	9.176
Chainsaws Preempt	2023	G2	С	6	15	146.402	406.95	3.402	0.044	0.654	0.654	1069.305	9.099
Chainsaws Preempt	2023	G2	R	6	15	146.402	406.95	3.402	0.044	0.654	0.654	1069.305	9.099
Chainsaws Preempt	2024	G2 G2	С	6	15 15	145.326	404.662	3.408	0.044	0.642	0.642 0.642	1069.305	9.032
Chainsaws Preempt Chainsaws Preempt	2024	G2 G2	R C	6	15 15	145.326 144.382	404.662 402.632	3.408 3.414	0.044	0.642 0.633	0.642	1069.305 1069.305	9.032 8.974
Chainsaws Preempt	2025	G2	R	6	15	144.382	402.632	3.414	0.044	0.633	0.633	1069.305	8.974
Chainsaws Preempt	2030	G2	C	6	15	141.634	397.139	3.43	0.044	0.622	0.622	1069.305	8.803
Chainsaws Preempt	2030	G2	R	6	15	141.634	397.139	3.43	0.044	0.622	0.622	1069.305	8.803
Chainsaws Preempt	2035	G2	С	6	15	141.117	395.646	3.434	0.044	0.622	0.622	1069.305	8.771
Chainsaws Preempt	2035	G2	R	6	15	141.117	395.646	3.434	0.044	0.622	0.622	1069.305	8.771
Chainsaws Preempt	2040	G2	С	6	15	141.101	395.611	3.434	0.044	0.622	0.622	1069.305	8.77
Chainsaws Preempt	2040	G2	R	6	15	141.101	395.611	3.434	0.044	0.622	0.622	1069.305	8.77
Chippers/Stump Grinders	1990	G4	С	6	15	26.78	933.58	8.955	0.359	0.28	0.28	858.879	3.132
Chippers/Stump Grinders	1990	G4	С	16	25	24.322	928.906	8.774	0.319	0.279	0.279	858.879	2.845
Chippers/Stump Grinders Chippers/Stump Grinders	1990 1990	G4 G4	R R	6 16	15 25	26.78 24.322	933.58 928.906	8.955 8.774	0.359 0.319	0.28 0.279	0.28 0.279	858.879 858.879	3.132 2.845
Chippers/Stump Grinders Chippers/Stump Grinders	2000	G4 G4	C R	6	15	26.135	723.135	6.901	0.319	4.7	4.7	858.879 858.879	1.413
Chippers/Stump Grinders Chippers/Stump Grinders	2000	G4 G4	C	16	25	23.07	723.135	6.107	0.034	4.7	4.7	858.879	1.413
Chippers/Stump Grinders	2000	G4	 R	6	15	26.135	723.135	6.901	0.034	4.7	4.7	858.879	1.413
Chippers/Stump Grinders	2000	G4	R	16	25	23.07	704.371	6.107	0.03	4.7	4.7	858.879	1.248
Chippers/Stump Grinders	2005	G4	C	6	15	15.976	594.637	8.627	0.024	5.68	5.68	858.879	0.89
Chippers/Stump Grinders	2005	G4	С	16	25	15.751	614.099	7.946	0.021	5.68	5.68	858.879	0.877
Chippers/Stump Grinders	2005	G4	R	6	15	15.976	594.637	8.627	0.024	5.68	5.68	858.879	0.89
Chippers/Stump Grinders	2005	G4	R	16	25	15.751	614.099	7.946	0.021	5.68	5.68	858.879	0.877
Chippers/Stump Grinders	2010	G4	С	6	15	14.871	564.601	8.667	0.024	6.518	6.518	858.879	0.829
Chippers/Stump Grinders	2010	G4	С	16	25	14.869	587.924	7.952	0.021	6.518	6.518	858.879	0.828
Chippers/Stump Grinders	2010	G4	R	6	15	14.871	564.601	8.667	0.024	6.518	6.518	858.879	0.829
Chippers/Stump Grinders	2010	G4	R	16	25	14.869	587.924	7.952	0.021	6.518	6.518	858.879	0.828
Chippers/Stump Grinders	2011	G4	C	6	15	14.631	558.807	8.673	0.024	6.676	6.676	858.879	0.815
Obligation and 101	~~												0.817
Chippers/Stump Grinders Chippers/Stump Grinders	2011	G4 G4	C R	16 6	25 15	14.678 14.631	582.832 558.807	7.951 8.673	0.021 0.024	6.676 6.676	6.676 6.676	858.879 858.879	0.817

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Voor	Engine Type	Commercial or	l our Un	Lliab Un	ROG	CO,	NOX,	SO2,	PM10,	PM2_5,	CO2,	CH4,
Equipment Type	Year	Engine Type	Residential		High Hp	g/bhp-hr	g/bhp-hr	g/bhp-hr	g/bhp-hr	g/bhp-hr	g/bhp-hr	g/bhp-hr	g/bhp-hr
Chippers/Stump Grinders	2012	G4	С	6	15	14.382	552.474	8.678	0.024	6.808	6.808	858.879	0.801
Chippers/Stump Grinders Chippers/Stump Grinders	2012	G4 G4	C R	16 6	25 15	14.48 14.382	577.17 552.474	7.952 8.678	0.021 0.024	6.808 6.808	6.808 6.808	858.879 858.879	0.806 0.801
Chippers/Stump Grinders Chippers/Stump Grinders	2012	G4 G4	R	16	25	14.362	577.17	7.952	0.024	6.808	6.808	858.879	0.806
Chippers/Stump Grinders	2012	G4	C	6	15	14.151	547.979	8.7	0.021	6.884	6.884	858.879	0.788
Chippers/Stump Grinders	2013	G4	C	16	25	14.308	573.422	7.978	0.024	6.884	6.884	858.879	0.797
Chippers/Stump Grinders	2013	G4	R	6	15	14.151	547.979	8.7	0.021	6.884	6.884	858.879	0.788
Chippers/Stump Grinders	2013	G4	R	16	25	14.308	573.422	7.978	0.024	6.884	6.884	858.879	0.797
Chippers/Stump Grinders	2014	G4	С	6	15	13.931	543.899	8.73	0.024	6.934	6.934	858.879	0.776
Chippers/Stump Grinders	2014	G4	C	16	25	14.149	570.105	8.014	0.021	6.934	6.934	858.879	0.788
Chippers/Stump Grinders	2014	G4	R	6	15	13.931	543.899	8.73	0.024	6.934	6.934	858.879	0.776
Chippers/Stump Grinders	2014	G4	R	16	25	14.149	570.105	8.014	0.021	6.934	6.934	858.879	0.788
Chippers/Stump Grinders	2015	G4	С	6	15	13.705	539.742	8.763	0.024	6.977	6.977	858.879	0.763
Chippers/Stump Grinders	2015	G4	С	16	25	13.986	566.728	8.054	0.021	6.977	6.977	858.879	0.779
Chippers/Stump Grinders	2015	G4	R	6	15	13.705	539.742	8.763	0.024	6.977	6.977	858.879	0.763
Chippers/Stump Grinders	2015	G4	R	16	25	13.986	566.728	8.054	0.021	6.977	6.977	858.879	0.779
Chippers/Stump Grinders	2016	G4	С	6	15	13.477	535.731	8.798	0.024	7.015	7.015	858.879	0.751
Chippers/Stump Grinders	2016	G4	С	16	25	13.824	563.501	8.096	0.021	7.015	7.015	858.879	0.77
Chippers/Stump Grinders	2016	G4	R	6	15	13.477	535.731	8.798	0.024	7.015	7.015	858.879	0.751
Chippers/Stump Grinders	2016	G4	R	16	25	13.824	563.501	8.096	0.021	7.015	7.015	858.879	0.77
Chippers/Stump Grinders	2017	G4	С	6	15	13.257	531.934	8.832	0.024	7.049	7.049	858.88	0.738
Chippers/Stump Grinders	2017	G4	С	16	25	13.666	560.455	8.137	0.021	7.049	7.049	858.879	0.761
Chippers/Stump Grinders	2017	G4	R	6	15	13.257	531.934	8.832	0.024	7.049	7.049	858.88	0.738
Chippers/Stump Grinders	2017	G4	R	16	25	13.666	560.455	8.137	0.021	7.049	7.049	858.879	0.761
Chippers/Stump Grinders	2018	G4	С	6	15	13.054	528.594	8.866	0.024	7.078	7.078	858.879	0.727
Chippers/Stump Grinders	2018	G4	С	16	25	13.521	557.812	8.176	0.021	7.078	7.078	858.879	0.753
Chippers/Stump Grinders	2018	G4	R	6	15	13.054	528.594	8.866	0.024	7.078	7.078	858.879	0.727
Chippers/Stump Grinders	2018	G4	R	16	25	13.521	557.812	8.176	0.021	7.078	7.078	858.879	0.753
Chippers/Stump Grinders	2019	G4	С	6	15	12.927	526.488	8.885	0.024	7.103	7.103	858.879	0.72
Chippers/Stump Grinders	2019	G4	С	16	25	13.43	556.111	8.197	0.021	7.103	7.103	858.879	0.748
Chippers/Stump Grinders	2019	G4	R	6	15	12.927	526.488	8.885	0.024	7.103	7.103	858.879	0.72
Chippers/Stump Grinders	2019	G4	R	16	25	13.43	556.111	8.197	0.021	7.103	7.103	858.879	0.748
Chippers/Stump Grinders	2020	G4	С	6	15	12.837	524.97	8.898	0.024	7.126	7.126	858.879	0.715
Chippers/Stump Grinders	2020	G4	С	16	25	13.364	554.86	8.21	0.021	7.126	7.126	858.879	0.744
Chippers/Stump Grinders	2020	G4 G4	R R	6 16	15 25	12.837 13.364	524.97 554.86	8.898 8.21	0.024 0.021	7.126 7.126	7.126 7.126	858.879 858.879	0.715 0.744
Chippers/Stump Grinders Chippers/Stump Grinders	2020	G4	C	6	15	12.749	523.609	8.907	0.021	7.126	7.126	858.879	0.744
Chippers/Stump Grinders	2021	G4	C	16	25	13.299	553.749	8.22	0.024	7.146	7.146	858.879	0.741
Chippers/Stump Grinders	2021	G4	R	6	15	12.749	523.609	8.907	0.021	7.146	7.146	858.879	0.741
Chippers/Stump Grinders	2021	G4	R	16	25	13.299	553.749	8.22	0.024	7.146	7.146	858.879	0.741
Chippers/Stump Grinders	2022	G4	C	6	15	12.676	522.437	8.918	0.021	7.140	7.140	858.879	0.706
Chippers/Stump Grinders	2022	G4	C	16	25	13.245	552.799	8.232	0.024	7.161	7.161	858.88	0.738
Chippers/Stump Grinders	2022	G4	R	6	15	12.676	522.437	8.918	0.024	7.161	7.161	858.879	0.706
Chippers/Stump Grinders	2022	G4	R	16	25	13.245	552.799	8.232	0.021	7.161	7.161	858.88	0.738
Chippers/Stump Grinders	2023	G4	С	6	15	12.604	521.328	8.93	0.024	7.173	7.173	858.879	0.702
Chippers/Stump Grinders	2023	G4	С	16	25	13.193	551.905	8.244	0.021	7.173	7.173	858.879	0.735
Chippers/Stump Grinders	2023	G4	R	6	15	12.604	521.328	8.93	0.024	7.173	7.173	858.879	0.702
Chippers/Stump Grinders	2023	G4	R	16	25	13.193	551.905	8.244	0.021	7.173	7.173	858.879	0.735
Chippers/Stump Grinders	2024	G4	С	6	15	12.541	520.397	8.94	0.024	7.183	7.183	858.879	0.699
Chippers/Stump Grinders	2024	G4	С	16	25	13.147	551.168	8.255	0.021	7.183	7.183	858.879	0.733
Chippers/Stump Grinders	2024	G4	R	6	15	12.541	520.397	8.94	0.024	7.183	7.183	858.879	0.699
Chippers/Stump Grinders	2024	G4	R	16	25	13.147	551.168	8.255	0.021	7.183	7.183	858.879	0.733
Chippers/Stump Grinders	2025	G4	С	6	15	12.482	519.536	8.949	0.024	7.191	7.191	858.879	0.696
Chippers/Stump Grinders	2025	G4	С	16	25	13.104	550.485	8.265	0.021	7.191	7.191	858.879	0.73
Chippers/Stump Grinders	2025	G4	R	6	15	12.482	519.536	8.949	0.024	7.191	7.191	858.879	0.696
Chippers/Stump Grinders	2025	G4	R	16	25	13.104	550.485	8.265	0.021	7.191	7.191	858.879	0.73
Chippers/Stump Grinders	2030	G4	С	6	15	12.282	516.861	8.977	0.024	7.199	7.199	858.879	0.685
Chippers/Stump Grinders	2030	G4	С	16	25	12.957	548.436	8.297	0.021	7.199	7.199	858.879	0.722
Chippers/Stump Grinders	2030	G4	R	6	15	12.282	516.861	8.977	0.024	7.199	7.199	858.879	0.685
Chippers/Stump Grinders	2030	G4	R	16	25	12.957	548.436	8.297	0.021	7.199	7.199	858.879	0.722
Chippers/Stump Grinders	2035	G4	C	6	15	12.235	516.011	8.982	0.024	7.199	7.199	858.879	0.683
Chippers/Stump Grinders	2035	G4	С	16	25	12.921	547.707	8.303	0.021	7.199	7.199	858.879	0.721
Chippers/Stump Grinders	2035	G4	R	6	15	12.235	516.011	8.982	0.024	7.199	7.199	858.879	0.683
Chippers/Stump Grinders	2035	G4	R	16	25	12.921	547.707	8.303	0.021	7.199	7.199	858.879	0.721
Chippers/Stump Grinders	2040	G4	С	6	15	12.225	515.57	8.979	0.024	7.199	7.199	858.879	0.682
Chippers/Stump Grinders	2040	G4	С	16	25	12.912	547.24	8.3	0.021	7.199	7.199	858.879	0.721
Chippers/Stump Grinders	2040	G4	R	6	15	12.225	515.57	8.979	0.024	7.199	7.199	858.879	0.682
Chippers/Stump Grinders	2040	G4	R	16	25	12.912	547.24	8.3	0.021	7.199	7.199	858.879	0.721
Commercial Turf Equipment	1990	G2	С	6	15	191.758	485.999	0.312	0.259	7.699	7.699	429.44	16.353
Commercial Turf Equipment	1990	G2	С	16	25	191.758	485.999	0.312	0.259	7.699	7.699	429.439	16.353
Commercial Turf Equipment	1990	G4	С	6	15	16.379	472.617	4.731	0.179	0.239	0.239	429.439	1.921
Commercial Turf Equipment	1990	G4	С	16	25	14.527	469.101	4.594	0.159	0.24	0.24	429.439	1.704
O	2000	G2	С	6	15	14.782	299.417	2.985	0.024	0.377	0.377	429.439	0.894
Commercial Turf Equipment				40	0.5	40.400	000 400	0.400	0.004	0.077	0.077	400 44	0.040
Commercial Turf Equipment Commercial Turf Equipment Commercial Turf Equipment	2000	G2 G4	C C	16 6	25 15	13.439 16.668	293.136 363.292	2.439 3.251	0.024 0.017	0.377 0.239	0.377 0.239	429.44 429.439	0.813 0.904

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Commercial Turf Equipment	2005	G2	С	6	15	6.003	233.321	4.02	0.017	0.199	0.199	429.439	0.373
Commercial Turf Equipment	2005	G2	С	16	25	6.112	244.809	3.679	0.017	0.199	0.199	429.439	0.379
Commercial Turf Equipment	2005	G4	С	6	15	8.16	270.992	4.937	0.012	0.239	0.239	429.439	0.455
Commercial Turf Equipment	2005	G4	С	16	25	8.228	282.77	4.525	0.01	0.239	0.239	429.439	0.458
Commercial Turf Equipment Commercial Turf Equipment	2010 2010	G2 G2	C	6 16	15 25	4.216 4.288	224.659 238.459	3.203 3.13	0.017 0.017	0.2 0.199	0.2 0.199	429.439 429.439	0.262 0.266
Commercial Turf Equipment	2010	G4	C	6	15	5.626	258.52	4.031	0.017	0.199	0.199	429.439	0.200
Commercial Turf Equipment	2010	G4	С	16	25	5.642	274.4	4.03	0.01	0.239	0.239	429.439	0.314
Commercial Turf Equipment	2011	G2	С	6	15	3.91	224.659	2.951	0.017	0.199	0.199	429.439	0.243
Commercial Turf Equipment	2011	G2	С	16	25	3.921	238.46	2.943	0.017	0.2	0.2	429.44	0.243
Commercial Turf Equipment	2011	G4	С	6	15	5.25	258.5	3.73	0.012	0.24	0.24	429.439	0.293
Commercial Turf Equipment	2011	G4	С	16	25	5.166	274.379	3.833	0.01	0.239	0.239	429.439	0.288
Commercial Turf Equipment Commercial Turf Equipment	2012 2012	G2 G2	C	6 16	15 25	3.813 3.806	224.659	2.872 2.884	0.017 0.017	0.199	0.199 0.199	429.439 429.439	0.237 0.236
Commercial Turf Equipment	2012	G2 G4	C	6	15	5.132	238.459 258.463	3.636	0.017	0.199 0.239	0.199	429.439	0.236
Commercial Turf Equipment	2012	G4	C	16	25	5.016	274.34	3.771	0.012	0.24	0.24	429.439	0.279
Commercial Turf Equipment	2013	G2	С	6	15	3.755	224.659	2.824	0.017	0.199	0.199	429.439	0.233
Commercial Turf Equipment	2013	G2	С	16	25	3.736	238.459	2.848	0.017	0.199	0.199	429.439	0.232
Commercial Turf Equipment	2013	G4	С	6	15	5.06	258.427	3.579	0.012	0.239	0.239	429.439	0.282
Commercial Turf Equipment	2013	G4	C	16	25	4.926	274.302	3.733	0.01	0.239	0.239	429.439	0.274
Commercial Turf Equipment	2014	G2	С	6	15	3.726	224.659	2.8	0.017	0.199	0.199	429.439	0.231
Commercial Turf Equipment Commercial Turf Equipment	2014 2014	G2 G4	C C	16 6	25 15	3.701 5.024	238.46 258.392	2.83 3.55	0.017 0.012	0.199 0.239	0.199 0.239	429.439 429.439	0.23 0.28
Commercial Turr Equipment Commercial Turf Equipment	2014	G4 G4	C	16	25	4.88	258.392	3.55	0.012	0.239	0.239	429.439	0.28
Commercial Turf Equipment	2015	G2	C	6	15	3.718	224.659	2.794	0.017	0.199	0.199	429.439	0.272
Commercial Turf Equipment	2015	G2	C	16	25	3.692	238.459	2.825	0.017	0.199	0.199	429.439	0.229
Commercial Turf Equipment	2015	G4	С	6	15	5.014	258.358	3.542	0.012	0.239	0.239	429.439	0.279
Commercial Turf Equipment	2015	G4	С	16	25	4.867	274.228	3.709	0.01	0.239	0.239	429.439	0.271
Commercial Turf Equipment	2016	G2	С	6	15	3.718	224.659	2.794	0.017	0.2	0.2	429.439	0.231
Commercial Turf Equipment	2016	G2	C	16	25	3.692	238.459	2.825	0.017	0.199	0.199	429.439	0.229
Commercial Turf Equipment	2016	G4	С	6	15	5.013	258.32	3.542	0.012	0.239	0.239	429.439	0.279
Commercial Turf Equipment Commercial Turf Equipment	2016 2017	G4 G2	C	16 6	25 15	4.867 3.718	274.187 224.659	3.709 2.794	0.01 0.017	0.239 0.199	0.239 0.199	429.439 429.439	0.271 0.231
Commercial Turf Equipment	2017	G2	C	16	25	3.692	238.459	2.825	0.017	0.199	0.199	429.439	0.229
Commercial Turf Equipment	2017	G4	С	6	15	5.013	258.283	3.541	0.012	0.239	0.239	429.439	0.279
Commercial Turf Equipment	2017	G4	С	16	25	4.866	274.148	3.709	0.01	0.239	0.239	429.439	0.271
Commercial Turf Equipment	2018	G2	С	6	15	3.718	224.659	2.794	0.017	0.199	0.199	429.439	0.231
Commercial Turf Equipment	2018	G2	С	16	25	3.692	238.459	2.825	0.017	0.199	0.199	429.439	0.229
Commercial Turf Equipment	2018	G4	C	6	15	5.012	258.247	3.541	0.012	0.239	0.239	429.439	0.279
Commercial Turf Equipment Commercial Turf Equipment	2018 2019	G4 G2	C	16 6	25 15	4.866 3.718	274.11 224.659	3.708 2.794	0.01 0.017	0.24 0.2	0.24	429.439 429.439	0.271 0.231
Commercial Turf Equipment	2019	G2	C	16	25	3.692	238.46	2.794	0.017	0.2	0.2	429.44	0.231
Commercial Turf Equipment	2019	G4	С	6	15	5.012	258.211	3.541	0.012	0.239	0.239	429.439	0.279
Commercial Turf Equipment	2019	G4	С	16	25	4.865	274.072	3.708	0.01	0.24	0.24	429.44	0.271
Commercial Turf Equipment	2020	G2	С	6	15	3.718	224.659	2.794	0.017	0.199	0.199	429.439	0.231
Commercial Turf Equipment	2020	G2	С	16	25	3.692	238.459	2.825	0.017	0.199	0.199	429.439	0.229
Commercial Turf Equipment	2020	G4	C	6	15	5.011	258.176	3.541	0.012	0.24	0.24	429.44	0.279
Commercial Turf Equipment	2020	G4 G2	C C	16	25 15	4.865 3.718	274.034	3.708 2.794	0.01 0.017	0.239	0.239 0.199	429.439	0.271
Commercial Turf Equipment Commercial Turf Equipment	2021 2021	G2 G2	C	6 16	15 25	3.718	224.659 238.46	2.794	0.017	0.199 0.199	0.199	429.439 429.439	0.231 0.229
Commercial Turf Equipment	2021	G4	C	6	15	5.011	258.15	3.541	0.012	0.24	0.24	429.439	0.279
Commercial Turf Equipment	2021	G4	C	16	25	4.864	274.007	3.708	0.01	0.24	0.24	429.44	0.271
Commercial Turf Equipment	2022	G2	С	6	15	3.718	224.659	2.794	0.017	0.2	0.2	429.439	0.231
Commercial Turf Equipment	2022	G2	С	16	25	3.692	238.46	2.825	0.017	0.199	0.199	429.439	0.229
Commercial Turf Equipment	2022	G4	С	6	15	5.01	258.115	3.54	0.012	0.239	0.239	429.439	0.279
Commercial Turf Equipment	2022	G4	С	16	25 15	4.864	273.97	3.707	0.01	0.239	0.239	429.439	0.271
Commercial Turf Equipment Commercial Turf Equipment	2023 2023	G2 G2	C C	6 16	15 25	3.718 3.692	224.659 238.46	2.794 2.825	0.017 0.017	0.199 0.199	0.199 0.199	429.439 429.44	0.231 0.229
Commercial Turf Equipment	2023	G4	C	6	15	5.01	258.08	3.54	0.017	0.199	0.199	429.439	0.229
Commercial Turf Equipment	2023	G4	С	16	25	4.863	273.933	3.707	0.012	0.239	0.239	429.44	0.271
Commercial Turf Equipment	2024	G2	С	6	15	3.718	224.659	2.794	0.017	0.199	0.199	429.439	0.231
Commercial Turf Equipment	2024	G2	С	16	25	3.692	238.46	2.825	0.017	0.2	0.2	429.439	0.229
Commercial Turf Equipment	2024	G4	С	6	15	5.009	258.043	3.54	0.012	0.239	0.239	429.439	0.279
Commercial Turf Equipment	2024	G4	С	16	25	4.863	273.893	3.707	0.01	0.239	0.239	429.439	0.271
Commercial Turf Equipment Commercial Turf Equipment	2025 2025	G2 G2	C C	6 16	15 25	3.718 3.692	224.659 238.459	2.794 2.825	0.017 0.017	0.199 0.2	0.199 0.2	429.439 429.439	0.231 0.229
Commercial Turr Equipment Commercial Turf Equipment	2025	G2 G4	С	6	25 15	5.008	238.459	3.54	0.017	0.2	0.2	429.439	0.229
Commercial Turf Equipment	2025	G4	C	16	25	4.862	273.854	3.707	0.012	0.239	0.239	429.439	0.279
Commercial Turf Equipment	2030	G2	С	6	15	3.718	224.659	2.794	0.017	0.199	0.199	429.439	0.231
Commercial Turf Equipment	2030	G2	С	16	25	3.692	238.459	2.825	0.017	0.199	0.199	429.439	0.229
Commercial Turf Equipment	2030	G4	С	6	15	5.005	257.808	3.539	0.012	0.239	0.239	429.439	0.279
Commercial Turf Equipment	2030	G4	С	16	25	4.859	273.644	3.706	0.01	0.239	0.239	429.439	0.271
Commercial Turf Equipment	2035	G2	С	6	15	3.718	224.659	2.794	0.017	0.199	0.199	429.439	0.231
Commercial Turf Equipment	2035	G2	С	16	25	3.692	238.459	2.826	0.017	0.199	0.199	429.439	0.229
Commercial Turf Equipment	2035	G4	С	6	15 25	5.002	257.605	3.537	0.012	0.239	0.239	429.439	0.279
Commercial Turf Equipment	2035	G4	С	16	25	4.856	273.429	3.704	0.01	0.24	0.24	429.44	0.271

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Commercial Turf Equipment	2040	G2	С	6	15	3.718	224.659	2.794	0.017	0.199	0.199	429.439	0.231
Commercial Turf Equipment	2040	G2	С	16	25	3.692	238.459	2.826	0.017	0.199	0.199	429.439	0.229
Commercial Turf Equipment	2040	G4	С	6	15	4.999	257.385	3.536	0.012	0.239	0.239	429.439	0.279
Commercial Turf Equipment	2040	G4	С	16	25	4.853	273.195	3.703	0.01	0.239	0.239	429.439	0.271
Front Mowers	1990	G4	С	6	15	22.909	915.938	8.6	0.359	0.371	0.371	858.879	2.705
Front Mowers	1990	G4	С	16	25	21.231	912.759	8.476	0.319	0.371	0.371	858.879	2.507
Front Mowers	1990	G4	R	6	15	22.909	915.938	8.6	0.359	0.371	0.371	858.879	2.705
Front Mowers	1990	G4	R	16	25	21.231	912.759	8.476	0.319	0.371	0.371	858.879	2.507
Front Mowers	2000	G4	С	6	15	20.645	670.814	6.649	0.034	0.37	0.37	858.879	1.128
Front Mowers	2000	G4	С	16	25	18.437	666.497	5.668	0.03	0.37	0.37	858.879	1.007
Front Mowers	2000	G4	R	6	15	20.645	670.814	6.649	0.034	0.37	0.37	858.879	1.128
Front Mowers	2000	G4	R	16	25	18.437	666.497	5.668	0.03	0.37	0.37	858.879	1.007
Front Mowers	2005	G4	С	6	15	13.656	554.614	7.702	0.024	0.37	0.37	858.879	0.766
Front Mowers	2005	G4	С	16	25	13.498	576.678	6.968	0.021	0.37	0.37	858.879	0.758
Front Mowers	2005	G4	R	6	15	13.656	554.614	7.702	0.024	0.37	0.37	858.879	0.766
Front Mowers	2005	G4	R	16	25	13.498	576.678	6.968	0.021	0.37	0.37	858.879	0.758
Front Mowers	2010	G4	С	6	15	9.521	522.282	6.198	0.024	0.37	0.37	858.879	0.534
Front Mowers	2010	G4	С	16	25	9.505	550.919	5.959	0.021	0.37	0.37	858.879	0.534
Front Mowers	2010	G4	R	6	15	9.521	522.282	6.198	0.024	0.37	0.37	858.879	0.534
Front Mowers	2010	G4	R	16	25 15	9.505	550.919	5.959	0.021	0.37	0.37	858.879	0.534
Front Mowers	2011	G4	С	6	15 25	9.168	519.756	6.099	0.024	0.37	0.37	858.879	0.515
Front Mowers Front Mowers	2011	G4 G4	C R	16 6	25 15	9.185 9.168	549.03 519.756	5.885 6.099	0.021 0.024	0.37	0.37 0.37	858.879 858.879	0.516
Front Mowers Front Mowers	2011	G4 G4	R R	16	15 25	9.168	519.756	5.885	0.024	0.37 0.37	0.37	858.879 858.879	0.515 0.516
Front Mowers Front Mowers	2011	G4 G4	C	6	25 15	8.85	549.03	5.885	0.021	0.37	0.37	858.879 858.879	0.516
Front Mowers	2012	G4 G4	C	16	25	8.887	547.664	5.805	0.024	0.37	0.37	858.879	0.497
Front Mowers	2012	G4	R	6	15	8.85	517.872	5.992	0.021	0.37	0.37	858.879	0.499
Front Mowers	2012	G4	R	16	25	8.887	547.664	5.805	0.024	0.37	0.37	858.879	0.499
Front Mowers	2013	G4	C	6	15	8.562	516.232	5.892	0.024	0.37	0.37	858.879	0.481
Front Mowers	2013	G4	C	16	25	8.612	546.487	5.732	0.021	0.37	0.37	858.879	0.484
Front Mowers	2013	G4	R	6	15	8.562	516.232	5.892	0.024	0.37	0.37	858.879	0.481
Front Mowers	2013	G4	R	16	25	8.612	546.487	5.732	0.021	0.37	0.37	858.879	0.484
Front Mowers	2014	G4	С	6	15	8.303	514.847	5.793	0.024	0.37	0.37	858.879	0.466
Front Mowers	2014	G4	С	16	25	8.36	545.482	5.66	0.021	0.37	0.37	858.879	0.469
Front Mowers	2014	G4	R	6	15	8.303	514.847	5.793	0.024	0.37	0.37	858.879	0.466
Front Mowers	2014	G4	R	16	25	8.36	545.482	5.66	0.021	0.37	0.37	858.879	0.469
Front Mowers	2015	G4	С	6	15	8.07	513.744	5.696	0.024	0.37	0.37	858.879	0.453
Front Mowers	2015	G4	С	16	25	8.128	544.687	5.589	0.021	0.37	0.37	858.879	0.456
Front Mowers	2015	G4	R	6	15	8.07	513.744	5.696	0.024	0.37	0.37	858.879	0.453
Front Mowers	2015	G4	R	16	25	8.128	544.687	5.589	0.021	0.37	0.37	858.879	0.456
Front Mowers	2016	G4	С	6	15	7.873	512.921	5.604	0.024	0.37	0.37	858.879	0.442
Front Mowers	2016	G4	С	16	25	7.924	544.091	5.523	0.021	0.37	0.37	858.879	0.445
Front Mowers	2016	G4	R	6	15	7.873	512.921	5.604	0.024	0.37	0.37	858.879	0.442
Front Mowers	2016	G4	R	16	25	7.924	544.091	5.523	0.021	0.37	0.37	858.879	0.445
Front Mowers	2017	G4	С	6	15	7.773	512.361	5.568	0.024	0.37	0.37	858.879	0.437
Front Mowers	2017	G4	С	16	25	7.826	543.68	5.499	0.021	0.37	0.37	858.879	0.44
Front Mowers	2017	G4	R	6	15	7.773	512.361	5.568	0.024	0.37	0.37	858.879	0.437
Front Mowers	2017	G4	R	16	25	7.826	543.68	5.499	0.021	0.37	0.37	858.879	0.44
Front Mowers Front Mowers	2018	G4	C	6	15 25	7.704	511.993	5.54	0.024	0.37	0.37	858.879	0.433
Front Mowers	2018	G4	С	16	25 15	7.756	543.404	5.48 5.54	0.021	0.37	0.37	858.88	0.436
Front Mowers Front Mowers	2018 2018	G4 G4	R R	6 16	15 25	7.704 7.756	511.993 543.404	5.54 5.48	0.024 0.021	0.37 0.37	0.37 0.37	858.879 858.88	0.433 0.436
Front Mowers Front Mowers	2018	G4 G4	C	6	25 15	7.756	ł	5.48	0.021	0.37	0.37	858.879	0.436
Front Mowers Front Mowers	2019	G4 G4	C	16	15 25	7.66	511.821 543.26	5.514	0.024	0.37	0.37	858.879 858.879	0.433
Front Mowers	2019	G4 G4	R	6	15	7.66	511.821	5.403	0.021	0.37	0.37	858.879	0.43
Front Mowers	2019	G4	R	16	25	7.707	543.26	5.463	0.024	0.37	0.37	858.879	0.433
Front Mowers	2020	G4	C	6	15	7.631	511.749	5.492	0.024	0.37	0.37	858.88	0.429
Front Mowers	2020	G4	C	16	25	7.672	543.183	5.446	0.024	0.37	0.37	858.879	0.431
Front Mowers	2020	G4	R	6	15	7.631	511.749	5.492	0.024	0.37	0.37	858.88	0.429
Front Mowers	2020	G4	R	16	25	7.672	543.183	5.446	0.024	0.37	0.37	858.879	0.431
Front Mowers	2021	G4	С	6	15	7.604	511.699	5.471	0.024	0.37	0.37	858.879	0.427
Front Mowers	2021	G4	C	16	25	7.641	543.13	5.43	0.021	0.37	0.37	858.879	0.429
Front Mowers	2021	G4	R	6	15	7.604	511.699	5.471	0.024	0.37	0.37	858.879	0.427
Front Mowers	2021	G4	R	16	25	7.641	543.13	5.43	0.021	0.37	0.37	858.879	0.429
Front Mowers	2022	G4	С	6	15	7.589	511.628	5.459	0.024	0.37	0.37	858.879	0.426
Front Mowers	2022	G4	С	16	25	7.622	543.055	5.422	0.021	0.37	0.37	858.879	0.428
Front Mowers	2022	G4	R	6	15	7.589	511.628	5.459	0.024	0.37	0.37	858.879	0.426
Front Mowers	2022	G4	R	16	25	7.622	543.055	5.422	0.021	0.37	0.37	858.879	0.428
Front Mowers	2023	G4	С	6	15	7.579	511.555	5.452	0.024	0.37	0.37	858.879	0.426
Front Mowers	2023	G4	С	16	25	7.609	542.977	5.417	0.021	0.37	0.37	858.879	0.428
Front Mowers	2023	G4	R	6	15	7.579	511.555	5.452	0.024	0.37	0.37	858.879	0.426
Front Mowers	2023	G4	R	16	25	7.609	542.977	5.417	0.021	0.37	0.37	858.879	0.428
Front Mowers	2024	G4	С	6	15	7.573	511.479	5.447	0.024	0.37	0.37	858.879	0.426
Front Mowers	2024	G4	С	16	25	7.602	542.897	5.414	0.021	0.37	0.37	858.879	0.427
Front Mowers	2024	G4	R	6	15	7.573	511.479	5.447	0.024	0.37	0.37	858.879	0.426
Front Mowers	2024	G4	R	16	25	7.602	542.897	5.414	0.021	0.37	0.37	858.879	0.427

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Front Mowers	2025	G4	С	6	15	7.571	511.402	5.445	0.024	0.37	0.37	858.879	0.426
Front Mowers	2025	G4	С	16	25	7.599	542.815	5.413	0.021	0.37	0.37	858.879	0.427
Front Mowers	2025	G4	R	6	15	7.571	511.402	5.445	0.024	0.37	0.37	858.879	0.426
Front Mowers	2025	G4	R	16	25	7.599	542.815	5.413	0.021	0.37	0.37	858.879	0.427
Front Mowers	2030	G4	C	6	15	7.565	510.995	5.443	0.024	0.37	0.37	858.879	0.426
Front Mowers Front Mowers	2030	G4 G4	C	16 6	25 15	7.593	542.383	5.411	0.021 0.024	0.37	0.37	858.879	0.427
Front Mowers	2030	G4 G4	R R	16	15 25	7.565 7.593	510.995 542.383	5.443 5.411	0.024	0.37 0.37	0.37 0.37	858.879 858.879	0.426 0.427
Front Mowers	2035	G4	C	6	15	7.56	510.58	5.441	0.024	0.37	0.37	858.879	0.426
Front Mowers	2035	G4	С	16	25	7.588	541.943	5.409	0.021	0.37	0.37	858.879	0.427
Front Mowers	2035	G4	R	6	15	7.56	510.58	5.441	0.024	0.37	0.37	858.879	0.426
Front Mowers	2035	G4	R	16	25	7.588	541.943	5.409	0.021	0.37	0.37	858.879	0.427
Front Mowers	2040	G4	С	6	15	7.554	510.128	5.438	0.024	0.37	0.37	858.879	0.425
Front Mowers	2040	G4	С	16	25	7.582	541.463	5.406	0.021	0.37	0.37	858.879	0.427
Front Mowers	2040	G4	R	6	15	7.554	510.128	5.438	0.024	0.37	0.37	858.879	0.425
Front Mowers	2040	G4	R	16	25	7.582	541.463	5.406	0.021	0.37	0.37	858.879	0.427
Lawn & Garden Tractors Lawn & Garden Tractors	1990 1990	G4 G4	C	6 16	15 25	18.822 17.993	906.929 905.359	8.251 8.189	0.359 0.319	0.325 0.325	0.325 0.325	858.879 858.88	2.223 2.125
Lawn & Garden Tractors	1990	G4	R	6	15	18.822	905.339	8.251	0.319	0.325	0.325	858.879	2.123
Lawn & Garden Tractors	1990	G4	R	16	25	17.993	905.359	8.189	0.339	0.325	0.325	858.88	2.125
Lawn & Garden Tractors	2000	G4	C	6	15	15.672	650.815	6.587	0.034	0.324	0.324	858.879	0.856
Lawn & Garden Tractors	2000	G4	С	16	25	14.456	658.129	5.618	0.03	0.324	0.324	858.879	0.79
Lawn & Garden Tractors	2000	G4	R	6	15	15.672	650.815	6.587	0.034	0.324	0.324	858.879	0.856
Lawn & Garden Tractors	2000	G4	R	16	25	14.456	658.129	5.618	0.03	0.324	0.324	858.879	0.79
Lawn & Garden Tractors	2005	G4	С	6	15	11.473	549.36	7.036	0.024	0.324	0.324	858.879	0.644
Lawn & Garden Tractors	2005	G4	С	16	25	11.524	574.455	6.354	0.021	0.324	0.324	858.879	0.647
Lawn & Garden Tractors	2005	G4	R	6	15	11.473	549.36	7.036	0.024	0.324	0.324	858.879	0.644
Lawn & Garden Tractors Lawn & Garden Tractors	2005	G4 G4	R C	16 6	25 15	11.524 8.137	574.455 520.395	6.354	0.021 0.024	0.324 0.324	0.324 0.324	858.879 858.879	0.647 0.457
Lawn & Garden Tractors Lawn & Garden Tractors	2010	G4 G4	C	16	15 25	8.287	550.131	5.536 5.203	0.024	0.324	0.324	858.879	0.465
Lawn & Garden Tractors	2010	G4	 R	6	15	8.137	520.395	5.536	0.021	0.324	0.324	858.879	0.457
Lawn & Garden Tractors	2010	G4	R	16	25	8.287	550.131	5.203	0.021	0.324	0.324	858.879	0.465
Lawn & Garden Tractors	2011	G4	С	6	15	7.862	518.247	5.427	0.024	0.324	0.324	858.879	0.441
Lawn & Garden Tractors	2011	G4	С	16	25	8.029	548.398	5.114	0.021	0.324	0.324	858.879	0.451
Lawn & Garden Tractors	2011	G4	R	6	15	7.862	518.247	5.427	0.024	0.324	0.324	858.879	0.441
Lawn & Garden Tractors	2011	G4	R	16	25	8.029	548.398	5.114	0.021	0.324	0.324	858.879	0.451
Lawn & Garden Tractors	2012	G4	С	6	15	7.611	516.686	5.314	0.024	0.324	0.324	858.879	0.427
Lawn & Garden Tractors	2012	G4 G4	С	16	25	7.787	547.16	5.023	0.021	0.324	0.324	858.879	0.437
Lawn & Garden Tractors Lawn & Garden Tractors	2012	G4 G4	R R	6 16	15 25	7.611 7.787	516.686 547.16	5.314 5.023	0.024 0.021	0.324 0.324	0.324 0.324	858.879 858.879	0.427 0.437
Lawn & Garden Tractors	2012	G4	C	6	15	7.383	515.349	5.21	0.021	0.324	0.324	858.879	0.414
Lawn & Garden Tractors	2013	G4	C	16	25	7.566	546.1	4.939	0.021	0.324	0.324	858.879	0.425
Lawn & Garden Tractors	2013	G4	R	6	15	7.383	515.349	5.21	0.024	0.324	0.324	858.879	0.414
Lawn & Garden Tractors	2013	G4	R	16	25	7.566	546.1	4.939	0.021	0.324	0.324	858.879	0.425
Lawn & Garden Tractors	2014	G4	С	6	15	7.177	514.218	5.11	0.024	0.324	0.324	858.879	0.403
Lawn & Garden Tractors	2014	G4	С	16	25	7.361	545.193	4.858	0.021	0.324	0.324	858.879	0.413
Lawn & Garden Tractors	2014	G4	R	6	15	7.177	514.218	5.11	0.024	0.324	0.324	858.879	0.403
Lawn & Garden Tractors	2014	G4	R	16	25	7.361	545.193	4.858	0.021	0.324	0.324	858.879	0.413
Lawn & Garden Tractors Lawn & Garden Tractors	2015	G4 G4	C C	6 16	15 25	6.989 7.172	513.324 544.478	5.013 4.78	0.024 0.021	0.324	0.324 0.324	858.879 858.879	0.392 0.403
Lawn & Garden Tractors	2015	G4	R	6	15	6.989	513.324	5.013	0.021	0.324	0.324	858.879	0.403
Lawn & Garden Tractors	2015	G4	R	16	25	7.172	544.478	4.78	0.024	0.324	0.324	858.879	0.403
Lawn & Garden Tractors	2016	G4	C	6	15	6.827	512.658	4.923	0.024	0.324	0.324	858.88	0.383
Lawn & Garden Tractors	2016	G4	С	16	25	7.005	543.942	4.708	0.021	0.324	0.324	858.879	0.393
Lawn & Garden Tractors	2016	G4	R	6	15	6.827	512.658	4.923	0.024	0.324	0.324	858.88	0.383
Lawn & Garden Tractors	2016	G4	R	16	25	7.005	543.942	4.708	0.021	0.324	0.324	858.879	0.393
Lawn & Garden Tractors	2017	G4	С	6	15	6.75	512.203	4.887	0.024	0.324	0.324	858.879	0.379
Lawn & Garden Tractors	2017	G4	С	16	25	6.928	543.572	4.68	0.021	0.324	0.324	858.879	0.389
Lawn & Garden Tractors Lawn & Garden Tractors	2017	G4 G4	R	6 16	15 25	6.75	512.203 543.572	4.887	0.024	0.324	0.324	858.879 858.870	0.379
Lawn & Garden Tractors Lawn & Garden Tractors	2017	G4 G4	R C	6	25 15	6.928 6.696	543.572 511.901	4.68 4.86	0.021 0.024	0.324	0.324 0.324	858.879 858.879	0.389 0.376
Lawn & Garden Tractors	2018	G4 G4	C	16	25	6.872	543.321	4.659	0.024	0.324	0.324	858.879	0.376
Lawn & Garden Tractors	2018	G4	R	6	15	6.696	511.901	4.86	0.021	0.324	0.324	858.879	0.376
Lawn & Garden Tractors	2018	G4	R	16	25	6.872	543.321	4.659	0.021	0.324	0.324	858.879	0.386
Lawn & Garden Tractors	2019	G4	С	6	15	6.658	511.751	4.836	0.024	0.324	0.324	858.88	0.374
Lawn & Garden Tractors	2019	G4	С	16	25	6.831	543.186	4.64	0.021	0.324	0.324	858.879	0.384
Lawn & Garden Tractors	2019	G4	R	6	15	6.658	511.751	4.836	0.024	0.324	0.324	858.88	0.374
Lawn & Garden Tractors	2019	G4	R	16	25	6.831	543.186	4.64	0.021	0.324	0.324	858.879	0.384
Lawn & Garden Tractors	2020	G4	С	6	15	6.632	511.679	4.816	0.024	0.324	0.324	858.879	0.373
Lawn & Garden Tractors	2020	G4	С	16	25	6.801	543.109	4.624	0.021	0.324	0.324	858.88	0.382
Lawn & Garden Tractors	2020	G4	R	6	15	6.632	511.679	4.816	0.024	0.324	0.324	858.879	0.373
Lawn & Garden Tractors	2020	G4	R	16	25 15	6.801	543.109	4.624	0.021	0.324	0.324	858.88	0.382
Lawn & Garden Tractors Lawn & Garden Tractors	2021	G4 G4	C	6 16	15 25	6.609 6.775	511.629 543.056	4.799 4.609	0.024 0.021	0.324 0.324	0.324 0.324	858.879 858.879	0.371
Lawn & Garden Tractors Lawn & Garden Tractors	2021	G4 G4	R	6	25 15	6.609	543.056	4.609	0.021	0.324	0.324	858.879 858.879	0.381
Lami a Galacii Haciolo	ZUZ 1	G4 G4	R	16	25	6.775	543.056	4.609	0.024	0.324	0.324	858.879	0.371

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Lawn & Garden Tractors	2022	G4	С	6	15	6.595	511.558	4.788	0.024	0.324	0.324	858.88	0.371
Lawn & Garden Tractors	2022	G4	С	16	25	6.759	542.981	4.601	0.021	0.324	0.324	858.879	0.38
Lawn & Garden Tractors	2022	G4	R	6	15	6.595	511.558	4.788	0.024	0.324	0.324	858.88	0.371
Lawn & Garden Tractors	2022	G4	R	16	25	6.759	542.981	4.601	0.021	0.324	0.324	858.879	0.38
Lawn & Garden Tractors	2023	G4	С	6	15	6.586	511.485	4.781	0.024	0.324	0.324	858.879	0.37
Lawn & Garden Tractors Lawn & Garden Tractors	2023	G4 G4	С	16 6	25	6.748	542.904	4.596 4.781	0.021	0.324	0.324	858.879	0.379
Lawn & Garden Tractors Lawn & Garden Tractors	2023 2023	G4 G4	R R	16	15 25	6.586 6.748	511.485 542.904	4.781	0.024 0.021	0.324 0.324	0.324 0.324	858.879 858.879	0.37 0.379
Lawn & Garden Tractors	2024	G4	C	6	15	6.58	511.409	4.777	0.024	0.324	0.324	858.879	0.37
Lawn & Garden Tractors	2024	G4	С	16	25	6.742	542.823	4.593	0.021	0.324	0.324	858.879	0.379
Lawn & Garden Tractors	2024	G4	R	6	15	6.58	511.409	4.777	0.024	0.324	0.324	858.879	0.37
Lawn & Garden Tractors	2024	G4	R	16	25	6.742	542.823	4.593	0.021	0.324	0.324	858.879	0.379
Lawn & Garden Tractors	2025	G4	С	6	15	6.578	511.332	4.776	0.024	0.324	0.324	858.879	0.37
Lawn & Garden Tractors	2025	G4	С	16	25	6.739	542.741	4.592	0.021	0.324	0.324	858.879	0.379
Lawn & Garden Tractors	2025	G4	R	6	15	6.578	511.332	4.776	0.024	0.324	0.324	858.879	0.37
Lawn & Garden Tractors	2025	G4	R	16	25	6.739	542.741	4.592	0.021	0.324	0.324	858.879	0.379
Lawn & Garden Tractors	2030	G4 G4	C C	6 16	15 25	6.573 6.734	510.925	4.774 4.59	0.024 0.021	0.324	0.324 0.324	858.879 858.879	0.37 0.379
Lawn & Garden Tractors Lawn & Garden Tractors	2030 2030	G4 G4	R	6	15	6.573	542.309 510.925	4.59	0.021	0.324 0.324	0.324	858.879	0.379
Lawn & Garden Tractors	2030	G4	R	16	25	6.734	542.309	4.774	0.024	0.324	0.324	858.879	0.379
Lawn & Garden Tractors	2035	G4	C	6	15	6.569	510.509	4.772	0.021	0.324	0.324	858.879	0.37
Lawn & Garden Tractors	2035	G4	С	16	25	6.73	541.868	4.588	0.021	0.324	0.324	858.879	0.379
Lawn & Garden Tractors	2035	G4	R	6	15	6.569	510.509	4.772	0.024	0.324	0.324	858.879	0.37
Lawn & Garden Tractors	2035	G4	R	16	25	6.73	541.868	4.588	0.021	0.324	0.324	858.879	0.379
Lawn & Garden Tractors	2040	G4	С	6	15	6.564	510.057	4.77	0.024	0.324	0.324	858.879	0.37
Lawn & Garden Tractors	2040	G4	С	16	25	6.725	541.388	4.586	0.021	0.324	0.324	858.879	0.379
Lawn & Garden Tractors	2040	G4	R	6	15	6.564	510.057	4.77	0.024	0.324	0.324	858.879	0.37
Lawn & Garden Tractors	2040	G4	R	16	25	6.725	541.388	4.586	0.021	0.324	0.324	858.879	0.379
Lawn Mowers	1990	G2	С	6	15	383.517	971.999	0.625	0.518	15.399	15.399	858.879	32.707
Lawn Mowers	1990	G2	R	6	15	383.517	971.999	0.625	0.518	15.399	15.399	858.879	32.707
Lawn Mowers	1990	G4 G4	С	3	5 5	86.165	1366.863	4.921	0.434	2.4	2.4	858.879	10.153 10.153
Lawn Mowers Lawn Mowers	1990 2000	G4 G2	R C	3 6	15	86.165 130.787	1366.863 652.886	4.921 4.523	0.434 0.049	2.4 6.279	2.4 6.279	858.879 858.879	7.916
Lawn Mowers	2000	G2	R	6	15	130.787	652.886	4.523	0.049	6.279	6.279	858.879	7.916
Lawn Mowers	2000	G4	С	3	5	48.547	784.748	5.953	0.041	2.374	2.374	858.879	2.647
Lawn Mowers	2000	G4	R	3	5	48.547	784.748	5.953	0.041	2.374	2.374	858.879	2.647
Lawn Mowers	2005	G2	С	6	15	75.706	444.858	6.544	0.035	4.545	4.545	858.879	4.705
Lawn Mowers	2005	G2	R	6	15	75.706	444.858	6.544	0.035	4.545	4.545	858.879	4.705
Lawn Mowers	2005	G4	С	3	5	28.282	507.847	7.674	0.029	2.383	2.383	858.879	1.584
Lawn Mowers	2005	G4	R	3	5	28.282	507.847	7.674	0.029	2.383	2.383	858.879	1.584
Lawn Mowers	2010	G2	С	6	15	37.533	394.484	4.563	0.035	3.166	3.166	858.879	2.332
Lawn Mowers	2010	G2	R	6	15	37.533	394.484	4.563	0.035	3.166	3.166	858.879	2.332
Lawn Mowers	2010	G4	С	3	5	20.231	435.249	4.987	0.029	2.381	2.381	858.879	1.133
Lawn Mowers Lawn Mowers	2010 2011	G4 G2	R C	3 6	5 15	20.231 33.131	435.249 386.729	4.987 4.556	0.029 0.035	2.381 3.01	2.381 3.01	858.879 858.879	1.133 2.059
Lawn Mowers	2011	G2 G2	R	6	15	33.131	386.729	4.556	0.035	3.01	3.01	858.879	2.059
Lawn Mowers	2011	G4	C	3	5	19.247	423.873	4.891	0.029	2.38	2.38	858.879	1.078
Lawn Mowers	2011	G4	R	3	5	19.247	423.873	4.891	0.029	2.38	2.38	858.879	1.078
Lawn Mowers	2012	G2	С	6	15	30.298	379.152	4.527	0.035	2.919	2.919	858.879	1.883
Lawn Mowers	2012	G2	R	6	15	30.298	379.152	4.527	0.035	2.919	2.919	858.879	1.883
Lawn Mowers	2012	G4	С	3	5	18.305	412.931	4.798	0.029	2.381	2.381	858.879	1.025
Lawn Mowers	2012	G4	R	3	5	18.305	412.931	4.798	0.029	2.381	2.381	858.879	1.025
Lawn Mowers	2013	G2	С	6	15	27.835	371.274	4.494	0.035	2.844	2.844	858.88	1.73
Lawn Mowers	2013	G2	R	6	15	27.835	371.274	4.494	0.035	2.844	2.844	858.88	1.73
Lawn Mowers	2013	G4	С	3	5	17.668	406.495	4.682	0.029	2.381	2.381	858.879	0.99
Lawn Mowers Lawn Mowers	2013 2014	G4 G2	R C	3 6	5 15	17.668 25.61	406.495 363.536	4.682 4.459	0.029 0.035	2.381 2.778	2.381 2.778	858.879 858.88	0.99 1.591
Lawn Mowers	2014	G2 G2	R	6	15	25.61	363.536	4.459 4.459	0.035	2.778	2.778	858.88	1.591
Lawn Mowers	2014	G2 G4	C	3	5	17.182	401.969	4.459	0.033	2.776	2.778	858.879	0.963
Lawn Mowers	2014	G4	R	3	5	17.182	401.969	4.559	0.029	2.382	2.382	858.879	0.963
Lawn Mowers	2015	G2	С	6	15	23.509	356.086	4.423	0.035	2.717	2.717	858.879	1.461
Lawn Mowers	2015	G2	R	6	15	23.509	356.086	4.423	0.035	2.717	2.717	858.879	1.461
Lawn Mowers	2015	G4	С	3	5	16.757	398.042	4.439	0.029	2.382	2.382	858.879	0.939
Lawn Mowers	2015	G4	R	3	5	16.757	398.042	4.439	0.029	2.382	2.382	858.879	0.939
Lawn Mowers	2016	G2	С	6	15	21.721	349.443	4.379	0.035	2.667	2.667	858.88	1.35
Lawn Mowers	2016	G2	R	6	15	21.721	349.443	4.379	0.035	2.667	2.667	858.88	1.35
Lawn Mowers	2016	G4	С	3	5	16.373	394.716	4.316	0.029	2.382	2.382	858.879	0.918
Lawn Mowers	2016	G4	R	3	5	16.373	394.716	4.316	0.029	2.382	2.382	858.879	0.918
Lawn Mowers Lawn Mowers	2017 2017	G2 G2	C R	6	15 15	20.274	345.234 345.234	4.317 4.317	0.035 0.035	2.623 2.623	2.623 2.623	858.879 858.879	1.26 1.26
Lawn Mowers	2017	G2 G4	C	3	5	16.064	392.295	4.317	0.035	2.023	2.023	858.879	0.9
Lawn Mowers	2017	G4 G4	R	3	5	16.064	392.295	4.195	0.029	2.382	2.382	858.879	0.9
Lawn Mowers	2018	G2	C	6	15	19.036	342.185	4.25	0.035	2.585	2.585	858.879	1.183
Lawn Mowers	2018	G2	R	6	15	19.036	342.185	4.25	0.035	2.585	2.585	858.879	1.183
Lawn Mowers	2018	G4	С	3	5	15.797	390.553	4.072	0.029	2.381	2.381	858.879	0.886
Lawn Mowers	2018	G4	R	3	5	15.797	390.553	4.072	0.029	2.381	2.381	858.879	0.886

