

## 5. Environmental Analysis

### 5.6 GREENHOUSE GAS EMISSIONS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the proposed project to cumulatively contribute to greenhouse gas (GHG) emissions impacts. The analysis in this section is based on the following technical report:

- Agua Mansa Commerce Park Specific Plan, Greenhouse Gas Analysis, City of Jurupa Valley, prepared by Urban Crossroads on January 28, 2019.

A complete copy of this study is included as technical appendix to this Draft EIR (Appendix C3). An individual project cannot generate enough greenhouse gas emissions to affect a discernible change in global climate. However, the proposed project may participate in the potential for global climate change by its incremental contribution of greenhouse gases combined with the cumulative increase of all other sources of greenhouse gases. Because these changes may have serious environmental consequences, this Section will evaluate the potential for the proposed project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

The following are definitions for terms used throughout this section.

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a greenhouse gas absorbs relative to a molecule of carbon dioxide (CO<sub>2</sub>) over a given period of time (20, 100, and 500 years). CO<sub>2</sub> has a GWP of 1.
- **Carbon dioxide-equivalent (CO<sub>2</sub>e).** The standard unit to measure the amount of greenhouse gases in terms of the amount of CO<sub>2</sub> that would cause the same amount of warming. CO<sub>2</sub>e is based on the GWP ratios between the various GHGs relative to CO<sub>2</sub>.
- **MTCO<sub>2</sub>e.** Metric ton of CO<sub>2</sub>e.
- **MMTCO<sub>2</sub>e.** Million metric tons of CO<sub>2</sub>e.

#### 5.6.1 Environmental Setting

##### 5.6.1.1 GREENHOUSE GASES AND CLIMATE CHANGE

Global climate change is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. Historical changes to the earth's climate have occurred naturally without human influence, as in the case of an ice age. However, scientific evidence suggests that climate shift since the Industrial Revolution is happening because of greenhouse gases resulting from human activity and industrialization over the past 200 years.

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#### Greenhouse Gases

For the purposes of this analysis, emissions of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O) were evaluated because these gases are the primary contributors to climate change from development projects. Although there are other substances, such as fluorinated gases, that also contribute, fluorinated gases were not evaluated as their sources are not well defined and do not contain accepted emissions factors or methodology to accurately calculate.

- **Carbon Dioxide:** Carbon dioxide (CO<sub>2</sub>) is an odorless and colorless GHG. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. Carbon dioxide is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks. Since the Industrial Revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggest a corollary increase in levels and concentrations. As an example, prior to the Industrial Revolution, CO<sub>2</sub> concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources.
- **Methane:** Methane (CH<sub>4</sub>) is an extremely effective absorber of radiation, although its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10–12 years), compared to other GHGs. Exposure to high levels of methane can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate. Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropogenic sources include fossil-fuel combustion and biomass burning.
- **Nitrous Oxide:** Nitrous oxide (N<sub>2</sub>O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's lesions (brain damage). Concentrations of nitrous oxide also began to rise at the beginning of the Industrial Revolution. In 1998, the global concentration was 314 parts per billion (ppb). Nitrous oxide is produced by microbial processes in soil and water, including reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, e.g., in whipped cream bottles and in potato chip bags to keep chips fresh. It is also used in rocket engines and in race cars. Nitrous oxide can be transported into the stratosphere, deposited on the earth's surface, and converted to other compounds by chemical reaction.

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GHGs have varying GWP values, which represent the potential of a gas to trap heat in the atmosphere. Carbon dioxide is the reference gas for GWP and thus has a GWP of 1.

The atmospheric lifetime and GWP of selected greenhouse gases are summarized at Table 5.6-1. As shown in the table, GWPs for the Second Assessment Report (SAR)—the Intergovernmental Panel on Climate Change’s (IPCC) scientific and socioeconomic assessment on climate change—range from 1 for carbon dioxide to 23,900 for sulfur hexafluoride; GWP for the IPCC’s 4th Assessment Report (AR4) range from 1 for carbon dioxide to 22,800 for sulfur hexafluoride.

**Table 5.6-1 Global Warming Potential and Atmospheric Lifetime of Select GHGs**

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)	
		Second Assessment Report (SAR)	4th Assessment Report (AR4)
Carbon Dioxide	50–200	1	1
Methane	12 ±3	21	25
Nitrous Oxide	114	310	298

Source: Urban Crossroads 2019

Notes: Based on Table 2.14 of the IPCC Fourth Assessment Report, 2007.

### Effects of Climate Change in California

#### *Public Health*

Higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35 percent under the lower warming range (3–5.5°F) to 75 to 85 percent under the medium warming range (5.5–8°F). In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55 percent more frequent if GHG emissions are not significantly reduced (Urban Crossroads 2019).

In addition, under the higher warming range scenario (8–10.5°F), there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

#### *Water Resources*

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months. Rising temperatures,

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potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The state's water supplies are also at risk from rising sea levels. An influx of salt water could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major fresh water supply.

#### *Agriculture*

Increased temperatures could cause widespread changes to the agriculture industry, reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply they need. Although higher CO<sub>2</sub> levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate ozone (O<sub>3</sub>) pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits, and nuts.

In addition, continued global climate change could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued global climate change could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

#### *Forests and Landscapes*

Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the

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medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. For instance, wildfires in northern California could increase by up to 90 percent due to decreased precipitation.

Moreover, continued global climate change has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of global climate change.

### *Rising Sea Levels*

Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12 to 14 inches.

### **Human Health Effects**

The potential health effects related directly to the emissions of carbon dioxide, methane, and nitrous oxide as they relate to development projects, such as the proposed project, are still being debated in the scientific community. Their cumulative effects to global climate change have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas. Exhibit 2-A in Appendix C3 presents the potential impacts of global warming.

Specific health effects associated with directly emitted GHG emissions are:

- **Water Vapor:** There are no known direct health effects related to water vapor at this time. It should be noted, however, that some pollutants can enter the human body through water vapor.
- **Carbon Dioxide:** According to the National Institute for Occupational Safety and Health, high concentrations of carbon dioxide can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of carbon dioxide in the earth's atmosphere are estimated at approximately 370 ppm, and the actual level at which adverse health effects typically occur is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek or exposure levels of 30,000 ppm averaged over 15 minutes.

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- **Methane:** Methane is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Exposure to high levels of methane can cause asphyxiation, loss of consciousness, headache and dizziness, nausea and vomiting, weakness, loss of coordination, and an increased breathing rate.
- **Nitrous Oxide:** The health effects associated with exposure to elevated concentrations of nitrous oxide include dizziness, euphoria, slight hallucinations, and, in extreme cases of elevated concentrations nitrous oxide, brain damage.
- **Fluorinated Gases:** High concentrations of fluorinated gases can also result in adverse health effects such as asphyxiation, dizziness, headache, cardiovascular disease, cardiac disorders, and in extreme cases, increased mortality.
- **Aerosols:** The health effects of aerosols are similar to that of other fine particulate matter. Thus, aerosols can cause elevated respiratory and cardiovascular diseases as well as increased mortality.
- **Nitrogen Trifluoride:** Long-term or repeated exposure may affect the liver and kidneys and may cause fluorosis.

#### 5.6.1.2 REGULATORY BACKGROUND

##### Federal

Prior to the last decade, there were no concrete federal regulations of GHGs or major planning for climate change adaptation. The following are actions regarding the federal government, GHGs, and fuel efficiency.

##### *GHG Endangerment*

In *Massachusetts v. Environmental Protection Agency* (549 U.S. 497 (2007)), decided on April 2, 2007, the Supreme Court found that four GHGs, including carbon dioxide, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act. The Court held that the EPA Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

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These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section “Clean Vehicles,” below. After a lengthy legal challenge, the U.S. Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator’s findings.

#### *Clean Vehicles*

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the US. On April 1, 2010, the EPA and the Department of Transportation’s National Highway Safety Administration announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the US.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty passenger vehicles covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the National Highway Safety Administration issued final rules on a second-phase joint rulemaking establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012 (EPA 2012c). The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of carbon dioxide (CO<sub>2</sub>) in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

The EPA and the US Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses, effective November 14, 2011. For combination tractors, the agencies proposed engine and vehicle standards that began in the 2014 model year and would achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies proposed separate gasoline and diesel truck standards, which phased in starting in the 2014 model year and would achieve up to a 10 percent reduction for gasoline vehicles and a 15 percent reduction for diesel vehicles by the 2018 model year (12 and 17 percent, respectively, if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions from the 2014 to 2018 model years.

As of September 2018, the EPA has proposed amendments to the 2012 light-duty vehicle GHG regulations. This amendment would revise two technical errors related to compliance credit calculations. The first revision addresses how auto manufacturers calculate credits for optional advanced technology incentives, and the second corrects the equation for calculating certain types of off-cycle credits. The proposed

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amendments would clarify the calculation methodology in the regulations and would take effect once the final rule becomes effective.

#### *Mandatory Reporting of GHGs*

The Consolidated Appropriations Act of 2008, passed in December 2007, required the establishment of mandatory GHG reporting rules. On September 22, 2009, the EPA issued the Final Mandatory Reporting of GHGs Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the US and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the EPA.

#### *New Source Review*

The EPA issued a final rule on May 13, 2010, that establishes thresholds for GHGs that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule “tailors” the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the Federal Code of Regulations, the EPA states:

This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to GHG sources, starting with the largest GHG emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for GHG emissions until at least April 30, 2016.

The EPA estimates that facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation’s largest GHG emitters—power plants, refineries, and cement production facilities.

#### *Standards of Performance for GHG Emissions for New Stationary Sources: Electric Utility Generating Units*

As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts would be required to meet an output-based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology. It should be noted that on February 9, 2016, the US Supreme Court issued a stay of this



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regulation, pending litigation. Additionally, the current EPA Administrator has signed a measure to repeal the Clean Power Plan, including the CO<sub>2</sub> standards.

### *National Cap and Trade*

Cap and trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. Successful examples in the US include the Acid Rain Program and the NO<sub>x</sub> Budget Trading Program and Clean Air Interstate Rule in the northeast. There is no federal GHG cap and trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap and trade.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15 percent below 2005 levels by 2020. The partners were originally California, British Columbia, Manitoba, Ontario, and Quebec. However, Manitoba and Ontario are not currently participating. California linked with Quebec's cap and trade system January 1, 2014, and joint offset auctions took place in 2015.

### *SmartWay Program*

The SmartWay Program is a public-private initiative between the EPA, large and small trucking companies, rail carriers, logistics companies, commercial manufacturers, retailers, and other federal and state agencies. Its purpose is to improve fuel efficiency and the environmental performance (reduction of both GHG emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components:

- **SmartWay Transport Partnership:** A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually.
- **SmartWay Technology Program:** A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions.
- **SmartWay Vehicles:** A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo.
- **SmartWay International Interests:** Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared toward reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with SmartWay design requirements. Moreover, over time, all heavy-duty trucks will have to comply with the CARB GHG Regulation that is designed with the SmartWay Program in mind, to reduce GHG emissions by making them more fuel-efficient. For instance, in 2015, 53-foot or longer dry vans or refrigerated trailers equipped with a combination of SmartWay-verified low-rolling resistance tires and SmartWay-verified aerodynamic devices would obtain a total of 10 percent or more fuel savings over traditional trailers.

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Through the SmartWay Technology Program, the EPA has evaluated the fuel saving benefits of various devices through grants, cooperative agreements, emissions and fuel economy testing, demonstration projects and technical literature review. As a result, the EPA has determined that the following types of technologies provide fuel-saving and/or emission-reducing benefits when used properly in their designed applications, and has verified certain products:

- Idle reduction technologies—i.e., less idling of the engine when it is not needed—would reduce fuel consumption.
- Aerodynamic technologies minimize drag and improve airflow over the entire tractor-trailer vehicle. Aerodynamic technologies include gap fairings that reduce turbulence between the tractor and trailer, side skirts that minimize wind under the trailer, and rear fairings that reduce turbulence and pressure drop at the rear of the trailer.
- Low rolling resistance tires can roll longer without slowing down, thereby reducing the amount of fuel used. Rolling resistance (or rolling friction or rolling drag) is the force resisting the motion when a tire rolls on a surface. The wheel will eventually slow down because of this resistance.
- Retrofit technologies include things such as diesel particulate filters, emissions upgrades (to a higher tier), etc. that would reduce emissions.
- Federal excise tax exemptions.

### California

#### *Legislative Actions to Reduce GHGs*

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation, such as the landmark Assembly Bill (AB 32) California Global Warming Solutions Act of 2006, was specifically enacted to address GHG emissions. Other legislation, such as Title 24 and Title 20 energy standards, was originally adopted for other purposes such as energy and water conservation, but also provides GHG reductions. This section describes the major provisions of the legislation.