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Lawn Mowers	2019	G2	С	6	15	17.952	339.506	4.179	0.035	2.552	2.552	858.879	1.115
Lawn Mowers	2019	G2	R	6	15	17.952	339.506	4.179	0.035	2.552	2.552	858.879	1.115
Lawn Mowers	2019	G4	С	3	5	15.63	389.143	4.016	0.029	2.38	2.38	858.879	0.876
Lawn Mowers	2019	G4	R	3	5	15.63	389.143	4.016	0.029	2.38	2.38	858.879	0.876
Lawn Mowers	2020	G2	С	6	15	17.063	337.156	4.108	0.035	2.525	2.525	858.88	1.06
Lawn Mowers	2020	G2	R	6	15	17.063	337.156	4.108	0.035	2.525	2.525	858.88	1.06
Lawn Mowers	2020	G4	С	3	5	15.516	387.971	3.981	0.029	2.381	2.381	858.879	0.87
Lawn Mowers	2020	G4	R	3	5	15.516	387.971	3.981	0.029	2.381	2.381	858.879	0.87
Lawn Mowers	2021	G2	С	6	15	16.284	335.258	4.034	0.035	2.501	2.501	858.879	1.012
Lawn Mowers	2021	G2	R	6	15	16.284	335.258	4.034	0.035	2.501	2.501	858.879	1.012
Lawn Mowers	2021	G4	С	3	5	15.42	387.332	3.946	0.029	2.379	2.379	858.879	0.865
Lawn Mowers	2021	G4	R	3	5	15.42	387.332	3.946	0.029	2.379	2.379	858.879	0.865
Lawn Mowers	2022	G2	С	6	15	15.732	333.499	3.97	0.035	2.487	2.487	858.879	0.977
Lawn Mowers	2022	G2	R	6	15	15.732	333.499	3.97	0.035	2.487	2.487	858.879	0.977
Lawn Mowers	2022	G4	C	3	5	15.359	386.662	3.917	0.029	2.38	2.38	858.879	0.861
Lawn Mowers	2022	G4	R	3	5	15.359	386.662	3.917	0.029	2.38	2.38	858.879	0.861
Lawn Mowers	2023	G2	С	6	15	15.272	331.902	3.938	0.035	2.474	2.474	858.879	0.949
Lawn Mowers	2023	G2	R	6	15	15.272	331.902	3.938	0.035	2.474	2.474	858.879	0.949
Lawn Mowers	2023	G4	C	3	5	15.32	386.308	3.893	0.029	2.38	2.38	858.879	0.859
Lawn Mowers	2023	G4	R	3	5	15.32	386.308	3.893	0.029	2.38	2.38	858.879	0.859
Lawn Mowers	2024	G2	С	6	15	14.912	330.523	3.919	0.035	2.465	2.465	858.879	0.926
Lawn Mowers	2024	G2	R	6	15	14.912	330.523	3.919	0.035	2.465	2.465	858.879	0.926
Lawn Mowers	2024	G4	C	3	5	15.299	386.129	3.871	0.029	2.38	2.38	858.879 858.870	0.858
Lawn Mowers	2024	G4	R	3	5	15.299	386.129	3.871	0.029	2.38	2.38	858.879	0.858
Lawn Mowers	2025	G2	C	6	15 15	14.672	329.458	3.9	0.035	2.459	2.459	858.879 858.870	0.911
Lawn Mowers	2025	G2	R	6	15	14.672	329.458	3.9	0.035	2.459	2.459	858.879	0.911
Lawn Mowers	2025	G4 G4	C	3	5 5	15.289	386.029	3.852 3.852	0.029 0.029	2.38	2.38 2.38	858.879 858.879	0.858
Lawn Mowers Lawn Mowers	2025	G2	R C	6	15	15.289 14.354	386.029 327.334	3.814	0.029	2.38 2.455	2.36	858.879	0.858 0.892
Lawn Mowers	2030	G2	R	6	15	14.354	327.334	3.814	0.035	2.455	2.455	858.879	0.892
Lawn Mowers	2030	G4	C	3	5	15.26	385.707	3.815	0.033	2.433	2.433	858.879	0.857
Lawn Mowers	2030	G4	R	3	5	15.26	385.707	3.815	0.029	2.38	2.38	858.879	0.857
Lawn Mowers	2035	G2	C	6	15	14.32	327.145	3.775	0.025	2.455	2.455	858.879	0.89
Lawn Mowers	2035	G2	R	6	15	14.32	327.145	3.775	0.035	2.455	2.455	858.879	0.89
Lawn Mowers	2035	G4	C	3	5	15.244	385.494	3.812	0.029	2.38	2.38	858.879	0.856
Lawn Mowers	2035	G4	R	3	5	15.244	385.494	3.812	0.029	2.38	2.38	858.879	0.856
Lawn Mowers	2040	G2	С	6	15	14.316	327.185	3.769	0.035	2.454	2.454	858.879	0.889
Lawn Mowers	2040	G2	R	6	15	14.316	327.185	3.769	0.035	2.454	2.454	858.879	0.889
Lawn Mowers	2040	G4	С	3	5	15.234	385.112	3.811	0.029	2.38	2.38	858.879	0.857
Lawn Mowers	2040	G4	R	3	5	15.234	385.112	3.811	0.029	2.38	2.38	858.879	0.857
Leaf Blowers/Vacuums	1990	G2	С	0	2	417.573	1480.719	2.069	0.518	7.199	7.199	858.879	35.612
Leaf Blowers/Vacuums	1990	G2	R	0	2	417.573	1480.719	2.069	0.518	7.199	7.199	858.879	35.612
Leaf Blowers/Vacuums	1990	G4	С	3	5	66.617	1240.719	4.859	0.434	1.867	1.867	858.879	7.869
Leaf Blowers/Vacuums	1990	G4	R	3	5	66.617	1240.719	4.859	0.434	1.867	1.867	858.879	7.869
Leaf Blowers/Vacuums	2000	G2	С	0	2	241.563	630.464	2.96	0.049	3.973	3.973	858.879	14.621
Leaf Blowers/Vacuums	2000	G2	R	0	2	241.563	630.464	2.96	0.049	3.973	3.973	858.879	14.621
Leaf Blowers/Vacuums	2000	G4	С	3	5	36.418	783.667	5.349	0.041	1.858	1.858	858.879	1.99
Leaf Blowers/Vacuums	2000	G4	R	3	5	36.418	783.667	5.349	0.041	1.858	1.858	858.879	1.99
Leaf Blowers/Vacuums	2005	G2	С	0	2	180.783	495.991	2.743	0.035	2.565	2.565	858.879	11.236
Leaf Blowers/Vacuums	2005	G2	R	0	2	180.783	495.991	2.743	0.035	2.565	2.565	858.879	11.236
Leaf Blowers/Vacuums	2005	G4	C	3	5	24.991	596.754	6.325	0.029	1.861	1.861	858.879	1.403
Leaf Blowers/Vacuums	2005	G4	R	3	5	24.991	596.754	6.325	0.029	1.861	1.861	858.879	1.403
Leaf Blowers/Vacuums	2010	G2	С	0	2	136.866	396.425	2.775	0.035	1.656	1.656	858.879	8.506
Leaf Blowers/Vacuums	2010	G2	R	0	2	136.866	396.425	2.775	0.035	1.656	1.656	858.879	8.506
Leaf Blowers/Vacuums	2010	G4	С	3	5	17.271	539.377	3.881	0.029	1.863	1.863	858.879	0.97
Leaf Blowers/Vacuums	2010	G4	R	3	5	17.271	539.377	3.881	0.029	1.863	1.863	858.879	0.97
Leaf Blowers/Vacuums	2011	G2	С	0	2	129.72	382.943	2.794	0.035	1.478	1.478	858.879	8.062
Leaf Blowers/Vacuums	2011	G2	R	0	2	129.72	382.943	2.794	0.035	1.478	1.478	858.879	8.062
Leaf Blowers/Vacuums	2011	G4	С	3	5	16.444	531.587	3.798	0.029	1.862	1.862	858.879	0.923
Leaf Blowers/Vacuums	2011	G4	R	3	5	16.444	531.587	3.798	0.029	1.862	1.862	858.879	0.923
Leaf Blowers/Vacuums	2012	G2	С	0	2	123.505	372.378	2.811	0.035	1.314	1.314	858.88	7.676
Leaf Blowers/Vacuums	2012	G2 G4	R C	3	2	123.505	372.378 524.344	2.811 3.715	0.035	1.314	1.314 1.862	858.88 858.879	7.676
Leaf Blowers/Vacuums Leaf Blowers/Vacuums	2012	G4 G4	R	3	5 5	15.817 15.817	524.344	3.715 3.715	0.029 0.029	1.862	1.862 1.862	858.879 858.879	0.888 0.888
Leaf Blowers/Vacuums Leaf Blowers/Vacuums	2012		к С	0	2		524.344 362.541		-	1.862	1.862 1.158		ł
Leaf Blowers/Vacuums Leaf Blowers/Vacuums	2013	G2		0	2	117.639	362.541 362.541	2.826	0.035	1.158	1.158 1.158	858.879 858.870	7.311
		G2	R C			117.639	362.541	2.826	0.035	1.158		858.879 858.870	7.311
Leaf Blowers/Vacuums	2013	G4 G4		3	5	15.23	517.066 517.066	3.632	0.029	1.862	1.862	858.879 858.879	0.855
Leaf Blowers/Vacuums	2013		R	3	5	15.23	517.066	3.632	0.029	1.862	1.862	-	0.855
Leaf Blowers/Vacuums Leaf Blowers/Vacuums	2014	G2 G2	C	0	2	112.276	353.588 353.588	2.838	0.035	1.015	1.015	858.879 858.870	6.978
Leaf Blowers/Vacuums Leaf Blowers/Vacuums	2014	G2 G4	R C	3	5	112.276 14.675	353.588 509.992	2.838 3.552	0.035 0.029	1.015 1.862	1.015 1.862	858.879 858.879	6.978 0.824
									-	+	ł		
Leaf Blowers/Vacuums Leaf Blowers/Vacuums	2014	G4 G2	R C	0	5 2	14.675 107.472	509.992 345.461	3.552 2.846	0.029 0.035	1.862 0.886	1.862 0.886	858.879 858.879	0.824 6.679
Lear Blowers/Vacuums Leaf Blowers/Vacuums	2015	G2 G2	R	0	2	107.472	345.461 345.461	2.846	0.035	0.886	0.886	858.879 858.879	6.679 6.679
LOGI DIOWEIS/ VACUUIIIS	2010	GΖ	ı,	U		101.412	J4J.40 I	2.040	0.033		0.000	000.019	
Leaf Blowers/Vacuums	2015	G4	С	3	5	14.134	503.126	3.474	0.029	1.862	1.862	858.879	0.794

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Leaf Blowers/Vacuums	2016	G2	C	0	2	104.485	340.134	2.839	0.035	0.812	0.812	858.879	6.494
Leaf Blowers/Vacuums	2016	G2	R	0	2	104.485	340.134	2.839	0.035	0.812	0.812	858.879	6.494
Leaf Blowers/Vacuums	2016	G4	С	3	5	13.639	496.909	3.395	0.029	1.862	1.862	858.879	0.766
Leaf Blowers/Vacuums	2016	G4	R	3	5	13.639	496.909	3.395	0.029	1.862	1.862	858.879	0.766
Leaf Blowers/Vacuums	2017	G2	С	0	2	102.351	336.104	2.824	0.035	0.762	0.762	858.879	6.361
Leaf Blowers/Vacuums	2017	G2	R	0	2	102.351	336.104	2.824	0.035	0.762	0.762	858.879	6.361
Leaf Blowers/Vacuums	2017	G4	С	3	5	13.189	491.294	3.319	0.029	1.862	1.862	858.879	0.741
Leaf Blowers/Vacuums	2017	G4	R	3	5	13.189	491.294	3.319	0.029	1.862	1.862	858.879	0.741
Leaf Blowers/Vacuums	2018	G2	С	0	2	100.502	332.58	2.809	0.035	0.72	0.72	858.879	6.246
Leaf Blowers/Vacuums	2018	G2	R	0	2	100.502	332.58	2.809	0.035	0.72	0.72	858.879	6.246
Leaf Blowers/Vacuums	2018	G4	С	3	5	12.834	487.616	3.236	0.029	1.862	1.862	858.879	0.721
Leaf Blowers/Vacuums	2018	G4	R	3	5	12.834	487.616	3.236	0.029	1.862	1.862	858.879	0.721
Leaf Blowers/Vacuums	2019	G2	С	0	2	98.866	329.492	2.795	0.035	0.682	0.682	858.879	6.145
Leaf Blowers/Vacuums	2019	G2	R	0	2	98.866	329.492	2.795	0.035	0.682	0.682	858.879	6.145
Leaf Blowers/Vacuums	2019	G4	С	3	5	12.534	484.905	3.151	0.029	1.862	1.862	858.879	0.704
Leaf Blowers/Vacuums	2019	G4	R	3	5	12.534	484.905	3.151	0.029	1.862	1.862	858.879	0.704
Leaf Blowers/Vacuums Leaf Blowers/Vacuums	2020	G2	С	0	2	97.445	326.883	2.783	0.035	0.647	0.647	858.879	6.056
Leaf Blowers/Vacuums	2020 2020	G2 G4	R C		2	97.445 12.271	326.883	2.783 3.068	0.035 0.029	0.647	0.647 1.862	858.879 858.879	6.056
		G4 G4	R	3	5		482.619			1.862			0.69
Leaf Blowers/Vacuums Leaf Blowers/Vacuums	2020 2021	G4 G2	C C	0	5 2	12.271 96.221	482.619 324.651	3.068 2.778	0.029 0.035	1.862 0.618	1.862 0.618	858.879 858.879	0.69 5.98
Leaf Blowers/Vacuums	2021	G2 G2	R	0	2	96.221	324.651	2.778	0.035	0.618	0.618	858.879	5.98
Leaf Blowers/Vacuums	2021	G2 G4	C	3	5	12.022	480.736	2.776	0.035	1.861	1.861	858.88	0.676
Leaf Blowers/Vacuums	2021	G4	R	3	5	12.022	480.736	2.987	0.029	1.861	1.861	858.88	0.676
Leaf Blowers/Vacuums	2022	G2	C	0	2	95.338	322.937	2.777	0.025	0.593	0.593	858.879	5.925
Leaf Blowers/Vacuums	2022	G2	R	0	2	95.338	322.937	2.777	0.035	0.593	0.593	858.879	5.925
Leaf Blowers/Vacuums	2022	G4	C	3	5	11.831	478.893	2.919	0.029	1.862	1.862	858.879	0.665
Leaf Blowers/Vacuums	2022	G4	R	3	5	11.831	478.893	2.919	0.029	1.862	1.862	858.879	0.665
Leaf Blowers/Vacuums	2023	G2	C	0	2	94.546	321.418	2.776	0.035	0.57	0.57	858.879	5.876
Leaf Blowers/Vacuums	2023	G2	R	0	2	94.546	321.418	2.776	0.035	0.57	0.57	858.879	5.876
Leaf Blowers/Vacuums	2023	G4	С	3	5	11.68	477.385	2.88	0.029	1.862	1.862	858.879	0.657
Leaf Blowers/Vacuums	2023	G4	R	3	5	11.68	477.385	2.88	0.029	1.862	1.862	858.879	0.657
Leaf Blowers/Vacuums	2024	G2	С	0	2	93.882	320.179	2.775	0.035	0.551	0.551	858.879	5.835
Leaf Blowers/Vacuums	2024	G2	R	0	2	93.882	320.179	2.775	0.035	0.551	0.551	858.879	5.835
Leaf Blowers/Vacuums	2024	G4	С	3	5	11.564	476.014	2.857	0.029	1.862	1.862	858.879	0.65
Leaf Blowers/Vacuums	2024	G4	R	3	5	11.564	476.014	2.857	0.029	1.862	1.862	858.879	0.65
Leaf Blowers/Vacuums	2025	G2	С	0	2	93.358	319.298	2.773	0.035	0.535	0.535	858.879	5.802
Leaf Blowers/Vacuums	2025	G2	R	0	2	93.358	319.298	2.773	0.035	0.535	0.535	858.879	5.802
Leaf Blowers/Vacuums	2025	G4	С	3	5	11.468	474.959	2.835	0.029	1.862	1.862	858.879	0.645
Leaf Blowers/Vacuums	2025	G4	R	3	5	11.468	474.959	2.835	0.029	1.862	1.862	858.879	0.645
Leaf Blowers/Vacuums	2030	G2	С	0	2	92.149	317.793	2.764	0.035	0.5	0.5	858.879	5.727
Leaf Blowers/Vacuums	2030	G2	R	0	2	92.149	317.793	2.764	0.035	0.5	0.5	858.879	5.727
Leaf Blowers/Vacuums	2030	G4	С	3	5	11.222	472.216	2.754	0.029	1.861	1.861	858.879	0.632
Leaf Blowers/Vacuums	2030	G4	R	3	5	11.222	472.216	2.754	0.029	1.861	1.861	858.879	0.632
Leaf Blowers/Vacuums	2035	G2	С	0	2	92.074	317.76	2.758	0.035	0.499	0.499	858.879	5.722
Leaf Blowers/Vacuums	2035	G2	R	0	2	92.074	317.76	2.758	0.035	0.499	0.499	858.879	5.722
Leaf Blowers/Vacuums	2035	G4	С	3	5	11.16	471.482	2.717	0.029	1.861	1.861	858.879	0.628
Leaf Blowers/Vacuums	2035	G4 G2	R C	0	5 2	11.16	471.482 317.750	2.717	0.029	1.861	1.861	858.879 858.870	0.628
Leaf Blowers/Vacuums Leaf Blowers/Vacuums	2040 2040	G2 G2	R	0	2	92.063 92.063	317.759 317.759	2.758 2.758	0.035 0.035	0.499	0.499 0.499	858.879 858.879	5.722 5.722
Leaf Blowers/Vacuums	2040	G2 G4	C C	3	5	11.147	471.083	2.758	0.035	1.861	1.861	858.879 858.879	0.628
Leaf Blowers/Vacuums Leaf Blowers/Vacuums	2040	G4 G4	R	3	5	11.147	471.083	2.711	0.029	1.861	1.861	858.879 858.879	0.628
Other Lawn & Garden Equipment	1990	G2	C	0	2	417.573	1480.719	2.711	0.029	7.199	7.199	858.879	35.612
Other Lawn & Garden Equipment	1990	G2	C	6	15	294.22	1043.999	1.832	0.518	7.199	7.199	858.879	25.092
Other Lawn & Garden Equipment	1990	G2	R	0	2	417.573	1480.719	2.069	0.518	7.199	7.239	858.879	35.612
Other Lawn & Garden Equipment	1990	G2	R	6	15	294.22	1043.999	1.832	0.518	7.199	7.199	858.879	25.092
Other Lawn & Garden Equipment	1990	G4	C	3	5	70.524	1265.341	4.87	0.434	1.974	1.974	858.879	8.331
Other Lawn & Garden Equipment	1990	G4	C	6	15	18.248	905.68	8.202	0.359	0.318	0.318	858.879	2.155
Other Lawn & Garden Equipment	1990	G4	C	16	25	17.539	904.336	8.149	0.319	0.318	0.318	858.879	2.071
Other Lawn & Garden Equipment	1990	G4	R	3	5	70.524	1265.341	4.87	0.434	1.974	1.974	858.879	8.331
Other Lawn & Garden Equipment	1990	G4	R	6	15	18.248	905.68	8.202	0.359	0.318	0.318	858.879	2.155
Other Lawn & Garden Equipment	1990	G4	R	16	25	17.539	904.336	8.149	0.319	0.318	0.318	858.879	2.071
Other Lawn & Garden Equipment	2000	G2	С	0	2	255.682	687.225	2.511	0.049	5.341	5.341	858.879	15.475
Other Lawn & Garden Equipment	2000	G2	С	6	15	213.998	571.185	2.331	0.049	5.941	5.941	858.879	12.952
Other Lawn & Garden Equipment	2000	G2	R	0	2	255.682	687.225	2.511	0.049	5.341	5.341	858.879	15.475
Other Lawn & Garden Equipment	2000	G2	R	6	15	213.998	571.185	2.331	0.049	5.941	5.941	858.879	12.952
Other Lawn & Garden Equipment	2000	G4	С	3	5	38.922	777.377	5.505	0.041	1.967	1.967	858.879	2.127
Other Lawn & Garden Equipment	2000	G4	С	6	15	15.49	660.87	6.637	0.034	0.317	0.317	858.88	0.846
Other Lawn & Garden Equipment	2000	G4	С	16	25	14.439	666.768	5.802	0.03	0.317	0.317	858.879	0.789
Other Lawn & Garden Equipment	2000	G4	R	3	5	38.922	777.377	5.505	0.041	1.967	1.967	858.879	2.127
Other Lawn & Garden Equipment	2000	G4	R	6	15	15.49	660.87	6.637	0.034	0.317	0.317	858.88	0.846
Other Lawn & Garden Equipment	2000	G4	R	16	25	14.439	666.768	5.802	0.03	0.317	0.317	858.879	0.789
Other Lawn & Garden Equipment	2005	G2	С	0	2	159.33	495.992	3.006	0.035	2.565	2.565	858.879	9.903
Other Lawn & Garden Equipment	2005	G2	С	6	15	137.825	434.477	2.933	0.035	2.769	2.769	858.879	8.566
Other Lawn & Garden Equipment	2005	G2	R	0	2	159.33	495.992	3.006	0.035	2.565	2.565	858.879	9.903
Other Lawn & Garden Equipment	2005	G2	R	6	15	137.825	434.477	2.933	0.035	2.769	2.769	858.879	8.566

Table 7.2 Landscape Equipment Running Emission Factors

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Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Other Lawn & Garden Equipment	2005	G4	С	3	5	26.099	584.277	6.584	0.029	1.97	1.97	858.879	1.465
Other Lawn & Garden Equipment	2005	G4	С	6	15	11.731	569.53	7.02	0.024	0.318	0.318	858.879	0.658
Other Lawn & Garden Equipment	2005	G4	C	16	25	11.785	591.718	6.419	0.021	0.318	0.318	858.879	0.661
Other Lawn & Garden Equipment	2005	G4	R	3	5	26.099	584.277	6.584	0.029	1.97	1.97	858.879	1.465
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2005 2005	G4 G4	R R	6 16	15 25	11.731 11.785	569.53 591.718	7.02 6.419	0.024 0.021	0.318 0.318	0.318 0.318	858.879 858.879	0.658 0.661
Other Lawn & Garden Equipment	2010	G2	C	0	23	112.488	396.425	2.775	0.021	1.656	1.656	858.879	6.991
Other Lawn & Garden Equipment	2010	G2	C	6	15	103.891	373.197	2.732	0.035	1.818	1.818	858.879	6.457
Other Lawn & Garden Equipment	2010	G2	R	0	2	112.488	396.425	2.775	0.035	1.656	1.656	858.879	6.991
Other Lawn & Garden Equipment	2010	G2	R	6	15	103.891	373.197	2.732	0.035	1.818	1.818	858.879	6.457
Other Lawn & Garden Equipment	2010	G4	С	3	5	18.025	518.999	4.238	0.029	1.972	1.972	858.879	1.012
Other Lawn & Garden Equipment	2010	G4	С	6	15	8.92	540.914	5.705	0.024	0.318	0.318	858.879	0.501
Other Lawn & Garden Equipment	2010	G4	C	16	25	8.966	567.825	5.282	0.021	0.318	0.318	858.879	0.503
Other Lawn & Garden Equipment	2010	G4	R	3	5	18.025	518.999	4.238	0.029	1.972	1.972	858.879	1.012
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2010	G4 G4	R R	6 16	15 25	8.92 8.966	540.914 567.825	5.705 5.282	0.024 0.021	0.318 0.318	0.318 0.318	858.879 858.879	0.501 0.503
Other Lawn & Garden Equipment	2010	G2	C	0	25	105.244	382.943	2.794	0.021	1.478	1.478	858.879	6.541
Other Lawn & Garden Equipment	2011	G2	C	6	15	98.289	364.342	2.758	0.035	1.619	1.619	858.879	6.109
Other Lawn & Garden Equipment	2011	G2	R	0	2	105.244	382.943	2.794	0.035	1.478	1.478	858.879	6.541
Other Lawn & Garden Equipment	2011	G2	R	6	15	98.289	364.342	2.758	0.035	1.619	1.619	858.879	6.109
Other Lawn & Garden Equipment	2011	G4	C	3	5	17.166	511.452	4.062	0.029	1.971	1.971	858.879	0.964
Other Lawn & Garden Equipment	2011	G4	С	6	15	8.57	538.09	5.532	0.024	0.318	0.318	858.879	0.481
Other Lawn & Garden Equipment	2011	G4	С	16	25	8.612	565.627	5.144	0.021	0.318	0.318	858.879	0.483
Other Lawn & Garden Equipment	2011	G4	R	3	5	17.166	511.452	4.062	0.029	1.971	1.971	858.879	0.964
Other Lawn & Garden Equipment	2011	G4	R	6	15	8.57	538.09	5.532	0.024	0.318	0.318	858.879	0.481
Other Lawn & Garden Equipment	2011	G4	R	16	25	8.612	565.627	5.144	0.021	0.318	0.318	858.879	0.483
Other Lawn & Garden Equipment	2012	G2	С	0	2	98.97	372.378	2.811	0.035	1.314	1.314	858.879	6.151
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2012	G2	С	6	15	93.154 98.97	356.813	2.781	0.035	1.431	1.431	858.879 858.879	5.79
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2012 2012	G2 G2	R R	6	2 15	93.154	372.378 356.813	2.811 2.781	0.035 0.035	1.314 1.431	1.314 1.431	858.879	6.151 5.79
Other Lawn & Garden Equipment	2012	G4	C	3	5	16.541	504.415	3.953	0.033	1.431	1.431	858.879	0.929
Other Lawn & Garden Equipment	2012	G4	C	6	15	8.305	534.997	5.415	0.024	0.318	0.318	858.879	0.466
Other Lawn & Garden Equipment	2012	G4	С	16	25	8.354	563.036	5.056	0.021	0.318	0.318	858.879	0.469
Other Lawn & Garden Equipment	2012	G4	R	3	5	16.541	504.415	3.953	0.029	1.971	1.971	858.879	0.929
Other Lawn & Garden Equipment	2012	G4	R	6	15	8.305	534.997	5.415	0.024	0.318	0.318	858.879	0.466
Other Lawn & Garden Equipment	2012	G4	R	16	25	8.354	563.036	5.056	0.021	0.318	0.318	858.879	0.469
Other Lawn & Garden Equipment	2013	G2	С	0	2	93.015	362.541	2.826	0.035	1.158	1.158	858.879	5.781
Other Lawn & Garden Equipment	2013	G2	С	6	15	88.205	349.607	2.801	0.035	1.252	1.252	858.879	5.482
Other Lawn & Garden Equipment	2013	G2	R	0	2	93.015	362.541	2.826	0.035	1.158	1.158	858.879	5.781
Other Lawn & Garden Equipment	2013	G2 G4	R C	6	15	88.205	349.607	2.801 3.87	0.035	1.252	1.252	858.879	5.482
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2013	G4 G4	C	3 6	5 15	15.973 8.091	497.231 531.613	5.338	0.029 0.024	1.972 0.318	1.972 0.318	858.879 858.879	0.897 0.454
Other Lawn & Garden Equipment	2013	G4	C	16	25	8.158	560.112	4.999	0.024	0.318	0.318	858.879	0.454
Other Lawn & Garden Equipment	2013	G4	R	3	5	15.973	497.231	3.87	0.021	1.972	1.972	858.879	0.897
Other Lawn & Garden Equipment	2013	G4	R	6	15	8.091	531.613	5.338	0.024	0.318	0.318	858.879	0.454
Other Lawn & Garden Equipment	2013	G4	R	16	25	8.158	560.112	4.999	0.021	0.318	0.318	858.879	0.458
Other Lawn & Garden Equipment	2014	G2	С	0	2	87.581	353.588	2.838	0.035	1.015	1.015	858.879	5.443
Other Lawn & Garden Equipment	2014	G2	С	6	15	83.672	342.992	2.819	0.035	1.086	1.086	858.879	5.2
Other Lawn & Garden Equipment	2014	G2	R	0	2	87.581	353.588	2.838	0.035	1.015	1.015	858.879	5.443
Other Lawn & Garden Equipment	2014	G2	R	6	15	83.672	342.992	2.819	0.035	1.086	1.086	858.879	5.2
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2014	G4	C C	3 6	5 15	15.432	490.368	3.788 5.278	0.029	1.971	1.971	858.879 858.870	0.867 0.443
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2014	G4 G4	C	16	15 25	7.898 7.988	528.312 557.256	5.278 4.954	0.024 0.021	0.318 0.318	0.318 0.318	858.879 858.879	0.443
Other Lawn & Garden Equipment	2014	G4	R	3	5	15.432	490.368	3.788	0.021	1.971	1.971	858.879	0.449
Other Lawn & Garden Equipment	2014	G4	R	6	15	7.898	528.312	5.278	0.024	0.318	0.318	858.879	0.443
Other Lawn & Garden Equipment	2014	G4	R	16	25	7.988	557.256	4.954	0.021	0.318	0.318	858.879	0.449
Other Lawn & Garden Equipment	2015	G2	С	0	2	82.696	345.46	2.846	0.035	0.886	0.886	858.879	5.139
Other Lawn & Garden Equipment	2015	G2	С	6	15	79.612	337.013	2.832	0.035	0.937	0.937	858.879	4.948
Other Lawn & Garden Equipment	2015	G2	R	0	2	82.696	345.46	2.846	0.035	0.886	0.886	858.879	5.139
Other Lawn & Garden Equipment	2015	G2	R	6	15	79.612	337.013	2.832	0.035	0.937	0.937	858.879	4.948
Other Lawn & Garden Equipment	2015	G4	С	3	5	14.909	483.663	3.709	0.029	1.971	1.971	858.879	0.838
Other Lawn & Garden Equipment	2015	G4	С	6	15	7.71	525.103	5.22	0.024	0.318	0.318	858.879	0.433
Other Lawn & Garden Equipment	2015	G4 G4	C	16	25 5	7.821	554.482	4.912 3.700	0.021	0.318	0.318	858.879 858.879	0.439
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2015 2015	G4 G4	R R	3 6	15	14.909 7.71	483.663 525.103	3.709 5.22	0.029 0.024	1.971 0.318	1.971 0.318	858.879 858.879	0.838 0.433
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2015	G4 G4	R	16	25	7.71	554.482	4.912	0.024	0.318	0.318	858.879	0.433
Other Lawn & Garden Equipment	2016	G2	C	0	2	79.657	340.134	2.839	0.021	0.812	0.812	858.879	4.951
Other Lawn & Garden Equipment	2016	G2	C	6	15	77.163	333.3	2.827	0.035	0.853	0.853	858.879	4.796
Other Lawn & Garden Equipment	2016	G2	R	0	2	79.657	340.134	2.839	0.035	0.812	0.812	858.879	4.951
Other Lawn & Garden Equipment	2016	G2	R	6	15	77.163	333.3	2.827	0.035	0.853	0.853	858.879	4.796
Other Lawn & Garden Equipment	2016	G4	С	3	5	14.43	477.614	3.63	0.029	1.971	1.971	858.879	0.811
Other Lawn & Garden Equipment	2016	G4	С	6	15	7.53	522.211	5.164	0.024	0.318	0.318	858.88	0.423
Other Lawn & Garden Equipment	2016	G4	С	16	25	7.662	551.995	4.871	0.021	0.318	0.318	858.879	0.43
Other Lawn & Garden Equipment	2016	G4	R	3	5	14.43	477.614	3.63	0.029	1.971	1.971	858.879	0.811
Other Lawn & Garden Equipment	2016	G4	R	6	15	7.53	522.211	5.164	0.024	0.318	0.318	858.88	0.423
Other Lawn & Garden Equipment	2016	G4	R	16	25	7.662	551.995	4.871	0.021	0.318	0.318	858.879	0.43

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO,	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Other Lewis & Cardon Equipment	2017	G2	C	0	2			2.824	0.035	0.762	0.762	858.879	
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2017	G2 G2	C	6	2 15	77.493 75.472	336.104 330.608	2.824	0.035	0.762	0.762	858.879 858.879	4.816 4.69
Other Lawn & Garden Equipment	2017	G2	R	0	2	77.493	336.104	2.824	0.035	0.762	0.762	858.879	4.816
Other Lawn & Garden Equipment	2017	G2	R	6	15	75.472	330.608	2.815	0.035	0.798	0.798	858.879	4.69
Other Lawn & Garden Equipment	2017	G4	С	3	5	13.993	472.178	3.552	0.029	1.971	1.971	858.879	0.786
Other Lawn & Garden Equipment	2017	G4	С	6	15	7.362	519.618	5.111	0.024	0.318	0.318	858.879	0.413
Other Lawn & Garden Equipment	2017	G4	С	16	25	7.513	549.763	4.832	0.021	0.318	0.318	858.879	0.422
Other Lawn & Garden Equipment	2017	G4	R	3	5	13.993	472.178	3.552	0.029	1.971	1.971	858.879	0.786
Other Lawn & Garden Equipment	2017	G4 G4	R	6	15 25	7.362	519.618	5.111 4.832	0.024 0.021	0.318	0.318	858.879 858.879	0.413
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2017	G4 G2	R C	16 0	25	7.513 75.613	549.763 332.581	2.809	0.021	0.318 0.72	0.318 0.72	858.879	0.422 4.699
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2018	G2	C	6	15	74.009	328.268	2.801	0.035	0.751	0.751	858.879	4.6
Other Lawn & Garden Equipment	2018	G2	R	0	2	75.613	332.581	2.809	0.035	0.72	0.72	858.879	4.699
Other Lawn & Garden Equipment	2018	G2	R	6	15	74.009	328.268	2.801	0.035	0.751	0.751	858.879	4.6
Other Lawn & Garden Equipment	2018	G4	С	3	5	13.649	468.588	3.469	0.029	1.972	1.972	858.879	0.767
Other Lawn & Garden Equipment	2018	G4	С	6	15	7.227	518.013	5.055	0.024	0.318	0.318	858.879	0.406
Other Lawn & Garden Equipment	2018	G4	С	16	25	7.386	548.386	4.786	0.021	0.318	0.318	858.879	0.415
Other Lawn & Garden Equipment	2018	G4	R	3	5	13.649	468.588	3.469	0.029	1.972	1.972	858.879	0.767
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2018	G4 G4	R R	6 16	15 25	7.227 7.386	518.013 548.386	5.055 4.786	0.024 0.021	0.318 0.318	0.318 0.318	858.879 858.879	0.406 0.415
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2019	G4 G2	C	0	25	7.300	329.492	2.795	0.021	0.682	0.682	858.879	4.596
Other Lawn & Garden Equipment	2019	G2	C	6	15	72.71	326.209	2.788	0.035	0.709	0.709	858.879	4.519
Other Lawn & Garden Equipment	2019	G2	R	0	2	73.95	329.492	2.795	0.035	0.682	0.682	858.879	4.596
Other Lawn & Garden Equipment	2019	G2	R	6	15	72.71	326.209	2.788	0.035	0.709	0.709	858.879	4.519
Other Lawn & Garden Equipment	2019	G4	С	3	5	13.355	465.968	3.384	0.029	1.972	1.972	858.879	0.751
Other Lawn & Garden Equipment	2019	G4	С	6	15	7.111	516.889	5	0.024	0.318	0.318	858.879	0.399
Other Lawn & Garden Equipment	2019	G4	С	16	25	7.273	547.426	4.738	0.021	0.318	0.318	858.879	0.409
Other Lawn & Garden Equipment	2019	G4	R	3	5	13.355	465.968	3.384	0.029	1.972	1.972	858.879	0.751
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2019	G4 G4	R R	6 16	15 25	7.111 7.273	516.889 547.426	5 4.738	0.024 0.021	0.318 0.318	0.318 0.318	858.879 858.879	0.399 0.409
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2019	G2	C	0	23	72.499	326.883	2.783	0.021	0.647	0.647	858.88	4.506
Other Lawn & Garden Equipment	2020	G2	C	6	15	71.561	324.439	2.777	0.035	0.67	0.67	858.879	4.447
Other Lawn & Garden Equipment	2020	G2	R	0	2	72.499	326.883	2.783	0.035	0.647	0.647	858.88	4.506
Other Lawn & Garden Equipment	2020	G2	R	6	15	71.561	324.439	2.777	0.035	0.67	0.67	858.879	4.447
Other Lawn & Garden Equipment	2020	G4	С	3	5	13.097	463.764	3.301	0.029	1.972	1.972	858.879	0.736
Other Lawn & Garden Equipment	2020	G4	С	6	15	7.003	515.951	4.947	0.024	0.318	0.318	858.879	0.393
Other Lawn & Garden Equipment	2020	G4	С	16	25	7.166	546.629	4.693	0.021	0.318	0.318	858.879	0.403
Other Lawn & Garden Equipment	2020	G4 G4	R	3	5 15	13.097	463.764	3.301	0.029	1.972	1.972	858.879	0.736
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2020	G4 G4	R R	6 16	25	7.003 7.166	515.951 546.629	4.947 4.693	0.024 0.021	0.318 0.318	0.318 0.318	858.879 858.879	0.393 0.403
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2020	G2	C	0	2	71.211	324.651	2.778	0.021	0.618	0.618	858.879	4.426
Other Lawn & Garden Equipment	2021	G2	С	6	15	70.528	322.915	2.773	0.035	0.637	0.637	858.879	4.383
Other Lawn & Garden Equipment	2021	G2	R	0	2	71.211	324.651	2.778	0.035	0.618	0.618	858.879	4.426
Other Lawn & Garden Equipment	2021	G2	R	6	15	70.528	322.915	2.773	0.035	0.637	0.637	858.879	4.383
Other Lawn & Garden Equipment	2021	G4	С	3	5	12.85	462.031	3.218	0.029	1.97	1.97	858.879	0.722
Other Lawn & Garden Equipment	2021	G4	С	6	15	6.895	515.104	4.893	0.024	0.318	0.318	858.879	0.387
Other Lawn & Garden Equipment	2021	G4	С	16	25	7.061	545.911	4.646	0.021	0.318	0.318	858.879	0.397
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2021	G4 G4	R R	3 6	5 15	12.85 6.895	462.031 515.104	3.218 4.893	0.029 0.024	1.97 0.318	1.97 0.318	858.879 858.879	0.722 0.387
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2021	G4	R	16	25	7.061	545.911	4.646	0.024	0.318	0.318	858.879	0.397
Other Lawn & Garden Equipment	2022	G2	С	0	2	70.359	322.937	2.777	0.035	0.593	0.593	858.879	4.373
Other Lawn & Garden Equipment	2022	G2	С	6	15	69.865	321.711	2.773	0.035	0.608	0.608	858.879	4.342
Other Lawn & Garden Equipment	2022	G2	R	0	2	70.359	322.937	2.777	0.035	0.593	0.593	858.879	4.373
Other Lawn & Garden Equipment	2022	G2	R	6	15	69.865	321.711	2.773	0.035	0.608	0.608	858.879	4.342
Other Lawn & Garden Equipment	2022	G4	С	3	5	12.663	460.239	3.15	0.029	1.971	1.971	858.879	0.712
Other Lawn & Garden Equipment	2022	G4	С	6	15	6.803	514.379	4.847	0.024	0.318	0.318	858.879	0.382
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2022	G4 G4	C R	16 3	25 5	6.97 12.663	545.298 460.239	4.608 3.15	0.021 0.029	0.318 1.971	0.318 1.971	858.879 858.879	0.392 0.712
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2022	G4 G4	R	6	15	6.803	514.379	4.847	0.029	0.318	0.318	858.879	0.712
Other Lawn & Garden Equipment	2022	G4	R	16	25	6.97	545.298	4.608	0.021	0.318	0.318	858.879	0.392
Other Lawn & Garden Equipment	2023	G2	С	0	2	69.52	321.418	2.776	0.035	0.57	0.57	858.879	4.321
Other Lawn & Garden Equipment	2023	G2	С	6	15	69.189	320.632	2.773	0.035	0.583	0.583	858.879	4.3
Other Lawn & Garden Equipment	2023	G2	R	0	2	69.52	321.418	2.776	0.035	0.57	0.57	858.879	4.321
Other Lawn & Garden Equipment	2023	G2	R	6	15	69.189	320.632	2.773	0.035	0.583	0.583	858.879	4.3
Other Lawn & Garden Equipment	2023	G4	С	3	5	12.525	458.636	3.114	0.029	1.972	1.972	858.879	0.704
Other Lawn & Garden Equipment	2023	G4	С	6	15	6.722	513.716	4.806	0.024	0.318	0.318	858.879	0.378
Other Lawn & Garden Equipment	2023	G4	C	16	25 5	6.889	544.729 458.636	4.574	0.021	0.318	0.318	858.879 858.870	0.387
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2023	G4 G4	R R	3 6	5 15	12.525 6.722	458.636 513.716	3.114 4.806	0.029 0.024	1.972 0.318	1.972 0.318	858.879 858.879	0.704 0.378
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2023	G4 G4	R R	16	25	6.889	513.716	4.806	0.024	0.318	0.318	858.879 858.879	0.378
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2023	G2	C	0	23	68.855	320.179	2.775	0.021	0.510	0.510	858.88	4.279
Other Lawn & Garden Equipment	2024	G2	C	6	15	68.655	319.739	2.773	0.035	0.56	0.56	858.879	4.267
Other Lawn & Garden Equipment	2024	G2	R	0	2	68.855	320.179	2.775	0.035	0.551	0.551	858.88	4.279
Other Lawn & Garden Equipment	2024	G2	R	6	15	68.655	319.739	2.773	0.035	0.56	0.56	858.879	4.267
Other Lawn & Garden Equipment	2024	G4	С	3	5	12.406	457.453	3.088	0.029	1.972	1.972	858.879	0.698
Other Lawn & Garden Equipment	2024	G4	С	6	15	6.664	513.136	4.781	0.024	0.318	0.318	858.879	0.375

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO,	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Other Lawn & Garden Equipment	2024	G4	С	16	25	6.834	544.234	4.554	0.021	0.318	0.318	858.879	0.384
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2024	G4	R	3	5	12.406	457.453	3.088	0.021	1.972	1.972	858.879	0.698
Other Lawn & Garden Equipment	2024	G4	R	6	15	6.664	513.136	4.781	0.024	0.318	0.318	858.879	0.375
Other Lawn & Garden Equipment	2024	G4	R	16	25	6.834	544.234	4.554	0.021	0.318	0.318	858.879	0.384
Other Lawn & Garden Equipment	2025	G2	С	0	2	68.3	319.298	2.773	0.035	0.535	0.535	858.879	4.245
Other Lawn & Garden Equipment	2025	G2	С	6	15	68.187	319.079	2.772	0.035	0.542	0.542	858.879	4.238
Other Lawn & Garden Equipment	2025	G2	R	0	2	68.3	319.298	2.773	0.035	0.535	0.535	858.879	4.245
Other Lawn & Garden Equipment	2025	G2 G4	R C	6	15 5	68.187	319.079	2.772 3.066	0.035	0.542	0.542	858.879	4.238
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2025	G4	C	6	15	12.316 6.622	456.385 512.645	4.766	0.029 0.024	1.972 0.318	1.972 0.318	858.879 858.879	0.693 0.372
Other Lawn & Garden Equipment	2025	G4	C	16	25	6.795	543.816	4.543	0.024	0.318	0.318	858.879	0.382
Other Lawn & Garden Equipment	2025	G4	R	3	5	12.316	456.385	3.066	0.029	1.972	1.972	858.879	0.693
Other Lawn & Garden Equipment	2025	G4	R	6	15	6.622	512.645	4.766	0.024	0.318	0.318	858.879	0.372
Other Lawn & Garden Equipment	2025	G4	R	16	25	6.795	543.816	4.543	0.021	0.318	0.318	858.879	0.382
Other Lawn & Garden Equipment	2030	G2	С	0	2	67.063	317.793	2.764	0.035	0.5	0.5	858.879	4.168
Other Lawn & Garden Equipment	2030	G2	С	6	15	67.061	317.79	2.764	0.035	0.5	0.5	858.879	4.168
Other Lawn & Garden Equipment	2030	G2	R	0	2	67.063	317.793	2.764	0.035	0.5	0.5	858.879	4.168
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2030	G2 G4	R C	6 3	15 5	67.061 12.077	317.79 453.765	2.764 2.985	0.035 0.029	0.5 1.971	0.5 1.971	858.879 858.879	4.168 0.68
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2030	G4	C	6	15	6.486	511.085	4.712	0.029	0.318	0.318	858.879	0.365
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2030	G4	C	16	25	6.668	542.44	4.712	0.024	0.318	0.318	858.879	0.303
Other Lawn & Garden Equipment	2030	G4	R	3	5	12.077	453.765	2.985	0.029	1.971	1.971	858.879	0.68
Other Lawn & Garden Equipment	2030	G4	R	6	15	6.486	511.085	4.712	0.024	0.318	0.318	858.879	0.365
Other Lawn & Garden Equipment	2030	G4	R	16	25	6.668	542.44	4.502	0.021	0.318	0.318	858.879	0.375
Other Lawn & Garden Equipment	2035	G2	С	0	2	66.983	317.759	2.758	0.035	0.499	0.499	858.879	4.163
Other Lawn & Garden Equipment	2035	G2	С	6	15	66.983	317.759	2.758	0.035	0.499	0.499	858.879	4.163
Other Lawn & Garden Equipment	2035	G2	R	0	2	66.983	317.759	2.758	0.035	0.499	0.499	858.879	4.163
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2035 2035	G2 G4	R C	6 3	15 5	66.983 12.016	317.759 453.055	2.758 2.948	0.035 0.029	0.499 1.971	0.499 1.971	858.879 858.879	4.163 0.677
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2035	G4 G4	С	6	15	6.44	510.509	4.686	0.029	0.318	0.318	858.879	0.877
Other Lawn & Garden Equipment	2035	G4	C	16	25	6.62	541.868	4.48	0.024	0.318	0.318	858.879	0.373
Other Lawn & Garden Equipment	2035	G4	R	3	5	12.016	453.055	2.948	0.029	1.971	1.971	858.879	0.677
Other Lawn & Garden Equipment	2035	G4	R	6	15	6.44	510.509	4.686	0.024	0.318	0.318	858.879	0.362
Other Lawn & Garden Equipment	2035	G4	R	16	25	6.62	541.868	4.48	0.021	0.318	0.318	858.879	0.373
Other Lawn & Garden Equipment	2040	G2	С	0	2	66.971	317.759	2.758	0.035	0.499	0.499	858.879	4.162
Other Lawn & Garden Equipment	2040	G2	С	6	15	66.971	317.759	2.758	0.035	0.499	0.499	858.879	4.162
Other Lawn & Garden Equipment	2040	G2	R	0	2	66.971	317.759	2.758	0.035	0.499	0.499	858.879	4.162
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2040	G2 G4	R C	6 3	15 5	66.971 12.002	317.759 452.678	2.758 2.942	0.035 0.029	0.499 1.971	0.499 1.971	858.879 858.879	4.162 0.676
Other Lawn & Garden Equipment Other Lawn & Garden Equipment	2040	G4	C	6	15	6.428	510.057	4.679	0.029	0.318	0.318	858.879	0.362
Other Lawn & Garden Equipment	2040	G4	C	16	25	6.607	541.388	4.474	0.024	0.318	0.318	858.879	0.372
Other Lawn & Garden Equipment	2040	G4	R	3	5	12.002	452.678	2.942	0.029	1.971	1.971	858.879	0.676
Other Lawn & Garden Equipment	2040	G4	R	6	15	6.428	510.057	4.679	0.024	0.318	0.318	858.879	0.362
Other Lawn & Garden Equipment	2040	G4	R	16	25	6.607	541.388	4.474	0.021	0.318	0.318	858.879	0.372
Rear Engine Riding Mowers	1990	G4	С	6	15	22.909	915.938	8.6	0.359	0.371	0.371	858.879	2.705
Rear Engine Riding Mowers	1990	G4	С	16	25	21.231	912.759	8.476	0.319	0.371	0.371	858.879	2.507
Rear Engine Riding Mowers	1990	G4 G4	R	6	15	22.909	915.938	8.6	0.359	0.371	0.371	858.879	2.705 2.507
Rear Engine Riding Mowers Rear Engine Riding Mowers	1990 2000	G4 G4	R C	16 6	25 15	21.231	912.759 670.814	8.476 6.649	0.319 0.034	0.371 0.37	0.371 0.37	858.879 858.879	1.128
Rear Engine Riding Mowers	2000	G4	C	16	25	18.437	666.497	5.668	0.034	0.37	0.37	858.879	1.007
Rear Engine Riding Mowers	2000	G4	R	6	15	20.645	670.814	6.649	0.034	0.37	0.37	858.879	1.128
Rear Engine Riding Mowers	2000	G4	R	16	25	18.437	666.497	5.668	0.03	0.37	0.37	858.879	1.007
Rear Engine Riding Mowers	2005	G4	С	6	15	13.656	554.614	7.702	0.024	0.37	0.37	858.879	0.766
Rear Engine Riding Mowers	2005	G4	С	16	25	13.498	576.678	6.968	0.021	0.37	0.37	858.879	0.758
Rear Engine Riding Mowers	2005	G4	R	6	15	13.656	554.614	7.702	0.024	0.37	0.37	858.879	0.766
Rear Engine Riding Mowers	2005	G4	R	16	25	13.498	576.678	6.968	0.021	0.37	0.37	858.879	0.758
Rear Engine Riding Mowers Rear Engine Riding Mowers	2010	G4 G4	C C	6 16	15 25	9.521 9.505	522.282 550.919	6.198 5.959	0.024 0.021	0.37 0.37	0.37 0.37	858.879 858.879	0.534 0.534
Rear Engine Riding Mowers	2010	G4 G4	R	6	15	9.505	522.282	6.198	0.021	0.37	0.37	858.879	0.534
Rear Engine Riding Mowers	2010	G4	R	16	25	9.505	550.919	5.959	0.024	0.37	0.37	858.879	0.534
Rear Engine Riding Mowers	2011	G4	С	6	15	9.168	519.756	6.099	0.024	0.37	0.37	858.879	0.515
Rear Engine Riding Mowers	2011	G4	С	16	25	9.185	549.03	5.885	0.021	0.37	0.37	858.879	0.516
Rear Engine Riding Mowers	2011	G4	R	6	15	9.168	519.756	6.099	0.024	0.37	0.37	858.879	0.515
Rear Engine Riding Mowers	2011	G4	R	16	25	9.185	549.03	5.885	0.021	0.37	0.37	858.879	0.516
Rear Engine Riding Mowers	2012	G4	С	6	15	8.85	517.872	5.992	0.024	0.37	0.37	858.879	0.497
Rear Engine Riding Mowers	2012	G4	С	16	25	8.887	547.664	5.805	0.021	0.37	0.37	858.879	0.499
Rear Engine Riding Mowers Rear Engine Riding Mowers	2012	G4 G4	R	6	15 25	8.85	517.872	5.992 5.805	0.024	0.37	0.37	858.879 858.870	0.497
Rear Engine Riding Mowers Rear Engine Riding Mowers	2012 2013	G4 G4	R C	16 6	25 15	8.887 8.562	547.664 516.231	5.805 5.892	0.021 0.024	0.37 0.37	0.37 0.37	858.879 858.879	0.499 0.481
Rear Engine Riding Mowers Rear Engine Riding Mowers	2013	G4 G4	С	16	15 25	8.562	516.231	5.892	0.024	0.37	0.37	858.879 858.879	0.481
Rear Engine Riding Mowers	2013	G4	R	6	15	8.562	516.231	5.892	0.021	0.37	0.37	858.879	0.484
Rear Engine Riding Mowers	2013	G4	R	16	25	8.612	546.488	5.732	0.021	0.37	0.37	858.879	0.484
Rear Engine Riding Mowers	2014	G4	C	6	15	8.303	514.847	5.793	0.024	0.37	0.37	858.879	0.466
Rear Engine Riding Mowers	2014	G4	С	16	25	8.36	545.483	5.66	0.021	0.37	0.37	858.879	0.469
Rear Engine Riding Mowers	2014	G4	R	6	15	8.303	514.847	5.793	0.024	0.37	0.37	858.879	0.466
Rear Engine Riding Mowers	2014	G4	R	16	25	8.36	545.483	5.66	0.021	0.37	0.37	858.879	0.469

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Rear Engine Riding Mowers	2015	G4	С	6	15	8.07	513.744	5.696	0.024	0.37	0.37	858.879	0.453
Rear Engine Riding Mowers	2015	G4	С	16	25	8.128	544.687	5.589	0.021	0.37	0.37	858.879	0.456
Rear Engine Riding Mowers	2015	G4	R	6	15	8.07	513.744	5.696	0.024	0.37	0.37	858.879	0.453
Rear Engine Riding Mowers	2015	G4	R	16	25	8.128	544.687	5.589	0.021	0.37	0.37	858.879	0.456
Rear Engine Riding Mowers	2016	G4	C	6	15	7.873	512.921	5.604	0.024	0.37	0.37	858.879	0.442
Rear Engine Riding Mowers	2016	G4 G4	С	16	25	7.924	544.091	5.523	0.021	0.37	0.37	858.879	0.445
Rear Engine Riding Mowers Rear Engine Riding Mowers	2016 2016	G4 G4	R R	6 16	15 25	7.873 7.924	512.921 544.091	5.604 5.523	0.024 0.021	0.37 0.37	0.37 0.37	858.879 858.879	0.442 0.445
Rear Engine Riding Mowers	2017	G4	C	6	15	7.773	512.361	5.568	0.024	0.37	0.37	858.88	0.437
Rear Engine Riding Mowers	2017	G4	С	16	25	7.826	543.681	5.499	0.021	0.37	0.37	858.879	0.44
Rear Engine Riding Mowers	2017	G4	R	6	15	7.773	512.361	5.568	0.024	0.37	0.37	858.88	0.437
Rear Engine Riding Mowers	2017	G4	R	16	25	7.826	543.681	5.499	0.021	0.37	0.37	858.879	0.44
Rear Engine Riding Mowers	2018	G4	С	6	15	7.704	511.993	5.54	0.024	0.37	0.37	858.879	0.433
Rear Engine Riding Mowers	2018	G4	<u>C</u>	16	25	7.756	543.404	5.48	0.021	0.37	0.37	858.879	0.436
Rear Engine Riding Mowers	2018	G4	R	6	15	7.704	511.993	5.54	0.024	0.37	0.37	858.879	0.433
Rear Engine Riding Mowers Rear Engine Riding Mowers	2018 2019	G4 G4	R C	16 6	25 15	7.756 7.66	543.404 511.821	5.48 5.514	0.021 0.024	0.37 0.37	0.37 0.37	858.879 858.879	0.436 0.43
Rear Engine Riding Mowers	2019	G4	C	16	25	7.707	543.26	5.463	0.024	0.37	0.37	858.88	0.433
Rear Engine Riding Mowers	2019	G4	R	6	15	7.66	511.821	5.514	0.024	0.37	0.37	858.879	0.43
Rear Engine Riding Mowers	2019	G4	R	16	25	7.707	543.26	5.463	0.021	0.37	0.37	858.88	0.433
Rear Engine Riding Mowers	2020	G4	С	6	15	7.631	511.749	5.492	0.024	0.37	0.37	858.879	0.429
Rear Engine Riding Mowers	2020	G4	С	16	25	7.672	543.183	5.446	0.021	0.37	0.37	858.879	0.431
Rear Engine Riding Mowers	2020	G4	R	6	15	7.631	511.749	5.492	0.024	0.37	0.37	858.879	0.429
Rear Engine Riding Mowers	2020	G4	R	16	25	7.672	543.183	5.446	0.021	0.37	0.37	858.879	0.431
Rear Engine Riding Mowers	2021	G4	C	6	15	7.604	511.699	5.471	0.024	0.37	0.37	858.88	0.427
Rear Engine Riding Mowers	2021	G4 G4	C R	16 6	25 15	7.641 7.604	543.131 511.699	5.43 5.471	0.021 0.024	0.37 0.37	0.37 0.37	858.879 858.88	0.429 0.427
Rear Engine Riding Mowers Rear Engine Riding Mowers	2021	G4 G4	R	16	25	7.641	543.131	5.43	0.024	0.37	0.37	858.879	0.427
Rear Engine Riding Mowers	2022	G4	C	6	15	7.589	511.628	5.459	0.024	0.37	0.37	858.88	0.426
Rear Engine Riding Mowers	2022	G4	C	16	25	7.622	543.055	5.422	0.021	0.37	0.37	858.879	0.428
Rear Engine Riding Mowers	2022	G4	R	6	15	7.589	511.628	5.459	0.024	0.37	0.37	858.88	0.426
Rear Engine Riding Mowers	2022	G4	R	16	25	7.622	543.055	5.422	0.021	0.37	0.37	858.879	0.428
Rear Engine Riding Mowers	2023	G4	С	6	15	7.579	511.555	5.452	0.024	0.37	0.37	858.879	0.426
Rear Engine Riding Mowers	2023	G4	С	16	25	7.609	542.977	5.417	0.021	0.37	0.37	858.879	0.428
Rear Engine Riding Mowers	2023	G4	R	6	15	7.579	511.555	5.452	0.024	0.37	0.37	858.879	0.426
Rear Engine Riding Mowers	2023 2024	G4 G4	R C	16 6	25 15	7.609 7.573	542.977 511.479	5.417 5.447	0.021 0.024	0.37 0.37	0.37 0.37	858.879 858.879	0.428 0.426
Rear Engine Riding Mowers Rear Engine Riding Mowers	2024	G4 G4	C	16	25	7.602	542.897	5.414	0.024	0.37	0.37	858.879	0.426
Rear Engine Riding Mowers	2024	G4	R	6	15	7.573	511.479	5.447	0.021	0.37	0.37	858.879	0.426
Rear Engine Riding Mowers	2024	G4	R	16	25	7.602	542.897	5.414	0.021	0.37	0.37	858.879	0.427
Rear Engine Riding Mowers	2025	G4	С	6	15	7.571	511.402	5.445	0.024	0.37	0.37	858.879	0.426
Rear Engine Riding Mowers	2025	G4	С	16	25	7.599	542.815	5.413	0.021	0.37	0.37	858.879	0.427
Rear Engine Riding Mowers	2025	G4	R	6	15	7.571	511.402	5.445	0.024	0.37	0.37	858.879	0.426
Rear Engine Riding Mowers	2025	G4	R	16	25	7.599	542.815	5.413	0.021	0.37	0.37	858.879	0.427
Rear Engine Riding Mowers	2030	G4	С	6	15	7.565	510.995	5.443	0.024	0.37	0.37	858.879	0.426
Rear Engine Riding Mowers	2030	G4 G4	C R	16 6	25 15	7.593	542.384	5.411	0.021 0.024	0.37	0.37 0.37	858.879	0.427 0.426
Rear Engine Riding Mowers Rear Engine Riding Mowers	2030 2030	G4 G4	R	16	25	7.565 7.593	510.995 542.384	5.443 5.411	0.024	0.37 0.37	0.37	858.879 858.879	0.426
Rear Engine Riding Mowers	2035	G4	C	6	15	7.56	510.58	5.441	0.021	0.37	0.37	858.879	0.426
Rear Engine Riding Mowers	2035	G4	C	16	25	7.588	541.943	5.409	0.021	0.37	0.37	858.879	0.427
Rear Engine Riding Mowers	2035	G4	R	6	15	7.56	510.58	5.441	0.024	0.37	0.37	858.879	0.426
Rear Engine Riding Mowers	2035	G4	R	16	25	7.588	541.943	5.409	0.021	0.37	0.37	858.879	0.427
Rear Engine Riding Mowers	2040	G4	С	6	15	7.554	510.128	5.438	0.024	0.37	0.37	858.879	0.425
Rear Engine Riding Mowers	2040	G4	С	16	25	7.582	541.463	5.406	0.021	0.37	0.37	858.879	0.427
Rear Engine Riding Mowers	2040	G4	R	6	15	7.554	510.128	5.438	0.024	0.37	0.37	858.879	0.425
Rear Engine Riding Mowers	2040	G4	R	16	25 15	7.582	541.463	5.406	0.021	0.37	0.37	858.879	0.427
Shredders Shredders	1990 1990	G2 G2	C R	6	15 15	383.517 383.517	971.999 971.999	0.625 0.625	0.518 0.518	7.199 7.199	7.199 7.199	858.879 858.879	32.707 32.707
Shredders	1990	G2 G4	C	3	5	73.086	1281.602	4.878	0.516	2.254	2.254	858.879	8.633
Shredders	1990	G4	R	3	5	73.086	1281.602	4.878	0.434	2.254	2.254	858.879	8.633
Shredders	2000	G2	C	6	15	140.016	646.117	4.113	0.049	7.199	7.199	858.879	8.474
Shredders	2000	G2	R	6	15	140.016	646.117	4.113	0.049	7.199	7.199	858.879	8.474
Shredders	2000	G4	С	3	5	42.745	785.17	5.669	0.041	5.16	5.16	858.879	2.336
Shredders	2000	G4	R	3	5	42.745	785.17	5.669	0.041	5.16	5.16	858.879	2.336
Shredders	2005	G2	С	6	15	87.504	541.643	5.415	0.035	7.199	7.199	858.879	5.438
Shredders Shredders	2005	G2	R	6	15	87.504	541.643	5.415	0.035	7.199	7.199	858.879	5.438
Shredders Shredders	2005	G4 G4	C	3	5	26.261	563.118 563.118	7.001	0.029	1.606	1.606	858.879 858.870	1.474
Shredders Shredders	2005 2010	G4 G2	R C	3 6	5 15	26.261 44.762	563.118 499.088	7.001 6.097	0.029 0.035	1.606 7.199	1.606 7.199	858.879 858.879	1.474 2.782
Shredders Shredders	2010	G2 G2	R	6	15	44.762	499.088 499.088	6.097	0.035	7.199 7.199	7.199 7.199	858.879 858.879	2.782
Shredders	2010	G4	C	3	5	21.525	509.857	7.252	0.039	1.289	1.289	858.879	1.209
Shredders	2010	G4	R	3	5	21.525	509.857	7.252	0.029	1.289	1.289	858.879	1.209
Shredders	2011	G2	С	6	15	36.618	490.701	6.226	0.035	7.199	7.199	858.879	2.275
Shredders	2011	G2	R	6	15	36.618	490.701	6.226	0.035	7.199	7.199	858.879	2.275
Shredders	2011	G4 G4	С	3	5	20.596	499.294	7.299	0.029	1.218	1.218	858.879	1.157
			R	3	5	20.596	499.294	7.299	0.029	1.218	1.218	858.879	1.157

Table 7.2 Landscape Equipment Running Emission Factors

Secretary 19-20 Co. Co	Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Service 1972 Get	Shredders	2012	G2	С	6	15	29.387	482.281	6.335	0.035	7.199	7.199	858.879	1.826
Beatlane	Shredders	2012	G2	R	6	15	29.387	482.281	6.335	0.035	7.199	7.199	858.879	1.826
Services	Shredders	2012	G4	С	3	5	19.754	488.364	7.34	0.029	1.143	1.143	858.879	1.11
Secretary Act								1						
Proceed					+			1						
Sembler								1						
Seather 9014								1	1	-				
Sections		+		_				1						
Secretary Color	Shredders	2014	G4	С	3	5	18.878	474.915	7.402	0.029	0.904	0.904	858.879	1.061
Source 1975 1972 R	Shredders	2014	G4	R	3	5	18.878	474.915	7.402	0.029	0.904	0.904	858.879	1.061
Southern	Shredders	2015			4	15	20.409	469.199	6.483	0.035	7.199	7.199	858.879	1.268
Secretary					+			1						
Description Description		+		_				1						
SPANSONN 2016														
Seminates					4			1						
Browleten														
Standarder		•						1						
Secretary 1977 G4		2017	G2	С	6	15	16.635	1	6.549	0.035	7.199	7.199	858.879	1.033
Semesters	Shredders	2017			6	15	16.635	462.285		0.035		7.199	858.879	1.033
Symptoms		+						1						
Semestern 2018		+			4									
Semedate 2018		+						1						
Semistrian 2018		+						1						
Sendering 2019 G2		+												ł
Sheethers 2019		+												
Seresteries								1						
Sweeters				С	3	5	17.638	452.882				0.473	858.879	
Semicological 2020	Shredders	2019	G4	R	3	5	17.638	452.882	7.502	0.029	0.473	0.473	858.879	0.992
Seredelins 2020	Shredders			С	6		12.601		6.618	0.035	7.199	7.199		
Spreadform 2020								1						
Streeders								1						
Stronderies 2021 G2		+						1						
Shredders		+			+			1						ł
Streeders 2021 G4		+						1					+	
Seredders 2022 G2		+						ł	+					
Shredders 2022 G4		2022	G2	С	6	15	10.763	453.447	6.649	0.035	7.199	7.199	858.879	0.668
Shredders	Shredders	2022	G2	R	6	15	10.763	453.447	6.649	0.035	7.199	7.199	858.879	0.668
Streedders	Shredders	+			4			1						
Spreadders 2023 G2					_									
Spreadders 2023					_			ł	+					
Shredders					1									
Shredders								1						
Shredders								1						
Shredders 2024 G4 R 3 5 17.084 444.654 7.537 0.029 0.36 0.36 858.879 0.961 Shredders 2025 G2 R 6 15 9.157 451.013 6.676 0.035 7.2 7.2 858.879 0.569 Shredders 2025 G2 R 6 15 9.157 451.013 6.676 0.035 7.2 7.2 858.879 0.569 Shredders 2025 G4 C 3 5 17.02 443.666 7.54 0.029 0.343 0.343 858.879 0.957 Shredders 2023 G2 C 6 6 15 8.653 449.536 6.866 0.035 7.199 7.199 858.879 0.537 Shredders 2030 G2 R 6 15 8.653 449.536 6.866 0.035 7.199 7.199 858.879 0.537 Shredders <td></td> <td>+</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		+						1						
Shredders	Shredders	2024	G4	С	3	5	17.084	444.654	7.537	0.029	0.36	0.36	858.879	0.961
Shredders 2025 G2 R 6 15 9.157 451.013 6.676 0.035 7.2 7.2 858.879 0.569 Shredders 2025 G4 C 3 5 17.02 443.666 7.54 0.029 0.343 0.343 858.879 0.957 Shredders 2030 G2 C 6 15 8.653 449.536 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2030 G2 R 6 15 8.653 449.536 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2030 G4 C 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.952 Shredders 2030 G4 R 3 5 16.911 441.143 7.547 0.029 0.287 0.858 Shredders 2035 G2 C <td>Shredders</td> <td></td> <td>G4</td> <td>R</td> <td>3</td> <td>5</td> <td>17.084</td> <td>444.654</td> <td>7.537</td> <td>0.029</td> <td></td> <td>0.36</td> <td>858.879</td> <td>0.961</td>	Shredders		G4	R	3	5	17.084	444.654	7.537	0.029		0.36	858.879	0.961
Shredders 2025 G4 C 3 5 17.02 443.666 7.54 0.029 0.343 0.343 858.879 0.957 Shredders 2025 G4 R 3 5 17.02 443.666 7.54 0.029 0.343 0.343 858.879 0.957 Shredders 2030 G2 C 6 15 8.653 449.536 6.886 0.035 7.199 7.199 858.879 0.537 Shredders 2030 G4 C 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.952 Shredders 2030 G4 R 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.952 Shredders 2035 G2 C 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders					_			1						
Shredders 2025 G4 R 3 5 17.02 443.666 7.54 0.029 0.343 0.343 858.879 0.957 Shredders 2030 G2 C 6 15 8.653 449.536 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2030 G4 C 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.557 Shredders 2030 G4 R 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.557 Shredders 2030 G4 R 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.537 Shredders 2035 G2 R 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders					+			1						
Shredders 2030 G2 C 6 15 8.653 449.536 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2030 G2 R 6 15 8.653 449.536 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2030 G4 C 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.952 Shredders 2030 G4 R 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.952 Shredders 2035 G2 C 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2035 G4 C 3 5 16.893 440.552 7.546 0.029 0.279 0.279 858.879 0.952 Shredders					4			ł						
Shredders 2030 G2 R 6 15 8.653 449.536 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2030 G4 C 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.952 Shredders 2030 G4 R 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.952 Shredders 2035 G2 R 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2035 G4 C 3 5 16.893 440.552 7.546 0.029 0.279 0.279 858.879 0.952 Shredders 2035 G4 R 3 5 16.893 440.552 7.546 0.029 0.279 0.279 858.879 0.952 Shredders								1						
Shredders 2030 G4 C 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.952 Shredders 2030 G4 R 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.952 Shredders 2035 G2 C 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2035 G2 R 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2035 G4 C 3 5 16.893 440.552 7.546 0.029 0.279 0.279 858.879 0.952 Shredders 2035 G4 R 3 5 16.893 440.552 7.546 0.029 0.279 0.279 858.879 0.952 Shredders								1						
Shredders 2030 G4 R 3 5 16.911 441.143 7.547 0.029 0.287 0.287 858.879 0.952 Shredders 2035 G2 C 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2035 G2 R 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2035 G4 C 3 5 16.893 440.552 7.546 0.029 0.279 0.279 858.879 0.952 Shredders 2035 G4 R R 3 5 16.893 440.552 7.546 0.029 0.279 0.279 858.879 0.952 Shredders 2040 G2 C 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537		+						ł						
Shredders 2035 G2 C 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2035 G2 R 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2035 G4 C 3 5 16.893 440.552 7.546 0.029 0.279 0.279 858.879 0.952 Shredders 2035 G4 R 3 5 16.893 440.552 7.546 0.029 0.279 0.279 858.879 0.952 Shredders 2040 G2 C 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2040 G2 R 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders		+			_			1						
Shredders 2035 G2 R 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2035 G4 C 3 5 16.893 440.552 7.546 0.029 0.279 0.279 858.879 0.952 Shredders 2035 G4 R 3 5 16.893 440.552 7.546 0.029 0.279 0.279 858.879 0.952 Shredders 2040 G2 C 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.952 Shredders 2040 G2 R 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2040 G4 C 3 5 16.881 440.169 7.543 0.029 0.279 0.279 858.879 0.952 Snowblowers		+			_			ł					+	ł
Shredders 2035 G4 R 3 5 16.893 440.552 7.546 0.029 0.279 0.279 858.879 0.952 Shredders 2040 G2 C 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2040 G2 R 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2040 G4 C 3 5 16.881 440.169 7.543 0.029 0.279 0.279 858.879 0.952 Shredders 2040 G4 R 3 5 16.881 440.169 7.543 0.029 0.279 0.279 858.879 0.952 Snowblowers 1990 G2 C 6 15 294.22 1043.999 1.937 0.518 7.239 7.239 858.879 25.092 Snowblowers <td>Shredders</td> <td>2035</td> <td></td> <td>R</td> <td>6</td> <td>15</td> <td>8.648</td> <td>449.319</td> <td>6.686</td> <td>0.035</td> <td>7.199</td> <td>7.199</td> <td>858.879</td> <td>0.537</td>	Shredders	2035		R	6	15	8.648	449.319	6.686	0.035	7.199	7.199	858.879	0.537
Shredders 2040 G2 C 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2040 G2 R 6 15 8.648 449.319 6.686 0.035 7.199 7.199 858.879 0.537 Shredders 2040 G4 C 3 5 16.881 440.169 7.543 0.029 0.279 0.279 858.879 0.952 Shredders 2040 G4 R 3 5 16.881 440.169 7.543 0.029 0.279 0.279 858.879 0.952 Shredders 2040 G4 R 3 5 16.881 440.169 7.543 0.029 0.279 0.279 858.879 0.952 Snowblowers 1990 G2 C 6 15 294.22 1043.999 1.937 0.518 7.199 7.199 858.879 32.707 Snowblowers <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>														
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Snowblowers 1990 G2 C 6 15 294.22 1043.999 1.937 0.518 7.239 7.239 858.879 25.092 Snowblowers 1990 G2 C 16 25 383.517 971.999 0.661 0.518 7.199 7.199 858.879 32.707 Snowblowers 1990 G2 R 6 15 294.22 1043.999 1.937 0.518 7.239 7.239 858.879 32.707 Snowblowers 1990 G2 R 16 25 383.517 971.999 0.661 0.518 7.199 7.199 858.879 25.092 Snowblowers 1990 G4 C 3 5 63.466 1319.693 5.335 0.434 1.646 1.646 858.879 6.925 Snowblowers 1990 G4 C 6 15 17.288 998.584 8.833 0.359 0.292 0.292 858.879 1.858														
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Snowblowers 1990 G4 C 16 25 17.033 998.089 8.814 0.319 0.292 0.292 858.879 1.858	Snowblowers	1990			3		63.466	1319.693	5.335	0.434	1.646	1.646	858.879	6.925
	Snowblowers	+			4		17.288	1					858.879	1.886
Snowblowers 1990 G4 R 3 5 63.466 1319.693 5.335 0.434 1.646 1.646 858.879 6.925								1						

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Snowblowers	1990	G4	R	6	15	17.288	998.584	8.833	0.359	0.292	0.292	858.879	1.886
Snowblowers	1990	G4	R	16	25	17.033	998.089	8.814	0.319	0.292	0.292	858.879	1.858
Snowblowers	2000	G2	С	6	15	166.997	509.415	3.015	0.051	4.285	4.285	858.879	10.107
Snowblowers	2000	G2	С	16	25	183.257	440.038	2.719	0.051	4.275	4.275	858.879	11.092
Snowblowers	2000	G2	R	6	15	166.997	509.415	3.015	0.051	4.285	4.285	858.879	10.107
Snowblowers	2000	G2	R	16	25	183.257	440.038	2.719	0.051	4.275	4.275	858.879	11.092
Snowblowers Snowblowers	2000	G4 G4	C C	3 6	5 15	31.589 13.541	850.441 715.233	5.693 7.256	0.043 0.035	1.639 0.292	1.639 0.292	858.879 858.88	1.597 0.684
Snowblowers	2000	G4	C	16	25	13.002	713.233	6.298	0.033	0.292	0.292	858.879	0.657
Snowblowers	2000	G4	R	3	5	31.589	850.441	5.693	0.043	1.639	1.639	858.879	1.597
Snowblowers	2000	G4	R	6	15	13.541	715.233	7.256	0.035	0.292	0.292	858.88	0.684
Snowblowers	2000	G4	R	16	25	13.002	730.145	6.298	0.031	0.292	0.292	858.879	0.657
Snowblowers	2005	G2	С	6	15	120.913	437.03	2.781	0.035	2.897	2.897	858.879	7.515
Snowblowers	2005	G2	С	16	25	127.158	389.652	2.603	0.035	2.89	2.89	858.879	7.903
Snowblowers	2005	G2	R	6	15	120.913	437.03	2.781	0.035	2.897	2.897	858.879	7.515
Snowblowers	2005	G2	R	16	25	127.158	389.652	2.603	0.035	2.89	2.89	858.879	7.903
Snowblowers	2005	G4	C	3	5	23.699	681.336	6.453	0.029	1.645	1.645	858.879	1.231
Snowblowers	2005	G4	С	6	15	11.29	624.579	7.317	0.024	0.292	0.292	858.879	0.587
Snowblowers Snowblowers	2005	G4 G4	C R	16 3	25 5	11.494	650.913	6.689	0.021	0.292	0.292	858.879 858.870	0.597
Snowblowers Snowblowers	2005 2005	G4 G4	R	6	15	23.699 11.29	681.336 624.579	6.453 7.317	0.029 0.024	1.645 0.292	1.645 0.292	858.879 858.879	1.231 0.587
Snowblowers	2005	G4	R	16	25	11.494	650.913	6.689	0.024	0.292	0.292	858.879	0.597
Snowblowers	2010	G2	C	6	15	87.804	375.893	2.851	0.021	1.934	1.934	858.879	5.457
Snowblowers	2010	G2	C	16	25	89.649	344.324	2.79	0.035	1.932	1.932	858.879	5.572
Snowblowers	2010	G2	R	6	15	87.804	375.893	2.851	0.035	1.934	1.934	858.879	5.457
Snowblowers	2010	G2	R	16	25	89.649	344.324	2.79	0.035	1.932	1.932	858.879	5.572
Snowblowers	2010	G4	С	3	5	15.722	625.42	3.815	0.029	1.647	1.647	858.879	0.818
Snowblowers	2010	G4	С	6	15	8.524	596.884	5.71	0.024	0.292	0.292	858.879	0.443
Snowblowers	2010	G4	С	16	25	8.65	627.18	5.206	0.021	0.292	0.292	858.879	0.45
Snowblowers	2010	G4	R	3	5	15.722	625.42	3.815	0.029	1.647	1.647	858.879	0.818
Snowblowers	2010	G4	R	6	15	8.524	596.884	5.71	0.024	0.292	0.292	858.879	0.443
Snowblowers	2010	G4	R	16	25	8.65	627.18	5.206	0.021	0.292	0.292	858.879	0.45
Snowblowers Snowblowers	2011	G2 G2	C C	6 16	15 25	81.769 83.443	367.186 339.783	2.88 2.832	0.035 0.035	1.73 1.728	1.73 1.728	858.879 858.879	5.082 5.186
Snowblowers	2011	G2 G2	R	6	15	81.769	367.186	2.88	0.035	1.726	1.73	858.879	5.082
Snowblowers	2011	G2	R	16	25	83.443	339.783	2.832	0.035	1.73	1.728	858.879	5.186
Snowblowers	2011	G4	C	3	5	14.985	618.315	3.717	0.029	1.647	1.647	858.879	0.78
Snowblowers	2011	G4	С	6	15	8.316	593.895	5.631	0.024	0.292	0.292	858.88	0.433
Snowblowers	2011	G4	С	16	25	8.459	624.839	5.138	0.021	0.292	0.292	858.879	0.44
Snowblowers	2011	G4	R	3	5	14.985	618.315	3.717	0.029	1.647	1.647	858.879	0.78
Snowblowers	2011	G4	R	6	15	8.316	593.895	5.631	0.024	0.292	0.292	858.88	0.433
Snowblowers	2011	G4	R	16	25	8.459	624.839	5.138	0.021	0.292	0.292	858.879	0.44
Snowblowers	2012	G2	С	6	15	76.002	359.672	2.906	0.035	1.532	1.532	858.879	4.723
Snowblowers	2012	G2	С	16	25	77.837	336.967	2.865	0.035	1.531	1.531	858.88	4.837
Snowblowers	2012	G2	R	6	15	76.002	359.672	2.906	0.035	1.532	1.532	858.879	4.723
Snowblowers	2012 2012	G2 G4	R C	16 3	25 5	77.837 14.444	336.967 611.581	2.865 3.618	0.035 0.029	1.531 1.647	1.531 1.647	858.88 858.879	4.837 0.752
Snowblowers Snowblowers	2012	G4 G4	C	6	15	8.128	590.571	5.557	0.029	0.292	0.292	858.879	0.752
Snowblowers	2012	G4 G4	C	16	25	8.29	622.001	5.081	0.024	0.292	0.292	858.879	0.423
Snowblowers	2012	G4	R	3	5	14.444	611.581	3.618	0.021	1.647	1.647	858.879	0.752
Snowblowers	2012	G4	R	6	15	8.128	590.571	5.557	0.024	0.292	0.292	858.879	0.423
Snowblowers	2012	G4	R	16	25	8.29	622.001	5.081	0.021	0.292	0.292	858.879	0.431
Snowblowers	2013	G2	С	6	15	70.36	352.374	2.931	0.035	1.341	1.341	858.879	4.373
Snowblowers	2013	G2	С	16	25	72.339	334.375	2.895	0.035	1.34	1.34	858.879	4.496
Snowblowers	2013	G2	R	6	15	70.36	352.374	2.931	0.035	1.341	1.341	858.879	4.373
Snowblowers	2013	G2	R	16	25	72.339	334.375	2.895	0.035	1.34	1.34	858.879	4.496
Snowblowers	2013	G4	С	3	5 15	13.944	604.538	3.519	0.029	1.647	1.647	858.879	0.726
Snowblowers Snowblowers	2013	G4 G4	С	6	15 25	7.943	586.794	5.483	0.024	0.292	0.292	858.879 858.870	0.413
Snowblowers Snowblowers	2013 2013	G4 G4	C R	16 3	25 5	8.124 13.944	618.655 604.538	5.026 3.519	0.021 0.029	0.292 1.647	0.292 1.647	858.879 858.879	0.423 0.726
Snowblowers	2013	G4 G4	R	6	15	7.943	586.794	5.483	0.029	0.292	0.292	858.879	0.726
Snowblowers	2013	G4	R	16	25	8.124	618.655	5.026	0.024	0.292	0.292	858.879	0.413
Snowblowers	2014	G2	C	6	15	65.026	345.508	2.952	0.035	1.16	1.16	858.879	4.041
Snowblowers	2014	G2	C	16	25	67.062	331.911	2.922	0.035	1.159	1.159	858.879	4.168
Snowblowers	2014	G2	R	6	15	65.026	345.508	2.952	0.035	1.16	1.16	858.879	4.041
Snowblowers	2014	G2	R	16	25	67.062	331.911	2.922	0.035	1.159	1.159	858.879	4.168
Snowblowers	2014	G4	С	3	5	13.463	597.617	3.42	0.029	1.647	1.647	858.879	0.701
Snowblowers	2014	G4	С	6	15	7.759	583.06	5.411	0.024	0.292	0.292	858.879	0.404
Snowblowers	2014	G4	С	16	25	7.959	615.34	4.972	0.021	0.292	0.292	858.879	0.414
Snowblowers	2014	G4	R	3	5	13.463	597.617	3.42	0.029	1.647	1.647	858.879	0.701
Snowblowers	2014	G4	R	6	15	7.759	583.06	5.411	0.024	0.292	0.292	858.879	0.404
Snowblowers	2014	G4	R	16	25	7.959	615.34	4.972	0.021	0.292	0.292	858.879	0.414
Snowblowers	2015	G2	С	6	15	60.176	339.189	2.969	0.035	0.997	0.997	858.879	3.74
Snowblowers Snowblowers	2015 2015	G2 G2	C	16 6	25 15	62.152	329.468	2.944	0.035	0.996	0.996	858.879 858.870	3.863
	////	ı G2	R	0	15	60.176	339.189	2.969	0.035	0.997	0.997	858.879	3.74

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Snowblowers	2015	G4	C	3	5	12.989	590.776	3.324	0.029	1.647	1.647	858.879	0.676
Snowblowers	2015	G4	С	6	15	7.579	579.355	5.341	0.024	0.292	0.292	858.879	0.395
Snowblowers	2015	G4	С	16	25	7.797	612.045	4.92	0.021	0.292	0.292	858.879	0.406
Snowblowers	2015	G4	R	3	5	12.989	590.776	3.324	0.029	1.647	1.647	858.879	0.676
Snowblowers	2015	G4	R	6	15	7.579	579.355	5.341	0.024	0.292	0.292	858.879	0.395
Snowblowers	2015	G4	R	16	25	7.797	612.045	4.92	0.021	0.292	0.292	858.879	0.406
Snowblowers	2016	G2	С	6	15	57.315	335.352	2.964	0.035	0.906	0.906	858.879	3.562
Snowblowers	2016	G2 G2	С	16	25	59.144	327.612	2.943 2.964	0.035	0.905	0.905	858.879	3.676
Snowblowers Snowblowers	2016	G2 G2	R R	6 16	15 25	57.315 59.144	335.352 327.612	2.964	0.035 0.035	0.906 0.905	0.906 0.905	858.879 858.879	3.562 3.676
Snowblowers	2016	G4	C	3	5	12.555	584.605	3.23	0.033	1.647	1.647	858.879	0.654
Snowblowers	2016	G4	C	6	15	7.408	576.051	5.274	0.024	0.292	0.292	858.879	0.386
Snowblowers	2016	G4	С	16	25	7.644	609.121	4.871	0.021	0.292	0.292	858.879	0.398
Snowblowers	2016	G4	R	3	5	12.555	584.605	3.23	0.029	1.647	1.647	858.879	0.654
Snowblowers	2016	G4	R	6	15	7.408	576.051	5.274	0.024	0.292	0.292	858.879	0.386
Snowblowers	2016	G4	R	16	25	7.644	609.121	4.871	0.021	0.292	0.292	858.879	0.398
Snowblowers	2017	G2	С	6	15	55.381	332.569	2.953	0.035	0.847	0.847	858.879	3.442
Snowblowers	2017	G2	С	16	25	57.035	325.993	2.936	0.035	0.847	0.847	858.879	3.545
Snowblowers	2017	G2	R	6	15	55.381	332.569	2.953	0.035	0.847	0.847	858.879	3.442
Snowblowers Snowblowers	2017	G2 G4	R C	16 3	25 5	57.035 12.174	325.993 579.337	2.936 3.144	0.035 0.029	0.847 1.647	0.847 1.647	858.879 858.879	3.545 0.634
Snowblowers Snowblowers	2017	G4 G4	C	6	5 15	7.258	579.337	5.213	0.029	0.292	0.292	858.879 858.879	0.634
Snowblowers	2017	G4 G4	C	16	25	7.509	606.665	4.824	0.024	0.292	0.292	858.879	0.376
Snowblowers	2017	G4	R	3	5	12.174	579.337	3.144	0.021	1.647	1.647	858.879	0.634
Snowblowers	2017	G4	R	6	15	7.258	573.275	5.213	0.024	0.292	0.292	858.879	0.378
Snowblowers	2017	G4	R	16	25	7.509	606.665	4.824	0.021	0.292	0.292	858.879	0.391
Snowblowers	2018	G2	С	6	15	53.698	330.087	2.941	0.035	0.796	0.796	858.879	3.337
Snowblowers	2018	G2	С	16	25	55.166	324.485	2.928	0.035	0.796	0.796	858.879	3.428
Snowblowers	2018	G2	R	6	15	53.698	330.087	2.941	0.035	0.796	0.796	858.879	3.337
Snowblowers	2018	G2	R	16	25	55.166	324.485	2.928	0.035	0.796	0.796	858.879	3.428
Snowblowers	2018	G4	С	3	5	11.857	575.798	3.058	0.029	1.647	1.647	858.879	0.618
Snowblowers	2018	G4	C	6	15	7.134	571.462	5.154	0.024	0.292	0.292	858.879	0.372
Snowblowers	2018	G4	С	16	25	7.391	605.064	4.774	0.021	0.292	0.292	858.879	0.385
Snowblowers	2018	G4 G4	R	3	5 15	11.857	575.798	3.058 5.154	0.029	1.647	1.647	858.879	0.618 0.372
Snowblowers Snowblowers	2018	G4 G4	R R	6 16	25	7.134	571.462 605.064	4.774	0.024 0.021	0.292 0.292	0.292 0.292	858.879 858.879	0.372
Snowblowers	2019	G2	C	6	15	52.176	327.869	2.93	0.021	0.75	0.75	858.879	3.242
Snowblowers	2019	G2	C	16	25	53.46	323.141	2.92	0.035	0.75	0.75	858.879	3.322
Snowblowers	2019	G2	R	6	15	52.176	327.869	2.93	0.035	0.75	0.75	858.879	3.242
Snowblowers	2019	G2	R	16	25	53.46	323.141	2.92	0.035	0.75	0.75	858.879	3.322
Snowblowers	2019	G4	С	3	5	11.577	573.112	2.971	0.029	1.648	1.648	858.879	0.604
Snowblowers	2019	G4	С	6	15	7.023	570.119	5.096	0.024	0.292	0.292	858.879	0.366
Snowblowers	2019	G4	С	16	25	7.282	603.882	4.723	0.021	0.292	0.292	858.879	0.38
Snowblowers	2019	G4	R	3	5	11.577	573.112	2.971	0.029	1.648	1.648	858.879	0.604
Snowblowers	2019	G4	R	6	15	7.023	570.119	5.096	0.024	0.292	0.292	858.879	0.366
Snowblowers	2019	G4	R	16	25	7.282	603.882	4.723	0.021	0.292	0.292	858.879	0.38
Snowblowers Snowblowers	2020	G2 G2	C	6 16	15 25	50.759 51.862	325.86 321.96	2.921 2.913	0.035 0.035	0.706 0.706	0.706 0.706	858.879 858.879	3.154 3.223
Snowblowers	2020	G2	R	6	15	50.759	325.86	2.913	0.035	0.706	0.706	858.879	3.154
Snowblowers	2020	G2	R	16	25	51.862	321.96	2.913	0.035	0.706	0.706	858.879	3.223
Snowblowers	2020	G4	C	3	5	11.32	570.763	2.884	0.029	1.648	1.648	858.879	0.59
Snowblowers	2020	G4	C	6	15	6.917	568.949	5.038	0.024	0.292	0.292	858.879	0.361
Snowblowers	2020	G4	С	16	25	7.178	602.855	4.673	0.021	0.292	0.292	858.879	0.374
Snowblowers	2020	G4	R	3	5	11.32	570.763	2.884	0.029	1.648	1.648	858.879	0.59
Snowblowers	2020	G4	R	6	15	6.917	568.949	5.038	0.024	0.292	0.292	858.879	0.361
Snowblowers	2020	G4	R	16	25	7.178	602.855	4.673	0.021	0.292	0.292	858.879	0.374
Snowblowers	2021	G2	C	6	15	49.269	323.908	2.918	0.035	0.663	0.663	858.879	3.062
Snowblowers	2021	G2	С	16	25 15	50.166	320.811	2.913	0.035	0.663	0.663	858.879	3.118
Snowblowers Snowblowers	2021	G2 G2	R R	6 16	15 25	49.269 50.166	323.908 320.811	2.918 2.913	0.035 0.035	0.663 0.663	0.663 0.663	858.879 858.879	3.062 3.118
Snowblowers	2021	G2 G4	C	3	5	11.036	568.463	2.913	0.035	1.647	1.647	858.879	0.576
Snowblowers	2021	G4	C	6	15	6.794	567.544	4.97	0.029	0.292	0.292	858.879	0.376
Snowblowers	2021	G4	C	16	25	7.056	601.586	4.613	0.021	0.292	0.292	858.88	0.368
Snowblowers	2021	G4	R	3	5	11.036	568.463	2.784	0.029	1.647	1.647	858.879	0.576
Snowblowers	2021	G4	R	6	15	6.794	567.544	4.97	0.024	0.292	0.292	858.879	0.354
Snowblowers	2021	G4	R	16	25	7.056	601.586	4.613	0.021	0.292	0.292	858.88	0.368
Snowblowers	2022	G2	С	6	15	48.322	322.483	2.918	0.035	0.629	0.629	858.879	3.003
Snowblowers	2022	G2	С	16	25	49.065	320.014	2.915	0.035	0.629	0.629	858.879	3.049
Snowblowers	2022	G2	R	6	15	48.322	322.483	2.918	0.035	0.629	0.629	858.879	3.003
Snowblowers	2022	G2	R	16	25	49.065	320.014	2.915	0.035	0.629	0.629	858.879	3.049
Snowblowers	2022	G4	С	3	5	10.839	566.566	2.708	0.029	1.647	1.647	858.879	0.566
Snowblowers	2022	G4	C	6	15	6.7	566.599	4.917	0.024	0.292	0.292	858.879	0.349
Snowblowers Snowblowers	2022	G4	C	16	25 5	6.963	600.747	4.567	0.021	0.292	0.292	858.88	0.363
Snowblowers	2022	G4	R	3 6	5 15	10.839 6.7	566.566 566.599	2.708 4.917	0.029 0.024	1.647 0.292	1.647 0.292	858.879 858.879	0.566 0.349
Snowblowers	2022	G4	R	<u>^</u>									

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Snowblowers	2023	G2	C	6	15	47.429	321.202	2.919	0.035	0.599	0.599	858.879	2.947
Snowblowers	2023	G2	С	16	25	48.018	319.301	2.917	0.035	0.599	0.599	858.879	2.984
Snowblowers	2023	G2	R	6	15	47.429	321.202	2.919	0.035	0.599	0.599	858.879	2.947
Snowblowers	2023	G2	R	16	25	48.018	319.301	2.917	0.035	0.599	0.599	858.879	2.984
Snowblowers	2023	G4	С	3	5	10.691	564.937	2.664	0.029	1.647	1.647	858.879	0.558
Snowblowers	2023	G4	С	6	15	6.613	565.723	4.868	0.024	0.292	0.292	858.879	0.345
Snowblowers	2023	G4	С	16	25	6.877	599.961	4.524	0.021	0.292	0.292	858.879	0.359
Snowblowers	2023	G4	R	3	5	10.691	564.937	2.664	0.029	1.647	1.647	858.879	0.558
Snowblowers	2023	G4	R	6	15	6.613	565.723	4.868	0.024	0.292	0.292	858.879	0.345
Snowblowers	2023	G4	R	16	25	6.877	599.961	4.524	0.021	0.292	0.292	858.879	0.359
Snowblowers	2024	G2	С	6	15	46.67	320.149	2.92	0.035	0.573	0.573	858.879	2.9
Snowblowers	2024	G2	С	16	25	47.12	318.737	2.919	0.035	0.573	0.573	858.879	2.928
Snowblowers	2024	G2	R	6	15	46.67	320.149	2.92	0.035	0.573	0.573	858.879	2.9
Snowblowers	2024	G2	R	16	25	47.12	318.737	2.919	0.035	0.573	0.573	858.879	2.928
Snowblowers	2024	G4	С	3	5	10.578	563.519	2.635	0.029	1.647	1.647	858.879	0.552
Snowblowers	2024	G4	С	6	15	6.556	564.959	4.839	0.024	0.292	0.292	858.879	0.342
Snowblowers	2024	G4	С	16	25	6.822	599.274	4.5	0.021	0.292	0.292	858.879	0.356
Snowblowers	2024	G4	R	3	5	10.578	563.519	2.635	0.029	1.647	1.647	858.879	0.552
Snowblowers	2024	G4	R	6	15	6.556	564.959	4.839	0.024	0.292	0.292	858.879	0.342
Snowblowers	2024	G4	R	16	25	6.822	599.274	4.5	0.021	0.292	0.292	858.879	0.356
Snowblowers	2025	G2	C	6	15	46.053	319.364	2.919	0.035	0.552	0.552	858.879	2.862
Snowblowers	2025	G2	С	16	25	46.385	318.356	2.919	0.035	0.552	0.552	858.879	2.883
Snowblowers	2025	G2	R	6	15	46.053	319.364	2.919	0.035	0.552	0.552	858.879	2.862
Snowblowers	2025	G2	R	16	25	46.385	318.356	2.919	0.035	0.552	0.552	858.879	2.883
Snowblowers	2025	G4	С	3	5 15	10.49	562.347	2.61	0.029	1.647	1.647	858.879	0.548
Snowblowers	2025	G4	C	6	15	6.514	564.306	4.82	0.024 0.021	0.292	0.292 0.292	858.879 858.879	0.34
Snowblowers	2025	G4 G4	С	16 3	25 5		598.683 562.347	4.485 2.61	0.021	0.292	1.647	858.879 858.879	0.354
Snowblowers Snowblowers	2025 2025	G4 G4	R R	6	15	10.49 6.514	564.306	4.82	0.029	1.647 0.292	0.292	858.879	0.548 0.34
Snowblowers	2025	G4 G4	R	16	25	6.782	598.683	4.485	0.024	0.292	0.292	858.879	0.354
Snowblowers	2025	G2	C	6	15	44.544	317.797	2.911	0.021	0.292	0.292	858.879	2.768
Snowblowers	2030	G2	C	16	25	44.555	317.797	2.911	0.035	0.501	0.501	858.879	2.769
Snowblowers	2030	G2	R	6	15	44.544	317.773	2.911	0.035	0.501	0.501	858.879	2.768
Snowblowers	2030	G2	R	16	25	44.555	317.775	2.911	0.035	0.501	0.501	858.879	2.769
Snowblowers	2030	G4	C	3	5	10.268	559.045	2.518	0.029	1.647	1.647	858.879	0.537
Snowblowers	2030	G4	C	6	15	6.384	562.117	4.754	0.024	0.292	0.292	858.879	0.334
Snowblowers	2030	G4	С	16	25	6.658	596.614	4.433	0.021	0.292	0.292	858.879	0.348
Snowblowers	2030	G4	R	3	5	10.268	559.045	2.518	0.029	1.647	1.647	858.879	0.537
Snowblowers	2030	G4	R	6	15	6.384	562.117	4.754	0.024	0.292	0.292	858.879	0.334
Snowblowers	2030	G4	R	16	25	6.658	596.614	4.433	0.021	0.292	0.292	858.879	0.348
Snowblowers	2035	G2	С	6	15	44.492	317.759	2.904	0.035	0.499	0.499	858.879	2.765
Snowblowers	2035	G2	С	16	25	44.492	317.759	2.904	0.035	0.499	0.499	858.879	2.765
Snowblowers	2035	G2	R	6	15	44.492	317.759	2.904	0.035	0.499	0.499	858.879	2.765
Snowblowers	2035	G2	R	16	25	44.492	317.759	2.904	0.035	0.499	0.499	858.879	2.765
Snowblowers	2035	G4	С	3	5	10.203	557.747	2.478	0.029	1.647	1.647	858.88	0.534
Snowblowers	2035	G4	С	6	15	6.334	561.031	4.721	0.024	0.292	0.292	858.879	0.331
Snowblowers	2035	G4	С	16	25	6.607	595.493	4.404	0.021	0.292	0.292	858.879	0.346
Snowblowers	2035	G4	R	3	5	10.203	557.747	2.478	0.029	1.647	1.647	858.88	0.534
Snowblowers	2035	G4	R	6	15	6.334	561.031	4.721	0.024	0.292	0.292	858.879	0.331
Snowblowers	2035	G4	R	16	25	6.607	595.493	4.404	0.021	0.292	0.292	858.879	0.346
Snowblowers	2040	G2	С	6	15	44.458	317.759	2.902	0.035	0.499	0.499	858.879	2.763
Snowblowers	2040	G2	С	16	25	44.458	317.759	2.902	0.035	0.499	0.499	858.879	2.763
Snowblowers	2040	G2	R	6	15	44.458	317.759	2.902	0.035	0.499	0.499	858.879	2.763
Snowblowers	2040	G2	R	16	25	44.458	317.759	2.902	0.035	0.499	0.499	858.879	2.763
Snowblowers	2040	G4	С	3	5	10.181	556.898	2.469	0.029	1.647	1.647	858.879	0.534
Snowblowers	2040	G4	C	6	15	6.318	560.117	4.709	0.024	0.292	0.292	858.879	0.331
Snowblowers	2040	G4	С	16	25	6.589	594.522	4.393	0.021	0.292	0.292	858.879	0.345
Snowblowers	2040	G4	R	3	5	10.181	556.898	2.469	0.029	1.647	1.647	858.879	0.534
Snowblowers	2040	G4	R	6	15	6.318	560.117	4.709	0.024	0.292	0.292	858.879	0.331
Snowblowers	2040	G4	R	16	25	6.589	594.522	4.393	0.021	0.292	0.292	858.879	0.345
Tillers	1990	G4	С	3	5	78.112	1313.172	4.892	0.434	2.184	2.184	858.879 859.870	9.227
Tillers	1990	G4	R	3	5	78.112	1313.172	4.892 5.611	0.434	2.184	2.184	858.879 859.870	9.227
Tillers	2000	G4 G4	C	3	5	44.791	796.46	5.611	0.041	2.193	2.193	858.879 858.870	2.448
Tillers	2000	G4 G4	R C		5 5	44.791 30.033	796.46 576.602	5.611 6.868	0.041	2.193	2.193	858.879 858.879	2.448
Tillers	2005			3	5	30.033	576.602 576.602	6.868 6.868	0.029	2.205	2.205	858.879 858.879	1.686
Tillers	2005	G4	R			30.033	576.602	6.868	0.029	2.205	2.205	858.879 858.870	1.686
Tillers Tillers	2010	G4 G4	C	3	5	19.82	476.644	4.825	0.029	2.202	2.202	858.879 858.870	1.113
	2010	G4 G4	R C	3	5	19.82	476.644	4.825	0.029	2.202	2.202	858.879 858.870	1.113
Tillers Tillers	2011	G4 G4	R	3	5 5	18.665 18.665	464.23 464.23	4.587 4.587	0.029	2.201	2.201	858.879 858.879	1.048 1.048
Tillers	2011	G4 G4	C R	3	5	18.665	464.23 452.097	4.587 4.413	0.029	2.201	2.201	858.879 858.879	0.988
					5								
Tillers Tillers	2012	G4 G4	R C	3	5	17.59 16.614	452.097 440.935	4.413 4.284	0.029 0.029	2.201	2.201 2.202	858.879 858.879	0.988
1111019		G4 G4	R	3	5	16.614	440.935 440.935	4.284	0.029	2.202	2.202	858.879 858.879	0.933
Tillare													
Tillers Tillers	2013	G4 G4	C	3	5	16.012	434.739	4.16	0.029	2.203	2.202	858.879	0.899