#### **AB 32**

The California State Legislature enacted AB 32, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. “GHGs” as defined under AB 32 include carbon dioxide, methane, N<sub>2</sub>O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The California Air Resources Board (CARB) is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from

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the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

CARB approved the 1990 GHG emissions level of 427 MMTCO<sub>2e</sub> on December 6, 2007. Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO<sub>2e</sub>. Emissions in 2020 in a “business as usual” (BAU) scenario were estimated to be 596 MMTCO<sub>2e</sub>, which do not account for reductions from AB 32 regulations. At that level, a 28.4 percent reduction was required to achieve the 427 million MTCO<sub>2e</sub> 1990 inventory. In October 2010, CARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted regulation is now estimated at 545 million MTCO<sub>2e</sub>. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels.

#### *CARB Scoping Plan*

CARB’s Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the state’s emissions to 1990 levels by the year 2020 to comply with AB 32. The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors.

#### *Cap and Trade Program*

The Scoping Plan identifies a Cap-and-Trade Program as one of the key strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by the year 2020 and ultimately achieving an 80 percent reduction from 1990 levels by 2050. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap will be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. See Title 17 of the California Code of Regulations (CCR), §§ 95800 to 96023. The Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed “covered entities”) by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32’s emission-reduction mandate of returning to 1990 levels of emissions by 2020. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program’s duration.

Covered entities that emit more than 25,000 MTCO<sub>2e</sub> per year must comply with the Cap-and-Trade Program. Triggering of the 25,000 MTCO<sub>2e</sub> per year “inclusion threshold” is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule or “MRR”).

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As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California's GHG emissions. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program.

The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period. While the Cap-and-Trade Program technically covered fuel suppliers as early as 2012, they did not have a compliance obligation (i.e., they were not fully regulated) until 2015. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. The point of regulation for transportation fuels is when they are "supplied" (i.e., delivered into commerce).

#### *Progress in Achieving AB 32 Targets and Remaining Reduction Required*

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is shown in updated emission inventories prepared by CARB for 2000 through 2012. The State has achieved the Executive Order S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target.

- 1990: 427 million MTCO<sub>2e</sub> (AB 32 2020 target)
- 2000: 463 million MTCO<sub>2e</sub> (an average 8 percent reduction needed to achieve 1990 base)
- 2010: 450 million MTCO<sub>2e</sub> (an average 5 percent reduction needed to achieve 1990 base)

CARB has also made substantial progress in achieving its goal of achieving 1990 emissions levels by 2020. As described earlier in this section, CARB revised the 2020 BAU inventory forecast to account for new lower growth projections, which resulted in a new lower reduction from BAU to achieve the 1990 base. The previous reduction from 2020 BAU needed to achieve 1990 levels was 28.4 percent and the latest reduction from 2020 BAU is 21.7 percent.

- 2020: 545 million MTCO<sub>2e</sub> BAU (an average 21.7 percent reduction from BAU needed to achieve 1990 base)

#### ***Senate Bill 32***

On September 8, 2016, Governor Jerry Brown signed the Senate Bill (SB) 32 and its companion bill, Assembly Bill (AB) 197. SB 32 requires the state to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80 percent below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature.

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### *2017 Climate Change Scoping Plan Update*

In November 2017, CARB released the final 2017 Scoping Plan Update, which identifies the State's post-2020 reduction strategy. The 2017 Scoping Plan Update reflects the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by Senate Bill 32 (SB 32). Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation; the Low Carbon Fuel Standard; much cleaner cars, trucks, and freight movement; and utilizing cleaner, renewable energy, and strategies to reduce methane emissions from agricultural and other wastes. The 2017 Scoping Plan establishes a new emissions limit of 260 MMTCO<sub>2e</sub> for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030.

California's climate strategy will require contributions from all sectors of the economy, including the land base, and will include enhanced focus on zero- and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, including solar roofs, wind, and other distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for direct GHG reductions at refineries will further support air quality co-benefits in neighborhoods, including in disadvantaged communities historically located adjacent to these large stationary sources, as well as efforts with California's local air pollution control and air quality management districts (air districts) to tighten emission limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZE buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementing SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZE trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20 percent reduction in GHG emissions from refineries by 2030.

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- Development of a Natural and Working Lands Action Plan to secure California’s land base as a net carbon sink.

In addition to the statewide strategies listed above, the 2017 Scoping Plan also identifies local governments as essential partners in achieving the State’s long-term GHG reduction goals and identifies local actions to reduce GHG emissions. As part of the recommended actions, CARB recommends that local governments achieve a community-wide goal to achieve emissions of 6 MTCO<sub>2e</sub> or less per capita by 2030 and 2 MTCO<sub>2e</sub> or less per capita by 2050. For CEQA projects, CARB states that lead agencies may develop evidenced-based bright-line numeric thresholds—consistent with the Scoping Plan and the State’s long-term GHG goals—and projects with emissions over that amount may be required to incorporate on-site design features and mitigation measures that avoid or minimize project emissions to the degree feasible, or a performance-based metric using a climate action plan or other plan to reduce GHG emissions is appropriate.

According to research conducted by the Lawrence Berkeley National Laboratory and supported by CARB, California, under its existing and proposed GHG reduction policies, is on track to meet the 2020 reduction targets under AB 32 and could achieve the 2030 goals under SB 32.

#### ***SB 375: The Sustainable Communities and Climate Protection Act of 2008***

Passing the Senate on August 30, 2008, SB 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, emitting over 40 percent of the total GHG emissions in California. SB 375 states, “Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32.” SB 375 (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Concerning CEQA, SB 375, as codified in Public Resources Code Section 21159.28, states that CEQA findings for certain projects are not required to reference, describe, or discuss (1) growth inducing impacts, or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network, if the project:

- Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the CARB accepts as achieving the GHG emission reduction targets.
- Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
- Incorporates the mitigation measures required by an applicable prior environmental document.

#### ***AB 1493 Pavley Regulations and Fuel Efficiency Standards***

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA’s denial of an implementation waiver. The EPA subsequently

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granted the requested waiver in 2009, which was upheld by the US District Court for the District of Columbia in 2011.

The standards phased in during the 2009 through 2016 model years. When fully phased in, the standards result in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program, referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

### *SB 350: Clean Energy and Pollution Reduction Act of 2015*

In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the renewables portfolio standard (RPS), higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the bill because of opposition and concern that it would prevent the bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 35 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local, publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.

### *Executive Orders Related to GHG Emissions*

California's Executive Branch has taken several actions to reduce GHGs through the use of Executive Orders. Although not regulatory, they set the tone for the state and guide the actions of state agencies.

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#### *Executive Order S-3-05*

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

#### *Executive Order S-01-07: Low Carbon Fuel Standard*

The Governor signed Executive Order S- 01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the Executive Order established a Low Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to CARB for consideration as an "early action" item under AB 32. The CARB adopted the Low Carbon Fuel Standard on April 23, 2009, but was challenged in court.

To address the final ruling, the proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon intensity (low-CI) fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. On November 16, 2015, the Office of Administrative Law (OAL) approved the Final Rulemaking Package. The new LCFS regulation became effective on January 1, 2016.

#### *Executive Order S-13-08*

Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the Order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted, which is the ". . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.



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#### *Executive Order B-30-15*

On April 29, 2015, Governor Brown issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The governor's executive order aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO<sub>2</sub> equivalent (MMCO<sub>2</sub>e). The order also requires the state's climate adaptation plan to be updated every three years, and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this Order is not legally enforceable for local governments and the private sector.

#### *Building Codes*

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

#### *Title 20 Appliance Efficiency Standards*

California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601 to 1608, Appliance Efficiency Regulations, regulate the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances, and 23 categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state and those designed and sold exclusively for use in recreational vehicles or other mobile equipment.

#### *Title 24 Energy Efficiency Standards and California Green Building Standards*

California Code of Regulations Title 24 Part 6, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2016 version of Title 24 was adopted by the California Energy Commission (CEC) and became effective on January 1, 2017 and is applicable to the project.

The CEC indicates that the 2016 Title 24 standards will reduce energy consumption by 5 percent for nonresidential buildings above that achieved by the 2013 Title 24.

California Code of Regulations, Title 24, Part 11, California Green Building Standards Code (CALGreen), is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on January 1, 2011, and is administered by the California Building Standards Commission.

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CALGreen is updated on a regular basis, with the most recent update consisting of the 2016 California Green Building Code Standards that became effective January 1, 2017. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction and demolition ordinances and defers to them as the ruling guidance provided they establish a minimum 65 percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. The State Building Code provides the minimum standard that buildings must meet in order to be certified for occupancy, which is generally enforced by the local building official. CALGreen requires:

- **Short-term bicycle parking.** If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- **Long-term bicycle parking.** For new buildings with 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2).
- **Designated parking.** Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- **Recycling by Occupants.** Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling (5.410.1).
- **Construction waste.** A minimum 65 percent diversion of construction and demolition waste from landfills, increasing voluntarily to 80 percent for new homes and commercial projects (5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1 [residential]). All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled (5.408.3).
- **Wastewater reduction.** Each building shall reduce the generation of wastewater by one of the following methods:
  - The installation of water-conserving fixtures (5.303.3) or
  - Using nonpotable water systems (5.303.4).
- **Water use savings.** 20 percent mandatory reduction of indoor water use with voluntary goal standards for 30, 35, and 40 percent reductions (5.303.2, A5303.2.3 [nonresidential]).
- **Water meters.** Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day (5.303.1).
- **Irrigation efficiency.** Moisture-sensing irrigation systems for larger landscaped areas (5.304.3).

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- **Materials pollution control.** Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard (5.404).
- **Building commissioning.** Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies (5.410.2).

### *Model Water Efficient Landscape Ordinance*

The Model Water Efficient Landscape Ordinance (Ordinance) was required by AB 1881, the Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX- 7-7) 2020 mandate are expected upon compliance with the ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed Department of Water Resources (DWR) to update the Ordinance through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015 effective December 15, 2015. New development projects that include landscape areas of 500 square feet or more are subject to the Ordinance. The update requires:

- More efficient irrigation systems
- Incentives for graywater usage
- Improvements in on-site stormwater capture
- Limiting the portion of landscapes that can be planted with high water use plants
- Reporting requirements for local agencies

### *CARB Refrigerant Management Program*

CARB adopted a regulation in 2009 to reduce refrigerant GHG emissions from stationary sources through refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal. The regulation is set forth in sections 95380 to 95398 of Title 17, California Code of Regulations. The rules implementing the regulation establish a limit on statewide GHG emissions from stationary facilities with refrigeration systems with more than 50 pounds of a high GWP refrigerant. The refrigerant management program is designed to (1) reduce emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduce emissions from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verify GHG emission reductions.

### *Tractor-Trailer GHG Regulation*

The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers, or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors model year 2011 and later must be SmartWay certified. All other tractors

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must use SmartWay verified low rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

#### *Phase 1 and 2 Heavy-Duty Vehicle GHG Standards*

CARB has adopted a new regulation for GHG emissions from heavy-duty trucks and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the EPA rule for new trucks and engines nationally. Existing heavy-duty vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation.

In September 2011, the EPA adopted their new rule for heavy-duty trucks and engines. The EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements begin with model year (MY) 2014 with stringency levels increasing through MY 2018. The rule organizes truck compliance into three groupings, which include a) heavy-duty pickups and vans; b) vocational vehicles; and c) combination tractors. The EPA rule does not regulate trailers.

CARB staff has worked jointly with the EPA and the National Highway Traffic Safety Administration (NHTSA) on the next phase of federal GHG emission standards for medium- and heavy-duty vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later model year heavy-duty vehicles, including trailers.

The EPA and NHTSA issued a Notice of Proposed Rulemaking for Phase 2 in June 2015 and published the final rule in October 2016. On February 8, 2018 the Board approved the proposed Phase 2 standards, with direction to staff to make additional 15-day changes.

#### *SB 97 and the CEQA Guidelines Update*

Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states:

- (a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption.
- (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a).

Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010, for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA.

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On April 13, 2009, the Office of Planning and Research submitted to the Secretary for Natural Resources its recommended amendments to the CEQA Guidelines for addressing GHG emissions. On July 3, 2009, the Natural Resources Agency commenced the Administrative Procedure Act rulemaking process for certifying and adopting these amendments pursuant to Public Resources Code section 21083.05. Following a 55-day public comment period and two public hearings, the Natural Resources Agency proposed revisions to the text of the proposed Guidelines amendments. The Natural Resources Agency transmitted the adopted amendments and the entire rulemaking file to the Office of Administrative Law on December 31, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

A new section, CEQA Guidelines Section 15064.4, was added to assist agencies in determining the significance of GHG emissions. The new section allows agencies the discretion to determine whether a quantitative or qualitative analysis is best for a particular project. However, little guidance is offered on the crucial next step in this assessment process—how to determine whether the project's estimated GHG emissions are significant or cumulatively considerable.