Table 7.2 Landscape Equipment Running Emission Factors

Tillers 2015 G4 R Tillers 2016 G4 C Tillers 2016 G4 R Tillers 2017 G4 R Tillers 2018 G4 C Tillers 2018 G4 R Tillers 2019 G4 R Tillers 2019 G4 R Tillers 2020 G4 R Tillers 2020 G4 R Tillers 2020 G4 R Tillers 2021 G4 C Tillers 2021 G4 R Tillers 2021 G4 R Tillers 2022 G4 R Tillers 2022 G4 R Tillers 2023 G4 R Tillers 2023 G4 R Tillers 2024 G4 R Tillers 202	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	15.546 15.546 15.127 15.127 14.77 14.77 14.48 14.48 14.288 14.146 14.146 14.021 14.021 13.948 13.948 13.897 13.867 13.867 13.844	430.244 430.244 426.462 426.462 423.384 421.308 421.308 419.526 419.526 417.94 417.224 416.23 416.23 415.541 415.541 415.111 415.049	4.042 4.042 3.92 3.802 3.802 3.679 3.625 3.625 3.592 3.592 3.555 3.555 3.529 3.555 3.529 3.507 3.487	0.029 0.029	2.203 2.203 2.203 2.203 2.203 2.203 2.203 2.202 2.202 2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201	2.203 2.203 2.203 2.203 2.203 2.203 2.203 2.202 2.202 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201	858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879	0.873 0.873 0.873 0.85 0.85 0.83 0.814 0.814 0.803 0.795 0.795 0.788 0.788 0.784 0.784 0.781
Tillers 2016 G4 C Tillers 2017 G4 C Tillers 2017 G4 R Tillers 2018 G4 C Tillers 2018 G4 R Tillers 2019 G4 C Tillers 2019 G4 R Tillers 2020 G4 R Tillers 2020 G4 R Tillers 2021 G4 C Tillers 2021 G4 R Tillers 2022 G4 R Tillers 2022 G4 R Tillers 2022 G4 R Tillers 2023 G4 R Tillers 2023 G4 R Tillers 2024 G4 R Tillers 2024 G4 R Tillers 2024 G4 R Tillers 202	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	15.127 15.127 14.77 14.77 14.48 14.48 14.288 14.146 14.146 14.021 14.021 13.948 13.948 13.897 13.897 13.867 13.867	426.462 426.462 423.384 423.384 421.308 421.308 419.526 419.526 417.94 417.224 417.224 416.23 416.23 415.541 415.111	3.92 3.92 3.802 3.679 3.679 3.625 3.625 3.592 3.592 3.555 3.555 3.529 3.529 3.507 3.507	0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029	2.203 2.203 2.203 2.202 2.202 2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.201 2.201	2.203 2.203 2.203 2.202 2.202 2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.201 2.201	858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879	0.85 0.85 0.83 0.814 0.814 0.803 0.795 0.795 0.788 0.788 0.784 0.784
Tillers 2016 G4 R Tillers 2017 G4 C Tillers 2018 G4 R Tillers 2018 G4 R Tillers 2019 G4 C Tillers 2019 G4 R Tillers 2020 G4 R Tillers 2020 G4 R Tillers 2020 G4 R Tillers 2021 G4 R Tillers 2021 G4 R Tillers 2022 G4 R Tillers 2022 G4 R Tillers 2023 G4 R Tillers 2023 G4 R Tillers 2024 G4 R Tillers 2024 G4 R Tillers 2024 G4 R Tillers 2025 G4 R Tillers 202	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	15.127 14.77 14.77 14.48 14.288 14.288 14.146 14.021 14.021 13.948 13.948 13.897 13.867 13.867 13.844	426.462 423.384 421.308 421.308 421.308 419.526 419.526 417.94 417.94 417.224 416.23 416.23 415.541 415.111	3.92 3.802 3.679 3.679 3.625 3.625 3.592 3.592 3.555 3.555 3.555 3.529 3.529 3.507 3.507	0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029	2.203 2.203 2.202 2.202 2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.201 2.201	2.203 2.203 2.202 2.202 2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.201 2.201	858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879	0.85 0.83 0.814 0.814 0.803 0.803 0.795 0.795 0.788 0.788 0.784 0.784
Tillers 2017 G4 C Tillers 2018 G4 R Tillers 2018 G4 C Tillers 2018 G4 R Tillers 2019 G4 C Tillers 2019 G4 R Tillers 2020 G4 R Tillers 2020 G4 R Tillers 2020 G4 R Tillers 2021 G4 C Tillers 2021 G4 R Tillers 2022 G4 R Tillers 2022 G4 R Tillers 2023 G4 C Tillers 2023 G4 R Tillers 2024 G4 R Tillers 2024 G4 R Tillers 2024 G4 R Tillers 2025 G4 R Tillers 202	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14.77 14.48 14.48 14.288 14.146 14.146 14.021 14.021 13.948 13.948 13.897 13.867 13.867 13.844	423.384 423.384 421.308 421.308 419.526 419.526 417.94 417.224 417.224 416.23 416.23 415.541 415.111	3.802 3.802 3.679 3.679 3.625 3.625 3.592 3.592 3.555 3.555 3.529 3.529 3.507 3.507	0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029	2.203 2.202 2.202 2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.2 2.201 2.201	2.203 2.202 2.202 2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.2 2.201 2.201	858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879	0.83 0.83 0.814 0.814 0.803 0.795 0.795 0.788 0.788 0.784 0.784
Tillers 2017 G4 R Tillers 2018 G4 C Tillers 2018 G4 R Tillers 2019 G4 C Tillers 2019 G4 R Tillers 2020 G4 R Tillers 2020 G4 R Tillers 2020 G4 R Tillers 2021 G4 R Tillers 2021 G4 R Tillers 2022 G4 R Tillers 2022 G4 R Tillers 2023 G4 R Tillers 2023 G4 R Tillers 2024 G4 R Tillers 2024 G4 R Tillers 2024 G4 R Tillers 2025 G4 R Tillers 2025 G4 R Tillers 203	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14.77 14.48 14.48 14.288 14.288 14.146 14.146 14.021 14.021 13.948 13.948 13.897 13.867 13.867 13.867	423.384 421.308 421.308 419.526 419.526 417.94 417.924 417.224 416.23 416.23 415.541 415.111	3.802 3.679 3.679 3.625 3.625 3.592 3.592 3.555 3.555 3.529 3.529 3.507 3.507	0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029	2.203 2.202 2.202 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.201 2.201	2.203 2.202 2.202 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.201 2.201	858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879	0.83 0.814 0.814 0.803 0.803 0.795 0.795 0.788 0.788 0.784 0.784
Tillers 2018 G4 C Tillers 2018 G4 R Tillers 2019 G4 C Tillers 2019 G4 R Tillers 2020 G4 C Tillers 2020 G4 R Tillers 2021 G4 C Tillers 2021 G4 R Tillers 2022 G4 C Tillers 2022 G4 R Tillers 2023 G4 R Tillers 2023 G4 R Tillers 2024 G4 C Tillers 2024 G4 R Tillers 2024 G4 R Tillers 2025 G4 R Tillers 2030 G4 R Tillers 2030 G4 R	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14.48 14.288 14.288 14.146 14.146 14.021 14.021 13.948 13.948 13.897 13.867 13.867 13.867	421.308 421.308 419.526 419.526 417.94 417.94 417.224 416.23 416.23 415.541 415.111	3.679 3.679 3.625 3.625 3.592 3.592 3.555 3.555 3.529 3.529 3.507 3.487	0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029	2.202 2.202 2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.2 2.201 2.201	2.202 2.202 2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.201 2.201	858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879	0.814 0.803 0.803 0.795 0.795 0.788 0.788 0.784 0.784
Tillers 2018 G4 R Tillers 2019 G4 C Tillers 2019 G4 R Tillers 2020 G4 C Tillers 2020 G4 R Tillers 2021 G4 C Tillers 2021 G4 R Tillers 2022 G4 C Tillers 2022 G4 R Tillers 2023 G4 R Tillers 2023 G4 R Tillers 2024 G4 R Tillers 2024 G4 R Tillers 2025 G4 R Tillers 2025 G4 R Tillers 2030 G4 C Tillers 2030 G4 R	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14.48 14.288 14.146 14.146 14.021 14.021 13.948 13.948 13.897 13.867 13.867 13.844	421.308 419.526 419.526 417.94 417.224 417.224 416.23 416.23 415.541 415.111	3.679 3.625 3.625 3.592 3.592 3.555 3.555 3.529 3.529 3.507 3.487	0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029	2.202 2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.2 2.201 2.201	2.202 2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.2 2.201 2.201	858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879	0.814 0.803 0.803 0.795 0.795 0.788 0.788 0.784 0.784
Tillers 2019 G4 C Tillers 2019 G4 R Tillers 2020 G4 C Tillers 2020 G4 R Tillers 2021 G4 C Tillers 2021 G4 R Tillers 2022 G4 C Tillers 2022 G4 R Tillers 2023 G4 C Tillers 2023 G4 R Tillers 2024 G4 R Tillers 2024 G4 R Tillers 2025 G4 C Tillers 2025 G4 R Tillers 2030 G4 C Tillers 2030 G4 R	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14.288 14.288 14.146 14.146 14.021 14.021 13.948 13.948 13.897 13.897 13.867 13.867	419.526 419.526 417.94 417.94 417.224 416.23 416.23 415.541 415.541 415.111	3.625 3.625 3.592 3.592 3.555 3.555 3.529 3.529 3.507 3.507	0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029	2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.2 2.201 2.201	2.201 2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.2 2.201 2.201	858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879	0.803 0.803 0.795 0.795 0.788 0.788 0.784 0.784
Tillers 2019 G4 R Tillers 2020 G4 C Tillers 2020 G4 R Tillers 2021 G4 C Tillers 2021 G4 R Tillers 2022 G4 C Tillers 2022 G4 R Tillers 2023 G4 C Tillers 2023 G4 R Tillers 2024 G4 R Tillers 2024 G4 R Tillers 2025 G4 C Tillers 2025 G4 R Tillers 2030 G4 R Tillers 2030 G4 R	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	14.288 14.146 14.146 14.021 14.021 13.948 13.948 13.897 13.867 13.867 13.867	419.526 417.94 417.94 417.224 416.23 416.23 415.541 415.541 415.111	3.625 3.592 3.592 3.555 3.555 3.529 3.529 3.507 3.507 3.487	0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029	2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.2 2.201 2.201	2.201 2.201 2.201 2.199 2.199 2.2 2.2 2.2 2.201 2.201	858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879 858.879	0.803 0.795 0.795 0.788 0.788 0.784 0.784
Tillers 2020 G4 R Tillers 2021 G4 C Tillers 2021 G4 R Tillers 2022 G4 C Tillers 2022 G4 R Tillers 2023 G4 C Tillers 2023 G4 R Tillers 2024 G4 C Tillers 2024 G4 R Tillers 2025 G4 C Tillers 2025 G4 R Tillers 2030 G4 R Tillers 2030 G4 R	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5 5 5 5 5 5	14.146 14.021 14.021 13.948 13.948 13.897 13.897 13.867 13.867	417.94 417.224 417.224 416.23 416.23 415.541 415.541 415.111	3.592 3.555 3.555 3.529 3.529 3.507 3.507 3.487	0.029 0.029 0.029 0.029 0.029 0.029 0.029 0.029	2.201 2.199 2.199 2.2 2.2 2.2 2.201 2.201	2.201 2.199 2.199 2.2 2.2 2.201 2.201	858.879 858.879 858.879 858.879 858.879 858.879 858.879	0.795 0.788 0.788 0.784 0.784 0.781
Tillers 2021 G4 C Tillers 2021 G4 R Tillers 2022 G4 C Tillers 2022 G4 R Tillers 2023 G4 C Tillers 2023 G4 R Tillers 2024 G4 C Tillers 2024 G4 R Tillers 2025 G4 C Tillers 2025 G4 R Tillers 2030 G4 C Tillers 2030 G4 R	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5 5 5 5	14.021 14.021 13.948 13.948 13.897 13.897 13.867 13.867 13.844	417.224 417.224 416.23 416.23 415.541 415.541 415.111	3.555 3.555 3.529 3.529 3.507 3.507 3.487	0.029 0.029 0.029 0.029 0.029 0.029 0.029	2.199 2.199 2.2 2.2 2.201 2.201	2.199 2.199 2.2 2.2 2.201 2.201	858.879 858.879 858.879 858.879 858.879 858.879	0.788 0.788 0.784 0.784 0.781
Tillers 2021 G4 R Tillers 2022 G4 C Tillers 2022 G4 R Tillers 2023 G4 C Tillers 2023 G4 R Tillers 2024 G4 C Tillers 2024 G4 R Tillers 2025 G4 C Tillers 2025 G4 R Tillers 2030 G4 C Tillers 2030 G4 R	3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5 5	14.021 13.948 13.948 13.897 13.897 13.867 13.867	417.224 416.23 416.23 415.541 415.541 415.111	3.555 3.529 3.529 3.507 3.507 3.487	0.029 0.029 0.029 0.029 0.029 0.029	2.199 2.2 2.2 2.201 2.201	2.199 2.2 2.2 2.201 2.201	858.879 858.879 858.879 858.879 858.879	0.788 0.784 0.784 0.781
Tillers 2022 G4 C Tillers 2022 G4 R Tillers 2023 G4 C Tillers 2023 G4 R Tillers 2024 G4 C Tillers 2024 G4 R Tillers 2025 G4 C Tillers 2025 G4 R Tillers 2030 G4 C Tillers 2030 G4 R	3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5 5	13.948 13.948 13.897 13.897 13.867 13.867	416.23 416.23 415.541 415.541 415.111	3.529 3.529 3.507 3.507 3.487	0.029 0.029 0.029 0.029 0.029	2.2 2.2 2.201 2.201	2.2 2.2 2.201 2.201	858.879 858.879 858.879 858.879	0.784 0.784 0.781
Tillers 2022 G4 R Tillers 2023 G4 C Tillers 2023 G4 R Tillers 2024 G4 C Tillers 2024 G4 R Tillers 2025 G4 C Tillers 2025 G4 R Tillers 2030 G4 C Tillers 2030 G4 R	3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5 5	13.948 13.897 13.897 13.867 13.867 13.844	416.23 415.541 415.541 415.111 415.111	3.529 3.507 3.507 3.487	0.029 0.029 0.029 0.029	2.2 2.201 2.201	2.2 2.201 2.201	858.879 858.879 858.879	0.784 0.781
Tillers 2023 G4 C Tillers 2023 G4 R Tillers 2024 G4 C Tillers 2024 G4 R Tillers 2025 G4 C Tillers 2025 G4 R Tillers 2030 G4 C Tillers 2030 G4 R	3 3 3 3 3 3 3 3 3	5 5 5 5 5 5 5	13.897 13.897 13.867 13.867 13.844	415.541 415.541 415.111 415.111	3.507 3.507 3.487	0.029 0.029 0.029	2.201 2.201	2.201 2.201	858.879 858.879	0.781
Tillers 2023 G4 R Tillers 2024 G4 C Tillers 2024 G4 R Tillers 2025 G4 C Tillers 2025 G4 R Tillers 2030 G4 C Tillers 2030 G4 R	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	5 5 5 5 5 5	13.897 13.867 13.867 13.844	415.541 415.111 415.111	3.507 3.487	0.029 0.029	2.201	2.201	858.879	
Tillers 2024 G4 C Tillers 2024 G4 R Tillers 2025 G4 C Tillers 2025 G4 R Tillers 2030 G4 C Tillers 2030 G4 R	3 3 3 3 3 3	5 5 5 5	13.867 13.844	415.111	3.487					
Tillers 2025 G4 C S Tillers 2025 G4 R S Tillers 2030 G4 C S Tillers 2030 G4 R S	3 3 3 3 3	5 5 5	13.844		3.487	0 020		Z.ZUT	858.879	0.78
Tillers 2025 G4 R Image: Reserve of the control of	3 3 3 3	5 5		415.049		0.029	2.201	2.201	858.879	0.78
Tillers 2030 G4 C : Tillers 2030 G4 R :	3 3 3	5	13.844		3.467	0.029	2.201	2.201	858.879	0.779
Tillers 2030 G4 R	3			415.049	3.467	0.029	2.201	2.201	858.879	0.779
	3	-	13.817	414.708	3.43	0.029	2.201	2.201	858.879	0.778
µ⊓⊫rs 2035 G4 C		5	13.817	414.708	3.43	0.029	2.201	2.201	858.879	0.778
	J	5 5	13.802 13.802	414.506 414.506	3.427 3.427	0.029 0.029	2.2	2.2	858.879 858.879	0.777 0.777
	3	5	13.793	414.506	3.426	0.029	2.2	2.2	858.879	0.777
	3	5	13.793	414.121	3.426	0.029	2.2	2.2	858.879	0.777
	0	2	375.815	1332.647	1.862	0.466	6.479	6.479	772.991	32.05
	0	2	375.815	1332.647	1.862	0.466	6.479	6.479	772.991	32.05
Trimmers/Edgers/Brush Cutters 1990 G4 C	3	5	87.785	1374.249	4.92	0.434	2.809	2.809	858.879	10.37
	3	5	87.785	1374.249	4.92	0.434	2.809	2.809	858.879	10.37
5	0	2	176.618	459.625	2.752	0.044	3.345	3.345	772.991	10.69
9	0	2	176.618	459.625	2.752	0.044	3.345	3.345	772.991	10.69
	3	5 5	54.699	841.478	5.786 5.786	0.041	5.753	5.753	858.879	2.99
	0	2	54.699 98.602	841.478 316.166	5.786 2.832	0.041 0.031	5.753 1.087	5.753 1.087	858.879 772.991	2.99 6.128
	0	2	98.602	316.166	2.832	0.031	1.087	1.087	772.991	6.128
· · · · · · · · · · · · · · · · · · ·	3	5	35.939	581.254	7.372	0.029	2.009	2.009	858.879	2.018
	3	5	35.939	581.254	7.372	0.029	2.009	2.009	858.879	2.018
Trimmers/Edgers/Brush Cutters 2010 G2 C	0	2	79.871	287.902	2.592	0.031	0.496	0.496	772.991	4.964
<u> </u>	0	2	79.871	287.902	2.592	0.031	0.496	0.496	772.991	4.964
<u> </u>	3	5	26.461	465.71	8.024	0.029	1.29	1.29	858.879	1.486
	3	5	26.461	465.71	8.024	0.029	1.29	1.29	858.879	1.486
· · · · · · · · · · · · · · · · · · ·	0	2	78.813 78.813	286.76 286.76	2.544 2.544	0.031 0.031	0.468 0.468	0.468 0.468	772.991 772.991	4.898 4.898
	3	5	25.278	450.89	8.121	0.031	1.107	1.107	858.879	1.42
, and the second	3	5	25.278	450.89	8.121	0.029	1.107	1.107	858.879	1.42
· · · · · · · · · · · · · · · · · · ·	0	2	78.373	286.165	2.526	0.031	0.454	0.454	772.991	4.871
	0	2	78.373	286.165	2.526	0.031	0.454	0.454	772.991	4.871
<u> </u>	3	5	24.16	436.282	8.219	0.029	0.931	0.931	858.879	1.357
S S S S S S S S S S S S S S S S S S S	3	5	24.16	436.282	8.219	0.029	0.931	0.931	858.879	1.357
Š .	0	2	78.144	285.984	2.511	0.031	0.449	0.449	772.991	4.857
Ŭ	0	2	78.144	285.984	2.511	0.031	0.449	0.449	772.991	4.857
9	3	5	23.066	422.421	8.311	0.029 0.029	0.765	0.765	858.879 858.879	1.296
	0	5 2	23.066 78.02	422.421 285.983	8.311 2.5	0.029	0.765 0.449	0.765 0.449	858.879 772.991	1.296 4.849
	0	2	78.02	285.983	2.5	0.031	0.449	0.449	772.991	4.849
	3	5	22.083	409.949	8.4	0.029	0.613	0.613	858.879	1.241
	3	5	22.083	409.949	8.4	0.029	0.613	0.613	858.879	1.241
Š	0	2	77.92	285.983	2.491	0.031	0.449	0.449	772.991	4.843
9	0	2	77.92	285.983	2.491	0.031	0.449	0.449	772.991	4.843
	3	5	21.454	402.105	8.453	0.029	0.544	0.544	858.879	1.206
·	3	5	21.454	402.105	8.453	0.029	0.544	0.544	858.879	1.206
	0	2	77.872	285.983	2.486	0.031	0.449	0.449	772.991	4.84
	3	2 5	77.872 20.977	285.983 396.349	2.486 8.491	0.031 0.029	0.449 0.498	0.449 0.498	772.991 858.879	4.84 1.179
· · · · · · · · · · · · · · · · · · ·	3	5	20.977	396.349	8.491	0.029	0.498	0.498	858.879 858.879	1.179
	0	2	77.862	285.983	2.483	0.029	0.449	0.449	772.992	4.839
° l l l	0	2	77.862	285.983	2.483	0.031	0.449	0.449	772.992	4.839
· ·	3	5	20.584	391.403	8.525	0.029	0.456	0.456	858.879	1.157
	3	5	20.584	391.403	8.525	0.029	0.456	0.456	858.879	1.157
<u> </u>	0	2	77.847	285.983	2.482	0.031	0.449	0.449	772.991	4.838
- v	0	2	77.847	285.983	2.482	0.031	0.449	0.449	772.991	4.838
· · · · · · · · · · · · · · · · · · ·	3	5 5	20.244	387.191 387.191	8.552 8.552	0.029 0.029	0.419 0.419	0.419 0.419	858.88 858.88	1.138 1.138

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Trimmers/Edgers/Brush Cutters	2019	G2	С	0	2	77.85	285.983	2.482	0.031	0.449	0.449	772.991	4.838
Trimmers/Edgers/Brush Cutters	2019	G2	R	0	2	77.85	285.983	2.482	0.031	0.449	0.449	772.991	4.838
Trimmers/Edgers/Brush Cutters	2019	G4	С	3	5	19.984	384.057	8.573	0.029	0.389	0.389	858.88	1.123
Trimmers/Edgers/Brush Cutters	2019	G4	R	3	5	19.984	384.057	8.573	0.029	0.389	0.389	858.88	1.123
Trimmers/Edgers/Brush Cutters	2020	G2	С	0	2	77.851	285.983	2.482	0.031	0.449	0.449	772.991	4.838
Trimmers/Edgers/Brush Cutters	2020	G2 G4	R C	0	2 5	77.851	285.983	2.482	0.031	0.449	0.449	772.991	4.838
Trimmers/Edgers/Brush Cutters Trimmers/Edgers/Brush Cutters	2020	G4 G4	R	3	5	19.759 19.759	381.691 381.691	8.585 8.585	0.029 0.029	0.361 0.361	0.361 0.361	858.879 858.879	1.111 1.111
Trimmers/Edgers/Brush Cutters	2021	G2	C	0	2	77.75	285.983	2.482	0.023	0.449	0.449	772.991	4.832
Trimmers/Edgers/Brush Cutters	2021	G2	R	0	2	77.75	285.983	2.482	0.031	0.449	0.449	772.991	4.832
Trimmers/Edgers/Brush Cutters	2021	G4	С	3	5	19.581	380.309	8.589	0.029	0.338	0.338	858.879	1.101
Trimmers/Edgers/Brush Cutters	2021	G4	R	3	5	19.581	380.309	8.589	0.029	0.338	0.338	858.879	1.101
Trimmers/Edgers/Brush Cutters	2022	G2	С	0	2	77.784	285.983	2.482	0.031	0.449	0.449	772.991	4.834
Trimmers/Edgers/Brush Cutters	2022	G2	R	0	2	77.784	285.983	2.482	0.031	0.449	0.449	772.991	4.834
Trimmers/Edgers/Brush Cutters Trimmers/Edgers/Brush Cutters	2022	G4 G4	C R	3	5 5	19.486 19.486	378.671 378.671	8.602 8.602	0.029 0.029	0.318 0.318	0.318 0.318	858.879 858.879	1.096 1.096
Trimmers/Edgers/Brush Cutters	2022	G2	C	0	2	77.802	285.983	2.482	0.029	0.318	0.318	772.991	4.835
Trimmers/Edgers/Brush Cutters	2023	G2	R	0	2	77.802	285.983	2.482	0.031	0.449	0.449	772.991	4.835
Trimmers/Edgers/Brush Cutters	2023	G4	С	3	5	19.411	377.801	8.608	0.029	0.303	0.303	858.879	1.092
Trimmers/Edgers/Brush Cutters	2023	G4	R	3	5	19.411	377.801	8.608	0.029	0.303	0.303	858.879	1.092
Trimmers/Edgers/Brush Cutters	2024	G2	С	0	2	77.822	285.983	2.482	0.031	0.449	0.449	772.991	4.837
Trimmers/Edgers/Brush Cutters	2024	G2	R	0	2	77.822	285.983	2.482	0.031	0.449	0.449	772.991	4.837
Trimmers/Edgers/Brush Cutters	2024	G4	С	3	5	19.364	377.078	8.613	0.029	0.292	0.292	858.879	1.089
Trimmers/Edgers/Brush Cutters	2024	G4	R	3	5	19.364	377.078	8.613	0.029	0.292	0.292	858.879	1.089
Trimmers/Edgers/Brush Cutters Trimmers/Edgers/Brush Cutters	2025	G2 G2	C R	0	2	77.833 77.833	285.983 285.983	2.482 2.482	0.031 0.031	0.449 0.449	0.449 0.449	772.991 772.991	4.837 4.837
Trimmers/Edgers/Brush Cutters	2025	G2 G4	C	3	5	19.327	376.636	8.615	0.031	0.449	0.449	858.879	1.087
Trimmers/Edgers/Brush Cutters	2025	G4	R	3	5	19.327	376.636	8.615	0.029	0.285	0.285	858.879	1.087
Trimmers/Edgers/Brush Cutters	2030	G2	C	0	2	77.793	285.983	2.482	0.031	0.449	0.449	772.991	4.835
Trimmers/Edgers/Brush Cutters	2030	G2	R	0	2	77.793	285.983	2.482	0.031	0.449	0.449	772.991	4.835
Trimmers/Edgers/Brush Cutters	2030	G4	С	3	5	19.297	375.8	8.618	0.029	0.279	0.279	858.879	1.086
Trimmers/Edgers/Brush Cutters	2030	G4	R	3	5	19.297	375.8	8.618	0.029	0.279	0.279	858.879	1.086
Trimmers/Edgers/Brush Cutters	2035	G2	С	0	2	77.785	285.983	2.482	0.031	0.449	0.449	772.991	4.834
Trimmers/Edgers/Brush Cutters	2035	G2	R	0	2	77.785	285.983	2.482	0.031	0.449	0.449	772.991	4.834
Trimmers/Edgers/Brush Cutters	2035	G4 G4	C	3	5 5	19.273	375.785	8.61 8.61	0.029	0.279	0.279	858.879	1.086
Trimmers/Edgers/Brush Cutters Trimmers/Edgers/Brush Cutters	2035	G4 G2	R C	0	2	19.273 77.783	375.785 285.983	2.482	0.029 0.031	0.279 0.449	0.279 0.449	858.879 772.991	1.086 4.834
Trimmers/Edgers/Brush Cutters	2040	G2	R	0	2	77.783	285.983	2.482	0.031	0.449	0.449	772.991	4.834
Trimmers/Edgers/Brush Cutters	2040	G4	C	3	5	19.26	375.439	8.607	0.029	0.279	0.279	858.88	1.086
Trimmers/Edgers/Brush Cutters	2040	G4	R	3	5	19.26	375.439	8.607	0.029	0.279	0.279	858.88	1.086
Wood Splitters	1990	G4	С	3	5	72.405	1277.201	4.876	0.434	2.026	2.026	858.879	8.553
Wood Splitters	1990	G4	R	3	5	72.405	1277.201	4.876	0.434	2.026	2.026	858.879	8.553
Wood Splitters	2000	G4	С	3	5	39.734	763.399	5.668	0.041	2.025	2.025	858.879	2.172
Wood Splitters	2000	G4	R	3	5	39.734	763.399	5.668	0.041	2.025	2.025	858.879	2.172
Wood Splitters Wood Splitters	2005	G4 G4	C R	3	5 5	24.031	546.706 546.706	6.964 6.964	0.029 0.029	2.026 2.026	2.026 2.026	858.879 858.879	1.349 1.349
Wood Splitters	2010	G4	C	3	5	17.322	497.944	4.296	0.029	2.020	2.020	858.879	0.973
Wood Splitters	2010	G4	R	3	5	17.322	497.944	4.296	0.029	2.027	2.027	858.879	0.973
Wood Splitters	2011	G4	С	3	5	16.626	491.73	4.202	0.029	2.026	2.026	858.88	0.934
Wood Splitters	2011	G4	R	3	5	16.626	491.73	4.202	0.029	2.026	2.026	858.88	0.934
Wood Splitters	2012	G4	С	3	5	16.118	485.723	4.111	0.029	2.027	2.027	858.879	0.905
Wood Splitters	2012	G4	R	3	5	16.118	485.723	4.111	0.029	2.027	2.027	858.879	0.905
Wood Splitters	2013	G4	С	3	5	15.648	479.726	4.02	0.029	2.026	2.026	858.879	0.879
Wood Splitters	2013	G4 G4	R C	3	5 5	15.648	479.726	4.02	0.029	2.026	2.026	858.879 858.870	0.879
Wood Splitters Wood Splitters	2014	G4 G4	R	3	5	15.214 15.214	473.893 473.893	3.931 3.931	0.029 0.029	2.027 2.027	2.027 2.027	858.879 858.879	0.855 0.855
Wood Splitters	2014	G4 G4	C	3	5	14.797	468.31	3.845	0.029	2.027	2.027	858.879	0.831
Wood Splitters	2015	G4	R	3	5	14.797	468.31	3.845	0.029	2.027	2.027	858.879	0.831
Wood Splitters	2016	G4	C	3	5	14.421	463.308	3.759	0.029	2.026	2.026	858.879	0.81
Wood Splitters	2016	G4	R	3	5	14.421	463.308	3.759	0.029	2.026	2.026	858.879	0.81
Wood Splitters	2017	G4	С	3	5	14.081	458.821	3.676	0.029	2.027	2.027	858.879	0.791
Wood Splitters	2017	G4	R	3	5	14.081	458.821	3.676	0.029	2.027	2.027	858.879	0.791
Wood Splitters	2018	G4	С	3	5	13.794	455.965	3.589	0.029	2.027	2.027	858.879	0.775
Wood Splitters	2018	G4	R	3	5	13.794	455.965	3.589	0.029	2.027	2.027	858.879	0.775
Wood Splitters Wood Splitters	2019	G4 G4	C R	3	5 5	13.542 13.542	453.901 453.901	3.503 3.503	0.029 0.029	2.027 2.027	2.027 2.027	858.88 858.88	0.761 0.761
Wood Splitters	2019	G4 G4	C	3	5	13.342	453.901	3.419	0.029	2.027	2.027	858.879	0.761
Wood Splitters	2020	G4 G4	R	3	5	13.32	452.189	3.419	0.029	2.027	2.027	858.879	0.749
Wood Splitters	2021	G4	C	3	5	13.11	450.835	3.337	0.029	2.026	2.026	858.879	0.737
Wood Splitters	2021	G4	R	3	5	13.11	450.835	3.337	0.029	2.026	2.026	858.879	0.737
Wood Splitters	2022	G4	С	3	5	12.957	449.327	3.27	0.029	2.027	2.027	858.879	0.728
Trood opinioro						12.0F7	440.007	3.27	0.029	2.027	2.027	858.879	0.728
Wood Splitters	2022	G4	R	3	5	12.957	449.327	3.21	0.020			000.070	
Wood Splitters Wood Splitters	2023	G4	С	3	5	12.835	448.312	3.229	0.029	2.026	2.026	858.879	0.722
Wood Splitters													0.722 0.722 0.717

Table 7.2 Landscape Equipment Running Emission Factors

Equipment Type	Year	Engine Type	Commercial or Residential	Low Hp	High Hp	ROG g/bhp-hr	CO, g/bhp-hr	NOX, g/bhp-hr	SO2, g/bhp-hr	PM10, g/bhp-hr	PM2_5, g/bhp-hr	CO2, g/bhp-hr	CH4, g/bhp-hr
Wood Splitters	2025	G4	С	3	5	12.68	446.516	3.181	0.029	2.027	2.027	858.879	0.713
Wood Splitters	2025	G4	R	3	5	12.68	446.516	3.181	0.029	2.027	2.027	858.879	0.713
Wood Splitters	2030	G4	С	3	5	12.507	444.35	3.1	0.029	2.026	2.026	858.879	0.704
Wood Splitters	2030	G4	R	3	5	12.507	444.35	3.1	0.029	2.026	2.026	858.879	0.704
Wood Splitters	2035	G4	С	3	5	12.449	443.751	3.065	0.029	2.026	2.026	858.879	0.701
Wood Splitters	2035	G4	R	3	5	12.449	443.751	3.065	0.029	2.026	2.026	858.879	0.701
Wood Splitters	2040	G4	С	3	5	12.434	443.365	3.059	0.029	2.026	2.026	858.879	0.701
Wood Splitters	2040	G4	R	3	5	12.434	443.365	3.059	0.029	2.026	2.026	858.879	0.701

Table 7.3 Landscape Equipment Usage

Land Use Type	Landscape Equipment Type	Usage	Units
	Chainsaws	2.47E-05	hr/sqft/day
	Chainsaws Preempt	2.47E-05	hr/sqft/day
	Front Mowers	1.81E-06	hr/sqft/day
	Lawn & Garden Tractors	4.04E-07	hr/sqft/day
	Lawn Mowers	2.49E-05	hr/sqft/day
	Leaf Blowers/Vacuums	9.54E-06	hr/sqft/day
Non-Residential	Other Lawn & Garden Equipment	1.43E-05	hr/sqft/day
	Rear Engine Riding Mowers	1.81E-06	hr/sqft/day
	Shredders	8.60E-06	hr/sqft/day
	Snowblowers	1.41E-07	hr/sqft/day
	Tillers	1.07E-06	hr/sqft/day
	Trimmers/Edgers/Brush Cutters	1.96E-05	hr/sqft/day
	Wood Splitters	7.18E-06	hr/sqft/day
	Chainsaws	2.46E-03	hr/du/day
	Chainsaws Preempt	2.46E-03	hr/du/day
	Chippers/Stump Grinders	1.36E-03	hr/du/day
	Front Mowers	3.09E-03	hr/du/day
	Lawn & Garden Tractors	7.60E-04	hr/du/day
	Lawn Mowers	1.51E-02	hr/du/day
Residential	Leaf Blowers/Vacuums	1.05E-03	hr/du/day
Residential	Other Lawn & Garden Equipment	3.53E-04	hr/du/day
	Rear Engine Riding Mowers	3.09E-03	hr/du/day
	Shredders	5.18E-05	hr/du/day
	Snowblowers	2.98E-05	hr/du/day
	Tillers	1.48E-03	hr/du/day
	Trimmers/Edgers/Brush Cutters	1.45E-03	hr/du/day
	Wood Splitters	5.42E-05	hr/du/day

Notes:

1. Based on the total hours in OFFROAD2007 and number of dwelling units and non-residential square footage in California.

Table 8.1 Energy Use by Climate Zone and Land Use Type

	Climata		T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Climate Zone	Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
	20116		KWh	r per DU or S	QFT	kBtu per	DU or SQFT
Apartments High Rise	1	N	979.51	3277.06	741.44	3305	1599
Apartments High Rise	2	N	543.54	3277.06	741.44	10189	2687
Apartments High Rise	3	N	826.30	3277.06	741.44	12200	3723
Apartments High Rise	4	N	392.47	3277.06	741.44	7914	3155
Apartments High Rise	5	N	502.89	3277.06	741.44	8825	2615
Apartments High Rise	6	N	543.54	3277.06	741.44	10189	2687
Apartments High Rise	7	N	964.00	3277.06	741.44	15657	4769
Apartments High Rise Apartments High Rise	8	N N	211.98 297.91	3277.06 3277.06	741.44 741.44	8530 10119	5516 6384
Apartments High Rise	10	N	910.58	3277.06	741.44	12647	6030
Apartments High Rise	11	N	194.04	3277.06	741.44	6329	4831
Apartments High Rise	12	N	304.35	3277.06	741.44	6778	6281
Apartments High Rise	13	N	246.93	3277.06	741.44	4688	4180
Apartments High Rise	14	N	979.51	3277.06	741.44	3305	1599
Apartments High Rise	15	N	910.58	3277.06	741.44	12647	6030
Apartments High Rise	1	Υ	277.31	2557.38	741.44	2896	1662
Apartments High Rise	2	Y	401.59	2554.47	741.44	8883	1716
Apartments High Rise	3	Y	532.58	2553.86	741.44	10691	1662
Apartments High Rise	4	Y	282.15	2558.55	741.44	6873	1736
Apartments High Rise	5	Y	388.61	2561.86	741.44	7733	1662
Apartments High Rise Apartments High Rise	6 7	Y Y	401.59 656.57	2554.47 2553.86	741.44 741.44	8883 13684	1716 1704
Apartments High Rise	8	Y	226.43	2555.58	741.44	7475	1662
Apartments High Rise	9	Y	307.17	2553.86	741.44	8819	1719
Apartments High Rise	10	Ϋ́	696.81	2553.86	741.44	10983	1779
Apartments High Rise	11	Y	231.59	2553.86	741.44	5546	1662
Apartments High Rise	12	Υ	332.65	2553.86	741.44	5940	1662
Apartments High Rise	13	Υ	200.21	2553.86	741.44	4108	1662
Apartments High Rise	14	Υ	277.31	2557.38	741.44	2896	1662
Apartments High Rise	15	Υ	696.81	2553.86	741.44	10983	1779
Apartments Low Rise	1	N	915.02	3418.36	810.36	13276	1599
Apartments Low Rise	2	N	602.73	3418.36	810.36	13581	2687
Apartments Low Rise Apartments Low Rise	3 4	N N	818.86 431.22	3418.36 3418.36	810.36 810.36	15027 10164	3723 3155
Apartments Low Rise	5	N	274.84	3418.36	810.36	25591	2615
Apartments Low Rise	6	N	602.73	3418.36	810.36	13581	2687
Apartments Low Rise	7	N	770.01	3418.36	810.36	17188	4769
Apartments Low Rise	8	N	208.74	3418.36	810.36	10453	5516
Apartments Low Rise	9	N	303.39	3418.36	810.36	14366	6384
Apartments Low Rise	10	N	1034.36	3418.36	810.36	13773	6030
Apartments Low Rise	11	N	159.21	3418.36	810.36	13398	4831
Apartments Low Rise	12	N	231.70	3418.36		6489	6281
Apartments Low Rise	13	N	307.62	3418.36		10167	4180
Apartments Low Rise	14	N	915.02	3418.36	810.36	13276	1599
Apartments Low Rise Apartments Low Rise	15 1	N Y	1034.36 186.93	3418.36 2635.07	810.36 810.36	13773 11634	6030 2498
Apartments Low Rise	2	Y	433.59	2631.74	810.36	11901	2498
Apartments Low Rise	3	Y	499.01	2630.88	810.36	13168	2498
Apartments Low Rise	4	Y	295.03	2634.44	810.36	8907	2498
Apartments Low Rise	5	Y	143.36	2630.88	810.36	22211	2753
Apartments Low Rise	6	Υ	433.59	2631.74	810.36	11901	2498
Apartments Low Rise	7	Υ	438.88	2630.88	810.36	15062	2498
Apartments Low Rise	8	Y	197.46	2631.99	810.36	9160	2498
Apartments Low Rise	9	Y	286.35	2630.88	810.36	12489	2616
Apartments Low Rise	10	Y	792.75	2630.88	810.36	12069	2498
Apartments Low Rise	11	Y	170.99 234.73	2630.88	810.36	11673	2579
Apartments Low Rise Apartments Low Rise	12 13	Y Y	234.73	2630.88 2635.92	810.36 810.36	5686 8909	2498 2498
Apartments Low Rise Apartments Low Rise	14	Y	186.93	2635.92	810.36	11634	2498
Apartments Low Rise	15	Y	792.75	2630.88	810.36	12069	2498
Apartments Mid Rise	1	N	979.51	3277.06	741.44	3305	1599
Apartments Mid Rise	2	N	543.54	3277.06	741.44	10189	2687
Apartments Mid Rise	3	N	826.30	3277.06	741.44	12200	3723
Apartments Mid Rise	4	N	392.47	3277.06	741.44	7914	3155
Apartments Mid Rise	5	N	502.89	3277.06	741.44	8825	2615
Apartments Mid Rise	6	N	543.54	3277.06	741.44	10189	2687
Apartments Mid Rise	7	N	964.00	3277.06	741.44	15657	4769

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Table 8.1 Energy Use by Climate Zone and Land Use Type

	Climate		T24	NT24	3 . 3	T24	NT24
Land Use Sub Type	Zone	Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
	20110		KWhi	r per DU or S	QFT	kBtu per	DU or SQFT
Apartments Mid Rise	8	N	211.98	3277.06	741.44	8530	5516
Apartments Mid Rise	9	N	297.91	3277.06	741.44	10119	6384
Apartments Mid Rise	10	N	910.58	3277.06	741.44	12647	6030
Apartments Mid Rise	11	N	194.04	3277.06	741.44	6329	4831
Apartments Mid Rise	12	N	304.35	3277.06	741.44	6778	6281
Apartments Mid Rise	13	N	246.93	3277.06	741.44	4688	4180
Apartments Mid Rise	14	N	979.51	3277.06	741.44	3305	1599
Apartments Mid Rise	15	N	910.58	3277.06	741.44	12647	6030
Apartments Mid Rise	1	Υ	277.31	2557.38	741.44	2896	1662
Apartments Mid Rise	2	Υ	401.59	2554.47	741.44	8883	1716
Apartments Mid Rise	3	Y	532.58	2553.86	741.44	10691	1662
Apartments Mid Rise	4	Y	282.15	2558.55	741.44	6873	1736
Apartments Mid Rise	5	Y	388.61	2561.86	741.44	7733	1662
Apartments Mid Rise	6	-	401.59	2554.47	741.44	8883	1716
Apartments Mid Rise	7	Y	656.57	2553.86	741.44	13684	1704
Apartments Mid Rise Apartments Mid Rise	8 9	Y	226.43 307.17	2555.58 2553.86	741.44 741.44	7475 8819	1662 1719
Apartments Mid Rise Apartments Mid Rise	10	Y	696.81	2553.86	741.44	10983	1719
Apartments Mid Rise	11	Y	231.59	2553.86	741.44	5546	1662
Apartments Mid Rise	12	Y	332.65	2553.86	741.44	5940	1662
Apartments Mid Rise	13	Y	200.21	2553.86	741.44	4108	1662
Apartments Mid Rise	14	Y	277.31	2557.38	741.44	2896	1662
Apartments Mid Rise	15	Y	696.81	2553.86	741.44	10983	1779
Arena	1	N	0.65	1.85	1.86	3	0
Arena	2	N	1.73	4.20	2.68	19	0
Arena	3	N	2.05	4.16	2.78	17	4
Arena	4	N	1.55	3.70	3.17	20	7
Arena	5	N	1.27	3.36	3.07	18	7
Arena	6	N	3.58	7.20	4.72	24	12
Arena	7	N	0.42	1.31	0.67	17	0
Arena	8	N	1.71	3.83	3.08	14	7
Arena	9	N	2.36	5.75	3.20	14	4
Arena	10	N	2.31	5.02	3.01	15	17
Arena	11 12	N N	2.36	5.75 5.75	3.20	14 14	4
Arena Arena	13	N N	2.36 1.27	4.27	3.20 2.91	4	<u>4</u> 7
Arena	14	N	0.65	1.85	1.86	3	0
Arena	15	N	2.31	5.02	3.01	15	17
Arena	1	Y	0.83	1.85	2.28	4	0
Arena	2	Υ	2.17	4.20	3.26	22	0
Arena	3	Υ	2.52	4.16		20	4
Arena	4	Υ	1.93	3.70	3.80	23	7
Arena	5	Υ	1.59	3.36	3.70	20	7
Arena	6	Υ	4.47	7.20	5.65	26	12
Arena	7	Υ	0.51	1.31	0.91	19	0
Arena	8	Υ	2.12	3.83	3.70	15	7
Arena	9	Y	2.94	5.75	3.85	15	4
Arena	10	Y	2.89	5.02	3.62	17	17
Arena	11	Y	2.94	5.75	3.85	15	4
Arena	12	Y	2.94	5.75	3.85	15	4
Arena	13	Y	1.59	4.27	3.52	5	7
Arena	14 15	Y	0.83 2.89	1.85 5.02	2.28 3.62	4 17	0 17
Arena Automobile Care Center	15	N N	0.65	1.85	1.86	3	0
Automobile Care Center Automobile Care Center	2	N	1.73	4.20		19	0
Automobile Care Center Automobile Care Center	3	N	2.05	4.20		17	4
Automobile Care Center Automobile Care Center	4	N	1.55	3.70		20	7
Automobile Care Center	5	N	1.27	3.36		18	7
Automobile Care Center	6	N	3.58	7.20	4.72	24	12
Automobile Care Center	7	N	0.42	1.31	0.67	17	0
Automobile Care Center	8	N	1.71	3.83		14	7
Automobile Care Center	9	N	2.36	5.75		14	4
Automobile Care Center	10	N	2.31	5.02	3.01	15	17
Automobile Care Center	11	N	2.36	5.75	3.20	14	4
					0.00	4.4	
Automobile Care Center	12	N	2.36	5.75		14	4
Automobile Care Center Automobile Care Center Automobile Care Center	12 13 14	N N	2.36 1.27 0.65	5.75 4.27 1.85	3.20 2.91 1.86	14 4 3	7

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Table 8.1 Energy Use by Climate Zone and Land Use Type

	Climate		T24	NT24			NT24
Land Use Sub Type	Zone	Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
	20110		KWh	r per DU or S	QFT	kBtu per	DU or SQFT
Automobile Care Center	15	N	2.31	5.02	3.01	15	17
Automobile Care Center	1	Υ	0.83	1.85	2.28	4	0
Automobile Care Center	2	Υ	2.17	4.20	3.26	22	0
Automobile Care Center	3	Υ	2.52	4.16	3.35	20	4
Automobile Care Center	4	Υ	1.93	3.70	3.80	23	7
Automobile Care Center	5	Y	1.59	3.36	3.70	20	7
Automobile Care Center	6	Y	4.47	7.20	5.65	26	12
Automobile Care Center	7	Y	0.51	1.31	0.91	19	0
Automobile Care Center	8	Y	2.12	3.83	3.70	15	7
Automobile Care Center	9 10	Y	2.94 2.89	5.75 5.02	3.85	15 17	4
Automobile Care Center Automobile Care Center	11	Y	2.69	5.02	3.62 3.85	15	17 4
Automobile Care Center Automobile Care Center	12	Y	2.94	5.75	3.85	15	4
Automobile Care Center	13	Y	1.59	4.27	3.52	5	7
Automobile Care Center	14	Y	0.83	1.85	2.28	4	0
Automobile Care Center	15	Y	2.89	5.02	3.62	17	17
Bank (with Drive-Through)	1	N	0.65	1.85	1.86	3	0
Bank (with Drive-Through)	2	N	1.73	4.20	2.68	19	0
Bank (with Drive-Through)	3	N	2.05	4.16	2.78	17	4
Bank (with Drive-Through)	4	N	1.55	3.70	3.17	20	7
Bank (with Drive-Through)	5	N	1.27	3.36	3.07	18	7
Bank (with Drive-Through)	6	N	3.58	7.20	4.72	24	12
Bank (with Drive-Through)	7	N	0.42	1.31	0.67	17	0
Bank (with Drive-Through)	8	N	1.71	3.83	3.08	14	7
Bank (with Drive-Through)	9	N	2.36	5.75	3.20	14	4
Bank (with Drive-Through)	10	N	2.31	5.02	3.01	15	17
Bank (with Drive-Through)	11 12	N N	2.36 2.36	5.75 5.75	3.20 3.20	14 14	4
Bank (with Drive-Through) Bank (with Drive-Through)	13	N N	1.27	4.27	2.91	4	7
Bank (with Drive-Through)	14	N	0.65	1.85	1.86	3	0
Bank (with Drive-Through)	15	N	2.31	5.02	3.01	15	17
Bank (with Drive-Through)	1	Y	0.83	1.85	2.28	4	0
Bank (with Drive-Through)	2	Y	2.17	4.20	3.26	22	0
Bank (with Drive-Through)	3	Y	2.52	4.16	3.35	20	4
Bank (with Drive-Through)	4	Υ	1.93	3.70	3.80	23	7
Bank (with Drive-Through)	5	Υ	1.59	3.36	3.70	20	7
Bank (with Drive-Through)	6	Υ	4.47	7.20	5.65	26	12
Bank (with Drive-Through)	7	Υ	0.51	1.31	0.91	19	0
Bank (with Drive-Through)	8	Υ	2.12	3.83	3.70	15	7
Bank (with Drive-Through)	9	Υ	2.94	5.75	3.85	15	4
Bank (with Drive-Through)	10	Y	2.89	5.02	3.62		17
Bank (with Drive-Through)	11	Y	2.94	5.75	3.85	15	4
Bank (with Drive-Through)	12	Y	2.94	5.75	3.85	15	4
Bank (with Drive-Through)	13	Y	1.59	4.27	3.52	5	7
Bank (with Drive-Through)	14	Y	0.83	1.85	2.28	4 17	0
Bank (with Drive-Through) City Park	15 1	N N	2.89 0.00	5.02 0.00	3.62 0.00	0	17 0
City Park	2	N N	0.00	0.00	0.00	0	0
City Park	3	N	0.00	0.00	0.00	0	0
City Park	4	N	0.00	0.00	0.00	0	0
City Park	5	N	0.00	0.00	0.00	0	0
City Park	6	N	0.00	0.00	0.00	0	0
City Park	7	N	0.00	0.00	0.00	0	0
City Park	8	N	0.00	0.00	0.00	0	0
City Park	9	N	0.00	0.00	0.00	0	0
City Park	10	N	0.00	0.00	0.00	0	0
City Park	11	N	0.00	0.00	0.00	0	0
City Park	12	N	0.00	0.00	0.00	0	0
City Park	13	N	0.00	0.00	0.00	0	0
City Park	14	N	0.00	0.00	0.00	0	0
City Park	15	N	0.00	0.00	0.00	0	0
City Park	1	Y	0.00	0.00	0.00	0	0
City Park	3	Y	0.00	0.00	0.00	0	0
City Park	4	Y	0.00	0.00	0.00		0
City Park	5	Y	0.00	0.00	0.00	0	0
City Park City Park	6	Y	0.00	0.00	0.00	0	0
poily fair	U	Ī	0.00	0.00	0.00	U	U

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Table 8.1 Energy Use by Climate Zone and Land Use Type

Land Use Sub Type	Climate	Historical	T24 Electricity	NT24 Electricity	Lighting Electricity		NT24 Natural Gas
	Zone		,	per DU or S	,		DU or SQFT
City Park	7	Υ	0.00	0.00	0.00	0	(
City Park	8	Υ	0.00	0.00	0.00	0	C
City Park	9	Υ	0.00	0.00	0.00	0	(
City Park	10	Y	0.00	0.00	0.00	0	(
City Park	11	Y	0.00	0.00	0.00	0	(
City Park City Park	12 13	Y	0.00	0.00	0.00	0	(
City Park	14	Y	0.00	0.00	0.00	0	
City Park	15	Ϋ́	0.00	0.00	0.00	0	(
Condo/Townhouse	1	N	1100.69	4109.59	1001.10	4682	1599
Condo/Townhouse	2	N	432.17	4109.59	1001.10	22613	2687
Condo/Townhouse	3	N	806.33	4109.59	1001.10	18029	3723
Condo/Townhouse	4	N	282.35	4109.59	1001.10	19706	3155
Condo/Townhouse Condo/Townhouse	5 6	N N	231.62 432.17	4109.59 4109.59	1001.10 1001.10	25448 22613	2615 2687
Condo/Townhouse	7	N	714.91	4109.59	1001.10	9334	4769
Condo/Townhouse	8	N	195.26	4109.59	1001.10	15354	5516
Condo/Townhouse	9	N	276.14	4109.59	1001.10	13661	6384
Condo/Townhouse	10	N	958.04	4109.59	1001.10	21055	6030
Condo/Townhouse	11	N	211.36	4109.59	1001.10	16993	4831
Condo/Townhouse	12	N	259.62	4109.59	1001.10	12376	6281
Condo/Townhouse	13 14	N	257.33	4109.59 4109.59	1001.10	12915	4180
Condo/Townhouse Condo/Townhouse	15	N N	1100.69 958.04	4109.59	1001.10 1001.10	4682 21055	1599 6030
Condo/Townhouse	1	Y	618.37	3125.85	1001.10	4221	2951
Condo/Townhouse	2	Ϋ́	375.03	3125.85	1001.10	20388	2951
Condo/Townhouse	3	Υ	671.81	3125.85	1001.10	16255	2951
Condo/Townhouse	4	Υ	229.45	3125.85	1001.10	17767	2951
Condo/Townhouse	5	Y	169.05	3125.85	1001.10	22944	2951
Condo/Townhouse	6	Y	375.03	3125.85	1001.10	20388	2951
Condo/Townhouse Condo/Townhouse	7 8	Y	551.09 245.59	3125.85 3126.32	1001.10 1001.10	8416 13843	2951 2951
Condo/Townhouse	9	Y	336.00	3126.97	1001.10	12317	2951
Condo/Townhouse	10	Y	933.44	3125.85	1001.10	18983	2951
Condo/Townhouse	11	Υ	286.69	3125.85	1001.10	15240	3047
Condo/Townhouse	12	Υ	336.32	3125.85	1001.10	11139	2974
Condo/Townhouse	13	Υ	257.40	3126.41	1001.10	11602	3002
Condo/Townhouse	14	Y	618.37	3125.85	1001.10	4221	2951
Condo/Townhouse	15	Y	933.44	3125.85	1001.10	18983	2951
Condo/Townhouse High Rise Condo/Townhouse High Rise	2	N N	979.51 543.54	3277.06 3277.06	1001.10 1001.10	3305 10189	1599 2687
Condo/Townhouse High Rise	3	N	826.30	3277.06	1001.10	12200	3723
Condo/Townhouse High Rise	4	N	392.47	3277.06	1001.10	7914	3155
Condo/Townhouse High Rise	5	N	502.89	3277.06	1001.10		2615
Condo/Townhouse High Rise	6	N	543.54	3277.06	1001.10	10189	2687
Condo/Townhouse High Rise	7	N	964.00	3277.06	1001.10	15657	4769
Condo/Townhouse High Rise	8	N	211.98	3277.06	1001.10	8530	5516
Condo/Townhouse High Rise	9	N	297.91 910.58	3277.06	1001.10	10119	6384
Condo/Townhouse High Rise Condo/Townhouse High Rise	11	N N	194.04	3277.06 3277.06	1001.10 1001.10	12647 6329	6030 4831
Condo/Townhouse High Rise	12	N	304.35	3277.06	1001.10		6281
Condo/Townhouse High Rise	13	N	246.93	3277.06	1001.10	4688	4180
Condo/Townhouse High Rise	14	N	979.51	3277.06	1001.10	3305	1599
Condo/Townhouse High Rise	15	N	910.58	3277.06	1001.10		6030
Condo/Townhouse High Rise	1	Υ	618.37	3125.85	1001.10		2951
Condo/Townhouse High Rise	2	Y	375.03	3125.85	1001.10	20388	2951
Condo/Townhouse High Rise	3 4	Y	671.81 229.45	3125.85	1001.10	16255	2951 2951
Condo/Townhouse High Rise Condo/Townhouse High Rise	5	Y	169.05	3125.85 3125.85	1001.10 1001.10	17767 22944	2951 2951
Condo/Townhouse High Rise	6	Y	375.03	3125.85	1001.10	20388	2951
Condo/Townhouse High Rise	7	Y	551.09	3125.85	1001.10	8416	2951
Condo/Townhouse High Rise	8	Y	245.59	3126.32	1001.10		2951
Condo/Townhouse High Rise	9	Υ	336.00	3126.97	1001.10	12317	2951
Condo/Townhouse High Rise	10	Y	933.44	3125.85	1001.10	18983	2951
Condo/Townhouse High Rise	11	Y	286.69	3125.85	1001.10		3047
Condo/Townhouse High Rise	12	Y	336.32	3125.85	1001.10		2974
Condo/Townhouse High Rise	13	Υ	257.40	3126.41	1001.10	11602	3002

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Table 8.1 Energy Use by Climate Zone and Land Use Type

			T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Climate	Historical	Electricity	Electricity	Electricity		
,,,,,	Zone		,	per DU or S	,		DU or SQFT
Condo/Townhouse High Rise	14	Υ	618.37	3125.85	1001.10	4221	2951
Condo/Townhouse High Rise	15	Y	933.44	3125.85	1001.10	18983	2951
Congregate Care (Assisted Living)	1	N	979.51	3277.06	741.44	3305	1599
Congregate Care (Assisted Living)	2	N	543.54	3277.06	741.44	10189	2687
Congregate Care (Assisted Living)	3	N	826.30	3277.06	741.44	12200	3723
Congregate Care (Assisted Living)	4	N	392.47	3277.06	741.44	7914	3155
Congregate Care (Assisted Living) Congregate Care (Assisted Living)	5 6	N N	502.89 543.54	3277.06 3277.06	741.44 741.44	8825 10189	2615 2687
Congregate Care (Assisted Living) Congregate Care (Assisted Living)	7	N	964.00	3277.06	741.44	15657	4769
Congregate Care (Assisted Living)	8	N	211.98	3277.06	741.44	8530	5516
Congregate Care (Assisted Living)	9	N	297.91	3277.06	741.44	10119	6384
Congregate Care (Assisted Living)	10	N	910.58	3277.06	741.44	12647	6030
Congregate Care (Assisted Living)	11	N	194.04	3277.06	741.44	6329	4831
Congregate Care (Assisted Living)	12	N	304.35	3277.06	741.44	6778	6281
Congregate Care (Assisted Living)	13 14	N N	246.93 979.51	3277.06 3277.06	741.44 741.44	4688 3305	4180 1599
Congregate Care (Assisted Living) Congregate Care (Assisted Living)	15	N N	910.58	3277.06	741.44	12647	6030
Congregate Care (Assisted Living)	1	Y	277.31	2557.38	741.44	2896	1662
Congregate Care (Assisted Living)	2	Y	401.59	2554.47	741.44	8883	1716
Congregate Care (Assisted Living)	3	Υ	532.58	2553.86	741.44	10691	1662
Congregate Care (Assisted Living)	4	Υ	282.15	2558.55	741.44	6873	1736
Congregate Care (Assisted Living)	5	Y	388.61	2561.86	741.44	7733	1662
Congregate Care (Assisted Living)	6	Y	401.59	2554.47	741.44	8883	1716
Congregate Care (Assisted Living)	7 8	Y	656.57 226.43	2553.86 2555.58	741.44 741.44	13684 7475	1704 1662
Congregate Care (Assisted Living) Congregate Care (Assisted Living)	9	Y	307.17	2553.86	741.44	8819	1719
Congregate Care (Assisted Living)	10	Y	696.81	2553.86	741.44	10983	1779
Congregate Care (Assisted Living)	11	Y	231.59	2553.86	741.44	5546	1662
Congregate Care (Assisted Living)	12	Υ	332.65	2553.86	741.44	5940	1662
Congregate Care (Assisted Living)	13	Υ	200.21	2553.86	741.44	4108	1662
Congregate Care (Assisted Living)	14	Y	277.31	2557.38	741.44	2896	1662
Congregate Care (Assisted Living)	15	Y	696.81	2553.86	741.44	10983	1779
Convenience Market (24 hour) Convenience Market (24 hour)	2	N N	5.25 4.08	2.81 1.98	5.84 6.08	7 11	0
Convenience Market (24 hour)	3	N	2.24	2.30	3.81	9	2
Convenience Market (24 hour)	4	N	2.89	2.68	5.38	2	0
Convenience Market (24 hour)	5	N	2.35	3.36	5.00	4	1
Convenience Market (24 hour)	6	N	3.41	2.98	5.47	5	1
Convenience Market (24 hour)	7	N	3.31	2.49	4.65	6	0
Convenience Market (24 hour)	8 9	N	3.07 4.20	2.80	5.85	1	1
Convenience Market (24 hour) Convenience Market (24 hour)	10	N N	4.20	3.23 2.44	6.43 5.77	2	0
Convenience Market (24 hour)	11	N	4.00	3.23	6.43	1	0
Convenience Market (24 hour)	12	N	4.20	3.23	6.43	1	0
Convenience Market (24 hour)	13	N	3.34	3.16	6.39	1	1
Convenience Market (24 hour)	14	N	5.25	2.81	5.84	7	0
Convenience Market (24 hour)	15	N	4.80	2.44	5.77	2	0
Convenience Market (24 hour)	1	Y	6.81	2.81	6.86	9	0
Convenience Market (24 hour) Convenience Market (24 hour)	3	Y	4.97 2.77	1.98 2.30	7.17 4.53	14 10	2
Convenience Market (24 hour)	4	Y	3.55	2.68	6.02	3	0
Convenience Market (24 hour)	5	Y	2.90	3.36	5.88	5	1
Convenience Market (24 hour)	6	Y	4.20	2.98	6.45	6	1
Convenience Market (24 hour)	7	Υ	4.12	2.49	5.50	7	0
Convenience Market (24 hour)	8	Υ	3.79	2.80	6.85	1	1
Convenience Market (24 hour)	9	Y	5.17	3.23	7.56	1	C
Convenience Market (24 hour)	10	Y	5.95	2.44	8.20	2	<u> </u>
Convenience Market (24 hour)	11 12	Y	5.17 5.17	3.23 3.23	7.56 7.56	1	C
Convenience Market (24 hour) Convenience Market (24 hour)	13	Y	4.13	3.23	7.50	1	<u>C</u>
Convenience Market (24 hour)	14	Y	6.81	2.81	6.86	9	C
Convenience Market (24 hour)	15	Y	5.95	2.44	8.20	2	C
Convenience Market with Gas Pumps	1	N	5.25	2.81	5.84	7	0
Convenience Market with Gas Pumps	2	N	4.08	1.98	6.08	11	0
Convenience Market with Gas Pumps	3	N	2.24	2.30	3.81	9	2
Convenience Market with Gas Pumps	4	N	2.89	2.68	5.38	2	0
Convenience Market with Gas Pumps	5	N	2.35	3.36	5.00	4	1

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Table 8.1 Energy Use by Climate Zone and Land Use Type

			T0.4	NITO 4	L'alctan	T0.4	NTO
Land Use Sub Type	Climate	Historical	T24 Electricity	NT24 Electricity	3 . 3	T24 Natural Gas	NT24 Natural Gas
24.14 666 645 1,756	Zone		,	r per DU or S	-		DU or SQFT
Convenience Market with Gas Pumps	6	N	3.41	2.98	5.47	5	1
Convenience Market with Gas Pumps	7	N	3.31	2.49	4.65	6	0
Convenience Market with Gas Pumps	8	N	3.07	2.80	5.85	1	1
Convenience Market with Gas Pumps	9	N	4.20	3.23	6.43	1	0
Convenience Market with Gas Pumps	10	N	4.80	2.44	5.77	2	0
Convenience Market with Gas Pumps Convenience Market with Gas Pumps	11 12	N N	4.20 4.20	3.23 3.23	6.43 6.43	1	0
Convenience Market with Gas Pumps Convenience Market with Gas Pumps	13	N	3.34	3.16	6.39	1	1
Convenience Market with Gas Pumps	14	N	5.25	2.81	5.84	7	0
Convenience Market with Gas Pumps	15	N	4.80	2.44	5.77	2	0
Convenience Market with Gas Pumps	1	Υ	6.81	2.81	6.86	9	0
Convenience Market with Gas Pumps	2	Y	4.97	1.98	7.17	14	0
Convenience Market with Gas Pumps	3	Y	2.77	2.30	4.53	10	2
Convenience Market with Gas Pumps	4 5	Y	3.55 2.90	2.68	6.02 5.88	<u>3</u>	0
Convenience Market with Gas Pumps Convenience Market with Gas Pumps	6	Y	4.20	3.36 2.98	6.45	6	1
Convenience Market with Gas Pumps	7	Y	4.12	2.49	5.50	7	0
Convenience Market with Gas Pumps	8	Y	3.79	2.80	6.85	1	1
Convenience Market with Gas Pumps	9	Υ	5.17	3.23	7.56	1	0
Convenience Market with Gas Pumps	10	Υ	5.95	2.44	8.20	2	0
Convenience Market with Gas Pumps	11	Y	5.17	3.23	7.56	1	0
Convenience Market with Gas Pumps	12	Y	5.17	3.23	7.56	1	0
Convenience Market with Gas Pumps	13	Y	4.13	3.16	7.50	1	1 0
Convenience Market with Gas Pumps Convenience Market with Gas Pumps	14 15	Y	6.81 5.95	2.81 2.44	6.86 8.20	9	0
Day-Care Center	1	N	1.70	1.48	3.80	14	1
Day-Care Center	2	N	1.97	1.42	2.40	9	0
Day-Care Center	3	N	2.25	1.89	3.08	23	2
Day-Care Center	4	N	1.63	1.28	2.62	18	1
Day-Care Center	5	N	0.69	1.27	2.58	15	2
Day-Care Center	6	N	2.15	2.17	3.19	15	1
Day-Care Center Day-Care Center	7 8	N N	2.04 1.98	1.95 1.51	3.54 2.75	10 11	<u> </u>
Day-Care Center Day-Care Center	9	N	1.83	1.51	2.75	9	1
Day-Care Center	10	N	2.92	1.49	3.11	7	2
Day-Care Center	11	N	1.83	1.59	2.66	9	1
Day-Care Center	12	N	1.83	1.59	2.66	9	1
Day-Care Center	13	N	1.60	1.18	2.61	5	0
Day-Care Center	14	N	1.70	1.48	3.80	14	1
Day-Care Center	15	N	2.92	1.49	3.11	7	2
Day-Care Center	2	Y Y	2.18 2.43	1.48 1.42	4.55 2.90	16 11	1
Day-Care Center Day-Care Center	3	Y	2.43	1.42	3.69	27	0
Day-Care Center Day-Care Center	4	Y	2.03	1.28	3.02	21	2 1
Day-Care Center	5	Y	0.86	1.27	3.11	18	2
Day-Care Center	6	Υ	2.74	2.17	3.82	17	2 1
Day-Care Center	7	Υ	2.54	1.95	4.27	12	0
Day-Care Center	8	Y	2.46	1.51	3.30	12	1
Day-Care Center	9	Y	2.29	1.59	3.20	11	1
Day-Care Center Day-Care Center	10 11	Y Y	3.64 2.29	1.49 1.59	4.52 3.20	8 11	2 1
Day-Care Center Day-Care Center	12	Y	2.29	1.59	3.20		1
Day-Care Center Day-Care Center	13	Y	2.03	1.18	3.14	6	0
Day-Care Center	14	Y	2.18		4.55	16	1
Day-Care Center	15	Υ	3.64	1.49	4.52	8	2
Discount Club	1	N	5.25	2.81	5.84	7	0
Discount Club	2	N	4.08	1.98	6.08	11	0
Discount Club	3	N	2.24	2.30	3.81	9	2
Discount Club	4	N N	2.89	2.68	5.38 5.00	2	0
Discount Club Discount Club	5 6	N N	2.35 3.41	3.36 2.98	5.00	<u>4</u> 5	1
Discount Club	7	N	3.41	2.98	4.65	6	C
Discount Club	8	N	3.07	2.80		1	1
Discount Club	9	N	4.20	3.23	6.43	1	C
Discount Club	10	N	4.80	2.44	5.77	2	0
Discount Club	11	N	4.20	3.23	6.43	1	0
Discount Club	12	N	4.20	3.23	6.43	1	0

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Table 8.1 Energy Use by Climate Zone and Land Use Type

			T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Climate Zone	Historical	Electricity	Electricity	3 . 3		Natural Gas
	Zone		KWh	r per DU or S	QFT	kBtu per	DU or SQFT
Discount Club	13	N	3.34	3.16	6.39	1	1
Discount Club	14 15	N	5.25	2.81	5.84		0
Discount Club Discount Club	15	N Y	4.80 6.81	2.44 2.81	5.77 6.86	2	0
Discount Club	2	Y	4.97	1.98	7.17	14	0
Discount Club	3	Υ	2.77	2.30	4.53	10	2
Discount Club	4	Υ	3.55	2.68	6.02	3	0
Discount Club	5	Y	2.90	3.36	5.88	5	1
Discount Club Discount Club	6 7	Y	4.20 4.12	2.98 2.49	6.45 5.50	6 7	1 0
Discount Club	8	Y	3.79	2.80	6.85	1	1
Discount Club	9	Y	5.17	3.23	7.56	1	0
Discount Club	10	Υ	5.95	2.44	8.20	2	0
Discount Club	11	Y	5.17	3.23	7.56	1	0
Discount Club	12 13	Y	5.17 4.13	3.23	7.56	1	<u> </u>
Discount Club Discount Club	14	Y	6.81	3.16 2.81	7.50 6.86	1 9	0
Discount Club	15	Y	5.95	2.44	8.20	2	0
Electronic Superstore	1	N	5.25	2.81	5.84	7	0
Electronic Superstore	2	N	4.08	1.98	6.08	11	0
Electronic Superstore	3	N	2.24	2.30	3.81	9	2
Electronic Superstore	4	N	2.89	2.68	5.38	2	0
Electronic Superstore Electronic Superstore	5 6	N N	2.35 3.41	3.36 2.98	5.00 5.47	4 5	1
Electronic Superstore	7	N	3.31	2.49	4.65	6	0
Electronic Superstore	8	N	3.07	2.80	5.85	1	1
Electronic Superstore	9	N	4.20	3.23	6.43	1	0
Electronic Superstore	10	N	4.80	2.44	5.77	2	0
Electronic Superstore	11 12	N N	4.20 4.20	3.23 3.23	6.43 6.43	1	0
Electronic Superstore Electronic Superstore	13	N N	3.34	3.23	6.43	1	1
Electronic Superstore	14	N	5.25	2.81	5.84	7	0
Electronic Superstore	15	N	4.80	2.44	5.77	2	0
Electronic Superstore	1	Υ	6.81	2.81	6.86	9	0
Electronic Superstore	2	Y	4.97	1.98	7.17	14	0
Electronic Superstore	3 4	Y	2.77	2.30	4.53	10	2
Electronic Superstore Electronic Superstore	5	Y	3.55 2.90	2.68 3.36	6.02 5.88	<u>3</u>	1
Electronic Superstore	6	Ϋ́	4.20	2.98	6.45	6	1
Electronic Superstore	7	Y	4.12	2.49	5.50	7	0
Electronic Superstore	8	Υ	3.79	2.80			1
Electronic Superstore	9	Y	5.17	3.23	7.56	1	0
Electronic Superstore	10	Y	5.95	2.44	8.20	2	0
Electronic Superstore Electronic Superstore	11 12	Y	5.17 5.17	3.23 3.23			
Electronic Superstore	13	Y	4.13	3.16		1	C 1
Electronic Superstore	14	Υ	6.81	2.81	6.86	9	C
Electronic Superstore	15	Υ	5.95	2.44	8.20	2	1
Elementary School	1	N	1.70	1.48	3.80	14	1
Elementary School	2	N	1.97	1.42	2.40	9	C
Elementary School Elementary School	3 4	N N	2.25 1.63	1.89 1.28	3.08 2.62		2 1
Elementary School	5	N	0.69	1.20	2.58	15	2
Elementary School	6	N	2.15	2.17	3.19		2
Elementary School	7	N	2.04	1.95	3.54	10	0
Elementary School	8	N	1.98	1.51	2.75		1
Elementary School	9 10	N N	1.83	1.59	2.66	9	1
Elementary School Elementary School	10	N N	2.92 1.83	1.49 1.59	3.11 2.66		2
Elementary School	12	N	1.83	1.59	2.66		1
Elementary School	13	N	1.60	1.18		5	C
Elementary School	14	N	1.70	1.48	3.80	14	1
Elementary School	15	N	2.92	1.49			2
Elementary School	1	Y	2.18	1.48	4.55	16	1
Elementary School Elementary School	3	Y	2.43 2.81	1.42 1.89	2.90 3.69	11 27	0
Elementary School Elementary School	4	Y	2.81	1.89	3.09	21	2
Lionionary Conton	7	<u>'</u>	2.00	1.20	5.02	۷.	