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts, respectively. GHG mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze GHG emissions in an EIR when a project's incremental contribution of emissions may be cumulatively considerable; however, it does not answer the question of when emissions are cumulatively considerable.

Section 15183.5 permits programmatic GHG analysis and later project-specific tiering, as well as the preparation of GHG Reduction Plans. Compliance with such plans can support a determination that a project's cumulative effect is not cumulatively considerable, according to Section 15183.5(b).

In addition, the amendments revised Appendix F of the CEQA Guidelines, which focuses on Energy Conservation. The sample environmental checklist in Appendix G was amended to include GHG questions.

### Regional and Local

#### *Western Riverside Council of Governments Subregional Climate Action Plan*

In 2014, the City of Jurupa Valley was one of 12 cities that collaborated with the Western Riverside Council of Governments (WRCOG) on a Subregional Climate Action Plan (Subregional CAP) that includes 36 measures to guide GHG reduction efforts through 2020. Through the WRCOG Subregional CAP process, the City has committed to a 2020 emissions target of 15 percent below baseline levels through the implementation of all of the 13 state measures and 15 of the 26 local measures identified in the Subregional CAP.

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However, the City of Jurupa Valley has not adopted the Subregional CAP because it did not go through formal CEQA review by WRCOG, who intended it to be a framework for cities to implement AB 32 and for cities to develop their own CAPs.

#### *City of Jurupa Valley General Plan Policies*

The specific policies outlined in the City’s General Plan that are related to GHG emissions and that apply to the proposed project are listed in Table 5.9-2, *City of Jurupa Valley General Plan Consistency Analysis*.

**Table 5.6-2 Top GHG Producer Countries and the European Union**

Emitting Countries	GHG Emissions (Gg CO <sub>2e</sub> )
China	11,895,765
United States	6,511,302
European Union (28 member countries)	4,291,252
India	2,643,817
Russian Federation	2,100,850
Japan	1,304,568
<b>Total</b>	<b>28,747,554</b>

Source: Urban Crossroads 2019

Notes: Used <http://unfccc.int> data for Annex I countries. Consulted the CAIT Climate Data Explorer in <http://www.wri.org> site to reference Non-Annex I countries such as China and India.

#### 5.6.1.3 GREENHOUSE GAS EMISSIONS INVENTORIES

##### Global

Worldwide anthropogenic (human) GHG emissions are tracked by the Intergovernmental Panel on Climate Change for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Human GHG emissions data for Annex I nations are available through 2016. For the Year 2016, the sum of these emissions totaled approximately 28,747,554 Gg CO<sub>2e</sub>.<sup>1</sup> The GHG emissions in more recent years may differ from the inventories presented in Table 5.6-2; however, the data is representative of currently available inventory data.

##### United States

As noted in Table 5.6-2, the United States, as a single country, was the number-two producer of GHG emissions in 2016. The primary GHG emitted by human activities in the United States was CO<sub>2</sub>, representing approximately 81.6 percent of total greenhouse gas emissions in the US. Carbon dioxide from fossil fuel

<sup>1</sup> The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2016 data, the UNFCCC data for the most recent year were used. United Nations Framework Convention on Climate Change, “Annex I Parties: GHG total without LULUCF,” The most recent GHG emissions for China were taken in 2012, while the most recent GHG emissions for India were taken in 2010.

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combustion, the largest source of US greenhouse gas emissions, accounted for approximately 93.5 percent of the CO<sub>2</sub> emissions.

### State of California

CARB compiles GHG inventories for the State of California. Based upon the 2018 GHG inventory data (i.e., the latest year for which data are available) for the 2000–2016 greenhouse gas emissions inventory, California emitted 429.4 MMTCO<sub>2e</sub> in 2015, including emissions resulting from imported electrical power.

### 5.6.2 Notice of Preparation (NOP)/Scoping Comments

A Notice of Preparation (NOP) for the proposed project was circulated for public review on July 17, 2017. The comments from the NOP review that will be addressed in this section are included in Table 5.6-3.

**Table 5.6-3 NOP Written Comments Summary**

Commenting Agency/Person	Letter Dated	Summary of Comments	Issue Addressed In:
South Coast Air Quality Management District (SCAQMD)  Lijin Sun, J.D. Program Supervisor, CEQA IGR, Planning, Rule Development & Area Sources	8/10/17	States that the lead agency should use SCAQMD's CEQA Air Quality Handbook and CalEEMod land use emissions software when preparing its air quality analysis. The EIR should identify any potential adverse air quality impacts (construction and operation) that could occur from all phases of the project and all air pollutant sources related to the project. The EIR should quantify criteria pollutant emissions and localized significance thresholds and compare the results to the regional and localized significant thresholds, respectively. Air quality impacts from all phases (construction and operations) should be calculated. A mobile health risk assessment is recommended if the proposed project generates or attracts substantial vehicular trips, especially heavy-duty diesel-fueled vehicles. All feasible mitigation measures should be utilized for significant adverse air quality impacts. If impacts remain significant, project alternatives shall be considered and discussed to avoid or substantially lessen the air quality and health risk impacts. If the proposed project requires a permit from SCAQMD, SCAQMD should be identified as a responsible agency for the proposed project.	Section 5.2, <i>Air Quality</i> Section 5.6, <i>Greenhouse Gas Emissions</i>

All comments are organized based on date received.

In addition, a scoping meeting was held on July 27, 2017, at the Jurupa Valley City Hall, 8930 Limonite Avenue, Jurupa Valley, CA 92509, to elicit comments on the scope of the DEIR. A list of attendees is provided in Appendix A; no verbal or written comments were received during the scoping meeting.

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#### 5.6.3 Thresholds of Significance

The City of Jurupa Valley has not established local CEQA significance thresholds as described in Section 15064.7 of the State CEQA Guidelines. Criteria for determining the significance of impacts related to GHG emissions are based on criteria in Appendix G of the CEQA Guidelines and from the South Coast Air Quality Management District. According to Appendix G, a project would normally have a significant effect on the environment if the project would:

- GHG-1           Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
  
- GHG-2           Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

#### South Coast Air Quality Management District

The project is within the Southern California Air Basin (SoCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD), the agency responsible for air quality planning and regulation in the SoCAB. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the SoCAB. The Working Group developed several different options in the “SCAQMD Draft Guidance Document: Interim CEQA GHG Significance Threshold” that could be applied by lead agencies. The Working Group has not provided additional guidance since release of the interim guidance in 2008. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in adopting its own threshold. The current interim thresholds consist of the following tiered approach:

- **Tier 1** consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
  
- **Tier 2** consists of determining whether the project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
  
- **Tier 3** consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project’s construction emissions are averaged over 30 years and are added to the project’s operational emissions. If a project’s emissions are below one of the following screening thresholds, then the project is less than significant:



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- Residential and Commercial land use: 3,000 MTCO<sub>2e</sub> per year
- Industrial land use: 10,000 MTCO<sub>2e</sub> per year
- Based on land use type: residential: 3,500 MTCO<sub>2e</sub> per year; commercial: 1,400 MTCO<sub>2e</sub> per year; or mixed use: 3,000 MTCO<sub>2e</sub> per year
- Tier 4 has the following options:
  - Option 1: Reduce BAU emissions by a certain percentage; this percentage is currently undefined
  - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
  - Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 MTCO<sub>2e</sub>/SP/year for projects and 6.6 MTCO<sub>2e</sub>/SP/year for plans
  - Option 3, 2035 target: 3.0 MTCO<sub>2e</sub>/SP/year for projects and 4.1 MTCO<sub>2e</sub>/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's interim thresholds used the Executive Order S-3-05 year-2050 goal as the basis for the Tier 3 screening level.

### Local

The City of Jurupa Valley has not adopted its own numeric threshold for GHG impacts. The SCAQMD screening threshold of 10,000 MTCO<sub>2e</sub> per year is used to determine significance.<sup>2</sup>

## 5.6.4 Applicable Policies and Design Features

### 5.6.4.1 PLANS, POLICIES, AND PROGRAMS

These include existing regulatory requirements, such as plans, policies, or programs, applied to the project based on federal, state, or local law currently in place and which effectively reduce impacts related to greenhouse gas emissions. These requirements are included in the project's Mitigation Monitoring and Reporting Program to ensure compliance:

- PPP GHG-1 As required by Municipal Code Section 8.05.010, California Energy Code, prior to issuance of a building permit, the project applicant shall submit showing that the project will be constructed in compliance with the most recently adopted edition of the applicable California Building Code Title 24 requirements.

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<sup>2</sup> The GHG technical study (Appendix C3) cites both the 3,000 MTCO<sub>2e</sub> for development projects and the 10,000 MTCO<sub>2e</sub> for industrial projects as significance thresholds under CEQA. However, the City has identified the 10,000 MTCO<sub>2e</sub> as the threshold used for warehouse projects in the City.

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- PPP GHG-2 As required by Municipal Code Section 9.283.010, Water Efficient Landscape Design Requirements, prior to the approval of landscaping plans, the project proponent shall prepare and submit landscape plans that demonstrate compliance with this section.
- PPP GHG-3 As required by Municipal Code Section 8.05.010 (8), the project proponent shall comply with the California Green Building Standards Code.
- PPP AIR-9 Shuttle bus and vendor vehicle use will be conducted in compliance with California Code of Regulations (CCR) Section 2485, which requires that non-essential idling for all diesel-fueled commercial motor vehicles must not exceed 5 consecutive minutes at any location.
- PPP AIR-10 Construction activities will be conducted in compliance with California Code of Regulations Section 2499, which requires that nonessential idling of construction equipment is restricted to five minutes or less.

#### 5.6.4.2 PROJECT DESIGN FEATURES

The project incorporates the following design features, which include requirements as identified in the Agua Mansa Commerce Park Specific Plan. Because these features are integral to the project, they are not considered mitigation measures.

- PDF-GHG-1 **Incorporate Water Conservation and Efficient Measures for Landscaping.** The project will devise a comprehensive water conservation strategy to reduce water use during project operation. The strategy will include the following, plus other innovative measures that may be appropriate.
- Install drought-tolerant plants for landscaping.
  - Install water-efficient irrigation systems, such as weather-based and soil-moisture-based irrigation controllers and sensors, for landscaping according to the California Department of Water Resources Model Efficient Landscape Ordinance.
  - Ensure that all landscape and irrigation measures are in compliance with the City's Municipal, Landscaping and Water Conservation requirements.
- PDF-GHG-2 **Building Components.** The project will design building shells, building components, such as windows, roof systems and electrical systems to meet 2016 Title 24 Standards, which are 5 percent more stringent than the 2013 Title 24 Standards for nonresidential buildings.
- PDF-GHG-3 **Energy Efficiency and Green Building.** Buildings will be designed to provide CALGreen Standards with Leadership in Energy and Environmental Design (LEED) features for potential certification and will employ energy and water conservation measures in accordance with such standards. This includes design considerations related to the building envelope, HVAC, lighting, and power systems. Additionally, the architectural expression such as roofs and windows in the buildings will relate to conserving energy.

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- PDF-GHG-4: **Electric Service Units.** Require the installation and use of electric service units at truck stops and distribution centers for heating and cooling truck cabs, and particularly for powering refrigeration trucks, in lieu of idling of engines for power.
- PDF-GHG-5 **Energy Efficient Lighting.** The project will utilize energy efficient interior and exterior lighting, including: light-emitting diodes, T5 and T8 fluorescent lamps, or other lighting that is at least as efficient. Lighting will incorporate motion sensors that turn them off when not in use.
- PDF-GHG-6 **Efficient Building Materials/Equipment.** The project will utilize building materials/methods and heating equipment that are efficient and reduce emissions.
- PDF-GHG-7 **Landscaped Parking.** A parking lot shading plan shall be required, which includes a shading calculation table. Within 15 years after establishment of the automobile parking area, the project shall require that a minimum of 50 percent automobile parking area to be shaded by shade trees and covered parking areas including solar panel-covered parking areas.
- PDF-GHG-8 **Recycling Program, Operational Sustainability.** The project shall implement a recycling program to ensure that all waste collection will be required to comply with federal, state, and local regulations regarding waste reduction and recycling.

The project incorporates the following air-quality-related design features that would also reduce GHG emissions generated by the project (see Section 5.3, *Air Quality*).