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Table 8.1 Energy Use by Climate Zone and Land Use Type

Land Use Sub Type	Climate	Historical	T24 Electricity	NT24 Electricity	Lighting Electricity	T24 Natural Gas	NT24 Natural Gas
, , , , , , , , , , , , , , , , , , ,	Zone		-	per DU or So	-		DU or SQFT
Elementary School	5	Υ	0.86	1.27	3.11	18	2
Elementary School	6	Υ	2.74	2.17	3.82	17	,
Elementary School	7	Υ	2.54	1.95	4.27	12	(
Elementary School	8	Υ	2.46	1.51	3.30	12	,
Elementary School	9	Υ	2.29	1.59	3.20	11	
Elementary School	10	Y	3.64	1.49	4.52	8	:
Elementary School	11	Y	2.29	1.59	3.20	11	
Elementary School	12	Y	2.29	1.59	3.20	11	
Elementary School	13 14	Y	2.03 2.18	1.18 1.48	3.14	6 16	
Elementary School Elementary School	15	Y	3.64	1.40	4.55 4.52	8	
Enclosed Parking Structure	13	N	3.92	0.00	2.63	0	
Enclosed Parking Structure	2	N	3.92	0.00	2.63	0	
Enclosed Parking Structure	3	N	3.92	0.00	2.63	0	
Enclosed Parking Structure	4	N	3.92	0.00	2.63	0	(
Enclosed Parking Structure	5	N	3.92	0.00	2.63	0	(
Enclosed Parking Structure	6	N	3.92	0.00	2.63	0	(
Enclosed Parking Structure	7	N	3.92	0.00	2.63	0	(
Enclosed Parking Structure	8	N	3.92	0.00	2.63	0	
Enclosed Parking Structure	9	N	3.92	0.00	2.63	0	
Enclosed Parking Structure	10	N	3.92	0.00	2.63	0	
Enclosed Parking Structure	11	N	3.92	0.00	2.63	0	
Enclosed Parking Structure	12	N	3.92	0.00	2.63	0	
Enclosed Parking Structure Enclosed Parking Structure	13 14	N N	3.92	0.00	2.63	0	
Enclosed Parking Structure Enclosed Parking Structure	15	N N	3.92 3.92	0.00	2.63 2.63	0	
Enclosed Parking Structure	13	Y	3.92	0.00	2.63	0	
Enclosed Parking Structure	2	Y	3.92	0.00	2.63	0	
Enclosed Parking Structure	3	Y	3.92	0.00	2.63	0	(
Enclosed Parking Structure	4	Y	3.92	0.00	2.63	0	
Enclosed Parking Structure	5	Υ	3.92	0.00	2.63	0	
Enclosed Parking Structure	6	Υ	3.92	0.00	2.63	0	
Enclosed Parking Structure	7	Υ	3.92	0.00	2.63	0	
Enclosed Parking Structure	8	Υ	3.92	0.00	2.63	0	
Enclosed Parking Structure	9	Υ	3.92	0.00	2.63	0	
Enclosed Parking Structure	10	Y	3.92	0.00	2.63	0	
Enclosed Parking Structure	11	Y	3.92	0.00	2.63	0	
Enclosed Parking Structure	12	Y	3.92	0.00	2.63	0	
Enclosed Parking Structure	13 14	Y	3.92 3.92	0.00	2.63	0	
Enclosed Parking Structure Enclosed Parking Structure	15	Y	3.92	0.00	2.63 2.63	0	
Enclosed Parking Structure Enclosed Parking with Elevator	13	N	3.92	0.00	2.63		
Enclosed Parking with Elevator	2	N	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	3	N	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	4	N	3.92	0.19	2.63		
Enclosed Parking with Elevator	5	N	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	6	N	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	7	N	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	8	N	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	9	N	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	10	N	3.92	0.19	2.63	0	(
Enclosed Parking with Elevator	11	N	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	12	N	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	13 14	N N	3.92 3.92	0.19 0.19	2.63 2.63	0	
Enclosed Parking with Elevator Enclosed Parking with Elevator	15	N N	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	15	Y	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	2	Y	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	3	Y	3.92	0.19	2.63		
Enclosed Parking with Elevator	4	Y	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	5	Y	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	6	Υ	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	7	Υ	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	8	Υ	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	9	Y	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	10	Y	3.92	0.19	2.63	0	
Enclosed Parking with Elevator	11	Υ	3.92	0.19	2.63	0	(

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Table 8.1 Energy Use by Climate Zone and Land Use Type

	T				1	1	
	Climate		T24	NT24	3 ' 3	T24	NT24
Land Use Sub Type	Zone	Historical	Electricity	Electricity	-		
				per DU or S			DU or SQFT
Enclosed Parking with Elevator	12	Y	3.92	0.19	2.63	0	0
Enclosed Parking with Elevator	13 14	Y	3.92 3.92	0.19	2.63	0	0
Enclosed Parking with Elevator Enclosed Parking with Elevator	15	Y	3.92	0.19 0.19	2.63 2.63	0	0
Fast Food Restaurant w/o Drive Thru	1	N	4.20	15.83	4.87	28	89
Fast Food Restaurant w/o Drive Thru	2	N	6.35	17.72	7.80	41	69
Fast Food Restaurant w/o Drive Thru	3	N	6.86	16.25	6.34	36	175
Fast Food Restaurant w/o Drive Thru	4	N	5.31	22.30	5.51	61	147
Fast Food Restaurant w/o Drive Thru	5	N	2.80	20.97	5.48	40	128
Fast Food Restaurant w/o Drive Thru	6	N	9.22	26.72	6.35	60	118
Fast Food Restaurant w/o Drive Thru	7	N	8.18	20.65	5.18	18	81
Fast Food Restaurant w/o Drive Thru	8	N	9.13	20.11	7.87	79	181
Fast Food Restaurant w/o Drive Thru Fast Food Restaurant w/o Drive Thru	9 10	N N	8.50 12.98	28.16 28.48	8.13 6.83	43 78	188 196
Fast Food Restaurant w/o Drive Thru	11	N	8.50	28.16	8.13	43	188
Fast Food Restaurant w/o Drive Thru	12	N	8.50	28.16	8.13	43	188
Fast Food Restaurant w/o Drive Thru	13	N	8.63	23.69	6.97	36	138
Fast Food Restaurant w/o Drive Thru	14	N	4.20	15.83	4.87	28	89
Fast Food Restaurant w/o Drive Thru	15	N	12.98	28.48	6.83	78	196
Fast Food Restaurant w/o Drive Thru	1	Y	5.30	15.83	5.76	30	89
Fast Food Restaurant w/o Drive Thru	2	Y	7.80	17.72	9.18	45	69
Fast Food Restaurant w/o Drive Thru	3	Y	8.49	16.25	7.47	39	175
Fast Food Restaurant w/o Drive Thru Fast Food Restaurant w/o Drive Thru	5	Y	6.58 3.42	22.30 20.97	6.25 6.45	65 43	147 128
Fast Food Restaurant w/o Drive Thru	6	Y	11.47	26.72	7.44	65	118
Fast Food Restaurant w/o Drive Thru	7	Y	10.14	20.65	6.13	21	81
Fast Food Restaurant w/o Drive Thru	8	Υ	11.27	20.11	9.20	84	181
Fast Food Restaurant w/o Drive Thru	9	Υ	10.52	28.16	9.64	47	188
Fast Food Restaurant w/o Drive Thru	10	Υ	16.13	28.48	9.51	84	196
Fast Food Restaurant w/o Drive Thru	11	Y	10.52	28.16	9.64	47	188
Fast Food Restaurant w/o Drive Thru	12	Y	10.52	28.16	9.64	47	188
Fast Food Restaurant w/o Drive Thru	13 14	Y	10.67 5.30	23.69	8.19 5.76	38 30	138
Fast Food Restaurant w/o Drive Thru Fast Food Restaurant w/o Drive Thru	15	Y	16.13	15.83 28.48	9.51	84	89 196
Fast Food Restaurant with Drive Thru	1	N	4.20	15.83	4.87	28	89
Fast Food Restaurant with Drive Thru	2	N	6.35	17.72	7.80	41	69
Fast Food Restaurant with Drive Thru	3	N	6.86	16.25	6.34	36	175
Fast Food Restaurant with Drive Thru	4	N	5.31	22.30	5.51	61	147
Fast Food Restaurant with Drive Thru	5	N	2.80	20.97	5.48	40	128
Fast Food Restaurant with Drive Thru	6	N	9.22	26.72	6.35	60	118
Fast Food Restaurant with Drive Thru	7	N	8.18	20.65		18	81
Fast Food Restaurant with Drive Thru Fast Food Restaurant with Drive Thru	8	N N	9.13 8.50	20.11 28.16	7.87 8.13	79 43	181 188
Fast Food Restaurant with Drive Thru	10	N	12.98	28.48	6.83	78	196
Fast Food Restaurant with Drive Thru	11	N	8.50	28.16		43	188
Fast Food Restaurant with Drive Thru	12	N	8.50	28.16	8.13	43	188
Fast Food Restaurant with Drive Thru	13	N	8.63	23.69	6.97	36	138
Fast Food Restaurant with Drive Thru	14	N	4.20	15.83	4.87	28	89
Fast Food Restaurant with Drive Thru	15	N	12.98	28.48	6.83	78	196
Fast Food Restaurant with Drive Thru	1 2	Y	5.30 7.80	15.83 17.72	5.76 9.18	30 45	89 69
Fast Food Restaurant with Drive Thru Fast Food Restaurant with Drive Thru	3	Y	7.80 8.49	16.25	9.18 7.47	39	175
Fast Food Restaurant with Drive Thru	4	Y	6.58	22.30	6.25	65	147
Fast Food Restaurant with Drive Thru	5	Y	3.42	20.97	6.45	43	128
Fast Food Restaurant with Drive Thru	6	Υ	11.47	26.72	7.44	65	118
Fast Food Restaurant with Drive Thru	7	Υ	10.14	20.65	6.13	21	81
Fast Food Restaurant with Drive Thru	8	Y	11.27	20.11	9.20	84	181
Fast Food Restaurant with Drive Thru	9	Y	10.52	28.16		47	188
Fast Food Restaurant with Drive Thru	10	Y	16.13	28.48		84	196 188
Fast Food Restaurant with Drive Thru Fast Food Restaurant with Drive Thru	11 12	Y	10.52 10.52	28.16 28.16	9.64 9.64	47 47	188
Fast Food Restaurant with Drive Thru	13	Y	10.52	23.69	8.19	38	138
Fast Food Restaurant with Drive Thru	14	Y	5.30	15.83		30	89
Fast Food Restaurant with Drive Thru	15	Y	16.13	28.48	9.51	84	196
Free-Standing Discount Store	1	N	5.25	2.81	5.84	7	0
Free-Standing Discount Store	2	N	4.08	1.98	6.08	11	0
Free-Standing Discount Store	3	N	2.24	2.30	3.81	9	2

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Table 8.1 Energy Use by Climate Zone and Land Use Type

	1	1	T0.4	NITO 4	Liberta Conse	T0.4	NITO 4
Land Use Sub Type	Climate	Historical	T24 Electricity	NT24 Electricity	3 3	T24 Natural Gas	NT24 Natural Gas
20.00 000 000 1,760	Zone	1 1101011001	,	r per DU or S	-		DU or SQFT
Free-Standing Discount Store	4	N	2.89	2.68	5.38	2	0
Free-Standing Discount Store	5	N	2.35	3.36		4	1
Free-Standing Discount Store	6	N	3.41	2.98	5.47	5	1
Free-Standing Discount Store	7	N	3.31	2.49	4.65	6	0
Free-Standing Discount Store	8	N	3.07	2.80		1	1
Free-Standing Discount Store Free-Standing Discount Store	9	N N	4.20 4.80	3.23 2.44	6.43 5.77	1 2	0
Free-Standing Discount Store	11	N	4.20	3.23	6.43	1	0
Free-Standing Discount Store	12	N	4.20	3.23	6.43	1	0
Free-Standing Discount Store	13	N	3.34	3.16	6.39	1	1
Free-Standing Discount Store	14	N	5.25	2.81	5.84	7	0
Free-Standing Discount Store	15	N	4.80	2.44	5.77	2	0
Free-Standing Discount Store	1	Y	6.81	2.81	6.86	9	0
Free-Standing Discount Store	2	Y	4.97	1.98	7.17	14	0
Free-Standing Discount Store Free-Standing Discount Store	3 4	Y	2.77 3.55	2.30 2.68	4.53 6.02	10 3	2
Free-Standing Discount Store	5	Y	2.90	3.36	5.88	5	1
Free-Standing Discount Store	6	Y	4.20	2.98	6.45	6	1
Free-Standing Discount Store	7	Y	4.12	2.49	5.50	7	0
Free-Standing Discount Store	8	Υ	3.79	2.80	6.85	1	1
Free-Standing Discount Store	9	Y	5.17	3.23	7.56	1	0
Free-Standing Discount Store	10	Y	5.95	2.44	8.20	2	0
Free-Standing Discount Store	11	Y	5.17	3.23	7.56	1	0
Free-Standing Discount Store	12 13	Y	5.17 4.13	3.23	7.56 7.50	1	0
Free-Standing Discount Store Free-Standing Discount Store	14	Ϋ́	6.81	3.16 2.81	6.86	9	1 0
Free-Standing Discount Store	15	Y	5.95	2.44	8.20	2	0
Free-Standing Discount Superstore	1	N	5.25	2.81	5.84	7	0
Free-Standing Discount Superstore	2	N	4.08	1.98	6.08	11	0
Free-Standing Discount Superstore	3	N	2.24	2.30	3.81	9	2
Free-Standing Discount Superstore	4	N	2.89	2.68	5.38	2	0
Free-Standing Discount Superstore	5	N	2.35	3.36	5.00	4	1
Free-Standing Discount Superstore	6 7	N N	3.41	2.98 2.49	5.47 4.65	<u> </u>	1 0
Free-Standing Discount Superstore Free-Standing Discount Superstore	8	N N	3.31 3.07	2.49	5.85	1	1
Free-Standing Discount Superstore	9	N	4.20	3.23	6.43	1	0
Free-Standing Discount Superstore	10	N	4.80	2.44	5.77	2	0
Free-Standing Discount Superstore	11	N	4.20	3.23	6.43	1	0
Free-Standing Discount Superstore	12	N	4.20	3.23	6.43	1	0
Free-Standing Discount Superstore	13	N	3.34	3.16	6.39	1	1
Free-Standing Discount Superstore	14	N	5.25	2.81	5.84		0
Free-Standing Discount Superstore	15	N Y	4.80	2.44	5.77	9	0
Free-Standing Discount Superstore Free-Standing Discount Superstore	2	Y	6.81 4.97	2.81 1.98	6.86 7.17	14	0
Free-Standing Discount Superstore	3	Y	2.77	2.30	4.53	10	2
Free-Standing Discount Superstore	4	Y	3.55	2.68	6.02	3	2
Free-Standing Discount Superstore	5	Y	2.90	3.36	5.88	5	1
Free-Standing Discount Superstore	6	Υ	4.20	2.98	6.45	6	1
Free-Standing Discount Superstore	7	Υ	4.12	2.49	5.50	7	0
Free-Standing Discount Superstore	8	Y	3.79	2.80	6.85	1	1
Free-Standing Discount Superstore	9	Y	5.17	3.23	7.56	1	0
Free-Standing Discount Superstore Free-Standing Discount Superstore	10 11	Y	5.95 5.17	2.44 3.23	8.20 7.56	<u>2</u> 1	0
Free-Standing Discount Superstore	12	Ϋ́	5.17	3.23		1	0
Free-Standing Discount Superstore	13	Y	4.13	3.16		1	1
Free-Standing Discount Superstore	14	Y	6.81	2.81	6.86	9	0
Free-Standing Discount Superstore	15	Υ	5.95	2.44	8.20	2	0
Gasoline/Service Station	1	N	0.65	1.85	1.86	3	0
Gasoline/Service Station	2	N	1.73	4.20	2.68	19	0
Gasoline/Service Station	3	N	2.05	4.16		17	4
Gasoline/Service Station	5	N N	1.55 1.27	3.70		20 18	7
Gasoline/Service Station Gasoline/Service Station	6	N N	3.58	3.36 7.20		24	7 12
Gasoline/Service Station	7	N	0.42	1.31	0.67	17	0
Gasoline/Service Station	8	N	1.71	3.83	3.08	14	7
Gasoline/Service Station	9	N	2.36	5.75	3.20	14	4
Gasoline/Service Station	10	N	2.31	5.02	3.01	15	17

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Table 8.1 Energy Use by Climate Zone and Land Use Type

	Climate		T24	NT24	3 ' 3		
Land Use Sub Type	Zone	Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
	20110		KWh	r per DU or S	QFT	kBtu per	DU or SQFT
Gasoline/Service Station	11	N	2.36	5.75	3.20	14	4
Gasoline/Service Station	12	N	2.36	5.75	3.20	14	4
Gasoline/Service Station	13	N	1.27	4.27	2.91	4	7
Gasoline/Service Station	14	N	0.65	1.85	1.86	3	C
Gasoline/Service Station	15	N	2.31	5.02	3.01	15	17
Gasoline/Service Station	1	Υ	0.83	1.85	2.28	4	C
Gasoline/Service Station	2	Y	2.17	4.20	3.26	22	C
Gasoline/Service Station	3	Y	2.52	4.16	3.35	20	-
Gasoline/Service Station	4	Y	1.93	3.70	3.80	23	7
Gasoline/Service Station Gasoline/Service Station	5	Y	1.59 4.47	3.36	3.70	20 26	7 12
Gasoline/Service Station	<u>6</u> 7	Ϋ́	0.51	7.20 1.31	5.65 0.91	19	12
Gasoline/Service Station	8	Ϋ́	2.12	3.83	3.70	15	7
Gasoline/Service Station	9	Y	2.94	5.75	3.85	15	
Gasoline/Service Station	10	Y	2.89	5.02	3.62	17	17
Gasoline/Service Station	11	Y	2.94	5.75	3.85	15	
Gasoline/Service Station	12	Υ	2.94	5.75	3.85	15	4
Gasoline/Service Station	13	Υ	1.59	4.27	3.52	5	7
Gasoline/Service Station	14	Υ	0.83	1.85	2.28	4	(
Gasoline/Service Station	15	Υ	2.89	5.02	3.62	17	17
General Heavy Industry	1	N	0.65	1.85	1.86	3	(
General Heavy Industry	2	N	1.73	4.20	2.68	19	(
General Heavy Industry	3	N	2.05	4.16	2.78	17	4
General Heavy Industry	4	N	1.55	3.70	3.17	20	7
General Heavy Industry	5	N	1.27	3.36	3.07	18	7
General Heavy Industry	6	N	3.58	7.20	4.72	24	12
General Heavy Industry	7 8	N N	0.42 1.71	1.31 3.83	0.67 3.08	17 14	7
General Heavy Industry General Heavy Industry	9	N N	2.36		3.06	14	4
General Heavy Industry	10	N	2.30	5.73	3.20	15	17
General Heavy Industry	11	N	2.36	5.75	3.20	14	4
General Heavy Industry	12	N	2.36	5.75	3.20	14	4
General Heavy Industry	13	N	1.27	4.27	2.91	4	7
General Heavy Industry	14	N	0.65	1.85	1.86	3	C
General Heavy Industry	15	N	2.31	5.02	3.01	15	17
General Heavy Industry	1	Υ	0.83	1.85	2.28	4	C
General Heavy Industry	2	Υ	2.17	4.20	3.26	22	C
General Heavy Industry	3	Υ	2.52	4.16	3.35	20	4
General Heavy Industry	4	Y	1.93	3.70	3.80	23	7
General Heavy Industry	5	Y	1.59	3.36	3.70	20	7
General Heavy Industry	6	Y	4.47				
General Heavy Industry	7	Y	0.51	1.31	0.91	19	<u> </u>
General Heavy Industry General Heavy Industry	8	Y	2.12 2.94	3.83 5.75	3.70 3.85	15 15	7
General Heavy Industry General Heavy Industry	10	Y	2.94	5.75	3.85	17	17
General Heavy Industry	11	Y	2.89	5.75	3.85	15	4
General Heavy Industry	12	Y	2.94	5.75	3.85	15	4
General Heavy Industry	13	Y	1.59	4.27	3.52	5	7
General Heavy Industry	14	Ϋ́	0.83	1.85	2.28	4	
General Heavy Industry	15	Y	2.89	5.02	3.62	17	17
General Light Industry	1	N	0.65	1.85	1.86	3	(
General Light Industry	2	N	1.73		2.68	19	(
General Light Industry	3	N	2.05	4.16	2.78	17	4
General Light Industry	4	N	1.55	3.70	3.17	20	7
General Light Industry	5	N	1.27	3.36		18	
General Light Industry	6	N	3.58	7.20	4.72	24	12
General Light Industry	7	N	0.42	1.31	0.67	17	(
General Light Industry	8	N	1.71	3.83	3.08	14	7
General Light Industry	9	N	2.36	5.75	3.20	14	4-
General Light Industry	10 11	N N	2.31	5.02	3.01	15 14	17
General Light Industry General Light Industry	11	N N	2.36 2.36	5.75 5.75	3.20 3.20	14	2
General Light Industry	13	N N	1.27	4.27	2.91	4	7
General Light Industry	14	N	0.65	1.85	1.86	3	(
General Light Industry	15	N	2.31	5.02	3.01	15	17
General Light Industry	1	Y	0.83	1.85	2.28	4	
General Light Industry	2	Ϋ́	2.17	4.20	3.26	22	(
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Table 8.1 Energy Use by Climate Zone and Land Use Type

	Climate		T24		3 ' 3	T24	NT24
Land Use Sub Type	Zone	Historical	Electricity	,		Natural Gas	
				r per DU or S			DU or SQFT
General Light Industry	3	Υ	2.52	4.16	3.35	20	4
General Light Industry	4	Y	1.93	3.70	3.80	23	7
General Light Industry	5	Y	1.59	3.36	3.70	20	7
General Light Industry	6 7	Y	4.47	7.20	5.65	26	12
General Light Industry General Light Industry	8	Y	0.51 2.12	1.31 3.83	0.91 3.70	19 15	0
General Light Industry	9	Y	2.12	5.75	3.70	15	7 4
General Light Industry	10	Y	2.89	5.02	3.62	17	17
General Light Industry	11	Y	2.94	5.75	3.85	15	4
General Light Industry	12	Y	2.94	5.75	3.85	15	4
General Light Industry	13	Y	1.59	4.27	3.52	5	7
General Light Industry	14	Υ	0.83	1.85	2.28	4	0
General Light Industry	15	Υ	2.89	5.02	3.62	17	17
General Office Building	1	N	3.81	3.98	3.55	20	0
General Office Building	2	N	3.37	3.62	3.25	16	0
General Office Building	3	N	2.75	3.58	2.99	13	0
General Office Building	4	N	6.40	7.84	3.98	16	0
General Office Building	5	N	4.30	4.80	3.67	18	1
General Office Building	6	N	5.22	5.75	3.80	12	1
General Office Building	7	N	3.03	3.31	3.86	16	1
General Office Building	8	N N	4.94	4.94 4.62	4.46	9 10	1 0
General Office Building General Office Building	10	N N	4.82 3.22	2.79	3.88 3.75		0
General Office Building General Office Building	11	N N	3.22 4.82	4.62	3.75	3 10	0
General Office Building	12	N	4.82	4.62	3.88	10	0
General Office Building	13	N	4.88	4.02	3.00	16	4
General Office Building	14	N	3.81	3.98	3.55	20	0
General Office Building	15	N	3.22	2.79	3.75	3	0
General Office Building	1	Y	5.02	3.98	4.24	24	0
General Office Building	2	Υ	4.20	3.62	3.88	20	0
General Office Building	3	Υ	3.45	3.58	3.58	15	0
General Office Building	4	Υ	8.01	7.84	4.72	20	0
General Office Building	5	Υ	5.42	4.80	4.34	23	1
General Office Building	6	Υ	6.76	5.75	4.50	15	1
General Office Building	7	Y	3.78	3.31	4.58	20	1
General Office Building	8	Y	6.17	4.94	5.27	10	1
General Office Building	9	Y	5.99	4.62	4.63	12	0
General Office Building General Office Building	10 11	Y	4.03 5.99	2.79 4.62	4.45 4.63	4 12	0
General Office Building	12	Y	5.99	4.62	4.63	12	0
General Office Building	13	Y	6.14		4.63	19	4
General Office Building	14	Y	5.02	3.98	4.24	24	0
General Office Building	15	Y	4.03	2.79	4.45	4	0
Golf Course	1	N	0.00	0.00	0.00	0	0
Golf Course	2	N	0.00	0.00	0.00	0	0
Golf Course	3	N	0.00	0.00	0.00	0	0
Golf Course	4	N	0.00	0.00	0.00	0	0
Golf Course	5	N	0.00	0.00	0.00	0	0
Golf Course	6	N	0.00	0.00	0.00	0	0
Golf Course	7	N	0.00	0.00	0.00	0	0
Golf Course	8	N	0.00	0.00	0.00	0	0
Golf Course	9	N	0.00	0.00	0.00	0	0
Golf Course	10	N	0.00	0.00	0.00	0	0
Golf Course Golf Course	11 12	N N	0.00	0.00	0.00	0	0
Golf Course	13	N N	0.00	0.00	0.00	0	0
Golf Course	14	N	0.00	0.00	0.00	0	0
Golf Course	15	N	0.00	0.00	0.00	0	0
Golf Course	1	Y	0.00	0.00	0.00	0	0
Golf Course	2	Y	0.00	0.00	0.00	0	0
Golf Course	3	Y	0.00	0.00	0.00	0	0
Golf Course	4	Υ	0.00	0.00	0.00	0	0
Golf Course	5	Υ	0.00	0.00	0.00	0	0
Golf Course	6	Υ	0.00	0.00	0.00	0	0
Golf Course	7	Υ	0.00	0.00	0.00	0	0
Golf Course	8	Y	0.00	0.00	0.00	0	0
Golf Course	9	Υ	0.00	0.00	0.00	0	0

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Table 8.1 Energy Use by Climate Zone and Land Use Type

					•		
	Climate		T24	NT24			NT24
Land Use Sub Type	Zone	Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
	20110		KWh	r per DU or S	QFT	kBtu per	DU or SQFT
Golf Course	10	Υ	0.00	0.00	0.00	0	0
Golf Course	11	Υ	0.00	0.00	0.00	0	0
Golf Course	12	Υ	0.00	0.00	0.00	0	0
Golf Course	13	Υ	0.00	0.00		0	0
Golf Course	14	Υ	0.00	0.00		0	0
Golf Course	15	Y	0.00	0.00	0.00	0	0
Government (Civic Center)	1	N	3.81	3.98	3.55	20	0
Government (Civic Center)	3	N	3.37	3.62	3.25	16	0
Government (Civic Center) Government (Civic Center)		N N	2.75	3.58 7.84	2.99	13 16	
Government (Civic Center)	4 5	N N	6.40 4.30	4.80	3.98 3.67	18	0
Government (Civic Center)	6	N	5.22	5.75	3.80	12	1
Government (Civic Center)	7	N	3.03	3.31	3.86	16	1
Government (Civic Center)	8	N	4.94	4.94	4.46	9	1
Government (Civic Center)	9	N	4.82	4.62	3.88	10	0
Government (Civic Center)	10	N	3.22	2.79	3.75	3	0
Government (Civic Center)	11	N	4.82	4.62	3.88	10	0
Government (Civic Center)	12	N	4.82	4.62	3.88	10	0
Government (Civic Center)	13	N	4.88	4.97	3.91	16	4
Government (Civic Center)	14	N	3.81	3.98	3.55	20	0
Government (Civic Center)	15	N	3.22	2.79	3.75	3	0
Government (Civic Center)	1	Y	5.02	3.98	4.24	24	0
Government (Civic Center)	2	Y	4.20	3.62	3.88	20	0
Government (Civic Center)	3	Y	3.45	3.58	3.58	15	0
Government (Civic Center)	4	Y	8.01	7.84	4.72	20	0
Government (Civic Center)	5	Y	5.42	4.80	4.34	23 15	1
Government (Civic Center) Government (Civic Center)	6 7	Y	6.76 3.78	5.75 3.31	4.50 4.58	20	1
Government (Civic Center)	8	Y	6.17	4.94	5.27	10	1
Government (Civic Center)	9	Y	5.99	4.62	4.63	12	0
Government (Civic Center)	10	Y	4.03	2.79	4.45	4	0
Government (Civic Center)	11	Ϋ́	5.99	4.62	4.63	12	0
Government (Civic Center)	12	Y	5.99	4.62	4.63	12	0
Government (Civic Center)	13	Υ	6.14	4.97	4.63	19	4
Government (Civic Center)	14	Υ	5.02	3.98	4.24	24	O
Government (Civic Center)	15	Υ	4.03	2.79	4.45	4	0
Government Office Building	1	N	3.81	3.98	3.55	20	0
Government Office Building	2	N	3.37	3.62	3.25	16	0
Government Office Building	3	N	2.75	3.58	2.99	13	0
Government Office Building	4	N	6.40	7.84	3.98	16	0
Government Office Building	5	N	4.30	4.80		18	
Government Office Building	6	N	5.22	5.75		12	1
Government Office Building	7	N	3.03	3.31	3.86	16	1
Government Office Building	8	N	4.94	4.94		9	1
Government Office Building Government Office Building	9	N N	4.82 3.22	4.62 2.79		10	0
Government Office Building Government Office Building	11	N N	4.82	4.62		10	0
Government Office Building	12	N	4.82	4.62	3.88	10	0
Government Office Building	13	N	4.88	4.02	3.91	16	4
Government Office Building	14	N	3.81	3.98		20	C
Government Office Building	15	N	3.22	2.79		3	C
Government Office Building	1	Υ	5.02	3.98		24	0
Government Office Building	2	Υ	4.20	3.62	3.88	20	C
Government Office Building	3	Υ	3.45	3.58	3.58	15	0
Government Office Building	4	Υ	8.01	7.84		20	C
Government Office Building	5	Υ	5.42	4.80		23	1
Government Office Building	6	Y	6.76	5.75		15	1
Government Office Building	7	Y	3.78	3.31	4.58	20	1
Government Office Building	8	Y	6.17	4.94		10	1
Government Office Building	9	Y	5.99	4.62		12	C
Government Office Building	10	Y	4.03	2.79		4	C
Government Office Building	11	Y	5.99	4.62	4.63	12	C
Government Office Building Government Office Building	12 13	Y	5.99 6.14	4.62 4.97	4.63 4.63	12 19	C
Government Office Building Government Office Building	13	Y	5.02	3.98		24	4
Government Office Building Government Office Building	15	Y	4.03	2.79		4	C
Hardware/Paint Store	1	N	5.25	2.79	5.84	7	C
priarawaro/r amit Otole	<u> </u>	IN	5.25	2.01	5.04	/	U

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Table 8.1 Energy Use by Climate Zone and Land Use Type

		ı					
Land Use Sub Type	Climate	Historical	T24	NT24	3 . 3	T24	NT24
Land Ose Sub Type	Zone	HIStorical	Electricity	Electricity			Natural Gas
Hardware/Paint Store	2	N	4.08	r per DU or S 1.98	QF1 6.08	KBtu per	DU or SQFT 0
Hardware/Paint Store	3	N	2.24	2.30	3.81	9	2
Hardware/Paint Store	4	N	2.89	2.68	5.38	2	0
Hardware/Paint Store	5	N	2.35	3.36	5.00	4	1
Hardware/Paint Store	6	N	3.41	2.98	5.47	5	1
Hardware/Paint Store	7	N	3.31	2.49	4.65	6	0
Hardware/Paint Store	8	N	3.07	2.80	5.85	1	1
Hardware/Paint Store Hardware/Paint Store	9	N	4.20	3.23	6.43	1	0
Hardware/Paint Store Hardware/Paint Store	11	N N	4.80 4.20	2.44 3.23	5.77 6.43	2 1	0
Hardware/Paint Store	12	N	4.20	3.23	6.43	1	0
Hardware/Paint Store	13	N	3.34	3.16	6.39	1	1
Hardware/Paint Store	14	N	5.25	2.81	5.84	7	0
Hardware/Paint Store	15	N	4.80	2.44	5.77	2	0
Hardware/Paint Store	1	Υ	6.81	2.81	6.86	9	0
Hardware/Paint Store	2	Y	4.97	1.98	7.17	14	0
Hardware/Paint Store	3	Y	2.77	2.30	4.53	10	2
Hardware/Paint Store Hardware/Paint Store	4 5	Y	3.55 2.90	2.68 3.36	6.02 5.88	<u>3</u>	0
Hardware/Paint Store Hardware/Paint Store	6	Y	4.20	2.98	6.45	6	1
Hardware/Paint Store	7	Y	4.12	2.49	5.50	7	0
Hardware/Paint Store	8	Y	3.79	2.80	6.85	1	1
Hardware/Paint Store	9	Υ	5.17	3.23	7.56	1	0
Hardware/Paint Store	10	Υ	5.95	2.44	8.20	2	0
Hardware/Paint Store	11	Y	5.17	3.23	7.56	1	0
Hardware/Paint Store	12	Y	5.17	3.23	7.56	1	0
Hardware/Paint Store Hardware/Paint Store	13 14	Y	4.13 6.81	3.16 2.81	7.50 6.86	9	<u>1</u> 0
Hardware/Paint Store	15	Y	5.95	2.44	8.20	2	0
Health Club	1	N	0.65	1.85	1.86	3	0
Health Club	2	N	1.73	4.20	2.68	19	0
Health Club	3	N	2.05	4.16	2.78	17	4
Health Club	4	N	1.55	3.70	3.17	20	7
Health Club	5	N	1.27	3.36	3.07	18	7
Health Club Health Club	6 7	N N	3.58 0.42	7.20 1.31	4.72 0.67	24 17	12 0
Health Club	8	N	1.71	3.83	3.08	14	7
Health Club	9	N	2.36	5.75	3.20	14	4
Health Club	10	N	2.31	5.02	3.01	15	17
Health Club	11	N	2.36	5.75	3.20	14	4
Health Club	12	N	2.36				4
Health Club	13	N	1.27	4.27	2.91	4	7
Health Club	14	N	0.65	1.85	1.86	3	0
Health Club Health Club	15 1	N Y	2.31 0.83	5.02 1.85	3.01 2.28	15 4	17
Health Club	2	Ϋ́	2.17	4.20		22	0
Health Club	3	Y	2.17	4.20		20	4
Health Club	4	Y	1.93	3.70	3.80	23	7
Health Club	5	Υ	1.59	3.36	3.70	20	7 7
Health Club	6	Υ	4.47	7.20	5.65	26	12
Health Club	7	Y	0.51	1.31	0.91	19	0
Health Club	8	Y	2.12	3.83		15	7
Health Club Health Club	9 10	Y	2.94 2.89	5.75 5.02	3.85 3.62	15 17	4 17
Health Club	11	Ϋ́	2.89	5.02	3.62	17	4
Health Club	12	Y	2.94	5.75	3.85	15	4
Health Club	13	Y	1.59	4.27	3.52	5	7
Health Club	14	Υ	0.83	1.85	2.28	4	0
Health Club	15	Υ	2.89	5.02	3.62	17	17
High School	1	N	1.70	1.48	3.80	14	1
High School	2	N	1.97	1.42	2.40	9	0
High School High School	3 4	N N	2.25 1.63	1.89 1.28	3.08 2.62	23 18	<u>2</u> 1
High School	5	N N	0.69	1.26	2.52	15	2
High School	6	N	2.15	2.17	3.19		1
High School	7	N	2.04	1.95	3.54	10	0
High School	8	N	1.98	1.51	2.75	11	1
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Table 8.1 Energy Use by Climate Zone and Land Use Type

	Climate		T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Zone	Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
				per DU or S			DU or SQFT
High School	9	N	1.83	1.59	2.66	9	1
High School	10	N	2.92	1.49	3.11	7	
High School High School	11 12	N N	1.83 1.83	1.59 1.59	2.66 2.66	9	1
High School	13	N	1.60	1.18	2.61	5	(
High School	14	N	1.70	1.48	3.80	14	1
High School	15	N	2.92	1.49	3.11	7	2
High School	1	Υ	2.18	1.48	4.55	16	1
High School	2	Y	2.43	1.42	2.90	11	(
High School	3 4	Y	2.81	1.89 1.28	3.69	27	2
High School High School	5	Y	2.03 0.86	1.26	3.02 3.11	21 18	1
High School	6	Y	2.74	2.17	3.82	17	1
High School	7	Y	2.54	1.95	4.27	12	C
High School	8	Υ	2.46	1.51	3.30	12	1
High School	9	Υ	2.29	1.59	3.20	11	1
High School	10	Y	3.64	1.49	4.52	8	2
High School High School	11 12	Y	2.29 2.29	1.59 1.59	3.20 3.20	11 11	1
High School	13	Y	2.29	1.18	3.20	6	0
High School	14	Y	2.03	1.48	4.55	16	1
High School	15	Y	3.64	1.49	4.52	8	2
High Turnover (Sit Down Restaurant)	1	N	4.20	15.83	4.87	28	89
High Turnover (Sit Down Restaurant)	2	N	6.35	17.72	7.80	41	69
High Turnover (Sit Down Restaurant)	3	N	6.86	16.25	6.34	36	175
High Turnover (Sit Down Restaurant) High Turnover (Sit Down Restaurant)	4 5	N N	5.31 2.80	22.30 20.97	5.51 5.48	61 40	147 128
High Turnover (Sit Down Restaurant)	6	N	9.22	26.72	6.35	60	118
High Turnover (Sit Down Restaurant)	7	N	8.18	20.65	5.18	18	81
High Turnover (Sit Down Restaurant)	8	N	9.13	20.11	7.87	79	181
High Turnover (Sit Down Restaurant)	9	N	8.50	28.16	8.13	43	188
High Turnover (Sit Down Restaurant)	10	N	12.98	28.48	6.83	78	196
High Turnover (Sit Down Restaurant)	11 12	N N	8.50 8.50	28.16 28.16	8.13 8.13	43 43	188 188
High Turnover (Sit Down Restaurant) High Turnover (Sit Down Restaurant)	13	N	8.63	23.69	6.13	36	138
High Turnover (Sit Down Restaurant)	14	N	4.20	15.83	4.87	28	89
High Turnover (Sit Down Restaurant)	15	N	12.98	28.48	6.83	78	196
High Turnover (Sit Down Restaurant)	1	Υ	5.30	15.83	5.76	30	89
High Turnover (Sit Down Restaurant)	2	Y	7.80	17.72	9.18	45	69
High Turnover (Sit Down Restaurant)	3	Y	8.49	16.25	7.47	39	175
High Turnover (Sit Down Restaurant) High Turnover (Sit Down Restaurant)	4 5	Y	6.58 3.42	22.30 20.97	6.25 6.45	65 43	147 128
High Turnover (Sit Down Restaurant)	6	Y	11.47	26.72	7.44	65	118
High Turnover (Sit Down Restaurant)	7	Y	10.14	20.65	6.13	21	81
High Turnover (Sit Down Restaurant)	8	Υ	11.27	20.11	9.20	84	181
High Turnover (Sit Down Restaurant)	9	Y	10.52	28.16	9.64	47	188
High Turnover (Sit Down Restaurant)	10	Y	16.13	28.48	9.51	84	196
High Turnover (Sit Down Restaurant) High Turnover (Sit Down Restaurant)	11 12	Y	10.52 10.52	28.16 28.16	9.64 9.64	47 47	188 188
High Turnover (Sit Down Restaurant)	13	Y	10.52	23.69	8.19	38	138
High Turnover (Sit Down Restaurant)	14	Y	5.30	15.83	5.76	30	89
High Turnover (Sit Down Restaurant)	15	Υ	16.13	28.48	9.51	84	196
Home Improvement Superstore	1	N	5.25	2.81	5.84	7	C
Home Improvement Superstore	2	N	4.08	1.98	6.08	11	
Home Improvement Superstore Home Improvement Superstore	3 4	N N	2.24 2.89	2.30 2.68	3.81 5.38	9	2
Home Improvement Superstore	5	N N	2.89	3.36	5.00	4	1
Home Improvement Superstore	6	N	3.41	2.98	5.47	5	1
Home Improvement Superstore	7	N	3.31	2.49	4.65	6	C
Home Improvement Superstore	8	N	3.07	2.80	5.85	1	1
Home Improvement Superstore	9	N	4.20	3.23	6.43	1	(
Home Improvement Superstore	10 11	N N	4.80	2.44	5.77	<u>2</u> 1	(
Home Improvement Superstore Home Improvement Superstore	11	N N	4.20 4.20	3.23 3.23	6.43 6.43	1	(
Home Improvement Superstore	13	N	3.34	3.16	6.39	1	1
Home Improvement Superstore	14	N	5.25	2.81	5.84	7	C
Home Improvement Superstore	15	N	4.80	2.44	5.77	2	C

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Table 8.1 Energy Use by Climate Zone and Land Use Type

	Climate		T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Zone	Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
	20110		KWh	r per DU or S	QFT	kBtu per	DU or SQFT
Home Improvement Superstore	1	Υ	6.81	2.81	6.86	9	0
Home Improvement Superstore	2	Υ	4.97	1.98	7.17	14	0
Home Improvement Superstore	3	Υ	2.77	2.30	4.53	10	2
Home Improvement Superstore	4	Υ	3.55	2.68	6.02	3	0
Home Improvement Superstore	5	Υ	2.90	3.36	5.88	5	1
Home Improvement Superstore	6	Y	4.20	2.98	6.45	6	1
Home Improvement Superstore	7	Y	4.12	2.49	5.50	7	0
Home Improvement Superstore	8	Y	3.79	2.80	6.85	1	1
Home Improvement Superstore	9	Y	5.17	3.23	7.56	1	0
Home Improvement Superstore	10 11	Y	5.95 5.17	2.44 3.23	8.20	2 1	0
Home Improvement Superstore Home Improvement Superstore	12	Y	5.17	3.23	7.56 7.56	1	0
Home Improvement Superstore	13	Y	4.13	3.16	7.50	1	1
Home Improvement Superstore	14	Y	6.81	2.81	6.86	9	0
Home Improvement Superstore	15	Y	5.95	2.44	8.20	2	0
Hospital	1	N	4.52	5.35	3.50	9	0
Hospital	2	N	5.69	5.64	4.64	61	24
Hospital	3	N	5.86	3.96	3.74	35	8
Hospital	4	N	9.49	6.46	4.94	94	17
Hospital	5	N	6.78	5.52	4.34	85	16
Hospital	6	N	9.62	6.17	5.10	58	10
Hospital	7	N	4.36	4.96	4.08	25	2
Hospital	8	N	7.35	4.33	4.61	51	9
Hospital	9	N	10.44	7.55	5.44	55	10
Hospital	10	N	8.75	5.56	4.64	70	6
Hospital	11	N	10.44	7.55	5.44	55	10
Hospital	12 13	N N	10.44 6.68	7.55 5.87	5.44 4.64	55 51	10
Hospital Hospital	14	N N	4.52	5.35	3.50	9	
Hospital	15	N	8.75	5.56	4.64	70	6
Hospital	1	Y	4.83	5.35	3.91	11	0
Hospital	2	Y	6.11	5.64	5.11	64	24
Hospital	3	Y	6.26	3.96	4.17	38	8
Hospital	4	Υ	10.23	6.46	5.43	101	17
Hospital	5	Υ	7.39	5.52	4.78	93	16
Hospital	6	Υ	10.35	6.17	5.59	64	10
Hospital	7	Υ	4.70	4.96	4.55	28	2
Hospital	8	Υ	7.95	4.33	5.09	56	9
Hospital	9	Y	11.27	7.55	5.99	62	10
Hospital	10	Y	9.50	5.56	5.13	77	6
Hospital	11	Y	11.27	7.55			10
Hospital	12	Y	11.27	7.55	5.99	62	10
Hospital Hospital	13 14	Y	7.21 4.83	5.87 5.35	5.09 3.91	54 11	7 0
Hospital Hospital	15	Y	9.50	5.56	5.13	77	6
Hotel	1	N	2.12	2.87	2.65	21	0
Hotel	2	N	1.96	1.37	3.49	27	0
Hotel	3	N	4.33	2.30	1.55	18	7
Hotel	4	N	2.15		2.41	40	5
Hotel	5	N	2.29	2.85	3.21	30	7
Hotel	6	N	3.77	3.33	2.95	33	6
Hotel	7	N	4.76	3.68	3.91	33	2
Hotel	8	N	2.91	3.24	3.11	29	5
Hotel	9	N	2.68	2.89	2.20	20	4
Hotel	10	N	6.79	6.23	5.58	55	5
Hotel	11	N	2.68	2.89	2.20	20	4
Hotel	12	N	2.68	2.89	2.20	20	4
Hotel	13	N	5.01	3.67	4.61	48	11
Hotel	14	N	2.12	2.87	2.65	21	0
Hotel	15 1	N Y	6.79	6.23	5.58	55 22	5
Hotel Hotel	2	Y	2.80 2.68	2.87 1.37	3.23 4.22	28	0
Hotel	3	Y	5.38	2.30	1.93		7
Hotel	4	Y	2.81	3.22	2.93	42	5
Hotel	5	Y	2.95	2.85	3.82	32	7
Hotel	6	Y	4.91	3.33	3.53	36	6
Hotel	7	Y	5.99	3.68	4.67	36	2
0				2.20			

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Table 8.1 Energy Use by Climate Zone and Land Use Type

<u> </u>			T0.4	NITO	1 . 1	T0.4	NEC
Land Use Sub Type	Climate	Historical	T24 Electricity		3 3	T24 Natural Gas	NT24 Natural Gas
	Zone	1 1101011001	,	r per DU or S	,		DU or SQFT
Hotel	8	Υ	3.64	3.24	3.71	31	5
Hotel	9	Υ	3.50	2.89	2.67	22	4
Hotel	10	Υ	8.54	6.23	6.57	63	5
Hotel	11	Y	3.50	2.89	2.67	22	4
Hotel	12	Y	3.50	2.89	2.67	22	4
Hotel Hotel	13 14	Y	6.29 2.80	3.67 2.87	5.43 3.23	50 22	11
Hotel	15	Y	8.54	6.23	6.57	63	5
Industrial Park	1	N	3.81	3.98	3.55	20	0
Industrial Park	2	N	3.37	3.62	3.25	16	0
Industrial Park	3	N	2.75	3.58	2.99	13	C
Industrial Park	4	N	6.40	7.84	3.98	16	C
Industrial Park	5	N	4.30	4.80	3.67	18	1
Industrial Park	6	N	5.22	5.75	3.80	12	1
Industrial Park Industrial Park	7 8	N N	3.03 4.94	3.31 4.94	3.86 4.46	16 9	1
Industrial Park	9	N	4.94	4.62	3.88	10	0
Industrial Park	10	N	3.22	2.79	3.75	3	0
Industrial Park	11	N	4.82	4.62	3.88	10	0
Industrial Park	12	N	4.82	4.62	3.88	10	0
Industrial Park	13	N	4.88	4.97	3.91	16	4
Industrial Park	14	N	3.81	3.98	3.55	20	0
Industrial Park	15	N	3.22	2.79	3.75	3	0
Industrial Park	1	Y	5.02	3.98	4.24	24	0
Industrial Park	3	Y	4.20	3.62	3.88 3.58	20	0
Industrial Park Industrial Park	4	Ϋ́	3.45 8.01	3.58 7.84	4.72	15 20	0
Industrial Park	5	Y	5.42	4.80	4.72	23	1
Industrial Park	6	Y	6.76	5.75	4.50	15	1
Industrial Park	7	Y	3.78	3.31	4.58	20	1
Industrial Park	8	Υ	6.17	4.94	5.27	10	1
Industrial Park	9	Υ	5.99	4.62	4.63	12	0
Industrial Park	10	Y	4.03	2.79	4.45	4	0
Industrial Park	11	Y	5.99	4.62	4.63	12	0
Industrial Park	12 13	Y	5.99 6.14	4.62	4.63	12 19	0
Industrial Park Industrial Park	13	Y	5.02	4.97 3.98	4.63 4.24	24	4
Industrial Park	15	Y	4.03	2.79	4.45	4	0
Junior College (2yr)	1	N	2.72	1.73	5.93	22	0
Junior College (2yr)	2	N	3.94	0.34	4.76	41	0
Junior College (2yr)	3	N	3.11	2.63	5.97	21	1
Junior College (2yr)	4	N	2.87	2.27	2.99	21	3
Junior College (2yr)	5	N	4.34	3.15	3.01	34	1
Junior College (2yr)	6	N	3.53	2.09	3.12	26	0
Junior College (2yr)	7	N N	3.80	6.44	6.00	52	C
Junior College (2yr) Junior College (2yr)	8	N N	5.23 3.18	2.72 3.59	4.75 3.48	10 27	5 1
Junior College (2yr)	10	N	2.07	1.92	4.10	14	C
Junior College (2yr)	11	N	3.18	3.59	3.48	27	1
Junior College (2yr)	12	N	3.18		3.48	27	1
Junior College (2yr)	13	N	2.79	2.69	3.63	31	5
Junior College (2yr)	14	N	2.72	1.73		22	0
Junior College (2yr)	15	N	2.07	1.92	4.10	14	0
Junior College (2yr)	1	Y	3.42	1.73	7.02	25 50	C
Junior College (2yr) Junior College (2yr)	3	Y	5.14 3.94	0.34 2.63	5.63 7.00	50 25	C 1
Junior College (2yr) Junior College (2yr)	4	Ϋ́Υ	3.94	2.63	3.58	25	3
Junior College (2yr)	5	Y	5.49	3.15	3.61	40	1
Junior College (2yr)	6	Ϋ́	4.47	2.09	3.75	31	C
Junior College (2yr)	7	Y	4.74	6.44	7.07	59	(
Junior College (2yr)	8	Υ	7.10	2.72	5.59	12	5
Junior College (2yr)	9	Υ	4.07	3.59	4.14	31	1
Junior College (2yr)	10	Y	2.64	1.92	4.86	17	C
Junior College (2yr)	11	Y	4.07	3.59	4.14	31	1
Junior College (2yr)	12	Y	4.07	3.59	4.14	31	1
Junior College (2yr) Junior College (2yr)	13	Y	3.73	2.69	4.35	36 25	5
puriioi College (zyr)	14	Y	3.42	1.73	7.02	25	0