- PDF-AQ-1 **Require Equipment to Turn Off When Not in Use.** The project will require building operators to ensure (by contract specifications) that equipment, including heavy-duty equipment, motor vehicles, and portable equipment, will be turned off when not in use for more than five minutes. Truck idling shall not exceed five minutes. All facilities will post signs requiring that trucks shall not be left idling for more than five minutes pursuant to Title 13 of the California Code of Regulations, Section 2485. Nighttime (after 10:00 PM) truck idling would not be permitted.
- PDF-AQ-2 **Use of 2010 or Better Model Year Engines.** The project requires contractors and building operators (by contract specifications) using on-road heavy-duty diesel trucks with a gross vehicle weight rating greater than 14,000 pounds to have a 2010 model year engine or newer or be equipped with a particulate matter trap, as available. Pursuant to a phase-in schedule established by the EPA and the California Air Resources Board, all heavy- and heavier-duty diesel-fueled trucks must have a 2010 Model Year engine or newer by 2023. Thus, this measure shall be in effect on the project until 2023. It is recommended that the above options be included as a condition of project approval, and that the building user keep a truck log that would be available to the City or its designee upon request to verify compliance.
- PDF-AQ-3 **Ridesharing and Transit Incentives.** The building operator will support and encourage ridesharing and transit incentives for the construction crew by providing crews with the

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needed resources to organize rideshares, such as bulletin boards or email announcements. The construction contractor will also fully or partially subsidize transit fares or passes for the construction crew members who can feasibly use transit.

PDF-AQ-4 **Alternative Fueled Outdoor Cargo Handling Equipment.** All on-site outdoor cargo-handling equipment (including yard trucks, hostlers, yard goats, pallet jacks, forklifts, and other on-site equipment) will be powered by compressed natural gas, propane, or electric engines.

### 5.6.5 Environmental Impacts

#### 5.6.5.1 METHODOLOGY

Detail methodology of the proposed project GHG analysis is provided in Appendix C1.

#### 5.6.5.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for greenhouse gasses.

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**Impact GHG-1 Threshold: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

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#### Alternative 1

Alternative 1 of the proposed project consists of five high-cube warehouse distribution center buildings totaling 4,216,000 square feet, an approximately 71.3-acre regional park, and 200,000 square feet of light industrial. For Alternative 1, the project site will result in 7,005.76 MTCO<sub>2e</sub> per year from construction, area, energy, waste, and water usage. In addition, the project has the potential to result in an additional 56,008.63 MTCO<sub>2e</sub> per year from mobile sources if the assumption is made that all of the vehicle trips to and from the project are “new” trips. As shown on Table 5.6-4, the project GHG emissions for Alternative 1 has the potential to result in a total of 63,014.40 MTCO<sub>2e</sub> per year. Thus, project GHG emissions would result in a significant cumulatively considerable impact.

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**Table 5.6-4 Alternative 1 GHG Emissions**

Emission Source	Emissions (metric tons per year)			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total CO <sub>2e</sub>
Annual construction-related emissions amortized over 30 years	236.15	0.04	0.00	237.19
Area Source	0.11	3.00E-04	0.00	0.12
Energy Source	3,735.76	0.18	0.05	3,755.59
Mobile (Passenger Cars)	7,225.32	0.13	0.00	7,228.57
Mobile (Trucks)	47,492.72	1.70	0.00	47,535.16
Mobile (Other Uses) <sup>1</sup>	1,243.26	0.07	0.00	1,244.91
On-site Equipment	813.32	0.26	0.00	819.90
Waste	857.03	50.65	0.00	2,123.27
Water Usage	52.47	0.53	0.01	69.69
<b>Total CO<sub>2e</sub> (All Sources)</b>	<b>63,014.40</b>			
SCAQMD Threshold	10,000			
Threshold Exceeded?	YES			

Source: Urban Crossroads 2019  
<sup>1</sup> Mobile-source emissions from Alternative 1 Land Uses (Research & Development and Regional Park)

**Alternative 2**

In Alternative 2, the 200,000 square feet of light industrial would become 170,000 square feet of business park and 25,000 square feet of commercial retail. For Alternative 2, the project site would result in 6,647.99 MTCO<sub>2e</sub> per year from construction, area, energy, waste, and water usage. In addition, the project has the potential to result in an additional 55,641.93 MTCO<sub>2e</sub> per year from mobile sources if the assumption is made that all of the vehicle trips to and from the project are “new” trips. As shown on Table 5.6-5, the project GHG emissions for Alternative 2 have the potential to result in a total of 62,289.92 MTCO<sub>2e</sub> per year. Thus, project GHG emissions result in a significant cumulatively considerable impact.

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**Table 5.6-5 Alternative 2 GHG Emissions**

Emission Source	Emissions (metric tons per year)			
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total CO <sub>2</sub> E
Annual construction-related emissions amortized over 30 years	236.15	0.04	0.00	237.19
Area Source	0.11	3.00E-04	0.00	0.12
Energy Source	3,411.85	0.18	0.05	3,429.76
Mobile (Passenger Cars)	5,956.13	0.11	0.00	5,958.81
Mobile (Trucks)	43,932.93	1.58	0.00	43,972.41
Mobile (Other Uses) <sup>1</sup>	5,702.91	0.31	0.00	5,710.71
On-site Equipment	813.32	0.26	0.00	819.90
Waste	844.11	49.89	0.00	2,091.32
Water Usage	52.47	0.53	0.01	69.69
<b>Total CO<sub>2</sub>E (All Sources)</b>	<b>62,289.92</b>			
SCAQMD Threshold	10,000			
Threshold Exceeded?	YES			

Source: Urban Crossroads 2019  
<sup>1</sup> Mobile-source emissions from Alternative 2 Land Uses (Business Park, Commercial Retail, Research & Development and Regional Park)

**Level of Significance before Mitigation:** Even with implementation of PDF GHG-1 through PDF GHG-8 and PDF AQ-1 through PDF AQ-2, Impact GHG-1 would remain potentially significant. Mitigation measures AQ 4, 5, and 6 would also reduce GHG emissions impacts. However, no feasible mitigation measures exist that would reduce these emissions to levels that are less than significant, and Impact GHG-1 would be significant and unavoidable.

#### **Impact GHG-2 Threshold: Would the project conflict with applicable plan, policy, and regulations adopted to reduce GHG emissions?**

Impact GHG-2 assesses the project’s consistency with the overarching goals of AB 32 and the strategies of CARB’s 2008 Scoping Plan as well as the regulatory measures adopted to further AB 32’s goals. This section also evaluates the SB 32 requirements and the 2017 Climate Change Scoping Plan Update.