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Table 8.1 Energy Use by Climate Zone and Land Use Type

Land Use Sub Type								
Intercellage Property Prope		Climate		T24	NT24	3 . 3		NT24
With rep TU or SGFT	Land Use Sub Type		Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
Junior College (2yr)		20110		KWh	r per DU or S	QFT	kBtu per	DU or SQFT
Junior High School	Junior College (2yr)	15	Υ	2.64	1.92	4.86		0
Junior High School	Junior High School			1.70	1.48	3.80		1
Junior High School	U U							0
Junior High School								2
Junior High School		_						1
Junior High School								2
Junior High School								1
Junior High School 9 N								
Junior High School		_						-
Junior High School	U U							
Junior High School								
Junior High School								1
Junior High School								0
Junior High School								1
Junior High School								2
Junior High School								1
Junior High School	Junior High School	2	Y					0
Junior High School			Υ	2.81	1.89		27	2
Junior High School	Junior High School			2.03				1
Junior High School	U U							2
Junior High School								1
Junior High School	<u> </u>							0
Junior High School								1
Junior High School								
Junior High School								
Junior High School								
Junior High School	U U							
Junior High School								
Library	<u> </u>							
Library 2 N 1.73 4.20 2.68 19 C Library 3 N 2.05 4.16 2.78 17 4 4 N 1.55 3.70 3.17 20 7 Library 4 N 1.55 3.70 3.17 20 7 Library 5 N 1.27 3.36 3.07 18 7 Library 6 N 3.58 7.20 4.72 24 12 Library 7 N 0.42 1.31 0.67 17 C Library 9 N 2.36 5.75 3.20 14 4 7 Library 10 N 2.31 5.02 3.01 15 17 Library 11 N 2.36 5.75 3.20 14 4 4 Library 11 N 2.36 5.75 3.20 14 4 4 Library 12 N 2.36 5.75 3.20 14 4 4 Library 13 N 1.27 4.27 2.91 4 7 Library 14 N 0.65 1.85 1.86 3 C Library 15 N 2.31 5.02 3.01 15 17 Library 17 N 2.36 5.75 3.20 14 4 4 N 0.65 1.85 1.86 3 C Library 17 N 2.36 5.75 3.20 14 4 N 0.65 1.85 1.86 3 C Library 18 N 2.31 5.02 3.01 15 17 18 18 18 18 18 18 18 18 18 18 18 18 18								0
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Library 6 N 3.58 7.20 4.72 24 12 Library 7 N 0.42 1.31 0.67 17 0.62 Library 8 N 1.71 3.83 3.08 14 7 Library 9 N 2.36 5.75 3.20 14 4 Library 10 N 2.31 5.02 3.01 15 17 Library 11 N 2.36 5.75 3.20 14 4 Library 12 N 2.36 5.75 3.20 14 4 Library 12 N 2.36 5.75 3.20 14 4 Library 13 N 1.27 4.27 2.91 4 7 Library 14 N 0.65 1.85 1.86 3 CC Library 15 N 2.31 5.02 3.01 15	Library	4	N	1.55	3.70	3.17	20	7
Library 7 N 0.42 1.31 0.67 17 C 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Library	5	N	1.27		3.07	18	7
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Library 1 Y 0.83 1.85 2.28 4 C Library 2 Y 2.17 4.20 3.26 22 C Library 3 Y 2.52 4.16 3.35 20 4 Library 4 Y 1.93 3.70 3.80 23 7 Library 5 Y 1.59 3.36 3.70 20 7 Library 6 Y 4.47 7.20 5.65 26 12 Library 7 Y 0.51 1.31 0.91 19 0 Library 7 Y 0.51 1.31 0.91 19 0 Library 8 Y 2.12 3.83 3.70 15 7 Library 9 Y 2.94 5.75 3.85 15 4 Library 10 Y 2.89 5.02 3.62 17 17<								
Library 2 Y 2.17 4.20 3.26 22 0 Library 3 Y 2.52 4.16 3.35 20 4 Library 4 Y 1.93 3.70 3.80 23 7 Library 5 Y 1.59 3.36 3.70 20 7 Library 6 Y 4.47 7.20 5.65 26 12 Library 7 Y 0.51 1.31 0.91 19 0 Library 8 Y 2.12 3.83 3.70 15 7 Library 9 Y 2.94 5.75 3.85 15 4 Library 10 Y 2.89 5.02 3.62 17 17 Library 11 Y 2.94 5.75 3.85 15 4 Library 12 Y 2.94 5.75 3.85 15 <td< td=""><td>•</td><td></td><td></td><td></td><td></td><td></td><td></td><td>0</td></td<>	•							0
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Manufacturing 5 N 1.27 3.36 3.07 18 7	<u>v</u>							
	v							
	Manufacturing							

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Table 8.1 Energy Use by Climate Zone and Land Use Type

	Clima et e		T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Climate Zone	Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
	20116		KWhi	per DU or S	QFT	kBtu per	DU or SQFT
Manufacturing	7	N	0.42	1.31	0.67	17	0
Manufacturing	8	N	1.71	3.83	3.08	14	7
Manufacturing	9	N	2.36	5.75	3.20	14	4
Manufacturing	10	N	2.31	5.02	3.01	15	17
Manufacturing	11	N	2.36	5.75	3.20	14	4
Manufacturing	12	N	2.36	5.75	3.20	14	4
Manufacturing Manufacturing	13 14	N N	1.27 0.65	4.27 1.85	2.91 1.86	4 3	
Manufacturing	15	N	2.31	5.02	3.01	15	17
Manufacturing	1	Y	0.83	1.85	2.28	4	0
Manufacturing	2	Y	2.17	4.20	3.26	22	0
Manufacturing	3	Υ	2.52	4.16	3.35	20	4
Manufacturing	4	Υ	1.93	3.70	3.80	23	7
Manufacturing	5	Υ	1.59	3.36	3.70	20	7
Manufacturing	6	Υ	4.47	7.20	5.65	26	12
Manufacturing	7	Υ	0.51	1.31	0.91	19	0
Manufacturing	8	Y	2.12	3.83	3.70	15	7
Manufacturing	9	Y	2.94	5.75	3.85	15	4
Manufacturing Manufacturing	10 11	Y	2.89 2.94	5.02 5.75	3.62	17 15	17
Manufacturing Manufacturing	11 12	Y	2.94	5.75 5.75	3.85 3.85	15 15	4 4
Manufacturing	13	Y	1.59	4.27	3.52	5	4 7
Manufacturing	14	Y	0.83	1.85	2.28	4	0
Manufacturing	15	Y	2.89	5.02	3.62	17	17
Medical Office Building	1	N	3.81	3.98	3.55	20	0
Medical Office Building	2	N	3.37	3.62	3.25	16	0
Medical Office Building	3	N	2.75	3.58	2.99	13	0
Medical Office Building	4	N	6.40	7.84	3.98	16	0
Medical Office Building	5	N	4.30	4.80	3.67	18	1
Medical Office Building	6	N	5.22	5.75	3.80	12	1
Medical Office Building	7	N	3.03	3.31	3.86	16	1
Medical Office Building	8	N N	4.94	4.94	4.46	9 10	1 0
Medical Office Building Medical Office Building	10	N N	4.82 3.22	4.62 2.79	3.88 3.75	3	0
Medical Office Building	11	N	4.82	4.62	3.88	10	0
Medical Office Building	12	N	4.82	4.62	3.88	10	0
Medical Office Building	13	N	4.88	4.97	3.91	16	4
Medical Office Building	14	N	3.81	3.98	3.55	20	0
Medical Office Building	15	N	3.22	2.79	3.75	3	0
Medical Office Building	1	Υ	5.02	3.98	4.24	24	0
Medical Office Building	2	Υ	4.20	3.62	3.88		0
Medical Office Building	3	Y	3.45	3.58	3.58	15	0
Medical Office Building	4	Y	8.01	7.84	4.72	20	0
Medical Office Building	5	Y	5.42	4.80	4.34	23	1
Medical Office Building Medical Office Building	6 7	Y	6.76 3.78	5.75 3.31	4.50 4.58	15 20	1 1
Medical Office Building	8	Y	6.17	4.94	5.27	10	<u></u> 1
Medical Office Building	9	Y	5.99	4.62	4.63	12	0
Medical Office Building	10	Y	4.03	2.79	4.45	4	0
Medical Office Building	11	Y	5.99	4.62	4.63	12	0
Medical Office Building	12	Υ	5.99	4.62	4.63	12	0
Medical Office Building	13	Υ	6.14	4.97	4.63	19	4
Medical Office Building	14	Υ	5.02	3.98	4.24	24	0
Medical Office Building	15	Y	4.03	2.79	4.45	4	0
Mobile Home Park	1	N	790.56	4329.07	1038.60	3415	1599
Mobile Home Park	2	N	449.36	4329.07	1038.60	6323	2687
Mobile Home Park Mobile Home Park	3	N N	755.17 350.70	4329.07	1038.60 1038.60	16740 17518	3723
Mobile Home Park Mobile Home Park	4 5	N N	350.79 213.03	4329.07 4329.07	1038.60	25066	3155 2615
Mobile Home Park	6	N	449.36	4329.07	1038.60	6323	2687
Mobile Home Park	7	N	641.84	4329.07	1038.60	19559	4769
Mobile Home Park	8	N	315.52	4329.07	1038.60	20454	5516
Mobile Home Park	9	N	251.12	4329.07	1038.60	14668	6384
Mobile Home Park	10	N	889.17	4329.07	1038.60	22827	6030
Mobile Home Park	11	N	200.65	4329.07	1038.60	2352	4831
Mobile Home Park	12	N	480.19	4329.07	1038.60	29839	6281
Mobile Home Park	13	N	431.60	4329.07	1038.60	23945	4180

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Table 8.1 Energy Use by Climate Zone and Land Use Type

Climate Clim								
Land Use Sub Type		Clima et e		T24	NT24	Lighting	T24	NT24
Mobile Home Park	Land Use Sub Type		Historical	Electricity	Electricity			Natural Gas
Mobile Home Park		20116		KWhi	per DU or S	QFT	kBtu per	DU or SQFT
Mobile Home Park	Mobile Home Park	14	N	790.56	4329.07		3415	1599
Mobile Home Park		15						
Mobile Home Park 4 Y 964.74 3329.98 1038.60 15794 2103 Mobile Home Park 4 Y 967.32 3321.27 1038.60 15794 2103 Mobile Home Park 5 Y 507.33 3321.27 1038.60 5701 2103 Mobile Home Park 6 Y 756.88 3321.27 1038.60 5701 2103 Mobile Home Park 7 Y 823.21 3322.99 1038.60 17433 2343 Mobile Home Park 8 Y 749.49 3321.27 1038.60 13244 2103 Mobile Home Park 9 Y 667.48 3321.27 1038.60 13244 2103 Mobile Home Park 10 Y 1211.87 3321.27 1038.60 20581 2103 Mobile Home Park 11 Y 634.34 3321.27 1038.60 20581 2103 Mobile Home Park 12 Y 959.26 3321.27 1038.60 20581 2103 Mobile Home Park 13 Y 825.64 3321.27 1038.60 26080 2103 Mobile Home Park 14 Y 698.69 335.73 1038.60 26080 2103 Mobile Home Park 15 Y 1211.87 3321.27 1038.60 26080 2103 Mobile Home Park 16 Y 1211.87 3321.27 1038.60 26080 2103 Mobile Home Park 17 Y 825.64 3321.27 1038.60 26080 2103 Mobile Home Park 18 Y 825.64 3321.27 1038.60 26080 2103 Mobile Home Park 19 Y 825.64 3321.27 1038.60 26080 2103 Mobile Home Park 10 Y 1211.87 3321.27 1038.60 26080 2103 Mobile Home Park 11 Y 988.69 3335.73 1038.60 26080 2103 Mobile Home Park 12 Y 959.26 3321.27 1038.60 26081 2103 Mobile Home Park 14 Y 598.69 335.73 1038.60 26081 2103 Mobile Home Park 15 Y 1211.87 3321.27 1038.60 26081 2103 Mobile Home Park 16 Y 1211.87 3321.27 1038.60 26081 2103 Mobile Home Park 17 N 1.212 2.267 2.265 2.261 00 Mobile Home Park 18 Y 828.68 3321.27 1038.60 26081 2103 Mobile Home Park 19 N 1.92 2.67 2.265 2.261 00 Mobile Home Park 19 N 1.92 2.87 2.98 2.99 2.90 2.90 40 Mobile Home Park 10 N 2.12 2.267 2.265 2.21 00 Mobile Home Park 10 N 2.12 2.267 2.265 2.21 00 Mobile Home Park 10 N 2.268 2.289 2.20 2.00 40 Mobile Home Park 10 N 2.268 2.289 2.20 2.00 40 Mobile Home Park 10 N 2.268 2.289 2.20 2.00 44 Mobile Home Park 11 N 2.268 2.289 2.20 2.00 44 Mobile Home Park 12 N 2.280 2.267 2.265 2.27 00 Mobile Home Park 13 N 3.30 3.30 3.30 3.30 3.30 3.30 3.30 3			-					
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Mobile Home Park								
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Mobile Home Park								
Mobile Home Park		8	Υ	749.49			18441	2103
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Mobile Home Park								
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Motel								
Motel 8								
Motel								5
Motel								
Motel	Motel	10		6.79	6.23	5.58		
Motel								
Motel								
Motel								
Motel								
Motel								
Motel 4 Y 2.81 3.22 2.93 42 5 Motel 5 Y 2.95 2.85 3.82 32 7 Motel 6 Y 4.91 3.33 3.53 36 6 Motel 7 Y 5.99 3.68 4.67 36 2 Motel 8 Y 3.64 3.24 3.71 31 5 Motel 10 Y 8.54 6.23 6.57 63 5 Motel 11 Y 3.50 2.89 2.67 22 4 Motel 11 Y 3.50 2.89 2.67 22 4 Motel 11 Y 3.50 2.89 2.67 22 4 Motel 12 Y 3.50 2.89 2.67 22 4 Motel 12 Y 3.50 2.89 2.67 22 4								
Motel	Motel	3	Υ	5.38	2.30			
Motel 6 Y 4.91 3.33 3.53 36 6 Motel 7 Y 5.99 3.68 4.67 36 2 Motel 8 Y 3.64 3.24 3.71 31 5 Motel 9 Y 3.50 2.89 2.67 22 4 Motel 10 Y 8.54 6.23 6.57 63 5 Motel 11 Y 3.50 2.89 2.67 22 4 Motel 11 Y 3.50 2.89 2.67 22 4 Motel 13 Y 6.29 3.67 5.43 50 11 Motel 14 Y 2.80 2.87 3.23 22 0 Motel 15 Y 8.54 6.23 6.57 63 5 Movie Theater (No Matinee) 1 N 0.65 1.85 1.86 3 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>								
Motel 7 Y 5.99 3.68 4.67 36 2 Motel 8 Y 3.64 3.24 3.71 31 5 Motel 9 Y 3.50 2.89 2.67 22 4 Motel 10 Y 8.54 6.23 6.57 63 5 Motel 11 Y 3.50 2.89 2.67 22 4 Motel 12 Y 3.50 2.89 2.67 22 4 Motel 13 Y 6.29 3.67 5.43 50 11 Motel 14 Y 2.80 2.87 3.23 22 0 Motel 14 Y 2.80 2.87 3.23 22 0 Motel 15 Y 8.54 6.23 6.57 63 5 Movie Theater (No Matinee) 1 N 0.65 1.85 1.86 3 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
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Movie Theater (No Matinee) 7 N 0.42 1.31 0.67 17 0 Movie Theater (No Matinee) 8 N 1.71 3.83 3.08 14 7 Movie Theater (No Matinee) 9 N 2.36 5.75 3.20 14 4 Movie Theater (No Matinee) 10 N 2.31 5.02 3.01 15 17 Movie Theater (No Matinee) 11 N 2.36 5.75 3.20 14 4 Movie Theater (No Matinee) 12 N 2.36 5.75 3.20 14 4 Movie Theater (No Matinee) 12 N 2.36 5.75 3.20 14 4 Movie Theater (No Matinee) 13 N 1.27 4.27 2.91 4 7 Movie Theater (No Matinee) 14 N 0.65 1.85 1.86 3 0 Movie Theater (No Matinee) 1 Y 0.83 1.85 2.28 4 <						3.07		
Movie Theater (No Matinee) 8 N 1.71 3.83 3.08 14 7 Movie Theater (No Matinee) 9 N 2.36 5.75 3.20 14 4 Movie Theater (No Matinee) 10 N 2.31 5.02 3.01 15 17 Movie Theater (No Matinee) 11 N 2.36 5.75 3.20 14 4 Movie Theater (No Matinee) 12 N 2.36 5.75 3.20 14 4 Movie Theater (No Matinee) 13 N 1.27 4.27 2.91 4 7 Movie Theater (No Matinee) 14 N 0.65 1.85 1.86 3 0 Movie Theater (No Matinee) 15 N 2.31 5.02 3.01 15 17 Movie Theater (No Matinee) 1 Y 0.83 1.85 2.28 4 0 Movie Theater (No Matinee) 2 Y 2.17 4.20 3.26 22	` '							
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Movie Theater (No Matinee) 10 N 2.31 5.02 3.01 15 17 Movie Theater (No Matinee) 11 N 2.36 5.75 3.20 14 4 Movie Theater (No Matinee) 12 N 2.36 5.75 3.20 14 4 Movie Theater (No Matinee) 13 N 1.27 4.27 2.91 4 7 Movie Theater (No Matinee) 14 N 0.65 1.85 1.86 3 0 Movie Theater (No Matinee) 15 N 2.31 5.02 3.01 15 17 Movie Theater (No Matinee) 1 Y 0.83 1.85 2.28 4 0 Movie Theater (No Matinee) 2 Y 2.17 4.20 3.26 22 0 Movie Theater (No Matinee) 3 Y 2.52 4.16 3.35 20 4 Movie Theater (No Matinee) 4 Y 1.93 3.70 3.80 23	` ,							
Movie Theater (No Matinee) 11 N 2.36 5.75 3.20 14 4 Movie Theater (No Matinee) 12 N 2.36 5.75 3.20 14 4 Movie Theater (No Matinee) 13 N 1.27 4.27 2.91 4 7 Movie Theater (No Matinee) 14 N 0.65 1.85 1.86 3 0 Movie Theater (No Matinee) 15 N 2.31 5.02 3.01 15 17 Movie Theater (No Matinee) 1 Y 0.83 1.85 2.28 4 0 Movie Theater (No Matinee) 2 Y 2.17 4.20 3.26 22 0 Movie Theater (No Matinee) 3 Y 2.52 4.16 3.35 20 4 Movie Theater (No Matinee) 4 Y 1.93 3.70 3.80 23 7								
Movie Theater (No Matinee) 12 N 2.36 5.75 3.20 14 4 Movie Theater (No Matinee) 13 N 1.27 4.27 2.91 4 7 Movie Theater (No Matinee) 14 N 0.65 1.85 1.86 3 0 Movie Theater (No Matinee) 15 N 2.31 5.02 3.01 15 17 Movie Theater (No Matinee) 1 Y 0.83 1.85 2.28 4 0 Movie Theater (No Matinee) 2 Y 2.17 4.20 3.26 22 0 Movie Theater (No Matinee) 3 Y 2.52 4.16 3.35 20 4 Movie Theater (No Matinee) 4 Y 1.93 3.70 3.80 23 7								
Movie Theater (No Matinee) 14 N 0.65 1.85 1.86 3 0 Movie Theater (No Matinee) 15 N 2.31 5.02 3.01 15 17 Movie Theater (No Matinee) 1 Y 0.83 1.85 2.28 4 0 Movie Theater (No Matinee) 2 Y 2.17 4.20 3.26 22 0 Movie Theater (No Matinee) 3 Y 2.52 4.16 3.35 20 4 Movie Theater (No Matinee) 4 Y 1.93 3.70 3.80 23 7	Movie Theater (No Matinee)	12	N	2.36	5.75	3.20		4
Movie Theater (No Matinee) 15 N 2.31 5.02 3.01 15 17 Movie Theater (No Matinee) 1 Y 0.83 1.85 2.28 4 0 Movie Theater (No Matinee) 2 Y 2.17 4.20 3.26 22 0 Movie Theater (No Matinee) 3 Y 2.52 4.16 3.35 20 4 Movie Theater (No Matinee) 4 Y 1.93 3.70 3.80 23 7								
Movie Theater (No Matinee) 1 Y 0.83 1.85 2.28 4 0 Movie Theater (No Matinee) 2 Y 2.17 4.20 3.26 22 0 Movie Theater (No Matinee) 3 Y 2.52 4.16 3.35 20 4 Movie Theater (No Matinee) 4 Y 1.93 3.70 3.80 23 7	` '							
Movie Theater (No Matinee) 2 Y 2.17 4.20 3.26 22 0 Movie Theater (No Matinee) 3 Y 2.52 4.16 3.35 20 4 Movie Theater (No Matinee) 4 Y 1.93 3.70 3.80 23 7	` '							
Movie Theater (No Matinee) 3 Y 2.52 4.16 3.35 20 4 Movie Theater (No Matinee) 4 Y 1.93 3.70 3.80 23 7	` '							
Movie Theater (No Matinee) 4 Y 1.93 3.70 3.80 23 7	` '							

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Table 8.1 Energy Use by Climate Zone and Land Use Type

	Clim et e		T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Climate Zone	Historical	Electricity	Electricity		Natural Gas	Natural Gas
	20116		KWhi	per DU or S	QFT	kBtu per	DU or SQFT
Movie Theater (No Matinee)	6	Υ	4.47	7.20	5.65	26	12
Movie Theater (No Matinee)	7	Υ	0.51	1.31	0.91	19	0
Movie Theater (No Matinee)	8	Y	2.12	3.83	3.70	15	7
Movie Theater (No Matinee)	9	Y	2.94	5.75	3.85	15	4
Movie Theater (No Matinee)	10	Y	2.89	5.02	3.62	17	17
Movie Theater (No Matinee) Movie Theater (No Matinee)	11 12	Y	2.94 2.94	5.75 5.75	3.85 3.85	15 15	4
Movie Theater (No Matinee)	13	Y	1.59	4.27	3.52	5	7
Movie Theater (No Matinee)	14	Ϋ́	0.83	1.85	2.28	4	0
Movie Theater (No Matinee)	15	Υ	2.89	5.02	3.62	17	17
Office Park	1	N	1.45	2.42	3.78	17	0
Office Park	2	N	3.14	4.35	3.27	11	0
Office Park	3	N	3.75	4.49	3.69	22	1
Office Park	4	N	7.64	8.40	3.97	21	0
Office Park Office Park	5	N	4.48	4.81	3.55	18	1
Office Park	6 7	N N	6.05 4.15	6.47 3.76	4.10 5.22	15 37	0
Office Park	8	N	5.65	5.60	4.51	11	1
Office Park	9	N	5.89	4.79	3.84	10	0
Office Park	10	N	3.22	2.60	4.35	3	0
Office Park	11	N	5.89	4.79	3.84	10	0
Office Park	12	N	5.89	4.79	3.84	10	0
Office Park	13	N	6.14	6.01	4.01	26	7
Office Park	14	N	1.45	2.42	3.78	17	0
Office Park	15	N Y	3.22	2.60	4.35 4.48	3 21	0
Office Park Office Park	2	Y	1.78 3.91	2.42 4.35	3.89	13	0
Office Park	3	Y	4.73	4.49	4.39	26	1
Office Park	4	Y	9.54	8.40	4.71	26	0
Office Park	5	Y	5.65	4.81	4.21	21	1
Office Park	6	Υ	7.89	6.47	4.84	18	1
Office Park	7	Υ	5.26	3.76	6.13	44	0
Office Park	8	Υ	7.05	5.60	5.32	13	1
Office Park	9	Y	7.30	4.79	4.56	12	0
Office Park	10 11	Y	4.01	2.60	5.13	4 12	0
Office Park Office Park	12	Y	7.30 7.30	4.79 4.79	4.56 4.56	12	0
Office Park	13	Y	7.71	6.01	4.74	31	7
Office Park	14	Y	1.78	2.42	4.48	21	0
Office Park	15	Υ	4.01	2.60	5.13	4	0
Other Asphalt Surfaces	1	N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	2	N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	3	N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	4	N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	5	N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces Other Asphalt Surfaces	6 7	N N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces Other Asphalt Surfaces	8	N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	9	N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	10	N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	11	N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	12	N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	13	N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	14	N	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	15	N Y	0.00	0.00	0.00	0	0
Other Asphalt Surfaces Other Asphalt Surfaces	2	Y	0.00	0.00	0.00	0	0
Other Asphalt Surfaces Other Asphalt Surfaces	3	Y	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	4	Y	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	5	Y	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	6	Υ	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	7	Y	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	8	Y	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	9	Y	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	10	Y	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	11	Y	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	12	Ţ	0.00	0.00	0.00	U	0

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Table 8.1 Energy Use by Climate Zone and Land Use Type

	1		T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Climate	Historical	Electricity	Electricity	3 3	Natural Gas	
7 ,	Zone		,	r per DU or S	,		DU or SQFT
Other Asphalt Surfaces	13	Υ	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	14	Υ	0.00	0.00	0.00	0	0
Other Asphalt Surfaces	15	Y	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	1	N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces Other Non-Asphalt Surfaces	3	N N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces Other Non-Asphalt Surfaces	4	N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	5	N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	6	N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	7	N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	8	N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	9	N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	10 11	N N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces Other Non-Asphalt Surfaces	12	N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	13	N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	14	N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	15	N	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	1	Υ	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	2	Y	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	3	Y	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces Other Non-Asphalt Surfaces	4 5	Y	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces Other Non-Asphalt Surfaces	6	Y	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	7	Y	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	8	Y	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	9	Υ	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	10	Υ	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	11	Y	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces	12	Y	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces Other Non-Asphalt Surfaces	13 14	Y	0.00	0.00	0.00	0	0
Other Non-Asphalt Surfaces Other Non-Asphalt Surfaces	15	Y	0.00	0.00	0.00	0	0
Parking Lot	1	N	0.00	0.00	0.88	0	0
Parking Lot	2	N	0.00	0.00	0.88	0	0
Parking Lot	3	N	0.00	0.00	0.88	0	0
Parking Lot	4	N	0.00	0.00	0.88	0	0
Parking Lot	5	N	0.00	0.00	0.88	0	0
Parking Lot Parking Lot	6 7	N N	0.00	0.00	0.88 0.88	0	0
Parking Lot Parking Lot	8	N N	0.00	0.00		0	0
Parking Lot	9	N	0.00	0.00	0.88	0	0
Parking Lot	10	N	0.00	0.00	0.88	0	0
Parking Lot	11	N	0.00	0.00	0.88	0	0
Parking Lot	12	N	0.00	0.00	0.88	0	0
Parking Lot	13	N	0.00	0.00	0.88	0	0
Parking Lot	14	N	0.00	0.00	0.88	0	0
Parking Lot	15	N Y	0.00	0.00	0.88	0	0
Parking Lot Parking Lot	2	Y	0.00	0.00	0.88 0.88	0	0
Parking Lot	3	Y	0.00	0.00	0.88	0	0
Parking Lot	4	Y	0.00	0.00	0.88	0	0
Parking Lot	5	Y	0.00	0.00	0.88	0	0
Parking Lot	6	Υ	0.00	0.00	0.88	0	0
Parking Lot	7	Y	0.00	0.00	0.88	0	0
Parking Lot	8	Y	0.00	0.00	0.88	0	0
Parking Lot Parking Lot	9 10	Y	0.00	0.00	0.88 0.88	0	0
Parking Lot Parking Lot	11	Y	0.00	0.00	0.88	0	0
Parking Lot	12	Y	0.00	0.00	0.88	0	0
Parking Lot	13	Y	0.00	0.00	0.88	0	C
Parking Lot	14	Y	0.00	0.00	0.88	0	C
Parking Lot	15	Υ	0.00	0.00	0.88	0	C
Pharmacy/Drugstore w/o Drive Thru	1	N	5.25	2.81	5.84	7	C
Pharmacy/Drugstore w/o Drive Thru	2	N	4.08	1.98	6.08	11	0
Pharmacy/Drugstore w/o Drive Thru	3	N	2.24	2.30	3.81	9	2
Pharmacy/Drugstore w/o Drive Thru	4	N	2.89	2.68	5.38	2	0

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Table 8.1 Energy Use by Climate Zone and Land Use Type

	01: 1		T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Climate	Historical	Electricity	Electricity	0 0	Natural Gas	Natural Gas
	Zone		KWhi	r per DU or S			DU or SQFT
Pharmacy/Drugstore w/o Drive Thru	5	N	2.35	3.36	5.00	4	1
Pharmacy/Drugstore w/o Drive Thru	6	N	3.41	2.98	5.47	5	1
Pharmacy/Drugstore w/o Drive Thru	7	N	3.31	2.49	4.65	6	0
Pharmacy/Drugstore w/o Drive Thru	8	N	3.07	2.80	5.85	1	1
Pharmacy/Drugstore w/o Drive Thru	9	N	4.20	3.23	6.43	1	0
Pharmacy/Drugstore w/o Drive Thru	10	N	4.80	2.44	5.77	2	0
Pharmacy/Drugstore w/o Drive Thru	11	N	4.20	3.23	6.43	1	0
Pharmacy/Drugstore w/o Drive Thru	12	N	4.20	3.23	6.43	1	0
Pharmacy/Drugstore w/o Drive Thru	13	N	3.34	3.16	6.39	1	1
Pharmacy/Drugstore w/o Drive Thru	14	N	5.25	2.81	5.84	7	0
Pharmacy/Drugstore w/o Drive Thru	15	N Y	4.80	2.44	5.77	2	0
Pharmacy/Drugstore w/o Drive Thru	1	Y	6.81	2.81	6.86 7.17	9 14	0
Pharmacy/Drugstore w/o Drive Thru Pharmacy/Drugstore w/o Drive Thru	3	Y	4.97 2.77	1.98 2.30	4.53	10	2
Pharmacy/Drugstore w/o Drive Thru	4	Y	3.55	2.30	6.02	3	0
Pharmacy/Drugstore w/o Drive Thru	5	Y	2.90	3.36	5.88	5	1
Pharmacy/Drugstore w/o Drive Thru	6	Y	4.20	2.98	6.45	6	<u> </u>
Pharmacy/Drugstore w/o Drive Thru	7	Y	4.12	2.49	5.50	7	0
Pharmacy/Drugstore w/o Drive Thru	8	Y	3.79	2.80	6.85	1	1
Pharmacy/Drugstore w/o Drive Thru	9	Y	5.17	3.23	7.56	1	0
Pharmacy/Drugstore w/o Drive Thru	10	Y	5.95	2.44	8.20	2	0
Pharmacy/Drugstore w/o Drive Thru	11	Υ	5.17	3.23	7.56	1	0
Pharmacy/Drugstore w/o Drive Thru	12	Υ	5.17	3.23	7.56	1	0
Pharmacy/Drugstore w/o Drive Thru	13	Υ	4.13	3.16	7.50	1	1
Pharmacy/Drugstore w/o Drive Thru	14	Υ	6.81	2.81	6.86	9	0
Pharmacy/Drugstore w/o Drive Thru	15	Y	5.95	2.44	8.20	2	0
Pharmacy/Drugstore with Drive Thru	1	N	5.25	2.81	5.84	7	0
Pharmacy/Drugstore with Drive Thru	2	N	4.08	1.98	6.08	11	0
Pharmacy/Drugstore with Drive Thru	3	N	2.24	2.30	3.81	9	2
Pharmacy/Drugstore with Drive Thru	4 5	N N	2.89 2.35	2.68	5.38 5.00	2 4	0
Pharmacy/Drugstore with Drive Thru Pharmacy/Drugstore with Drive Thru	6	N N	3.41	3.36 2.98	5.00	5	<u></u>
Pharmacy/Drugstore with Drive Thru	7	N	3.41	2.49	4.65	6	0
Pharmacy/Drugstore with Drive Thru	8	N	3.07	2.80	5.85	1	1
Pharmacy/Drugstore with Drive Thru	9	N	4.20	3.23	6.43	1	0
Pharmacy/Drugstore with Drive Thru	10	N	4.80	2.44	5.77	2	0
Pharmacy/Drugstore with Drive Thru	11	N	4.20	3.23	6.43	1	0
Pharmacy/Drugstore with Drive Thru	12	N	4.20	3.23	6.43	1	0
Pharmacy/Drugstore with Drive Thru	13	N	3.34	3.16	6.39	1	1
Pharmacy/Drugstore with Drive Thru	14	N	5.25	2.81	5.84	7	0
Pharmacy/Drugstore with Drive Thru	15	N	4.80		5.77	2	0
Pharmacy/Drugstore with Drive Thru	1	Y	6.81	2.81	6.86	9	0
Pharmacy/Drugstore with Drive Thru	2	Y	4.97	1.98	7.17	14	0
Pharmacy/Drugstore with Drive Thru	3	Y	2.77	2.30	4.53	10	2
Pharmacy/Drugstore with Drive Thru	4	Y	3.55	2.68	6.02	3	0
Pharmacy/Drugstore with Drive Thru	5	Y	2.90	3.36	5.88	5	1
Pharmacy/Drugstore with Drive Thru Pharmacy/Drugstore with Drive Thru	6 7	Y	4.20 4.12	2.98 2.49	6.45 5.50	6 7	<u>1</u> 0
Pharmacy/Drugstore with Drive Thru Pharmacy/Drugstore with Drive Thru	8	Y	3.79	2.49	6.85	1	<u>0</u> 1
Pharmacy/Drugstore with Drive Thru	9	Y	5.19	3.23	7.56	1	0
Pharmacy/Drugstore with Drive Thru	10	Y	5.95	2.44	8.20	2	0
Pharmacy/Drugstore with Drive Thru	11	Y	5.17	3.23	7.56	1	0
Pharmacy/Drugstore with Drive Thru	12	Y	5.17	3.23	7.56	1	0
Pharmacy/Drugstore with Drive Thru	13	Y	4.13	3.16	7.50	1	1
Pharmacy/Drugstore with Drive Thru	14	Y	6.81	2.81	6.86	9	0
Pharmacy/Drugstore with Drive Thru	15	Υ	5.95	2.44	8.20	2	0
Place of Worship	1	N	0.65	1.85	1.86	3	0
Place of Worship	2	N	1.73	4.20	2.68	19	0
Place of Worship	3	N	2.05	4.16	2.78	17	4
Place of Worship	4	N	1.55	3.70	3.17	20	7
Place of Worship	5	N	1.27	3.36	3.07	18	7
Place of Worship	6	N	3.58	7.20	4.72	24	12
Place of Worship	7	N N	0.42	1.31	0.67	17	0
Place of Worship Place of Worship	8 9	N N	1.71	3.83 5.75	3.08 3.20	14 14	7
Place of Worship	10	N N	2.36 2.31	5.75 5.02	3.20	14	<u>4</u> 17
Place of Worship	11	N	2.36	5.02	3.01	14	4
n idoc or vvorsilip	<u> </u>	IN	۷.٥٥	5.75	3.20	14	4

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Table 8.1 Energy Use by Climate Zone and Land Use Type

			T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Climate	Historical	Electricity	Electricity	Lighting Electricity	Natural Gas	
,	Zone		,	per DU or S	-		DU or SQFT
Place of Worship	12	N	2.36	5.75	3.20	14	4
Place of Worship	13	N	1.27	4.27	2.91	4	7
Place of Worship Place of Worship	14 15	N N	0.65 2.31	1.85 5.02	1.86 3.01	3 15	0 17
Place of Worship	1	Y	0.83	1.85	2.28	4	0
Place of Worship	2	Υ	2.17	4.20	3.26	22	0
Place of Worship	3	Y	2.52	4.16	3.35	20	4
Place of Worship Place of Worship	4 5	Y	1.93 1.59	3.70 3.36	3.80 3.70	23 20	7 7
Place of Worship	6	Y	4.47	7.20	5.65	26	12
Place of Worship	7	Y	0.51	1.31	0.91	19	0
Place of Worship	8	Y	2.12	3.83	3.70	15	7
Place of Worship Place of Worship	9 10	Y	2.94 2.89	5.75 5.02	3.85 3.62	15 17	<u>4</u> 17
Place of Worship	11	Y	2.89	5.75	3.85	15	4
Place of Worship	12	Y	2.94	5.75	3.85	15	4
Place of Worship	13	Y	1.59	4.27	3.52	5	7
Place of Worship	14	Y	0.83	1.85	2.28	4	0
Place of Worship Quality Restaurant	15 1	Y N	2.89 4.20	5.02 15.83	3.62 4.87	17 28	17 89
Quality Restaurant Quality Restaurant	2	N	6.35	17.72	7.80	41	69
Quality Restaurant	3	N	6.86	16.25	6.34	36	175
Quality Restaurant	4	N	5.31	22.30	5.51	61	147
Quality Restaurant	5	N N	2.80 9.22	20.97	5.48	40 60	128 118
Quality Restaurant Quality Restaurant	6 7	N N	9.22 8.18	26.72 20.65	6.35 5.18	18	81
Quality Restaurant	8	N	9.13	20.11	7.87	79	181
Quality Restaurant	9	N	8.50	28.16	8.13	43	188
Quality Restaurant	10	N	12.98	28.48	6.83	78	196
Quality Restaurant Quality Restaurant	11 12	N N	8.50 8.50	28.16 28.16	8.13 8.13	43 43	188 188
Quality Restaurant	13	N	8.63	23.69	6.13	36	138
Quality Restaurant	14	N	4.20	15.83	4.87	28	89
Quality Restaurant	15	N	12.98	28.48	6.83	78	196
Quality Restaurant	1	Y	5.30	15.83	5.76	30	89
Quality Restaurant Quality Restaurant	3	Y	7.80 8.49	17.72 16.25	9.18 7.47	45 39	69 175
Quality Restaurant	4	Y	6.58	22.30	6.25	65	147
Quality Restaurant	5	Υ	3.42	20.97	6.45	43	128
Quality Restaurant	6	Y	11.47	26.72	7.44	65	118
Quality Restaurant Quality Restaurant	7 8	Y	10.14 11.27	20.65 20.11	6.13 9.20	21 84	81 181
Quality Restaurant	9	Y	10.52	28.16	9.64	47	188
Quality Restaurant	10	Υ	16.13	28.48	9.51	84	196
Quality Restaurant	11	Y	10.52	28.16	9.64		188
Quality Restaurant Quality Restaurant	12 13	Y	10.52 10.67	28.16 23.69	9.64 8.19	47 38	188 138
Quality Restaurant Quality Restaurant	14	Y	5.30	15.83	5.76		89
Quality Restaurant	15	Y	16.13	28.48	9.51	84	196
Racquet Club	1	N	0.65	1.85	1.86	3	0
Racquet Club	2	N	1.73	4.20	2.68	19	0
Racquet Club Racquet Club	3 4	N N	2.05 1.55	4.16 3.70	2.78 3.17	17 20	<u>4</u> 7
Racquet Club	5	N	1.33	3.76	3.17	18	7
Racquet Club	6	N	3.58	7.20	4.72	24	12
Racquet Club	7	N	0.42	1.31	0.67	17	0
Racquet Club	8	N	1.71	3.83	3.08	14	7
Racquet Club Racquet Club	9 10	N N	2.36 2.31	5.75 5.02	3.20 3.01	14 15	4 17
Racquet Club	11	N	2.36	5.75	3.20	14	4
Racquet Club	12	N	2.36	5.75	3.20	14	4
Racquet Club	13	N	1.27	4.27	2.91	4	7
Racquet Club Racquet Club	14 15	N N	0.65 2.31	1.85 5.02	1.86 3.01	3 15	0 17
Racquet Club	15	N Y	0.83	1.85	2.28	4	0
Racquet Club	2	Y	2.17	4.20	3.26	22	0
Racquet Club	3	Υ	2.52	4.16	3.35	20	4

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Table 8.1 Energy Use by Climate Zone and Land Use Type

			T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Climate	Historical	Electricity			Natural Gas	
, , , , , , , , , , , , , , , , , , ,	Zone		,	r per DU or S	-		DU or SQFT
Racquet Club	4	Y	1.93	3.70	3.80	23	7
Racquet Club	5	Υ	1.59	3.36	3.70	20	7
Racquet Club	6	Y	4.47	7.20	5.65	26	12
Racquet Club	7 8	Y	0.51 2.12	1.31 3.83	0.91	19 15	7
Racquet Club Racquet Club	9	Y	2.12	5.75	3.70 3.85	15	4
Racquet Club	10	Ϋ́	2.89	5.02	3.62	17	17
Racquet Club	11	Y	2.94	5.75	3.85	15	4
Racquet Club	12	Υ	2.94	5.75	3.85	15	4
Racquet Club	13	Y	1.59	4.27	3.52	5	7
Racquet Club	14	Y	0.83	1.85	2.28	4	0
Racquet Club Recreational Swimming Pool	15 1	Y N	2.89 0.00	5.02 0.00	3.62 0.00	17 0	17 0
Recreational Swimming Pool	2	N	0.00	0.00	0.00	0	0
Recreational Swimming Pool	3	N	0.00	0.00	0.00	0	0
Recreational Swimming Pool	4	N	0.00	0.00	0.00	0	0
Recreational Swimming Pool	5	N	0.00	0.00	0.00	0	0
Recreational Swimming Pool	6	N	0.00	0.00	0.00	0	0
Recreational Swimming Pool	7	N	0.00	0.00	0.00	0	0
Recreational Swimming Pool Recreational Swimming Pool	8 9	N N	0.00	0.00	0.00	0	0
Recreational Swimming Pool	10	N	0.00	0.00	0.00	0	0
Recreational Swimming Pool	11	N	0.00	0.00	0.00	0	0
Recreational Swimming Pool	12	N	0.00	0.00	0.00	0	0
Recreational Swimming Pool	13	N	0.00	0.00	0.00	0	0
Recreational Swimming Pool	14	N	0.00	0.00	0.00	0	0
Recreational Swimming Pool	15 1	N Y	0.00	0.00	0.00	0	0
Recreational Swimming Pool Recreational Swimming Pool	2	Y	0.00	0.00	0.00	0	0
Recreational Swimming Pool	3	Y	0.00	0.00	0.00	0	0
Recreational Swimming Pool	4	Y	0.00	0.00	0.00	0	0
Recreational Swimming Pool	5	Υ	0.00	0.00	0.00	0	0
Recreational Swimming Pool	6	Y	0.00	0.00	0.00	0	0
Recreational Swimming Pool	7	Y	0.00	0.00	0.00	0	0
Recreational Swimming Pool Recreational Swimming Pool	8 9	Y	0.00	0.00	0.00	0	0
Recreational Swimming Pool	10	Y	0.00	0.00	0.00	0	0
Recreational Swimming Pool	11	Ϋ́	0.00	0.00	0.00	0	0
Recreational Swimming Pool	12	Υ	0.00	0.00	0.00	0	0
Recreational Swimming Pool	13	Υ	0.00	0.00	0.00	0	0
Recreational Swimming Pool	14	Y	0.00			0	0
Recreational Swimming Pool Refrigerated Warehouse-No Rail	15 1	Y N	0.00 0.23	0.00 11.15		0	0
Refrigerated Warehouse-No Rail	2	N	0.23		3.19	1	0
Refrigerated Warehouse-No Rail	3	N	0.50	21.99	2.51	0	0
Refrigerated Warehouse-No Rail	4	N	0.15	7.99	1.66	1	3
Refrigerated Warehouse-No Rail	5	N	0.88	20.65	2.40	5	13
Refrigerated Warehouse-No Rail	6	N	0.48	13.70	1.90	1	1
Refrigerated Warehouse-No Rail	7	N	0.60	26.24	2.17	5	3
Refrigerated Warehouse-No Rail	8 9	N N	0.31	19.26	2.81	1	0
Refrigerated Warehouse-No Rail Refrigerated Warehouse-No Rail	10	N N	0.44 1.12	13.61 36.52	2.80 2.42	3	49
Refrigerated Warehouse-No Rail	11	N	0.44	13.61	2.42	1	0
Refrigerated Warehouse-No Rail	12	N	0.44	13.61	2.80	1	0
Refrigerated Warehouse-No Rail	13	N	2.17	27.88	3.70	6	0
Refrigerated Warehouse-No Rail	14	N	0.23	11.15	2.46	0	0
Refrigerated Warehouse-No Rail	15	N	1.12	36.52	2.42	3	49
Refrigerated Warehouse-No Rail Refrigerated Warehouse-No Rail	2	Y	0.28 0.46	11.15 15.28	2.96 3.80	0	0
Refrigerated Warehouse-No Rail	3	Y	0.46	21.99	3.80	0	0
Refrigerated Warehouse-No Rail	4	Y	0.81		1.82	1	3
Refrigerated Warehouse-No Rail	5	Ϋ́	1.08	20.65		6	13
Refrigerated Warehouse-No Rail	6	Υ	0.63	13.70	2.33	1	1
Refrigerated Warehouse-No Rail	7	Υ	0.72	26.24	2.64	7	3
Refrigerated Warehouse-No Rail	8	Y	0.38	19.26	3.22	1	0
Refrigerated Warehouse-No Rail	9	Y	0.55	13.61	3.35	1	0
Refrigerated Warehouse-No Rail	10	Υ	1.41	36.52	3.63	3	49

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Table 8.1 Energy Use by Climate Zone and Land Use Type

Land Use Sub Type			1	T0.4	NITO	11.14	T0.4	NEC
Number December	Land Use Sub Type		Historical	T24 Electricity		3 3		NT24 Natural Gas
ReIngerated Warehouse-No Rail 11 Y 0.55 13.61 3.35 1 C ReIngerated Warehouse-No Rail 12 Y 0.55 13.61 3.35 1 C ReIngerated Warehouse-No Rail 12 Y 0.55 13.61 3.35 1 C ReIngerated Warehouse-No Rail 13 Y 2.64 27.88 4.39 7 C ReIngerated Warehouse-No Rail 14 Y 0.28 11.15 2.66 0 C ReIngerated Warehouse-No Rail 14 Y 0.28 11.15 2.66 0 C ReIngerated Warehouse-No Rail 15 Y 1.41 36.62 3.63 3 3 48 ReIngerated Warehouse-Rail 1 N 0.23 11.15 2.46 0 C ReIngerated Warehouse-Rail 2 N 0.39 15.28 3.19 1 C ReIngerated Warehouse-Rail 3 N 0.55 21.99 2.51 0 C ReIngerated Warehouse-Rail 3 N 0.55 21.99 2.51 0 C ReIngerated Warehouse-Rail 5 N 0.88 20.65 2.40 5 1 3 ReIngerated Warehouse-Rail 5 N 0.88 20.65 2.40 5 1 3 ReIngerated Warehouse-Rail 6 N 0.48 13.70 1.66 1 3 ReIngerated Warehouse-Rail 7 N 0.56 26.42 2.77 5 ReIngerated Warehouse-Rail 7 N 0.56 26.42 2.77 5 ReIngerated Warehouse-Rail 7 N 0.56 26.42 2.77 5 ReIngerated Warehouse-Rail 8 N 0.44 13.70 1.50 1 ReIngerated Warehouse-Rail 8 N 0.44 13.70 1.50 1 ReIngerated Warehouse-Rail 9 N 0.44 13.70 1.50 1 ReIngerated Warehouse-Rail 9 N 0.44 13.70 2.26 1 1 C ReIngerated Warehouse-Rail 9 N 0.44 13.66 2.26 1 1 C ReIngerated Warehouse-Rail 11 N 1.12 36.50 2.26 1 1 C ReIngerated Warehouse-Rail 11 N 1.12 36.50 2.20 1 1 ReIngerated Warehouse-Rail 11 N 1.12 36.50 2.20 1 1 ReIngerated Warehouse-Rail 11 N 1.12 36.50 2.20 1 1 ReIngerated Warehouse-Rail 11 N 1.12 36.50 2.20 1 1 ReIngerated Warehouse-Rail 12 N 1.12 36.50 2.20 1 1 ReIngerated Warehouse-Rail 12 N 1.12 36.50 2.20 1 1 ReIngerated Warehouse-Rail 12 N 1.12 36.50 2.20 1 1 ReIngerated Warehouse-Rail 14 N N 0.23 11.15 2.46 0 ReIngerated Warehouse-Rail 14 N N 0.23 11.15 2.46 0 ReIngerated Warehouse-Rail 14 N N 0.23 11.15 2.24 0 ReIngerated Warehouse-Rail 14 N N 0.23 11.15 2.24 0 ReIngerated Warehouse-Rail 14 N N 0.25 11.15 2.26 0 ReIngerated Warehouse-Rail 15 N 1.12 36.50 2.20 1 ReIngerated Warehouse-Rail 17 N 0.25 1.36 1 ReIngerated Warehouse-Rail 19 N 0.25 1.36 1 ReIngerated Warehouse-Rail 19 N 0.25 1.36 1 ReIngerated Warehouse-Rail 19 N 0.25		Zone		,	,	-		
Refingerated Warehouse-No Rail 12 Y 0.55 13.61 3.35 1 C Refingerated Warehouse-No Rail 13 Y 2.64 27.88 4.39 7 Refingerated Warehouse-No Rail 14 Y 0.26 11.15 2.66 0 C Refingerated Warehouse-No Rail 14 Y 0.26 11.15 2.66 0 C Refingerated Warehouse-No Rail 15 Y 1.41 36.52 3.63 3 3 4 Refingerated Warehouse-Rail 1 N 0.23 11.15 2.46 0 C Refingerated Warehouse-Rail 1 N 0.23 11.15 2.46 0 C Refingerated Warehouse-Rail 2 N 0.38 15.28 3.19 1 C Refingerated Warehouse-Rail 3 N 0.55 21.99 2.51 0 C Refingerated Warehouse-Rail 4 N 0.15 7.99 1.66 1 C Refingerated Warehouse-Rail 4 N 0.15 7.99 1.66 1 C Refingerated Warehouse-Rail 5 N 0.88 20.65 2.40 5 13. Refingerated Warehouse-Rail 6 N 0.48 13.70 1.90 1 1 Refingerated Warehouse-Rail 7 N 0.60 25.24 2.17 5 3 Refingerated Warehouse-Rail 8 N 0.31 19.26 2.81 1 C Refingerated Warehouse-Rail 8 N 0.31 19.26 2.81 1 C Refingerated Warehouse-Rail 8 N 0.31 19.26 2.81 1 C Refingerated Warehouse-Rail 9 N 0.44 13.61 2.80 1 C Refingerated Warehouse-Rail 10 N 1.12 36.52 2.42 3 4 Refingerated Warehouse-Rail 10 N 1.12 36.52 2.42 3 4 Refingerated Warehouse-Rail 11 N 0.44 13.61 2.80 1 C Refingerated Warehouse-Rail 11 N 0.44 13.61 2.80 1 C Refingerated Warehouse-Rail 12 N 0.44 13.61 2.80 1 C Refingerated Warehouse-Rail 12 N 0.44 13.61 2.80 1 C Refingerated Warehouse-Rail 12 N 0.44 13.61 2.80 1 C Refingerated Warehouse-Rail 13 N 2.17 27.86 3.70 6 C Refingerated Warehouse-Rail 14 N 0.23 11.15 2.46 0 C Refingerated Warehouse-Rail 14 N 0.23 11.15 2.46 0 C Refingerated Warehouse-Rail 15 N 1.12 36.52 2.42 3 4 Refingerated Warehouse-Rail 15 N 1.12 36.52 2.42 3 4 Refingerated Warehouse-Rail 15 N 1.12 36.52 2.42 3 4 Refingerated Warehouse-Rail 15 N 1.12 2.80 0 C Refingerated Warehouse-Rail 15 N 0.40 15.20 3.00 0 C Refingerated Warehouse-Rail 15 N 1.12 2.80 0 C Refingerated Warehouse-Rail 17 N 0.40 15.20 3.00 0 C Refingerated Warehouse-Rail 17 N 0.40 15.20 3.00 0 C Refingerated Warehouse-Rail 18 N 1.12 2.80 0 C Refingerated Warehouse-Rail 19 N 1.14 36.52 3.35 1 Refingerated Warehouse-Rail 19 N 1.14 36.52 3.35 1	Refrigerated Warehouse-No Rail	11	Υ					0
Refrigerated Warehouse-No Rail Ferrigerated Warehouse-No Rail Refrigerated Warehouse-Rail Refrigerat	Refrigerated Warehouse-No Rail			0.55	13.61	3.35	1	0
Refrigerated Warehouse-Roll Refrigerated War	Refrigerated Warehouse-No Rail							0
Refrigerated Warehouse-Rail Refrigerated War								0
Refrigerated Warehouse-Rail Refrigerated War								
Refrigerated Warehouse-Rail Refrigerated War								0
Refrigerated Warehouse-Rail 4 N 0.15 7.99 1.66 1 S. Refrigerated Warehouse-Rail 5 N 0.88 20.65 2.40 5 1 Refrigerated Warehouse-Rail 6 N 0.48 13.70 1.90 1 Refrigerated Warehouse-Rail 7 N 0.60 26.24 2.77 5 S. Refrigerated Warehouse-Rail 8 N 0.31 19.26 2.81 1 Refrigerated Warehouse-Rail 8 N 0.31 19.26 2.81 1 Refrigerated Warehouse-Rail 9 N 0.44 13.61 2.80 1 Refrigerated Warehouse-Rail 10 N 1.12 36.52 2.42 3 48 Refrigerated Warehouse-Rail 11 N 0.44 13.61 2.80 1 Refrigerated Warehouse-Rail 11 N 0.44 13.61 2.80 1 Refrigerated Warehouse-Rail 12 N 0.44 13.61 2.80 1 Refrigerated Warehouse-Rail 12 N 0.44 13.61 2.80 1 Refrigerated Warehouse-Rail 13 N 2.17 27.88 3.70 6 Refrigerated Warehouse-Rail 13 N 2.17 27.88 3.70 6 Refrigerated Warehouse-Rail 14 N 0.23 11.15 2.46 0 Refrigerated Warehouse-Rail 15 N 1.12 36.52 2.42 3 4 Refrigerated Warehouse-Rail 15 N 1.12 36.52 2.42 3 4 Refrigerated Warehouse-Rail 15 N 1.12 36.52 2.42 3 4 Refrigerated Warehouse-Rail 1 N 0.24 11.15 2.56 0 Refrigerated Warehouse-Rail 2 Y 0.28 11.15 2.56 0 Refrigerated Warehouse-Rail 2 Y 0.46 15.28 3.50 1 Refrigerated Warehouse-Rail 2 Y 0.46 15.28 3.50 1 Refrigerated Warehouse-Rail 3 Y 0.61 27.99 3.04 0 Refrigerated Warehouse-Rail 4 Y 0.19 7.99 3.04 0 Refrigerated Warehouse-Rail 5 Y 1.08 20.65 2.89 6 Refrigerated Warehouse-Rail 6 Y 0.63 13.70 2.33 1 Refrigerated Warehouse-Rail 6 Y 0.63 13.70 2.33 1 Refrigerated Warehouse-Rail 7 Y 0.72 2.62 4 2.64 7 3.88 Refrigerated Warehouse-Rail 8 Y 0.63 13.70 3.35 1 Refrigerated Warehouse-Rail 8 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 1 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 1 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 1 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 1 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 1 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 1 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 1 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 1 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 1 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 1 Y 0.55 13.61 3.35 1 Refrigerated W								0
Refrigerated Warehouse-Rail 5 N 0.88 20.65 2.40 5 11 Refrigerated Warehouse-Rail 6 N 0.48 13.70 1.90 1 1 Refrigerated Warehouse-Rail 7 N 0.60 26.24 2.17 5 8 Refrigerated Warehouse-Rail 8 N 0.31 19.26 2.81 1 1 Refrigerated Warehouse-Rail 8 N 0.31 19.26 2.81 1 1 Refrigerated Warehouse-Rail 9 N 0.44 13.61 2.80 1 1 Refrigerated Warehouse-Rail 10 N 1.12 36.52 2.42 3 4 Refrigerated Warehouse-Rail 11 N 0.44 13.61 2.80 1 1 Refrigerated Warehouse-Rail 11 N 0.44 13.61 2.80 1 1 Refrigerated Warehouse-Rail 12 N 0.44 13.61 2.80 1 1 Refrigerated Warehouse-Rail 12 N 0.44 13.61 2.80 1 1 Refrigerated Warehouse-Rail 13 N 2.17 27.88 3.70 6 Refrigerated Warehouse-Rail 14 N 0.23 11.15 2.60 0 1 Refrigerated Warehouse-Rail 15 N 0.44 13.61 2.80 1 1 Refrigerated Warehouse-Rail 15 N 0.23 11.15 2.66 0 Refrigerated Warehouse-Rail 15 N 1.12 36.52 2.42 3 48 Refrigerated Warehouse-Rail 15 N 1.12 36.52 2.42 3 48 Refrigerated Warehouse-Rail 2 V 0.46 15.28 3.00 1 C Refrigerated Warehouse-Rail 2 V 0.46 15.28 3.00 1 C Refrigerated Warehouse-Rail 2 V 0.46 15.28 3.00 1 C Refrigerated Warehouse-Rail 3 Y 0.61 21.99 3.04 0 Refrigerated Warehouse-Rail 4 Y 0.19 7.99 1.62 1 3 Refrigerated Warehouse-Rail 4 Y 0.19 7.99 1.62 1 3 Refrigerated Warehouse-Rail 6 Y 0.63 13.70 2.33 1 Refrigerated Warehouse-Rail 6 Y 0.63 13.70 2.33 1 Refrigerated Warehouse-Rail 6 Y 0.63 13.70 2.33 1 Refrigerated Warehouse-Rail 6 Y 0.63 13.70 2.33 1 Refrigerated Warehouse-Rail 7 Y 0.72 26.24 2.44 7 Refrigerated Warehouse-Rail 8 Y 0.38 19.26 3.22 1 C Refrigerated Warehouse-Rail 11 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 11 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 11 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 11 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 11 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 11 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 11 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 11 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 11 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 11 Y 0.55 13.61 3.35 1 Refrigerated Warehouse-Rail 11 Y								3
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Refrigerated Warehouse-Rail 8 N 0.31 19.26 2.81 1 Refrigerated Warehouse-Rail 9 N 0.44 13.61 2.80 1 CRETIFIED REFRIGERATED WAREHOUSE RAIL 10 N 1.12 36.52 2.42 3 Refrigerated Warehouse-Rail 11 N 0.44 13.61 2.80 1 CRETIFIED REFRIGERATED WAREHOUSE RAIL 11 N 0.44 13.61 2.80 1 CRETIFIED REFRIGERATED WAREHOUSE-RAIL 12 N 0.44 13.61 2.80 1 Refrigerated Warehouse-Rail 13 N 2.17 27.88 3.70 6 CRETIFIED REFRIGERATED WAREHOUSE-RAIL 14 N 0.23 11.15 2.46 0 CRETIFIED REFRIGERATED WAREHOUSE-RAIL 15 N 1.12 36.52 2.42 3 Refrigerated Warehouse-Rail 15 N 1.12 36.52 2.42 3 Refrigerated Warehouse-Rail 15 N 1.12 36.52 2.42 3 Refrigerated Warehouse-Rail 15 N 1.12 36.52 2.42 3 Refrigerated Warehouse-Rail 17 Y 0.28 11.15 2.86 0 CRETIFIED REFRIGERATED WAREHOUSE-RAIL 17 Y 0.46 15.28 3.00 1 CRETIFIED REFRIGERATED WAREHOUSE-RAIL 3 Y 0.46 15.28 3.00 1 CRETIFIED REFRIGERATED WAREHOUSE-RAIL 3 Y 0.46 15.28 3.00 1 CRETIFIED REFRIGERATED WAREHOUSE-RAIL 3 Y 0.61 12.99 3.04 0 CRETIFIED REFRIGERATED WAREHOUSE-RAIL 4 Y 0.19 7.99 1.82 1 REFRIGERATED WAREHOUSE-RAIL 5 Y 0.68 3 13.70 2.33 1 REFRIGERATED WAREHOUSE-RAIL 6 Y 0.63 13.70 2.33 1 REFRIGERATED WAREHOUSE-RAIL 6 Y 0.63 13.70 2.33 1 REFRIGERATED WAREHOUSE-RAIL 7 Y 0.72 26.24 2.44 7 REFRIGERATED WAREHOUSE-RAIL 8 Y 0.38 19.26 3.22 1 REFRIGERATED WAREHOUSE-RAIL 8 Y 0.38 19.26 3.22 1 REFRIGERATED WAREHOUSE-RAIL 9 Y 0.55 13.61 3.35 1 CRETIFIED REFRIGERATED WAREHOUSE-RAIL 11 Y 0.55 13.61 3.35 1 REFRIGERATED WAREHOUSE-RAIL 11 Y 0.55 13.61 3.35 1 REFRIGERATED WAREHOUSE-RAIL 12 Y 0.55 13.61 3.35 1 REFRIGERATED WAREHOUSE-RAIL 14 Y 0.28 11.15 2.96 0 REFRIGERATED WAREHOUSE-RAIL 14 Y 0.28 11.15 2.96 0 REFRIGERATED WAREHOUSE-RAIL 14 Y 0.28 11.15 2.96 0 REFRIGERATED WAREHOUSE-RAIL 14 Y 0.28 11.15 2.96 0 REFRIGERATED WAREHOUSE-RAIL 14 Y 0.28 1.11 5 2.96 0 REFRIGERATED WAREHOUSE-RAIL 14 Y 0.28 1.11 5 2.96 0 REFRIGERATED WAREHOUSE-RAIL 14 Y 0.28 1.11 5 2.96 0 REFRIGERATED WAREHOUSE-RAIL 14 Y 0.28 1.11 5 2.96 0 REFRIGERATED WAREHOUSE-RAIL 14 Y 0.28 1.11 5 2.96 0 REFRIGERATED WAREHOUSE-RAIL 14 Y 0.28 1.11 5 2.96 0 REFR	Refrigerated Warehouse-Rail							1
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Table 8.1 Energy Use by Climate Zone and Land Use Type

	Climate		T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Zone	Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
	20110		KWh	r per DU or S	QFT	kBtu per	DU or SQFT
Research & Development	3	N	2.05	4.16	2.78	17	4
Research & Development	4	N	1.55	3.70	3.17	20	7
Research & Development	5	N	1.27	3.36	3.07	18	7
Research & Development	6	N	3.58	7.20	4.72	24	12
Research & Development	7	N	0.42	1.31	0.67	17	C
Research & Development	8	N	1.71	3.83	3.08	14	7
Research & Development	9	N	2.36	5.75	3.20	14	4
Research & Development	10	N	2.31	5.02	3.01	15	17
Research & Development	11	N	2.36	5.75	3.20	14	4
Research & Development	12 13	N N	2.36 1.27	5.75 4.27	3.20	14 4	4
Research & Development Research & Development	14	N	0.65	1.85	2.91 1.86	3	
Research & Development	15	N	2.31	5.02	3.01	15	17
Research & Development	1	Y	0.83	1.85	2.28	4	C
Research & Development	2	Y	2.17	4.20	3.26	22	C
Research & Development	3	Y	2.52	4.16	3.35	20	4
Research & Development	4	Y	1.93	3.70	3.80	23	7
Research & Development	5	Υ	1.59	3.36	3.70	20	7
Research & Development	6	Υ	4.47	7.20	5.65	26	12
Research & Development	7	Υ	0.51	1.31	0.91	19	C
Research & Development	8	Υ	2.12	3.83	3.70	15	7
Research & Development	9	Υ	2.94	5.75	3.85	15	4
Research & Development	10	Y	2.89	5.02	3.62	17	17
Research & Development	11	Y	2.94	5.75	3.85	15	4
Research & Development	12	Y	2.94	5.75	3.85	15	4
Research & Development	13	Y	1.59	4.27	3.52	5	7
Research & Development Research & Development	14 15	Y	0.83 2.89	1.85 5.02	2.28 3.62	4 17	0 17
Retirement Community	15	N N	915.02	3418.36	1001.10	13276	1599
Retirement Community Retirement Community	2	N	602.73	3418.36	1001.10	13581	2687
Retirement Community	3	N	818.86	3418.36	1001.10	15027	3723
Retirement Community	4	N	431.22	3418.36	1001.10	10164	3155
Retirement Community	5	N	274.84	3418.36	1001.10	25591	2615
Retirement Community	6	N	602.73	3418.36	1001.10	13581	2687
Retirement Community	7	N	770.01	3418.36	1001.10	17188	4769
Retirement Community	8	N	208.74	3418.36	1001.10	10453	5516
Retirement Community	9	N	303.39	3418.36	1001.10	14366	6384
Retirement Community	10	N	1034.36	3418.36	1001.10	13773	6030
Retirement Community	11	N	159.21	3418.36	1001.10	13398	4831
Retirement Community	12	N	231.70	3418.36	1001.10	6489	6281
Retirement Community	13	N	307.62				4180
Retirement Community	14	N	915.02	3418.36		13276	1599
Retirement Community	15	N	1034.36	3418.36		13773	6030
Retirement Community	1	Y	618.37	3125.85	1001.10		2951
Retirement Community	2	Y	375.03	3125.85		20388	2951
Retirement Community Retirement Community	3	Y	671.81 229.45	3125.85 3125.85	1001.10 1001.10	16255 17767	2951 2951
Retirement Community Retirement Community	5	Y	169.05	3125.85	1001.10	22944	2951
Retirement Community Retirement Community	6	Y	375.03	3125.85		20388	2951
Retirement Community	7	Y	551.09	3125.85	1001.10	8416	2951
Retirement Community	8	Y	245.59	3126.32			2951
Retirement Community	9	Y	336.00	3126.97	1001.10	12317	2951
Retirement Community	10	Y	933.44	3125.85	1001.10	18983	2951
Retirement Community	11	Υ	286.69	3125.85	1001.10		3047
Retirement Community	12	Υ	336.32	3125.85	1001.10		2974
Retirement Community	13	Υ	257.40	3126.41	1001.10	11602	3002
Retirement Community	14	Υ	618.37	3125.85	1001.10		2951
Retirement Community	15	Υ	933.44	3125.85			2951
Single Family Housing	1	N	1033.30	6680.41	1608.84	13313	1599
Single Family Housing	2	N	768.93	6680.41	1608.84	29301	2687
Single Family Housing	3	N	1127.90	6680.41	1608.84	28383	3723
Single Family Housing	4	N	368.92	6680.41	1608.84	32798	3155
Single Family Housing	5	N N	246.52	6680.41	1608.84	50264	2615
Single Family Housing	6	N	768.93	6680.41	1608.84	29301	2687
Single Family Housing	7	N N	939.13	6680.41	1608.84	26538	4769
Single Family Housing	8	N N	287.34	6680.41	1608.84	25682	5516
Single Family Housing	9	N	502.24	6680.41	1608.84	26697	6384

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Table 8.1 Energy Use by Climate Zone and Land Use Type

		-	1			1	
Land Use Sub Type	Climate	Historical	T24 Electricity	NT24 Electricity		T24 Natural Gas	NT24
Land Ose Sub Type	Zone	Tilototical		per DU or S	-		DU or SQFT
Single Family Housing	10	N	1077.77	6680.41	1608.84	31096	6030
Single Family Housing	11	N	238.85	6680.41	1608.84	28690	4831
Single Family Housing	12	N	647.82	6680.41	1608.84	29806	6281
Single Family Housing Single Family Housing	13 14	N N	374.93 1033.30	6680.41 6680.41	1608.84 1608.84	24313 13313	4180 1599
Single Family Housing Single Family Housing	15	N	1033.30	6680.41	1608.84	31096	6030
Single Family Housing	1	Y	686.47	5105.81	1608.84	12959	6168
Single Family Housing	2	Υ	943.88	5098.84	1608.84	29131	5934
Single Family Housing	3	Y	1243.06	5093.98	1608.84	28148	6005
Single Family Housing Single Family Housing	4 5	Y	476.86 321.72	5095.49 5096.44	1608.84 1608.84	32673 49808	5877 6193
Single Family Housing Single Family Housing	6	Y	943.88	5098.84	1608.84	29131	5934
Single Family Housing	7	Y	988.10	5099.35	1608.84	26247	6070
Single Family Housing	8	Υ	505.85	5089.81	1608.84	25627	5819
Single Family Housing	9	Y	771.15	5089.81	1608.84	26604	5857
Single Family Housing Single Family Housing	10 11	Y Y	1269.07 467.55	5089.81 5089.81	1608.84 1608.84	30908 28629	5950 5819
Single Family Housing Single Family Housing	12	Y	974.99	5089.81	1608.84	29742	5819
Single Family Housing	13	Y	550.61	5089.81	1608.84	24261	5819
Single Family Housing	14	Υ	686.47	5105.81	1608.84	12959	6168
Single Family Housing	15	Y	1269.07	5089.81	1608.84	30908	5950
Strip Mall	1	N	5.25	2.81	5.84	7	0
Strip Mall Strip Mall	2	N N	4.08 2.24	1.98 2.30	6.08 3.81	11 9	<u>0</u> 2
Strip Mall	4	N	2.89	2.68	5.38	2	0
Strip Mall	5	N	2.35	3.36	5.00	4	1
Strip Mall	6	N	3.41	2.98	5.47	5	1
Strip Mall	7	N	3.31	2.49	4.65	6	0
Strip Mall Strip Mall	8 9	N N	3.07 4.20	2.80 3.23	5.85 6.43	1	<u>1</u>
Strip Mall	10	N	4.20	2.44	5.77	2	0
Strip Mall	11	N	4.20	3.23	6.43	1	0
Strip Mall	12	N	4.20	3.23	6.43	1	0
Strip Mall	13	N	3.34	3.16	6.39	1	1
Strip Mall Strip Mall	14 15	N N	5.25 4.80	2.81 2.44	5.84 5.77	7 2	0
Strip Mall	10	Y	6.81	2.44	6.86	9	0
Strip Mall	2	Y	4.97	1.98	7.17	14	0
Strip Mall	3	Υ	2.77	2.30	4.53	10	2
Strip Mall	4	Y	3.55	2.68	6.02	3	0
Strip Mall Strip Mall	5 6	Y	2.90 4.20	3.36 2.98	5.88 6.45	<u>5</u>	1
Strip Mall	7	Y	4.20	2.49	5.50	7	0
Strip Mall	8	Y	3.79	2.80	6.85	1	1
Strip Mall	9	Υ	5.17	3.23	7.56	1	0
Strip Mall	10	Y	5.95	2.44	8.20	2	0
Strip Mall	11	Y	5.17	3.23	7.56	1	0
Strip Mall Strip Mall	12 13	Y Y	5.17 4.13	3.23 3.16	7.56 7.50	1	0 1
Strip Mall	14	Y	6.81	2.81	6.86	9	0
Strip Mall	15	Y	5.95	2.44	8.20	2	0
Supermarket	1	N	2.47	25.04	6.94	25	1
Supermarket	2	N	6.03	26.20	8.49	39	0
Supermarket	3	N N	4.09 4.28	22.51 30.13	6.76 7.33	15 17	14 6
Supermarket Supermarket	5	N	2.85	27.24	7.33	25	13
Supermarket	6	N	5.98	25.85	9.06	16	9
Supermarket	7	N	4.19	25.36	8.49	8	1
Supermarket	8	N	4.94	25.23	8.90	10	11
Supermarket	9	N	4.63	25.88	7.22	10	12
Supermarket Supermarket	10 11	N N	6.37 4.63	22.82 25.88	6.66 7.22	13 10	
Supermarket	12	N	4.63	25.88	7.22	10	12
Supermarket	13	N	3.41	25.54	7.12	10	15
Supermarket	14	N	2.47	25.04	6.94	25	1
Supermarket	15	N	6.37	22.82	6.66	13	7
Supermarket	1	Υ	3.02	25.04	8.09	27	1 Contombor 20

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Table 8.1 Energy Use by Climate Zone and Land Use Type

	Climate		T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Zone	Historical	Electricity	Electricity	•	Natural Gas	
				r per DU or S			DU or SQFT
Supermarket	2	Y	7.50	26.20	9.86	45	0
Supermarket Supermarket	3	Y	5.05 5.25	22.51 30.13	7.91 8.17	18 20	14 6
Supermarket	5	Y	3.43	27.24	8.88	28	13
Supermarket	6	Y	7.36	25.85	10.53	19	9
Supermarket	7	Υ	5.16	25.36	9.92	8	1
Supermarket	8	Υ	6.08	25.23	10.35	11	11
Supermarket	9	Y	5.77	25.88	8.45	11	12
Supermarket	10	Y	7.92	22.82	9.70	15	7
Supermarket Supermarket	11 12	Y	5.77 5.77	25.88 25.88	8.45 8.45	11 11	12 12
Supermarket Supermarket	13	Y	4.18	25.54	8.33	11	15
Supermarket	14	Y	3.02	25.04	8.09	27	1
Supermarket	15	Υ	7.92	22.82	9.70	15	7
Unenclosed Parking Structure	1	N	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	2	N	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	3	N	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	4 5	N N	0.00	0.00	2.63 2.63	0	0
Unenclosed Parking Structure Unenclosed Parking Structure	6	N N	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	7	N	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	8	N	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	9	N	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	10	N	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	11	N	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	12	N	0.00	0.00	2.63	0	0
Unenclosed Parking Structure Unenclosed Parking Structure	13 14	N N	0.00	0.00	2.63 2.63	0	0
Unenclosed Parking Structure	15	N	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	1	Y	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	2	Υ	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	3	Υ	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	4	Y	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	5	Y	0.00	0.00	2.63	0	0
Unenclosed Parking Structure Unenclosed Parking Structure	6 7	Y	0.00	0.00	2.63 2.63	0	0
Unenclosed Parking Structure	8	Y	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	9	Y	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	10	Υ	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	11	Υ	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	12	Υ	0.00		2.63		
Unenclosed Parking Structure	13	Y	0.00	0.00	2.63	0	0
Unenclosed Parking Structure	14	Y	0.00	0.00	2.63	0	0
Unenclosed Parking Structure Unenclosed Parking with Elevator	15 1	Y N	0.00	0.00 0.19	2.63 2.63	0	0
Unenclosed Parking with Elevator	2	N	0.00	0.19	2.63	0	0
Unenclosed Parking with Elevator	3	N	0.00	0.19	2.63	0	0
Unenclosed Parking with Elevator	4	N	0.00	0.19	2.63	0	0
Unenclosed Parking with Elevator	5	N	0.00	0.19	2.63	0	0
Unenclosed Parking with Elevator	6	N	0.00		2.63	0	0
Unenclosed Parking with Elevator	7	N	0.00	0.19	2.63	0	0
Unenclosed Parking with Elevator Unenclosed Parking with Elevator	8 9	N N	0.00	0.19 0.19	2.63 2.63	0	0
Unenclosed Parking with Elevator Unenclosed Parking with Elevator	10	N N	0.00	0.19	2.63	0	0
Unenclosed Parking with Elevator	11	N	0.00	0.19	2.63	0	0
Unenclosed Parking with Elevator	12	N	0.00	0.19	2.63	0	C
Unenclosed Parking with Elevator	13	N	0.00	0.19	2.63	0	C
Unenclosed Parking with Elevator	14	N	0.00	0.19	2.63	0	C
Unenclosed Parking with Elevator	15	N	0.00	0.19	2.63	0	C
Unenclosed Parking with Elevator	1	Y	0.00	0.19	2.63	0	(
Unenclosed Parking with Elevator Unenclosed Parking with Elevator	3	Y	0.00	0.19 0.19	2.63 2.63	0	(
Unenclosed Parking with Elevator	4	Y	0.00	0.19	2.63	0	C
Unenclosed Parking with Elevator	5	Y	0.00	0.19	2.63	0	(
Unenclosed Parking with Elevator	6	Y	0.00	0.19	2.63	0	C
Unenclosed Parking with Elevator	7	Υ	0.00	0.19	2.63	0	C
Unenclosed Parking with Elevator	8	Υ	0.00	0.19	2.63	0	0

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Table 8.1 Energy Use by Climate Zone and Land Use Type

University/College (4yr)								
Interclosed Parking with Elevator		Climata		T24	NT24	Lighting	T24	NT24
Non-record Parking with Elevator 9	Land Use Sub Type		Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
Unenciscaed Parking with Elevator		20110		KWh	r per DU or S	QFT	kBtu per	DU or SQFT
Unerclosed Parking with Elevator	Unenclosed Parking with Elevator	9	Υ					0
Unerclosed Parking with Elevator	Unenclosed Parking with Elevator	10	Υ	0.00	0.19	2.63	0	0
Unenclosed Parking with Elevator 13				0.00	0.19			0
University/College (4yr)								
University/College (4yr)								
Linversity/College (4yr)								
University/College (4yr) 2 N 3.94 0.34 4.76 41 0.0 University/College (4yr) 3 N 3.11 2.63 5.97 21 1 1 University/College (4yr) 4 N 2.87 2.27 2.99 21 3 1 University/College (4yr) 5 N 4.34 3.15 3.01 34 1 1 University/College (4yr) 6 N 3.53 2.09 3.12 26 0 1 University/College (4yr) 7 N 3.80 6.44 6.00 52 0 1 University/College (4yr) 8 N 5.23 2.72 4.75 10 5 1 University/College (4yr) 9 N 3.80 6.44 6.00 52 0 1 University/College (4yr) 9 N 3.80 3.53 2.72 4.75 10 5 1 University/College (4yr) 9 N 3.18 3.59 3.45 27 1 1 University/College (4yr) 10 N 2.07 1.92 4.10 14 0 1 University/College (4yr) 11 N 3.18 3.59 3.46 27 1 1 University/College (4yr) 11 N 3.18 3.59 3.46 27 1 1 University/College (4yr) 12 N 3.18 3.59 3.46 27 1 1 University/College (4yr) 12 N 3.18 3.59 3.46 27 1 1 University/College (4yr) 15 N 2.07 1.92 4.10 14 0 1 University/College (4yr) 15 N 2.72 1.73 5.93 22 0 University/College (4yr) 15 N 2.72 1.73 5.93 22 0 University/College (4yr) 14 N 2.72 1.73 5.93 22 0 University/College (4yr) 15 N 2.07 1.92 4.10 14 0 0 University/College (4yr) 1 Y 3.42 1.73 7.02 25 0 University/College (4yr) 2 Y 5.14 0.34 5.63 5.00 0 University/College (4yr) 3 Y 3.94 2.63 7.00 2.55 University/College (4yr) 4 Y 3.49 2.63 7.00 2.55 University/College (4yr) 4 Y 3.49 2.63 7.00 2.55 University/College (4yr) 5 Y 5.41 3.15 3.61 40 University/College (4yr) 7 Y 4.74 6.44 7.07 5.9 University/College (4yr) 7 Y 4.74 6.44 7.07 5.9 University/College (4yr) 7 Y 4.74 6.44 7.07 5.9 University/College (4yr) 7 Y 4.74 6.44 7.07 5.9 University/College (4yr) 1 N Y 3.49 2.67 3.59 4.14 31 1 University/College (4yr) 1 N Y 3.49 2.67 3.59 4.14 31 1 University/College (4yr) 1 Y 4.07 3.59 4.14 31 1 University/College (4yr) 1 Y 4.07 3.59 4.14 31 1 University/College (4yr) 1 Y 4.07 3.59 4.14 31 1 University/College (4yr) 1 Y 4.07 3.59 4.14 31 1 University/College (4yr) 1 Y 4.07 3.59 4.14 31 1 University/College (4yr) 1 Y 4.07 3.59 4.14 31 1 University/College (4yr) 1 Y 4.07 3.59 4.14 31 1 University/College (4yr) 1 Y 4.07 3.59 4.14 31 1 University/College (4yr) 1			_					
University/College (4yr)								
University/College (4yr)								0
University/College (4yr)								1
University/College (4yr)								
University/College (4yr)								-
University/College (4yr)								
University/College (4yr)								
University/College (4yr)								
University/College (4yr)	University/College (4yr)							0
University/College (4yr)	University/College (4yr)		N	3.18	3.59	3.48	27	1
University/College (4yr)		12				3.48	27	1
University/College (4yr)	University/College (4yr)							
University/College (4yr)								
University/College (4yr)								
University/College (4yr)								
University/College (4yr)	3 3 1 7							
University/College (4yr)								
University/College (4yr)								
University/College (4yr)								
University/College (4yr)								
University/College (4yr)								
University/College (4yr)								
University/College (4yr)								
University/College (4yr)								1
University/College (4yr)			Υ					1
University/College (4yr)		13	Υ	3.73	2.69	4.35	36	5
Unrefrigerated Warehouse-No Rail	University/College (4yr)	14	Υ	3.42	1.73	7.02	25	0
Unrefrigerated Warehouse-No Rail		15					17	
Unrefrigerated Warehouse-No Rail								
Unrefrigerated Warehouse-No Rail								0
Unrefrigerated Warehouse-No Rail								1
Unrefrigerated Warehouse-No Rail		<u> </u>						
Unrefrigerated Warehouse-No Rail								
Unrefrigerated Warehouse-No Rail								
Unrefrigerated Warehouse-No Rail 9								
Unrefrigerated Warehouse-No Rail 10								
Unrefrigerated Warehouse-No Rail								
Unrefrigerated Warehouse-No Rail 12 N 0.68 1.34 1.96 1 0 Unrefrigerated Warehouse-No Rail 13 N 0.92 1.11 1.70 2 0 Unrefrigerated Warehouse-No Rail 14 N 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 15 N 0.39 0.82 1.20 2 0 Unrefrigerated Warehouse-No Rail 1 Y 0.00 0.00 0.00 0								
Unrefrigerated Warehouse-No Rail 13 N 0.92 1.11 1.70 2 0 Unrefrigerated Warehouse-No Rail 14 N 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 15 N 0.39 0.82 1.20 2 0 Unrefrigerated Warehouse-No Rail 1 Y 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 2 Y 0.65 1.77 2.89 8 0 Unrefrigerated Warehouse-No Rail 3 Y 1.36 5.13 3.94 18 1 Unrefrigerated Warehouse-No Rail 4 Y 0.42 1.07 2.57 4 0 Unrefrigerated Warehouse-No Rail 5 Y 0.31 1.38 2.69 1 0 Unrefrigerated Warehouse-No Rail 7 Y 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 9 Y 0.85 1.34								
Unrefrigerated Warehouse-No Rail 14 N 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 15 N 0.39 0.82 1.20 2 0 Unrefrigerated Warehouse-No Rail 1 Y 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 2 Y 0.65 1.77 2.89 8 0 Unrefrigerated Warehouse-No Rail 3 Y 1.36 5.13 3.94 18 1 Unrefrigerated Warehouse-No Rail 4 Y 0.42 1.07 2.57 4 0 Unrefrigerated Warehouse-No Rail 5 Y 0.31 1.38 2.69 1 0 Unrefrigerated Warehouse-No Rail 6 Y 0.38 1.36 1.88 1 0 Unrefrigerated Warehouse-No Rail 7 Y 0.00 0.00 0.00 0 0 0 Unrefrigerated Warehouse-No Rail 10 Y 0.48								0
Unrefrigerated Warehouse-No Rail 15 N 0.39 0.82 1.20 2 0 Unrefrigerated Warehouse-No Rail 1 Y 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 2 Y 0.65 1.77 2.89 8 0 Unrefrigerated Warehouse-No Rail 3 Y 1.36 5.13 3.94 18 1 Unrefrigerated Warehouse-No Rail 4 Y 0.42 1.07 2.57 4 0 Unrefrigerated Warehouse-No Rail 5 Y 0.31 1.38 2.69 1 0 Unrefrigerated Warehouse-No Rail 6 Y 0.38 1.36 1.88 1 0 Unrefrigerated Warehouse-No Rail 7 Y 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 10 Y 0.48 0.82 1.88 2 0 Unrefrigerated Warehouse-No Rail 11 Y 0.85 1.34						0.00	0	0
Unrefrigerated Warehouse-No Rail 2 Y 0.65 1.77 2.89 8 0 Unrefrigerated Warehouse-No Rail 3 Y 1.36 5.13 3.94 18 1 Unrefrigerated Warehouse-No Rail 4 Y 0.42 1.07 2.57 4 0 Unrefrigerated Warehouse-No Rail 5 Y 0.31 1.38 2.69 1 0 Unrefrigerated Warehouse-No Rail 6 Y 0.38 1.36 1.88 1 0 Unrefrigerated Warehouse-No Rail 7 Y 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 8 Y 0.77 1.61 2.30 5 0 Unrefrigerated Warehouse-No Rail 10 Y 0.48 0.82 1.88 2 0 Unrefrigerated Warehouse-No Rail 11 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34	Unrefrigerated Warehouse-No Rail				0.82		2	
Unrefrigerated Warehouse-No Rail 3 Y 1.36 5.13 3.94 18 1 Unrefrigerated Warehouse-No Rail 4 Y 0.42 1.07 2.57 4 0 Unrefrigerated Warehouse-No Rail 5 Y 0.31 1.38 2.69 1 0 Unrefrigerated Warehouse-No Rail 6 Y 0.38 1.36 1.88 1 0 Unrefrigerated Warehouse-No Rail 7 Y 0.00 0.00 0.00 0 0 0 Unrefrigerated Warehouse-No Rail 8 Y 0.77 1.61 2.30 5 0 Unrefrigerated Warehouse-No Rail 9 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 11 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 13 Y 1.13								
Unrefrigerated Warehouse-No Rail 4 Y 0.42 1.07 2.57 4 0 Unrefrigerated Warehouse-No Rail 5 Y 0.31 1.38 2.69 1 0 Unrefrigerated Warehouse-No Rail 6 Y 0.38 1.36 1.88 1 0 Unrefrigerated Warehouse-No Rail 7 Y 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 8 Y 0.77 1.61 2.30 5 0 Unrefrigerated Warehouse-No Rail 9 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 11 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 13 Y 1.13 1.11		2						
Unrefrigerated Warehouse-No Rail 5 Y 0.31 1.38 2.69 1 0 Unrefrigerated Warehouse-No Rail 6 Y 0.38 1.36 1.88 1 0 Unrefrigerated Warehouse-No Rail 7 Y 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 8 Y 0.77 1.61 2.30 5 0 Unrefrigerated Warehouse-No Rail 9 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 11 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 13 Y 1.13 1.11 2.09 2 0 Unrefrigerated Warehouse-No Rail 14 Y 0.00 0.00								
Unrefrigerated Warehouse-No Rail 6 Y 0.38 1.36 1.88 1 0 Unrefrigerated Warehouse-No Rail 7 Y 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 8 Y 0.77 1.61 2.30 5 0 Unrefrigerated Warehouse-No Rail 9 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 11 Y 0.48 0.82 1.88 2 0 Unrefrigerated Warehouse-No Rail 11 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 13 Y 1.13 1.11 2.09 2 0 Unrefrigerated Warehouse-No Rail 14 Y 0.00 0.00 0.00 0 0	<u> </u>							
Unrefrigerated Warehouse-No Rail 7 Y 0.00 0.00 0.00 0 0 Unrefrigerated Warehouse-No Rail 8 Y 0.77 1.61 2.30 5 0 Unrefrigerated Warehouse-No Rail 9 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 10 Y 0.48 0.82 1.88 2 0 Unrefrigerated Warehouse-No Rail 11 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 13 Y 1.13 1.11 2.09 2 0 Unrefrigerated Warehouse-No Rail 14 Y 0.00 0.00 0.00 0 0	<u> </u>							
Unrefrigerated Warehouse-No Rail 8 Y 0.77 1.61 2.30 5 0 Unrefrigerated Warehouse-No Rail 9 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 10 Y 0.48 0.82 1.88 2 0 Unrefrigerated Warehouse-No Rail 11 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 13 Y 1.13 1.11 2.09 2 0 Unrefrigerated Warehouse-No Rail 14 Y 0.00 0.00 0.00 0 0								
Unrefrigerated Warehouse-No Rail 9 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 10 Y 0.48 0.82 1.88 2 0 Unrefrigerated Warehouse-No Rail 11 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 13 Y 1.13 1.11 2.09 2 0 Unrefrigerated Warehouse-No Rail 14 Y 0.00 0.00 0.00 0 0								
Unrefrigerated Warehouse-No Rail 10 Y 0.48 0.82 1.88 2 0 Unrefrigerated Warehouse-No Rail 11 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 13 Y 1.13 1.11 2.09 2 0 Unrefrigerated Warehouse-No Rail 14 Y 0.00 0.00 0.00 0 0								
Unrefrigerated Warehouse-No Rail 11 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 13 Y 1.13 1.11 2.09 2 0 Unrefrigerated Warehouse-No Rail 14 Y 0.00 0.00 0.00 0 0								
Unrefrigerated Warehouse-No Rail 12 Y 0.85 1.34 2.38 1 0 Unrefrigerated Warehouse-No Rail 13 Y 1.13 1.11 2.09 2 0 Unrefrigerated Warehouse-No Rail 14 Y 0.00 0.00 0.00 0 0								
Unrefrigerated Warehouse-No Rail 13 Y 1.13 1.11 2.09 2 0 Unrefrigerated Warehouse-No Rail 14 Y 0.00 0.00 0.00 0 0								
Unrefrigerated Warehouse-No Rail 14 Y 0.00 0.00 0.00 0								
Unrefrigerated Warehouse-No Rail 15 Y 0.48 0.82 1.88 2 0								
	Unrefrigerated Warehouse-No Rail						2	0

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Table 8.1 Energy Use by Climate Zone and Land Use Type

Land Use Sub Type	Climate	Historical	T24 Electricity	NT24 Electricity	Lighting	T24 Natural Gas	NT24 Natural Gas
	Zone		,	r per DU or S	-		DU or SQFT
Unrefrigerated Warehouse-Rail	1	N	0.00	0.00	0.00	NDIU Pei	0
Unrefrigerated Warehouse-Rail	2	N	0.52	1.77	2.39	6	0
Unrefrigerated Warehouse-Rail	3	N	1.09	5.13	2.31	17	1
Unrefrigerated Warehouse-Rail	4	N	0.33	1.07	2.20	3	0
Unrefrigerated Warehouse-Rail	5	N	0.25	1.38	2.22	1	0
Unrefrigerated Warehouse-Rail	6	N	0.27	1.36	1.64	0	0
Unrefrigerated Warehouse-Rail	7	N	0.94	0.95	1.51	1	0
Unrefrigerated Warehouse-Rail	8	N	0.62	1.61	2.01	4	0
Unrefrigerated Warehouse-Rail	9	N	0.68	1.34	1.96	1	0
Unrefrigerated Warehouse-Rail	10	N	0.39	0.82	1.20	2	0
Unrefrigerated Warehouse-Rail	11	N	0.68	1.34	1.96	1	0
Unrefrigerated Warehouse-Rail	12	N	0.68	1.34	1.96	1	0
Unrefrigerated Warehouse-Rail	13	N	0.92	1.11	1.70	2	0
Unrefrigerated Warehouse-Rail	14	N	0.00	0.00	0.00	0	0
Unrefrigerated Warehouse-Rail	15	N	0.39	0.82	1.20	2	0
Unrefrigerated Warehouse-Rail	1	Y	0.00	0.00	0.00	0	0
Unrefrigerated Warehouse-Rail Unrefrigerated Warehouse-Rail	3	Y	0.65 1.36	1.77 5.13	2.89 3.94	8 18	0 1
Unrefrigerated Warehouse-Rail Unrefrigerated Warehouse-Rail	4	Y	0.42	1.07	2.57	4	0
Unrefrigerated Warehouse-Rail	5	Y	0.42	1.38	2.69	1	0
Unrefrigerated Warehouse-Rail	6	Y	0.31	1.36	1.88	1	0
Unrefrigerated Warehouse-Rail	7	Y	0.00	0.00	0.00	0	0
Unrefrigerated Warehouse-Rail	8	Y	0.77	1.61	2.30	5	0
Unrefrigerated Warehouse-Rail	9	Υ	0.85	1.34	2.38	1	0
Unrefrigerated Warehouse-Rail	10	Υ	0.48	0.82	1.88	2	0
Unrefrigerated Warehouse-Rail	11	Υ	0.85	1.34	2.38	1	0
Unrefrigerated Warehouse-Rail	12	Υ	0.85	1.34	2.38	1	0
Unrefrigerated Warehouse-Rail	13	Υ	1.13	1.11	2.09	2	0
Unrefrigerated Warehouse-Rail	14	Υ	0.00	0.00	0.00	0	0
Unrefrigerated Warehouse-Rail	15	Y	0.48	0.82	1.88	2	0
User Defined Commercial	1	N	0.00	0.00	0.00	0	0
User Defined Commercial	2	N	0.00	0.00	0.00	0	0
User Defined Commercial User Defined Commercial	3	N N	0.00	0.00	0.00	0	0
User Defined Commercial	5	N N	0.00	0.00	0.00	0	0
User Defined Commercial	6	N	0.00	0.00	0.00	0	0
User Defined Commercial	7	N	0.00	0.00	0.00	0	0
User Defined Commercial	8	N	0.00	0.00	0.00	0	0
User Defined Commercial	9	N	0.00	0.00	0.00	0	0
User Defined Commercial	10	N	0.00	0.00	0.00	0	0
User Defined Commercial	11	N	0.00	0.00	0.00	0	0
User Defined Commercial	12	N	0.00	0.00	0.00	0	0
User Defined Commercial	13	N	0.00	0.00	0.00	0	0
User Defined Commercial	14	N	0.00	0.00	0.00	0	0
User Defined Commercial	15	N	0.00	0.00	0.00	0	0
User Defined Commercial	1	Y	0.00	0.00	0.00	0	0
User Defined Commercial	2	Y	0.00	0.00	0.00	0	0
User Defined Commercial User Defined Commercial	3	Y	0.00	0.00	0.00	0	0
User Defined Commercial	5	Y				0	0
User Defined Commercial	6	Y	0.00	0.00	0.00	0	0
User Defined Commercial	7	Y	0.00	0.00	0.00	0	0
User Defined Commercial	8	Y	0.00	0.00	0.00	0	0
User Defined Commercial	9	Y	0.00	0.00	0.00	0	0
User Defined Commercial	10	Y	0.00	0.00	0.00	0	0
User Defined Commercial	11	Y	0.00	0.00	0.00	0	0
User Defined Commercial	12	Y	0.00	0.00	0.00	0	0
User Defined Commercial	13	Υ	0.00	0.00	0.00	0	0
User Defined Commercial	14	Υ	0.00	0.00	0.00	0	0
User Defined Commercial	15	Υ	0.00	0.00	0.00	0	0
User Defined Educational	1	N	0.00	0.00	0.00	0	0
User Defined Educational	2	N	0.00	0.00	0.00	0	0
User Defined Educational	3	N	0.00	0.00	0.00	0	0
User Defined Educational	4	N	0.00	0.00	0.00	0	0
User Defined Educational	5	N	0.00	0.00	0.00	0	0
User Defined Educational	6	N	0.00	0.00	0.00	0	0
User Defined Educational	7	N	0.00	0.00	0.00	0	0

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Table 8.1 Energy Use by Climate Zone and Land Use Type

Limanument Lim								
Same Section Property Section Sectio		Climate		T24	NT24	Lighting	T24	NT24
With per DU or SQFT	Land Use Sub Type		Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
User Defined Educational				KWhi	per DU or S	QFT	kBtu per	DU or SQFT
User Defined Educational	User Defined Educational					0.00		0
User Defined Educational								0
User Defined Educational								0
User Defined Educational		-						
User Defined Educational							_	
User Defined Educational								
User Defined Educational		-						
User Defined Educational								0
User Defined Educational							_	0
User Defined Educational								0
User Defined Educational 6			Υ					0
User Defined Educational 8	User Defined Educational	5	Υ	0.00	0.00	0.00	0	0
User Defined Educational 9	User Defined Educational	6	Υ	0.00	0.00	0.00	0	0
User Defined Educational 9	User Defined Educational			0.00	0.00	0.00	0	0
User Defined Educational								0
User Defined Educational 11								0
User Defined Educational 12								
User Defined Educational								
User Defined Educational								
User Defined Industrial								
User Defined Industrial								
User Defined Industrial 2								
User Defined Industrial								0
User Defined Industrial								0
User Defined Industrial								0
User Defined Industrial								0
User Defined Industrial	User Defined Industrial	6	N	0.00	0.00	0.00	0	0
User Defined Industrial	User Defined Industrial	7	N	0.00	0.00	0.00	0	0
User Defined Industrial	User Defined Industrial	8	N	0.00	0.00	0.00	0	0
User Defined Industrial	User Defined Industrial	9	N	0.00	0.00	0.00		0
User Defined Industrial								0
User Defined Industrial		-						0
User Defined Industrial								0
User Defined Industrial								
User Defined Industrial		-						
User Defined Industrial 2		-						
User Defined Industrial 3 Y 0.00 0.00 0 0 User Defined Industrial 4 Y 0.00 0.00 0.00 0 0 User Defined Industrial 5 Y 0.00 0.00 0.00 0 0 User Defined Industrial 6 Y 0.00 0.00 0.00 0 0 User Defined Industrial 8 Y 0.00 0.00 0.00 0 0 User Defined Industrial 9 Y 0.00 0.00 0.00 <			-					
User Defined Industrial								0
User Defined Industrial								0
User Defined Industrial 6 Y 0.00 0.00 0 0 User Defined Industrial 7 Y 0.00 0.00 0.00 0 0 User Defined Industrial 8 Y 0.00 0.00 0.00 0 0 User Defined Industrial 10 Y 0.00 0.00 0.00 0 0 User Defined Industrial 11 Y 0.00 0.00 0.00 0 0 0 User Defined Industrial 12 Y 0.00 0.00 0.00 0								0
User Defined Industrial	User Defined Industrial	6	Υ				0	0
User Defined Industrial 9 Y 0.00 0.00 0.00 0 0 User Defined Industrial 10 Y 0.00 0.00 0.00 0 0 User Defined Industrial 11 Y 0.00 0.00 0.00 0 0 User Defined Industrial 12 Y 0.00 0.00 0.00 0 0 User Defined Industrial 13 Y 0.00 0.00 0.00 0 0 0 User Defined Industrial 14 Y 0.00 0.00 0.00 0	User Defined Industrial		Υ				0	0
User Defined Industrial 10 Y 0.00 0.00 0.00 0 0 User Defined Industrial 11 Y 0.00 0.00 0.00 0 0 User Defined Industrial 12 Y 0.00 0.00 0.00 0 0 User Defined Industrial 13 Y 0.00 0.00 0.00 0 0 User Defined Industrial 14 Y 0.00 0.00 0.00 0 0 User Defined Industrial 15 Y 0.00 0.00 0.00 0 0 0 User Defined Industrial 15 Y 0.00 0.00 0.00 0	User Defined Industrial	8	Υ	0.00	0.00	0.00	0	0
User Defined Industrial 11 Y 0.00 0.00 0 0 User Defined Industrial 12 Y 0.00 0.00 0.00 0 0 User Defined Industrial 13 Y 0.00 0.00 0.00 0 0 User Defined Industrial 14 Y 0.00 0.00 0.00 0 0 User Defined Industrial 15 Y 0.00 0.00 0.00 0 <td>User Defined Industrial</td> <td>9</td> <td>Υ</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0</td> <td>0</td>	User Defined Industrial	9	Υ	0.00	0.00	0.00	0	0
User Defined Industrial 12 Y 0.00 0.00 0.00 0 0 User Defined Industrial 13 Y 0.00 0.00 0.00 0 0 User Defined Industrial 14 Y 0.00 0.00 0.00 0 0 User Defined Industrial 15 Y 0.00 0.00 0.00 0 0 User Defined Parking 1 N 0.00 0.00 0.00 0 <td>User Defined Industrial</td> <td></td> <td>_</td> <td></td> <td>0.00</td> <td></td> <td>0</td> <td>0</td>	User Defined Industrial		_		0.00		0	0
User Defined Industrial 13 Y 0.00 0.00 0.00 0 0 User Defined Industrial 14 Y 0.00 0.00 0.00 0 0 User Defined Industrial 15 Y 0.00 0.00 0.00 0 0 User Defined Parking 1 N 0.00 0.00 0.00 0 0 User Defined Parking 2 N 0.00 0.00 0.00 0 0 User Defined Parking 3 N 0.00 0.00 0.00 0 0 0 User Defined Parking 5 N 0.00 0.00 0.00 0								0
User Defined Industrial 14 Y 0.00 0.00 0.00 0 0 User Defined Industrial 15 Y 0.00 0.00 0.00 0 0 User Defined Parking 1 N 0.00 0.00 0.00 0 0 User Defined Parking 2 N 0.00 0.00 0.00 0 0 User Defined Parking 4 N 0.00 0.00 0.00 0 0 User Defined Parking 5 N 0.00 0.00 0.00 0 0 User Defined Parking 7 N 0.00 0.00 0.00 0 0 User Defined Parking 8 N 0.00 0.00 0.00 0 0 User Defined Parking 10 N 0.00 0.00 0.00 0 0 User Defined Parking 11 N 0.00 0.00 0 0 0 User Defined Parking								0
User Defined Industrial 15 Y 0.00 0.00 0.00 0 0 User Defined Parking 1 N 0.00 0.00 0.00 0 0 User Defined Parking 2 N 0.00 0.00 0.00 0 0 User Defined Parking 3 N 0.00 0.00 0.00 0 0 User Defined Parking 4 N 0.00 0.00 0.00 0 0 User Defined Parking 5 N 0.00 0.00 0.00 0 0 User Defined Parking 7 N 0.00 0.00 0.00 0 0 User Defined Parking 8 N 0.00 0.00 0.00 0 0 User Defined Parking 10 N 0.00 0.00 0.00 0 0 User Defined Parking 11 N 0.00 0.00 0 0 0 User Defined Parking								0
User Defined Parking 1 N 0.00 0.00 0.00 0 0 User Defined Parking 2 N 0.00 0.00 0.00 0 0 User Defined Parking 3 N 0.00 0.00 0.00 0 0 User Defined Parking 4 N 0.00 0.00 0.00 0 0 User Defined Parking 5 N 0.00 0.00 0.00 0 0 User Defined Parking 7 N 0.00 0.00 0.00 0 0 User Defined Parking 8 N 0.00 0.00 0.00 0 0 User Defined Parking 10 N 0.00 0.00 0.00 0 0 User Defined Parking 11 N 0.00 0.00 0 0 0 User Defined Parking 12 N 0.00 0.00 0 0 0 User Defined Parking <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0</td></t<>								0
User Defined Parking 2 N 0.00 0.00 0.00 0 0 User Defined Parking 3 N 0.00 0.00 0.00 0 0 User Defined Parking 4 N 0.00 0.00 0.00 0 0 User Defined Parking 5 N 0.00 0.00 0.00 0 0 User Defined Parking 7 N 0.00 0.00 0.00 0 0 User Defined Parking 8 N 0.00 0.00 0.00 0 0 User Defined Parking 9 N 0.00 0.00 0.00 0 0 User Defined Parking 10 N 0.00 0.00 0.00 0 0 User Defined Parking 11 N 0.00 0.00 0 0 0 User Defined Parking 12 N 0.00 0.00 0 0 0 User Defined Parking <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
User Defined Parking 3 N 0.00 0.00 0.00 0 0 User Defined Parking 4 N 0.00 0.00 0.00 0 0 User Defined Parking 5 N 0.00 0.00 0.00 0 0 User Defined Parking 7 N 0.00 0.00 0.00 0 0 User Defined Parking 8 N 0.00 0.00 0.00 0 0 User Defined Parking 9 N 0.00 0.00 0.00 0 0 User Defined Parking 10 N 0.00 0.00 0.00 0 0 User Defined Parking 11 N 0.00 0.00 0 0 0 User Defined Parking 12 N 0.00 0.00 0 0 0 User Defined Parking 13 N 0.00 0.00 0 0 0	S S							0
User Defined Parking 4 N 0.00 0.00 0.00 0 0 User Defined Parking 5 N 0.00 0.00 0.00 0 0 User Defined Parking 6 N 0.00 0.00 0.00 0 0 User Defined Parking 7 N 0.00 0.00 0.00 0 0 User Defined Parking 9 N 0.00 0.00 0.00 0 0 User Defined Parking 10 N 0.00 0.00 0.00 0 0 User Defined Parking 11 N 0.00 0.00 0 0 0 User Defined Parking 12 N 0.00 0.00 0 0 0 User Defined Parking 13 N 0.00 0.00 0 0 0	<u> </u>							
User Defined Parking 5 N 0.00 0.00 0.00 0 0 User Defined Parking 6 N 0.00 0.00 0.00 0 0 User Defined Parking 7 N 0.00 0.00 0.00 0 0 User Defined Parking 9 N 0.00 0.00 0.00 0 0 User Defined Parking 10 N 0.00 0.00 0.00 0 0 User Defined Parking 11 N 0.00 0.00 0 0 0 User Defined Parking 12 N 0.00 0.00 0 0 0 User Defined Parking 13 N 0.00 0.00 0 0 0	S S							
User Defined Parking 6 N 0.00 0.00 0.00 0 0 User Defined Parking 7 N 0.00 0.00 0.00 0 0 User Defined Parking 8 N 0.00 0.00 0.00 0 0 User Defined Parking 9 N 0.00 0.00 0.00 0 0 User Defined Parking 10 N 0.00 0.00 0.00 0 0 User Defined Parking 11 N 0.00 0.00 0.00 0 0 User Defined Parking 12 N 0.00 0.00 0.00 0 0 User Defined Parking 13 N 0.00 0.00 0.00 0 0	S S							
User Defined Parking 7 N 0.00 0.00 0.00 0 0 User Defined Parking 8 N 0.00 0.00 0.00 0 0 User Defined Parking 9 N 0.00 0.00 0.00 0 0 User Defined Parking 10 N 0.00 0.00 0.00 0 0 User Defined Parking 11 N 0.00 0.00 0.00 0 0 User Defined Parking 12 N 0.00 0.00 0.00 0 0 User Defined Parking 13 N 0.00 0.00 0.00 0 0	S S							0
User Defined Parking 8 N 0.00 0.00 0.00 0 0 User Defined Parking 9 N 0.00 0.00 0.00 0 0 User Defined Parking 10 N 0.00 0.00 0.00 0 0 User Defined Parking 11 N 0.00 0.00 0.00 0 0 User Defined Parking 12 N 0.00 0.00 0.00 0 0 User Defined Parking 13 N 0.00 0.00 0 0 0	S .							0
User Defined Parking 9 N 0.00 0.00 0.00 0 0 User Defined Parking 10 N 0.00 0.00 0.00 0 0 User Defined Parking 11 N 0.00 0.00 0.00 0 0 User Defined Parking 12 N 0.00 0.00 0.00 0 0 User Defined Parking 13 N 0.00 0.00 0.00 0 0	U							0
User Defined Parking 10 N 0.00 0.00 0.00 0 0 User Defined Parking 11 N 0.00 0.00 0.00 0 0 User Defined Parking 12 N 0.00 0.00 0.00 0 0 User Defined Parking 13 N 0.00 0.00 0.00 0 0	S S							0
User Defined Parking 11 N 0.00 0.00 0.00 0 0 User Defined Parking 12 N 0.00 0.00 0.00 0 0 User Defined Parking 13 N 0.00 0.00 0.00 0 0	S S							0
User Defined Parking 12 N 0.00 0.00 0.00 0 0 User Defined Parking 13 N 0.00 0.00 0.00 0 0 0	S S							0
User Defined Parking 13 N 0.00 0.00 0.00 0 0	S .	12	N	0.00	0.00		0	0
User Defined Parking 14 N 0.00 0.00 0.00 0 0	S S	13			0.00			0
	User Defined Parking	14	N	0.00	0.00	0.00	0	0

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Table 8.1 Energy Use by Climate Zone and Land Use Type

Land Use Sub Type								
Historical Electricity Electricity Electricity Statural Gas Natural Gas		Climate				Lighting		NT24
With per DU or SQFT	Land Use Sub Type		Historical	Electricity	Electricity	Electricity		
User Defined Parking				KWhi	per DU or S	QFT	kBtu per	DU or SQFT
User Defined Parking	•							0
User Delined Parking	<u> </u>		-					0
User Defined Parking	3							0
User Delined Parking	· · · · · · · · · · · · · · · · · · ·							0
User Defined Parking	S S						_	
User Defined Parking	3							
User Delined Parking								
User Defined Parking								0
User Defined Parking	S S						_	0
User Defined Parking	5							0
User Defined Parking	· · · · · · · · · · · · · · · · · · ·		Υ					0
User Defined Parking	User Defined Parking	12	Υ	0.00	0.00	0.00	0	0
User Defined Recreational	User Defined Parking	13	Υ	0.00	0.00	0.00	0	0
User Defined Recreational 1	3			0.00	0.00	0.00	0	0
User Defined Recreational 2	· · · · · · · · · · · · · · · · · · ·		-					0
User Defined Recreational								0
User Defined Recreational								
User Defined Recreational								
User Defined Recreational								0
User Defined Recreational								
User Defined Recreational								0
User Defined Recreational								0
User Defined Recreational								0
User Defined Recreational								0
User Defined Recreational								0
User Defined Recreational								0
User Defined Recreational	User Defined Recreational	13	N	0.00	0.00	0.00	0	0
User Defined Recreational	User Defined Recreational	14	N	0.00	0.00	0.00	0	0
User Defined Recreational 2 Y 0.00 0.00 0.00 0 0 0 0	User Defined Recreational	15	N	0.00	0.00	0.00	0	0
User Defined Recreational	User Defined Recreational	1	Υ	0.00	0.00	0.00		0
User Defined Recreational								0
User Defined Recreational 5 Y 0.00 0.00 0 0 User Defined Recreational 6 Y 0.00 0.00 0.00 0 0 User Defined Recreational 8 Y 0.00 0.00 0.00 0 0 User Defined Recreational 9 Y 0.00 0.00 0.00 0 0 User Defined Recreational 10 Y 0.00 0.00 0.00 0 0 User Defined Recreational 11 Y 0.00 0.00 0.00 0<			-					0
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User Defined Recreational 7			-					0
User Defined Recreational 9								
User Defined Recreational 9								
User Defined Recreational			-					0
User Defined Recreational								0
User Defined Recreational								0
User Defined Recreational								0
User Defined Recreational		13	Υ				0	0
User Defined Residential	User Defined Recreational	14	Υ		0.00		0	0
User Defined Residential 2	User Defined Recreational	15	Υ	0.00	0.00	0.00	0	0
User Defined Residential 3 N 0.00 0.00 0.00 0 0 User Defined Residential 4 N 0.00 0.00 0.00 0 0 User Defined Residential 5 N 0.00 0.00 0.00 0 0 User Defined Residential 6 N 0.00 0.00 0.00 0 0 User Defined Residential 7 N 0.00 0.00 0.00 0 0 User Defined Residential 9 N 0.00 0.00 0.00 0 0 0 User Defined Residential 10 N 0.00 0.00 0.00 0	User Defined Residential	1	N	0.00	0.00	0.00	0	0
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User Defined Residential 15 N 0.00 0.00 0.00 0 0 User Defined Residential 1 Y 0.00 0.00 0.00 0 0 User Defined Residential 2 Y 0.00 0.00 0.00 0 0 User Defined Residential 3 Y 0.00 0.00 0.00 0 0 User Defined Residential 4 Y 0.00 0.00 0.00 0 0 User Defined Residential 5 Y 0.00 0.00 0.00 0 0		-						0
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User Defined Residential 2 Y 0.00 0.00 0.00 0 0 User Defined Residential 3 Y 0.00 0.00 0.00 0 0 User Defined Residential 4 Y 0.00 0.00 0.00 0 0 User Defined Residential 5 Y 0.00 0.00 0.00 0 0								0
User Defined Residential 3 Y 0.00 0.00 0.00 0 0 User Defined Residential 4 Y 0.00 0.00 0.00 0 0 User Defined Residential 5 Y 0.00 0.00 0.00 0 0								0
User Defined Residential 4 Y 0.00 0.00 0.00 0 0 User Defined Residential 5 Y 0.00 0.00 0.00 0 0								0
	User Defined Residential	4	Υ	0.00	0.00	0.00	0	0
User Defined Residential 6 Y 0.00 0.00 0.00 0	User Defined Residential	5		0.00	0.00	0.00		0
	User Defined Residential	6	Υ	0.00	0.00	0.00	0	0

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Table 8.1 Energy Use by Climate Zone and Land Use Type

	1			ī			1
	Climate		T24	NT24	Lighting	T24	NT24
Land Use Sub Type	Zone	Historical	Electricity	Electricity	Electricity	Natural Gas	Natural Gas
			KWhr	per DU or S0	QFT	kBtu per	DU or SQFT
User Defined Residential	7	Υ	0.00	0.00	0.00	0	0
User Defined Residential	8	Υ	0.00	0.00	0.00	0	0
User Defined Residential	9	Υ	0.00	0.00	0.00	0	0
User Defined Residential	10	Υ	0.00	0.00	0.00	0	0
User Defined Residential	11	Υ	0.00	0.00	0.00	0	0
User Defined Residential	12	Υ	0.00	0.00	0.00	0	0
User Defined Residential	13	Υ	0.00	0.00	0.00	0	0
User Defined Residential	14	Υ	0.00	0.00	0.00	0	0
User Defined Residential	15	Υ	0.00	0.00	0.00	0	0
User Defined Retail	1	N	0.00	0.00	0.00	0	0
User Defined Retail	2	N	0.00	0.00	0.00	0	0
User Defined Retail	3	N	0.00	0.00	0.00	0	0
User Defined Retail	4	N	0.00	0.00	0.00	0	0
User Defined Retail	5	N	0.00	0.00	0.00	0	0
User Defined Retail	6	N	0.00	0.00	0.00	0	0
User Defined Retail	7	N	0.00	0.00	0.00	0	0
User Defined Retail	8	N	0.00	0.00	0.00	0	0
User Defined Retail	9	N	0.00	0.00	0.00	0	0
User Defined Retail	10	N	0.00	0.00	0.00	0	0
User Defined Retail	11	N	0.00	0.00	0.00	0	0
User Defined Retail	12	N	0.00	0.00	0.00	0	0
User Defined Retail	13	N	0.00	0.00	0.00	0	0
User Defined Retail	14	N	0.00	0.00	0.00	0	0
User Defined Retail	15	N	0.00	0.00	0.00	0	0
User Defined Retail	1	Υ	0.00	0.00	0.00	0	0
User Defined Retail	2	Υ	0.00	0.00	0.00	0	0
User Defined Retail	3	Υ	0.00	0.00	0.00	0	0
User Defined Retail	4	Υ	0.00	0.00	0.00	0	0
User Defined Retail	5	Υ	0.00	0.00	0.00	0	0
User Defined Retail	6	Υ	0.00	0.00	0.00	0	0
User Defined Retail	7	Υ	0.00	0.00	0.00	0	0
User Defined Retail	8	Υ	0.00	0.00	0.00	0	0
User Defined Retail	9	Υ	0.00	0.00	0.00	0	0
User Defined Retail	10	Υ	0.00	0.00	0.00	0	0
User Defined Retail	11	Υ	0.00	0.00	0.00	0	0
User Defined Retail	12	Υ	0.00	0.00	0.00	0	0
User Defined Retail	13	Υ	0.00	0.00	0.00	0	0
User Defined Retail	14	Υ	0.00	0.00	0.00	0	0
User Defined Retail	15	Υ	0.00	0.00	0.00	0	0

Table 8.2 Natural Gas Emission Factors

Land Use Type	TOG, lb/MMBTU	ROG, Ib/MMBTU	SO2, Ib/MMBTU	NOX, Ib/MMBTU	PB, Ib/MMBTU	PM10, lb/MMBTU	PM2_5, lb/MMBTU	CO, Ib/MMBTU	CO2_NBIO, Ib/MMBTU	CH4, Ib/MMBTU	N2O, Ib/MMBTU
Residential	0.01078431	0.01078431	0.00058824	0.09215686	4.90196E-07	0.00745098	0.00745098	0.03921569	117.647059	0.0022549	0.00215686
Nonresidential	0.01078431	0.01078431	0.00058824	0.09803922	4.90196E-07	0.00745098	0.00745098	0.08235294	117.647059	0.0022549	0.00215686

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Table 9.1 Water Use Rates

		Indoor Water,	Outdoor Water,
Land Use Sub Type	Size Metric	gal/size/year ¹	gal/size/year ¹
Apartments High Rise	Dwelling Unit	65,154	41,075
Apartments Low Rise	Dwelling Unit	65,154	41,075
Apartments Mid Rise	Dwelling Unit	65,154	41,075
Arena	1000sqft	430,770	27,496
Arena	Acre	1,346,157	85,925
Automobile Care Center	1000sqft	94,081	57,663
Bank (with Drive-Through)	1000sqft	39,623	24,285
City Park	Acre	39,023	1,191,481
Condo/Townhouse	Dwelling Unit	65,154	41,075
Condo/Townhouse High Rise	Dwelling Unit	65,154	41,075
Congregate Care (Assisted Living)	Dwelling Unit	65,154	41,075
Convenience Market (24 hour)	1000sqft	74,073	45,399
Convenience Market with Gas Pumps	1000sqft		45,399
Convenience Market with Gas Pumps Convenience Market with Gas Pumps		74,073	
·	Pump	10,457	6,409
Day-Care Center	1000sqft Student	42,890	110,287
Day-Care Center		2,424	6,234 993
Day-Care Center	Employee	386	
Discount Club	1000sqft	74,073	45,399
Electronic Superstore	1000sqft	74,073	45,399
Elementary School	1000sqft	28,997	74,564
Elementary School	Student	2,424	6,234
Elementary School	Employee	29,523	75,917
Fast Food Restaurant w/o Drive Thru	1000sqft	303,534	19,374
Fast Food Restaurant with Drive Thru	1000sqft	303,534	19,374
Free-Standing Discount Store	1000sqft	74,073	45,399
Free-Standing Discount Superstore	1000sqft	74,073	45,399
Gasoline/Service Station	1000sqft	94,081	57,663
General Heavy Industry	1000sqft	231,250	
General Light Industry	1000sqft	231,250	
General Office Building	1000sqft	177,734	108,934
Golf Course	Acre		1,191,481
Golf Course	Hole		8,317,850
Government (Civic Center)	1000sqft	198,660	121,759
Government Office Building	1000sqft	198,660	121,759
Hardware/Paint Store	1000sqft	74,073	45,399
health club	1000sqft	59,143	36,249
High School	1000sqft	33,205	85,383
High School	Employee	39,494	101,555
High School	Student	4,405	11,327
High Turnover (Sit Down Restaurant)	1000sqft	303,534	19,374
Home Improvement Superstore	1000sqft	74,073	45,399
Hospital	1000sqft	125,481	23,901
Hospital	Bed	89,814	17,107
Hotel	Room	25,367	2,819
Industrial Park	1000sqft	231,250	
Junior College (2yr)	1000sqft	49,049	76,718
Junior College (2yr)	Employee	58,339	91,248
Junior College (2yr)	Student	2,141	3,349
Junior High School	1000sqft	20,621	53,025
Junior High School	Student	2,424	6,234
Junior High School	Employee	24,527	63,069

Table 9.1 Water Use Rates

Lond Hoo Cub Time	Cina Matria	Indoor Water,	Outdoor Water,
Land Use Sub Type	Size Metric	gal/size/year ¹	gal/size/year ¹
Library	1000sqft	31,289	48,939
Library	Employee	29,219	45,702
Manufacturing	1000sqft	231,250	·
Medical Office Building	1000sqft	125,481	23,901
Mobile Home Park	Dwelling Unit	65,154	41,075
Motel	Room	25,367	2,819
Movie Theater (No Matinee)	1000sqft	401,601	25,634
Movie Theater (No Matinee)	Screen	1,104,404	70,494
Movie Theater (No Matinee)	Seat	9,036	577
Office Park	1000sqft	177,734	108,934
Parking Lot	Space	,	,
Unenclosed Parking Structure	Space		
Enclosed Parking Structure	Space		
Unenclosed Parking with Elevator	Space		
Enclosed Parking with Elevator	Space		
Parking Lot	1000sqft		
Unenclosed Parking Structure	1000sqft		
Enclosed Parking Structure	1000sqft		
Unenclosed Parking with Elevator	1000sqft		
Enclosed Parking with Elevator	1000sqft		
Other Asphalt Surfaces	1000sqft		
Other Non-Asphalt Surfaces	1000sqft		
Parking Lot	Acre		
Unenclosed Parking Structure	Acre		
Enclosed Parking Structure	Acre		
Unenclosed Parking with Elevator	Acre		
Enclosed Parking with Elevator	Acre		
Other Asphalt Surfaces	Acre		
Other Non-Asphalt Surfaces	Acre		
Pharmacy/Drugstore w/o Drive Thru	1000sqft	70,448	43,178
Pharmacy/Drugstore with Drive Thru	1000sqft	70,448	43,178
Place of Worship	1000sqft	31,289	48,939
Place of Worship	Seat	1,580	2,472
Quality Restaurant	1000sqft	303,534	19,374
Racquet Club	1000sqft	59,143	36,249
Recreational Swimming Pool	1000sqft	59,143	36,249
Refrigerated Warehouse-No Rail	1000sqft	231,250	00,2 :0
Refrigerated Warehouse-Rail	1000sqft	231,250	
Regional Shopping Center	1000sqft	74,073	45,399
Research & Development	1000sqft	491,694	10,000
Retirement Community	Dwelling Unit	65,154	41,075
Single Family Housing	Dwelling Unit	65,154	41,075
Strip Mall	1000sqft	74,073	45,399
Supermarket	1000sqft	123,268	3,812
University/College (4yr)	Employee	8,222	12,860
University/College (4yr)	Student	2,141	3,349
University/College (4yr)	1000sqft	11,649	18,221
Unrefrigerated Warehouse-No Rail	1000sqft	231,250	10,221
Unrefrigerated Warehouse-Rail	1000sqft	231,250	

^{1.} Industrial water use is based on a work-year of 250 days per year.

Table 9.2 Water and Wastewater Electricity Intensity

			Supply	Treat	Distribute	Wastewater
			Water	Water	Water	Treatment
Location Type		Source			r/ million gallon	
	Great Basin Valleys	1		111	1272	1911
	Lake County	1		111	1272	1911
	Lake Tahoe	1		111	1272	1911
	Mojave Desert	2		111	1272	1911
	Mountain Counties	1		111	1272	1911
	North Central Coast	1		111	1272	1911
	North Coast	1		111	1272	1911
	Northeast Plateau	1		111	1272	1911
	Sacramento Valley	1		111	1272	1911
	Salton Sea	2		111	1272	1911
	San Diego	2		111	1272	1911
	San Francisco Bay Area	1	2117	111	1272	1911
	San Joaquin Valley	1	2117	111	1272	1911
	South Central Coast	1	2117	111	1272	1911
Air Basin	South Coast	2	9727	111	1272	1911
	Amador County APCD	1	2117	111	1272	1911
	Antelope Valley APCD	2	9727	111	1272	1911
	Bay Area AQMD	1	2117	111	1272	1911
	Butte County AQMD	1	2117	111	1272	1911
	Calaveras County AQMD	1	2117	111	1272	1911
	Colusa County APCD	1	2117	111	1272	1911
	El Dorado County APCD	1		111	1272	1911
	Feather River AQMD	1	2117	111	1272	1911
	Glenn County APCD	1		111	1272	1911
	Great Basin UAPCD	1		111	1272	1911
	Imperial County APCD	2		111	1272	1911
	Kern County APCD	2		111	1272	1911
	Lake County AQMD	1		111	1272	1911
	Lassen County APCD	1		111	1272	1911
	Mariposa County APCD	1		111	1272	1911
	Mendocino County AQMD	1		111	1272	1911
	Modoc County APCD	1		111	1272	1911
	Mojave Desert AQMD	2		111		
	Monterey Bay Unified APCD	1		111	1272	
	North Coast Unified APCD	1		111	1272	
	Northern Sierra AQMD	1		111		
	Northern Sonoma County APCD	1		111		
	Placer County APCD	1		111	1272	1911
	Sacramento Metropolitan AQMD	1		111	1272	1911
	San Diego County APCD	2		111	1272	1911
	San Joaquin Valley Unified APCD	1		111	1272	1911
	San Luis Obispo County APCD	1		111	1272	1911
	Santa Barbara County APCD	1		111	1272	1911
	Shasta County AQMD	1		111	1272	1911
	Siskiyou County APCD	1		111	1272	1911
	South Coast AQMD	2		111	1272	1911
	Tehama County APCD	1		111	1272	1911
	Tuolumne County APCD	1		111	1272	1911
		2				
Air Diatriat	Ventura County APCD	1		111	1272 1272	1911
Air District	Yolo/Solano AQMD	1	2117	111	12/2	1911

Table 9.2 Water and Wastewater Electricity Intensity

			Supply	Treat	Distribute	Wastewater
			Water	Water	Water	Treatment
Location Type	Name	Source		kWh	r/ million gallon	s
	Alameda	1		111		1911
	Alpine	1		111	1272	1911
	Amador	1		111	1272	1911
	Butte	1		111	1272	1911
	Calaveras	1		111	1272	1911
	Colusa	1		111	1272	1911
	Contra Costa	1		111	1272	1911
	Del Norte	1		111	1272	1911
	El Dorado-Lake Tahoe	1		111	1272	1911
	El Dorado-Mountain County Fresno	1 1		111 111		1911 1911
	Glenn	1		111		1911
	Humboldt	1 1		111		1911
	Imperial	2		111		1911
	Inyo	2		111		1911
	Kern-Mojave Desert	2		111	1272	1911
	Kern-San Joaquin	1		111	1272	1911
	Kings	1		111	1272	1911
	Lake	1		111	1272	1911
	Lassen	1		111	1272	1911
	Los Angeles-Mojave Desert	2		111	1272	1911
	Los Angeles-South Coast	2		111	1272	1911
	Madera	1		111	1272	1911
	Marin	1		111	1272	1911
	Mariposa	1		111	1272	1911
	Mendocino-Coastal	1		111	1272	1911
	Mendocino-Inland	1		111	1272	1911
	Mendocino-Rural Inland North	1	2117	111	1272	1911
	Mendocino-Rural Inland South	1	2117	111	1272	1911
	Merced	1	2117	111	1272	1911
	Modoc	1	2117	111	1272	1911
	Mono	1		111	1272	1911
	Monterey	1	2117	111	1272	
	Napa	1		111		
	Nevada	1		111		
	Orange	2		111		
	Placer-Lake Tahoe	1		111		
	Placer-Mountain Counties	1		111		
	Placer-Sacramento	1		111		
	Plumas	1		111		1911
	Riverside-Mojave Desert MDAQMD	2		111		1911
	Riverside-Mojave Desert SCAQMD	2		111	1272	1911
	Riverside South Coast	2		111	1272	1911
	Riverside-South Coast	2		111		1911
	Sacramento San Ropito	1		111 111		1911 1911
	San Benito San Bernardino-Mojave Desert	1 2		111		1911
	San Bernardino-South Coast	2		111		
	San Diego	2		111		
	San Francisco	1		111		
	San Joaquin	1		111		1911
	San Luis Obispo	1		111		1911
	San Mateo	1	+	111		1911
	Santa Barbara-North of Santa Ynez	1		111		
	Santa Barbara-South of Santa Ynez Range	1 1				
	Santa Clara	1 1		111		
	Santa Cruz	1		111		
	Shasta	1		111		
	Sierra	1		111		

Table 9.2 Water and Wastewater Electricity Intensity

			Supply	Treat	Distribute	Wastewater
			Water	Water	Water	Treatment
Location Type	Name	Source		kWh	r/ million gallon	is
	Siskiyou	1	2117	111	1272	1911
	Solano-San Francisco	1	2117	111	1272	1911
	Solano-San Joaquin	1	2117	111	1272	1911
	Sonoma-North Coast	1	2117	111	1272	1911
	Sonoma-San Francisco	1	2117	111	1272	1911
	Stanislaus	1	2117	111	1272	1911
	Sutter	1	2117	111	1272	1911
	Tehama	1	2117	111	1272	1911
	Trinity	1	2117	111	1272	1911
	Tulare	1	2117	111	1272	1911
	Tuolumne	1	2117	111	1272	1911
	Ventura	2	9727	111	1272	1911
	Yolo	1	2117	111	1272	1911
Counties	Yuba	1	2117	111	1272	1911
Statewide	Statewide	3	5922	111	1272	1911

- 1. Data is based on the value for Northern California reported in the CEC 2006 Report " Refining Estimates of Water-Related Energy Use in California."
- 2. Data is based on the value for Southern California reported in the CEC 2006 Report " Refining Estimates of Water-Related Energy Use in California."
- 3. Data is based on the average of the Northern and Southern California values reported in the CEC 2006 Report " Refining Estimates of Water-Related Energy Use in California."

Table 9.3 Percent of Wastewater Distribution Types

Location Type	Name	Source	Septic Tank	Aerobic	Anaerobic, Facultative Lagoons	Anaerobic, Combustion of Gas	Anaerobic, Cogeneration of Gas
	Great Basin Valleys	1	10.33	87.46	2.21	100	0
	Lake County	1	10.33	87.46	2.21	100	0
	Lake Tahoe	1	10.33	87.46	2.21	100	0
	Mojave Desert	1	10.33	87.46	2.21	100	0
	Mountain Counties	1	10.33	87.46	2.21	100	0
	North Central Coast	1	10.33	87.46	2.21	100	0
	North Coast	1	10.33	87.46	2.21	100	0
A ! D ! -	Northeast Plateau	1	10.33	87.46	2.21	100	0
Air Basin	Sacramento Valley	1	10.33	87.46	2.21	100	0
	Salton Sea	1	10.33	87.46	2.21	100	0
	San Diego	1	10.33	87.46	2.21	100	0
	San Diego	1	10.33	87.46	2.21	100	0
	San Francisco Bay Area	1	10.33	87.46	2.21	100	0
	San Joaquin Valley	1	10.33	87.46	2.21	100	0
	South Central Coast	1	10.33	87.46	2.21	100	0
	South Coast	1 1	10.33	87.46	2.21	100	0
	Amador County APCD	1 1	10.33	87.46	2.21	100	0
	Antelope Valley APCD	1	10.33	87.46	2.21	100	0
	·	1	10.33	87.46	2.21	100	
	Bay Area AQMD Butte County AQMD	1 1	10.33	87.46 87.46	2.21	100	0
	•					_	
	Calaveras County AQMD	1	10.33	87.46	2.21	100	0
	Colusa County APCD	1	10.33	87.46	2.21	100	0
	El Dorado County APCD	1	10.33	87.46	2.21	100	0
	Feather River AQMD	1	10.33	87.46	2.21	100	0
	Glenn County APCD	1	10.33	87.46	2.21	100	0
	Great Basin UAPCD	1	10.33	87.46	2.21	100	0
	Imperial County APCD	1	10.33	87.46	2.21	100	0
	Kern County APCD	1	10.33	87.46	2.21	100	0
	Lake County AQMD	1	10.33	87.46	2.21	100	0
	Lassen County APCD	1	10.33	87.46	2.21	100	0
	Mariposa County APCD	1	10.33	87.46	2.21	100	0
	Mendocino County AQMD	1	10.33	87.46	2.21	100	0
	Modoc County APCD	1	10.33	87.46	2.21	100	0
Air District	Mojave Desert AQMD	1	10.33	87.46	2.21	100	0
	Monterey Bay Unified APCD	1	10.33	87.46	2.21	100	0
	North Coast Unified APCD	1	10.33	87.46	2.21	100	0
	Northern Sierra AQMD	1	10.33	87.46	2.21	100	0
	Northern Sonoma County APCD	1	10.33	87.46	2.21	100	0
	Placer County APCD	1	10.33	87.46	2.21	100	0
	Sacramento Metropolitan AQMD	2	0	100	0	15	85
	San Diego County APCD	1	10.33	87.46	2.21	100	0
	San Joaquin Valley Unified APCD	1	10.33	87.46	2.21	100	0
	San Luis Obispo County APCD	1 1	10.33	87.46	2.21	100	0
	Santa Barbara County APCD	2	0	100	0	100	0
	Shasta County AQMD	1	10.33	87.46	2.21	100	0
		1			2.21	100	
	Siskiyou County APCD		10.33	87.46			0
	South Coast AQMD	1	10.33	87.46	2.21	100	0
	Tehama County APCD	2	67	33	0	100	0
	Tuolumne County APCD	1	10.33	87.46	2.21	100	0
	Ventura County APCD	1	10.33	87.46	2.21	100	0
	Yolo/Solano AQMD	1	10.33	87.46	2.21	100	0
	Alameda	1 1	10.33	87.46	2.21	100	0
	Alpine	1	10.33	87.46	2.21	100	0
	Amador	1	10.33	87.46	2.21	100	0
	Butte	1	10.33	87.46	2.21	100	0
	Calaveras	1	10.33	87.46	2.21	100	0
	Colusa	1	10.33	87.46	2.21	100	0
	Contra Costa	1	10.33	87.46	2.21	100	0
	Del Norte	1	10.33	87.46	2.21	100	0
	El Dorado-Lake Tahoe	1	10.33	87.46	2.21	100	0
	El Dorado-Mountain County	1	10.33	87.46	2.21	100	0
	,		10.33	87.46	2.21		0
	Fresno	1 1	1().5.5	8/4h	2.71	100	()

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Table 9.3 Percent of Wastewater Distribution Types

Location			Septic		Anaerobic,	Anaerobic,	Anaerobic,
Type	Name	Source	Tank	Aerobic	Facultative	Combustion of	Cogeneration o
Турс					Lagoons	Gas	Gas
	Humboldt	1	10.33	87.46	2.21	100	0
	Imperial	1	10.33	87.46	2.21	100	0
	Inyo	1	10.33	87.46	2.21	100	0
	Kern-Mojave Desert	1	10.33	87.46	2.21	100	0
	Kern-San Joaquin	1	10.33	87.46	2.21	100	0
	Kings	1	10.33	87.46	2.21	100	0
	Lake	1	10.33	87.46	2.21	100	0
	Lassen	1	10.33	87.46	2.21	100	0
	Los Angeles-Mojave Desert	1	10.33	87.46	2.21	100	0
	Los Angeles-South Coast	1	10.33	87.46	2.21	100	0
	Madera	1	10.33	87.46	2.21	100	0
	Marin	1	10.33	87.46	2.21	100	0
	Mariposa	1	10.33	87.46	2.21	100	0
	Mendocino-Coastal	1	10.33	87.46	2.21	100	0
	Mendocino-Inland	1	10.33	87.46	2.21	100	0
	Mendocino-Rural Inland North	1	10.33	87.46	2.21	100	0
	Mendocino-Rural Inland South	1	10.33	87.46	2.21	100	0
	Merced	1	10.33	87.46	2.21	100	0
	Modoc	1	10.33	87.46	2.21	100	0
	Mono	1	10.33	87.46	2.21	100	0
	Monterey	1	10.33	87.46	2.21	100	0
	Napa	1	10.33	87.46	2.21	100	0
	Nevada	1	10.33	87.46	2.21	100	0
Counties	Orange	1	10.33	87.46	2.21	100	0
Counties	Placer-Lake Tahoe	1	10.33	87.46	2.21	100	0
	Placer-Mountain Counties	1	10.33	87.46	2.21	100	0
	Placer-Sacramento	1	10.33	87.46	2.21	100	0
	Plumas	1	10.33	87.46	2.21	100	0
	Riverside-Mojave Desert MDAQMD	1	10.33	87.46	2.21	100	0
	Riverside-Mojave Desert SCAQMD	1	10.33	87.46	2.21	100	0
	Riverside-Salton Sea	1	10.33	87.46	2.21	100	0
	Riverside-South Coast	1	10.33	87.46	2.21	100	0
	Sacramento	2	0	100	0	15	85
	San Benito	1	10.33	87.46	2.21	100	0
	San Bernardino-Mojave Desert	1	10.33	87.46	2.21	100	0
	San Bernardino-South Coast	1	10.33	87.46	2.21	100	0
	San Francisco	1	10.33	87.46	2.21	100	0
	San Joaquin	1	10.33	87.46	2.21	100	0
	San Luis Obispo	1	10.33	87.46	2.21	100	0
	San Mateo	1	10.33	87.46	2.21	100	0
	Santa Barbara-North of Santa Ynez	2	0	100	0	100	0
	Santa Barbara-South of Santa Ynez Range	2	0	100	0	100	0
	Santa Clara	1	10.33	87.46	2.21	100	0
	Santa Cruz	1	10.33	87.46	2.21	100	0
	Shasta	1	10.33	87.46	2.21	100	0
	Sierra	1	10.33	87.46	2.21	100	0
	Siskiyou	1	10.33	87.46	2.21	100	0
	Solano-San Francisco	1	10.33	87.46	2.21	100	0
	Solano-San Joaquin	1	10.33	87.46	2.21	100	0
	Sonoma-North Coast	1	10.33	87.46	2.21	100	0
	Sonoma-San Francisco	1	10.33	87.46	2.21	100	0
	Stanislaus	1	10.33	87.46	2.21	100	0
	Sutter	1	10.33	87.46	2.21	100	0
	Tehama	2	67	33	0	100	0
	Trinity	1	10.33	87.46	2.21	100	0
	Tulare	1	10.33	87.46	2.21	100	0
	Tuolumne	1	10.33	87.46	2.21	100	0
	Ventura	1	10.33	87.46	2.21	100	0
	Yolo	1	10.33	87.46	2.21	100	0
	Yuba	1	10.33	87.46	2.21	100	0
Statewide	Statewide	1	10.33	87.46	2.21	100	0

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Table 9.3 Percent of Wastewater Distribution Types

Location Type Name Source Septic Tank Aerobic	Anaerobic, Facultative Lagoons	Anaerobic, Combustion of Gas	Anaerobic, Cogeneration of Gas
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The default is based on the ratio of wastewater treatment types used in California GHG emission inventories developed by ARB.
 The value is based on information provided by the District.

Table 9.4 Wastewater Treatment Direct Emissions

Wastewater Treatment Type	CO2 Biogenic, ton/gal	CO2 Non- Biogenic, ton/gal	CH4, ton/gal	N2O, ton/gal
Septic	0	0	2.50362E-07	8.48121E-10
Aerobic	3.89999E-07	0	1.34234E-09	8.48121E-10
Anaerobic Facultative	3.89999E-07	0	4.01921E-07	8.48121E-10
Digester Burn	0	0	0	0
Digester Cogen	0	0	0	0

Digester combustion emissions are estimated using water intensity emission factors.

Table 10.1 Solid Waste Disposal Rates

Location Type	Name	Land Use Sub Type	Size Metric	Rate,
- 71				ton/size/year
	Great Basin Valleys Lake County	Single Family Housing Single Family Housing	Resident Resident	0.25 0.36
	Lake Tahoe	Single Family Housing Single Family Housing	Resident	0.31
	Mojave Desert	Single Family Housing Single Family Housing	Resident	0.41
	Mountain Counties	Single Family Housing	Resident	0.41
	North Central Coast	Single Family Housing	Resident	0.20
	North Coast	Single Family Housing	Resident	0.40
	Northeast Plateau	Single Family Housing	Resident	0.40
Air Basin	Sacramento Valley	Single Family Housing	Resident	0.25
	Salton Sea	Single Family Housing	Resident	0.41
	San Diego	Single Family Housing	Resident	0.41
	San Diego	Single Family Housing	Resident	0.41
	San Francisco Bay Area	Single Family Housing	Resident	0.41
	San Joaquin Valley	Single Family Housing	Resident	0.42
	South Central Coast	Single Family Housing	Resident	0.38
	South Coast	Single Family Housing Single Family Housing	Resident	0.41
	Amador County APCD	Single Family Housing	Resident	0.41
	Antelope Valley APCD	Single Family Housing Single Family Housing	Resident	0.23
	Bay Area AQMD	Single Family Housing Single Family Housing	Resident	0.41
	Butte County AQMD	Single Family Housing Single Family Housing	Resident	0.42
		· · · · · · · · · · · · · · · · · · ·	Resident	0.36
	Calaveras County AQMD Colusa County APCD	Single Family Housing		0.25
	El Dorado County APCD	Single Family Housing Single Family Housing		0.36
	Feather River AQMD	<u> </u>		0.25
		Single Family Housing	Resident Resident Resident Resident Resident Resident Resident Resident	
	Glenn County APCD Great Basin UAPCD	Single Family Housing		0.36
		Single Family Housing		0.25
	Imperial County APCD	Single Family Housing		0.41
	Kern County APCD	Single Family Housing		0.41
	Lake County AQMD	Single Family Housing	Resident	0.36
	Lassen County APCD	Single Family Housing	Resident	0.25
	Mariposa County APCD	Single Family Housing	Resident	0.25
	Mendocino County AQMD	Single Family Housing	Resident	0.44
Air Diotriot	Modoc County APCD	Single Family Housing	Resident	0.25
Air District	Mojave Desert AQMD	Single Family Housing	Resident	0.41
	Monterey Bay Unified APCD	Single Family Housing	Resident	0.44
	North Coast Unified APCD	Single Family Housing	Resident	0.38
	Northern Sierra AQMD	Single Family Housing	Resident	0.25
	Northern Sonoma County APCD	Single Family Housing	Resident	0.42
	Placer County APCD	Single Family Housing	Resident	0.36
	Sacramento Metropolitan AQMD	Single Family Housing	Resident	0.36
	San Diego County APCD	Single Family Housing	Resident	0.41
	San Joaquin Valley Unified APCD	Single Family Housing	Resident	0.38
	San Luis Obispo County APCD	Single Family Housing	Resident	0.41
	Santa Barbara County APCD	Single Family Housing	Resident	0.41
	Shasta County AQMD	Single Family Housing	Resident	0.25
	Siskiyou County APCD	Single Family Housing	Resident	0.25
	South Coast AQMD	Single Family Housing	Resident	0.41
	Tehama County APCD	Single Family Housing	Resident	0.36
	Tuolumne County APCD	Single Family Housing	Resident	0.25
	Ventura County APCD	Single Family Housing	Resident	0.41
	Yolo/Solano AQMD	Single Family Housing	Resident	0.39
	Alameda	Single Family Housing	Resident	0.42
	Alpine	Single Family Housing	Resident	0.25
	Amador	Single Family Housing	Resident	0.25
	Butte	Single Family Housing	Resident	0.36
	Calaveras	Single Family Housing	Resident	0.25
	Colusa	Single Family Housing	Resident	0.36

Table 10.1 Solid Waste Disposal Rates

Location Type	Name	Land Use Sub Type	Size Metric	Rate, ton/size/year
	Contra Costa	Single Family Housing	Resident	0.42
	Del Norte	Single Family Housing	Resident	0.44
	El Dorado-Lake Tahoe	Single Family Housing	Resident	0.25
	El Dorado-Mountain County	Single Family Housing	Resident	0.25
	Fresno	Single Family Housing	Resident	0.36
	Glenn	Single Family Housing	Resident	0.36
	Humboldt	Single Family Housing	Resident	0.44
	Imperial	Single Family Housing	Resident	0.41
	Inyo	Single Family Housing	Resident	0.25
	Kern-Mojave Desert	Single Family Housing	Resident	0.41
	Kern-San Joaquin	Single Family Housing	Resident	0.41
	Kings	Single Family Housing	Resident	0.36
	Lake	Single Family Housing	Resident	0.36
	Lassen	Single Family Housing	Resident	0.25
	Los Angeles-Mojave Desert	Single Family Housing	Resident	0.41
	Los Angeles-South Coast	Single Family Housing	Resident	0.41
	Madera	Single Family Housing	Resident	0.36
	Marin	Single Family Housing	Resident	0.42
	Mariposa	Single Family Housing	Resident	0.25
	Mendocino-Coastal	Single Family Housing	Resident	0.44
	Mendocino-Inland	Single Family Housing	Resident	0.44
	Mendocino-Rural Inland North	Single Family Housing	Resident	0.44
	Mendocino-Rural Inland South	Single Family Housing	Resident	0.44
	Merced	Single Family Housing	Resident	0.36
	Modoc	Single Family Housing	Resident	0.25
	Mono	Single Family Housing	Resident	0.25
	Monterey	Single Family Housing	Resident	0.44
	Napa	Single Family Housing	Resident	0.42
	Nevada	Single Family Housing	Resident	0.25
•	Orange	Single Family Housing	Resident	0.41
County	Placer-Lake Tahoe	Single Family Housing	Resident	0.36
	Placer-Mountain Counties	Single Family Housing	Resident	0.36
	Placer-Sacramento	Single Family Housing	Resident	0.36
	Plumas	Single Family Housing	Resident	0.25
	Riverside-Mojave Desert MDAQMD	Single Family Housing	Resident	0.41
	Riverside-Mojave Desert SCAQMD	Single Family Housing	Resident	0.41
	Riverside-Salton Sea	Single Family Housing	Resident	0.41
	Riverside-South Coast	Single Family Housing	Resident	0.41
	Sacramento	Single Family Housing	Resident	0.36
	San Benito	Single Family Housing	Resident	0.44
	San Bernardino-Mojave Desert	Single Family Housing	Resident	0.41
	San Bernardino-South Coast	Single Family Housing	Resident	0.41
	San Francisco	Single Family Housing	Resident	0.42
	San Joaquin	Single Family Housing	Resident	0.36
	San Luis Obispo	Single Family Housing	Resident	0.41
	San Mateo	Single Family Housing	Resident	0.42
	Santa Barbara-North of Santa Ynez	Single Family Housing	Resident	0.41
	Santa Barbara-South of Santa Ynez Range	Single Family Housing	Resident	0.41
	Santa Clara	Single Family Housing	Resident	0.42
	Santa Cruz	Single Family Housing	Resident	0.44
	Shasta	Single Family Housing	Resident	0.25
	Sierra	Single Family Housing	Resident	0.25
	Siskiyou	Single Family Housing	Resident	0.25
	Solano-San Francisco	Single Family Housing	Resident	0.42
	Solano-San Joaquin	Single Family Housing	Resident	0.42
	Sonoma-North Coast	Single Family Housing	Resident	0.42
	Sonoma-San Francisco	Single Family Housing	Resident	0.42

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Table 10.1 Solid Waste Disposal Rates

Location Type	Name	Land Use Sub Type	Size Metric	Rate,
	Stanislaus	Single Family Housing	Resident	ton/size/year
	Sutter	Single Family Housing	Resident	0.36
	Tehama	Single Family Housing	Resident	0.36
	Trinity	Single Family Housing	Resident	0.25
	Tulare	Single Family Housing	Resident	0.36
	Tuolumne	Single Family Housing	Resident	0.25
	Ventura	Single Family Housing	Resident	0.41
	Yolo	Single Family Housing	Resident	0.36
	Yuba	Single Family Housing	Resident	0.36
	Statewide	Single Family Housing	Resident	0.36
	Statewide	Apartments High Rise	Dwelling Unit	0.46
	Statewide	Apartments Low Rise	Dwelling Unit	0.46
	Statewide	Apartments Mid Rise	Dwelling Unit	0.46
	Statewide	Arena	100visitors	0.09
	Statewide	Arena	1000sqft	0.03
	Statewide	Arena	Acre	0.09
	Statewide	Automobile Care Center	Employee	0.86
	Statewide	Automobile Care Center Automobile Care Center	1000sqft	3.82
	Statewide	Bank (with Drive-Through)	1000sqft	0.93
	Statewide	City Park	1000sqrt	0.93
	Statewide	City Park	Acre	0.09
	Statewide	City Faix Condo/Townhouse	Dwelling Unit	0.46
	Statewide	Condo/Townhouse High Rise	Dwelling Unit	0.46
	Statewide	Congregate Care (Assisted Living)	Dwelling Unit	0.40
	Statewide	Convenience Market (24 hour)	Employee	0.86
	Statewide	Convenience Market (24 hour)	1000sqft	3.01
	Statewide	Convenience Market with Gas Pumps	Employee	0.86
	Statewide	Convenience Market with Gas Pumps	1000sqft	3.01
	Statewide	Convenience Market with Gas Pumps	pumps	0.42
	Statewide	Day-Care Center	1000sqft	1.30
	Statewide	Day-Care Center Day-Care Center	Employee	0.80
	Statewide	Day-Care Center Day-Care Center	Student	0.80
	Statewide	Day-Care Certier Discount Club	Employee	1.23
	Statewide	Discount Club	1000sqft	4.30
	Statewide	Electronic Superstore	Employee	0.86
	Statewide	Electronic Superstore	1000sqft	3.01
	Statewide	Elementary School	1000sqft	1.30
	Statewide	Elementary School	Employee	0.80
	Statewide	Elementary School	Student	0.00
	Statewide	Fast Food Restaurant w/o Drive Thru	Employee	2.13
	Statewide	Fast Food Restaurant w/o Drive Thru	1000sqft	11.52
	Statewide	Fast Food Restaurant with Drive Thru	Employee	2.13
	Statewide	Fast Food Restaurant with Drive Thru	1000sqft	11.52
	Statewide	Free-Standing Discount Store	Employee	1.23
	Statewide	Free-Standing Discount Store	1000sqft	4.30
	Statewide	Free-Standing Discount Superstore	Employee	1.23
	Statewide	Free-Standing Discount Superstore	1000sqft	4.30
	Statewide	Gasoline/Service Station	Employee	0.86
	Statewide	Gasoline/Service Station Gasoline/Service Station	Pump	0.54
	Statewide	Gasoline/Service Station	1000sqft	3.82
	Statewide	Gasoline/Service Station General Heavy Industry	Employee	1.15
	Statewide	General Heavy Industry General Heavy Industry	1000sqft	1.13
	Statewide	General Light Industry		1.24
	Statewide	• • •	Employee 1000saft	1.15
		General Light Industry	1000sqft	
	Statewide	General Office Building	1000sqft	0.93
	Statewide	Golf Course	100visitors	0.93
	Statewide	Golf Course	Acre	0.93

Table 10.1 Solid Waste Disposal Rates

ocation Type	Name	Land Use Sub Type	Size Metric	Rate, ton/size/yea
	Statewide	Golf Course	Employee	0.93
	Statewide	Golf Course	Hole	0.13
	Statewide	Government (Civic Center)	1000sqft	5.70
	Statewide	Government (Civic Center)	100visitors	0.09
	Statewide	Government Office Building	1000sqft	0.93
	Statewide	Hardware/Paint Store	Employee	3.17
	Statewide	Hardware/Paint Store	1000sqft	11.09
	Statewide	Health Club	1000sqft	5.70
	Statewide	Health Club	100visitors	0.09
	Statewide	High School	1000sqft	1.30
	Statewide	High School	Employee	0.80
	Statewide	High School	Student	0.18
	Statewide	High Turnover (Sit Down Restaurant)	Employee	2.20
	Statewide	High Turnover (Sit Down Restaurant)	1000sqft	11.90
	Statewide	Home Improvement Superstore	Employee	3.17
	Statewide	Home Improvement Superstore	1000sqft	11.09
	Statewide	Hospital	Bed	2.92
	Statewide	Hospital	Employee	2.02
	Statewide	Hospital	1000sqft	10.80
	Statewide	Hotel	Employee	1.95
	Statewide	Hotel	Room	0.55
	Statewide	Hotel	1000sqft	10.80
	Statewide	Industrial Park	Employee	1.15
Statewide	Statewide	Industrial Park	1000sqft	1.24
	Statewide	Junior College (2yr)	1000sqft	1.30
	Statewide	Junior College (2yr)	Employee	0.80
	Statewide	Junior College (2yr)		0.18
	Statewide	Junior High School		1.30
	Statewide	Junior High School		0.80
	Statewide	Junior High School		0.18
	Statewide	Library	1000sqft	0.92
	Statewide	Library	Employee	0.86
	Statewide	Manufacturing	Employee	1.15
	Statewide	Manufacturing	1000sqft	1.24
	Statewide	Medical Office Building	Employee	3.09
	Statewide	Medical Office Building	1000sqft	10.80
	Statewide	Mobile Home Park	Dwelling Unit	0.46
	Statewide	Motel	Employee	1.95
	Statewide	Motel	Room	0.55
	Statewide	Motel	1000sqft	10.80
	Statewide	Movie Theater (No Matinee)	1000sqft	5.70
	Statewide	Movie Theater (No Matinee)	100visitors	0.09
	Statewide	Movie Theater (No Matinee)	Screen	15.68
	Statewide	Movie Theater (no matinee)	seats	0.13
	Statewide	Office Park	1000sqft	0.93
	Statewide	Parking Lot	Space	0.00
	Statewide	Unenclosed Parking Structure	Space	0.00
	Statewide	Enclosed Parking Structure	Space	0.00
	Statewide	Unenclosed Parking with Elevator	Space	0.00
	Statewide	Enclosed Parking with Elevator	Space	0.00
	Statewide	Parking Lot	Acre	0.00
	Statewide	Unenclosed Parking Structure	Acre	0.00
	Statewide	Enclosed Parking Structure	Acre	0.00
	Statewide	Unenclosed Parking Structure Unenclosed Parking with Elevator	Acre	0.00
		*		0.00
	Statewide Statewide	Enclosed Parking with Elevator	Acre	
	Statewide Statewide	Parking Lot Unenclosed Parking Structure	1000sqft 1000sqft	0.00

Table 10.1 Solid Waste Disposal Rates

Location Type	Name	Land Use Sub Type	Size Metric	Rate, ton/size/year
	Statewide	Enclosed Parking Structure	1000sqft	0.00
	Statewide	Unenclosed Parking with Elevator	1000sqft	0.00
	Statewide	Enclosed Parking with Elevator	1000sqft	0.00
	Statewide	Other Asphalt Surfaces	Acre	0.00
	Statewide	Other Non-Asphalt Surfaces	Acre	0.00
	Statewide	Other Asphalt Surfaces	1000sqft	0.00
	Statewide	Other Non-Asphalt Surfaces	1000sqft	0.00
	Statewide	Pharmacy/Drugstore w/o Drive Thru	Employee	0.86
	Statewide	Pharmacy/Drugstore w/o Drive Thru	1000sqft	3.01
	Statewide	Pharmacy/Drugstore with Drive Thru	Employee	0.86
	Statewide	Pharmacy/Drugstore with Drive Thru	1000sqft	3.01
	Statewide	Place of Worship	1000sqft	5.70
	Statewide	Place of Worship	100visitors	0.09
	Statewide	Place of Worship	Seat	9.00
	Statewide	Quality Restaurant	Employee	2.20
	Statewide	Quality Restaurant	1000sqft	0.91
	Statewide	Racquet Club	1000sqft	5.70
	Statewide	Racquet Club	100visitors	0.09
	Statewide	Recreational Swimming Pool	1000sqft	5.70
	Statewide	Recreational Swimming Pool	100visitors	0.09
	Statewide	Refrigerated Warehouse-No Rail	Employee	1.15
	Statewide	Refrigerated Warehouse-No Rail	1000sqft	0.94
	Statewide	Refrigerated Warehouse-Rail	Employee	1.15
	Statewide	Refrigerated Warehouse-Rail	1000sqft	0.94
	Statewide	Regional Shopping Center	1000sqft	1.05
	Statewide	Research & Development	Employee	7.60
	Statewide	Research & Development	1000sqft	0.08
	Statewide	Retirement Community	Dwelling Unit	0.46
	Statewide	Strip Mall	1000sqft	1.05
	Statewide	Supermarket	Employee	2.38
	Statewide	Supermarket	1000sqft	5.64
	Statewide	University/College (4yr)	Employee	0.8
	Statewide	University/College (4yr)	Student	0.1825
	Statewide	University/College (4yr)	1000sqft	1.3
	Statewide	Unrefrigerated Warehouse-No Rail	Employee	1.15
	Statewide	Unrefrigerated Warehouse-No Rail	1000sqft	0.94
	Statewide	Unrefrigerated Warehouse-Rail	Employee	1.15
	Statewide	Unrefrigerated Warehouse-Rail	1000sqft	0.94

Table 10.2 Support for Solid Waste Emission Factors

	Fraction Total	Default	Waste	
MSW Category	Organic Degradable	Decomposable	Stream	Frontis of Oatley Falledon
MSW Category	Carbon per Waste	Anaerobic	Compostion	Fraction of Carbon Emissions
	Type ^a	Fraction ^b	Fraction ^c	
Newspaper	0.465	0.161	0.013	0.00049
Office Paper	0.398	0.874	0.019	0.00330
Corrugated Boxes	0.405	0.383	0.048	0.00372
Coated paper	0.405	0.21	0.094	0.00400
Food	0.117	0.828	0.155	0.00751
Grass	0.192	0.322	0.025333333	0.00078
Leaves	0.478	0.1	0.012666667	0.00030
Branches	0.279	0.176	0.033	0.00081
Lumber	0.43	0.233	0.145	0.00726
textiles	0.24	0.5	0.054	0.00324
diapers	0.24	0.5	0.043	0.00258
construction demolition	0.04	0.5	0.146	0.00146
medical waste	0.15	0.5	0	0.0000
sludge/manure	0.05	0.5	0.001	0.00001

Generation	mass carbon	0.03547
Fraction	mass CH4	0.04730
Fraction	mass CO2	0.13006

Emission Factors

Description	Collection Efficiency	Destruction Fraction	Oxidation Fraction	CO2 Emissions, ^d ton/ton waste	CH4 Emissions, ^e ton/ton waste
No LFG Collection	0	0	0.1	0.143068564	0.042565854
LFG Collect and Combust	0.75	0.98 0.1 0.228909703		0.228909703	0.011350894
Cogen				waste*(0.2289 - 6.3382E-05*UtilityCO2)	0.011350894

- a) California Air Resources Board, the California Climate Action Registry, ICLEI-Local Governments for Sustainability and The Climate Registry, Local Government Operations Protocol for the quantification and reporting of greenhouse gas emissions inventories, Version 1.0, September 2008, Table 9.6 Total Organic Degradable Carbon per Waste Type (TDOC).
- b) CARB, 2008, Table 9.7 Default Decomposable Anaerobic Fraction (DANF)of the TDOC per waste type

- c) California Integrated Waste Management Board, California 2008 Statewide Waste Characterization Study, August 2009, Table ES-3: Composition of California's Overall Disposed Waste Stream by Material Type
- d) CO2 emission factor, ton/ton waste = generation fraction x (collection fraction x destruction fraction x (1 collection fraction) x oxidation fraction +1) x molecular weight of CO2/molecular weight of carbon
- e) CH4 emission factor, ton/ton waste = generation fraction x (collection fraction x (1 destruction fraction) + (1 collection fraction) x (1 oxidation fraction)) x molecular weight of CH4/molecular weight of carbon

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Table 11.1 Change in Sequestered GHG Emissions

Vegetation Land Use Type	Vegetation Land Use Subtype	Biogenic CO2 Emissions (MT CO2/Acre)
Forest Land	Scrub	14.3
Forest Land	Trees	111
Cropland	Cropland	6.2
Grassland	Grassland	4.31
Wetlands	Wetlands	0
Others	Others	0

 $1.\ Based\ on\ values\ indicated\ in\ IPCC\ Guidelines\ for\ National\ Greenhouse\ Gas\ Inventories\ (IPCC\ Guidelines).\ Available\ online\ at\ http://www.ipccnggip.iges.or.jp/public/2006gl/vol4.htm$

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Table 11.2 Sequestration of Trees

Species	CO2 Sequestered (MT/tree/year)	
Aspen	0.0	352
Soft Maple	0.0)433
Mixed Hardwood	0.0	367
Hardwood Maple	0.0)521
Juniper	0.0)121
Cedar/Larch	0.0)264
Douglas Fir	0.0)447
True Fir/Hemlock	0.0	381
Pine	0.0	319
Spruce	0.0	337
Miscellaneous	0.0	354

- 1. Species class-specific sequestration values are provided in Table 8.2 of "2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4". For species that do not appear in Table 8.2, the species was classifed as "miscellaneous" and the average value of all listed data was used.
- 2. An active growing period of 20 years is assumed for the new trees planted.

Table 12.1 Diesel Emergency Generator and Fire Pump Emission Factors

Equipment Type	Low HP	High HP	TOG	ROG	СО	NOX	SO2	PM10	PM2.5	CO2	CH4
			lb/hp-hr	lb/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	lb/hp-hr	g/hp-hr
Emergency Genera	0	11	0.00247	0.00225	5.97	5.32	0.00494	0.60	0.60	1.15	0.073
Emergency Genera	11	25	0.00247	0.00225	4.93	5.32	0.00494	0.60	0.60	1.15	0.073
Emergency Genera	25	50	0.00247	0.00225	4.10	5.32	0.00494	0.45	0.45	1.15	0.073
Emergency Genera	50	75	0.00247	0.00225	3.70	3.33	0.00494	0.15	0.15	1.15	0.073
Emergency Genera	75	100	0.00247	0.00225	3.70	3.33	0.00494	0.15	0.15	1.15	0.073
Emergency Genera	100	175	0.00247	0.00225	3.70	2.85	0.00494	0.15	0.15	1.15	0.073
Emergency Genera	175	300	0.00247	0.00225	2.60	2.85	0.00494	0.15	0.15	1.15	0.073
Emergency Genera	300	600	0.00247	0.00225	2.60	2.85	0.00494	0.15	0.15	1.15	0.073
Emergency Genera	600	750	0.00247	0.00225	2.60	2.85	0.00494	0.15	0.15	1.15	0.073
Emergency Genera	750	9999	0.00247	0.00225	2.60	4.56	0.00494	0.15	0.15	1.15	0.073
Fire Pump	0	11	0.00247	0.00225	6.00	5.32	0.00494	0.30	0.30	1.15	0.073
Fire Pump	11	25	0.00247	0.00225	4.90	5.32	0.00494	0.30	0.30	1.15	0.073
Fire Pump	25	50	0.00247	0.00225	4.10	5.32	0.00494	0.22	0.22	1.15	0.073
Fire Pump	50	75	0.00247	0.00225	3.70	3.33	0.00494	0.30	0.30	1.15	0.073
Fire Pump	75	100	0.00247	0.00225	3.70	3.33	0.00494	0.30	0.30	1.15	0.073
Fire Pump	100	175	0.00247	0.00225	3.70	2.85	0.00494	0.22	0.22	1.15	0.073
Fire Pump	175	300	0.00247	0.00225	2.60	2.85	0.00494	0.15	0.15	1.15	0.073
Fire Pump	300	600	0.00247	0.00225	2.60	2.85	0.00494	0.15	0.15	1.15	0.073
Fire Pump	600	750	0.00247	0.00225	2.60	2.85	0.00494	0.15	0.15	1.15	0.073
Fire Pump	750	9999	0.00247	0.00225	2.60	4.56	0.00494	0.15	0.15	1.15	0.073

Table 12.2 Natural Gas Emergency Generator Emission Factors

Equipment Type	Low HP	High HP	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
			lb/MMBtu	ppmv	ppmv	ppmv	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu	lb/MMBtu
Emergency Genera	0	500	0.358	250	2000	45	0.0006	0.0095	0.0095	110	0.23
Emergency Genera	500	9999	0.358	250	2000	36	0.0006	0.0095	0.0095	110	0.23

Table 12.3 Diesel Boiler Emission Factors

	Rated Heat Input										
Equipment Type	(MMB	tu/Hour)	TOG	ROG	CO	NOX	SO2	PM10	PM2.5	CO2	CH4
	Low	High	lb/10 ³ gal	lb/10 ^{^3} gal	lb/10 ³ gal	lb/MMBtu	lb/10 ^{^3} gal	lb/10 ³ gal	lb/10 ³ gal	lb/10 ^{^3} gal	lb/10 ³ gal
Boiler		0 9999	0.556	0.340	5.00	0.05	0.225	1.00	0.25	25000	0.216

Table 12.4 Natural Boiler Emission Factors

Equipment Type	Rated Heat Input (MMBtu/Hour)		TOG	ROG	СО	NOX	SO2	PM10	PM2.5	CO2	CH4
	Low	High	lb/10 ⁶ scf	lb/10 ⁶ scf	lb/10 ⁶ scf	lb/MMBtu	lb/10 ⁶ scf	lb/10 ⁶ scf	lb/10 ⁶ scf	lb/10 ⁶ scf	lb/10 ⁶ scf
Boiler	0	2	11	5.5	98	0.024	0.6	7.6	7.6	120000	2.3
Boiler	2	5	11	5.5	98	0.011	0.6	7.6	7.6	120000	2.3
Boiler	5	75	11	5.5	98	0.011	0.6	7.6	7.6	120000	2.3
Boiler	75	9999	11	5.5	98	0.0062	0.6	7.6	7.6	120000	2.3