#### **Measures of Plan Consistency or Conflict**

Determining project consistency with greenhouse gas plans presents unique challenges because the impact is global and solutions require global and local action. California identified reduction targets for itself in AB 32 that would provide its fair share of reductions regardless of what others do. California through AB 32 set its fair share reduction at the amount required to reduce emissions to 1990 levels by 2020.

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The analysis below qualitatively examines the measures in the applicable plans and subsequent adopted regulations and how they interrelate with the project to achieve the state's goals.

### Scoping Plan Consistency

The Scoping Plan is the state's overall strategy in the form of measures that apply to emission sectors that comprise the state's greenhouse gas emission inventory. The state's implementation strategy primarily takes the form of source-specific regulations adopted by state agencies such as CARB and the CEC (see Section 5.6.1.1). The Scoping Plan envisions a limited role for local government in implementing the state's GHG reduction strategy, focusing on local government's authority over land use and some transportation projects.

The Scoping Plan includes measures that reduce emissions from the following sectors:

- Transportation
- Electricity and Natural Gas
- Water
- Green Building
- Industry
- Recycling and Waste Management
- Forests
- High Global Warming Potential
- Agriculture

The project's significance with respect to consistency with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions has been evaluated below and addressed for each sector.

#### *Transportation*

Approximately 89 percent of the project's horizon year GHG emissions as summarized in Tables 5.6-4 and 5.6-5 are from transportation (mobile sources). Transportation emissions are heavily regulated at the source, including, but not limited to engine emissions standards and fuel requirements. Because these regulations and policies reduce GHG emissions at the source, the project would be subject to and therefore not conflict with these transportation measures.

Adopted regulations that will reduce the project's GHG emissions through engine emission standards and fuel requirements are described in detail in Section 5.6.1.1, above.

#### *California Light-Duty Vehicle Greenhouse Gas Standards*

AB 1493/Pavley I and II required CARB to adopt regulations to reduce GHG emissions from non-commercial passenger vehicles and light-duty trucks of model year 2009 through 2016.

This measure applies to all new passenger vehicles starting with model year 2009. The project is consistent with this measure and its implementation as it would apply to all new passenger vehicles purchased in

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California. As such, any passenger vehicles associated with construction and operation of the project would be required to comply with the Pavley emissions standards.

#### *Executive Order S-01-07: Low Carbon Fuel Standard*

The LCFS regulation became fully effective in 2010 and will reduce GHG emissions by reducing the carbon intensity of transportation fuels used in California by at least 10 percent by 2020. The proposed project will utilize these emissions reductions as they are implemented into 2020 from all operational mobile emissions sources.

This measure applies to transportation fuels utilized by vehicles in California. The project is consistent with this measure and its implementation as motor vehicles associated with construction and operation of the project would utilize low carbon transportation fuels as required under this measure.

#### *Medium/Heavy-Duty Vehicles*

As part of the Heavy-Duty Vehicle Greenhouse Gas Regulation, CARB also implemented the Drayage Truck Regulation and Truck and Bus Regulation. These three regulations were collectively adopted to address and reduce emissions from trucks. Since the proposed project has a large truck component, these regulations will aid in reducing GHG emissions from the project.

This measure applies to medium and heavy-duty vehicles that operate in the state, and thus would apply to medium and heavy-duty vehicles that serve the project. The project is consistent with this measure and its implementation as medium and heavy-duty vehicles associated with construction and operation of the project would be required to comply with the requirements of this regulation.

#### *Tractor-Trailer Greenhouse Gas Regulation*

The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers, or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways.

#### *Cap-and-Trade Program*

As with stationary source GHG emissions and GHG emissions attributable to electricity use, virtually all of GHG emissions from CEQA projects associated with VMT are covered by the Cap-and-Trade Program.

In September 2013, the SCAQMD adopted two Negative Declarations stating that GHG emissions subject to the CARB Cap-and-Trade Program do not count against the 10,000 MTCO<sub>2e</sub> significance threshold the SCAQMD applies when acting as a lead agency. In addition, the San Joaquin Valley Air Pollution Control District (SJVAPCD) has recently taken this issue a step further and adopted a policy: “CEQA Determinations of Significance for Projects Subject to CARB’s GHG Cap-and-Trade Regulation.” This policy applies when the SJVAPCD is the lead agency or a responsible agency. The SJVAPCD “has determined that GHG emissions increases that are covered under CARB’s Cap-and-Trade regulation cannot constitute significant increases under CEQA....” The SJVAPCD concludes that GHG emissions associated with vehicle miles traveled (VMT) cannot



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constitute significant increases under CEQA. This regulatory conclusion is therefore directly applicable to the proposed project because VMT is by far the largest source of project GHG emissions.

Since the proposed project has a large mobile source component and Cap-and-Trade emission reductions are difficult to calculate on a project-level, the proposed project's mobile source emissions are very conservative, making the total emission calculations conservative. The phase-in of the Cap-and-Trade Program compliance obligations for transportation fuel providers further reduces GHG emissions attributable to mobile sources, beyond the GHG emissions reductions achieved and modeled by the Pavley Standard and LCFS.

### *Energy*

The second largest source, approximately 6 percent, of GHG emissions shown in Tables 5.6-4 and 5.6-5 from the project is energy consumption from electricity and natural gas. Energy-related emissions are also heavily regulated at the source, including, but not limited to energy efficiency standards and renewable energy requirements. Because these regulations and polices reduce GHG emissions at the source, the project will be subject to and therefore implement these energy measures.

### *Energy Efficiency: Title 24/CalGreen*

As discussed in Section 5.6.1.1, the CEC indicates that the 2016 Title 24 standards will reduce energy consumption by 5 percent above that achieved by 2013 Title 24.

The proposed project is also subject to the CalGreen Code Title 24 building energy efficiency requirements that offer builders better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

### *Renewable Portfolio Standard*

California's Renewable Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy sources to 33 percent of total retail sales by 2020 as established under SB 1078 and accelerated under SB 107 and SBX1-2. Additionally, SB 1368 prohibits any retail seller of electricity in California from entering into a long-term financial commitment for baseload generation if the GHG emissions are higher than those from a combined-cycle natural gas power plant. As a customer of Southern California Edison, the proposed project will purchase from an increasing supply of renewable energy sources and more efficient baseload generations and thereby reduce GHG emissions.

### *Million Solar Roofs Program*

The Million Solar Roofs Program set a goal to install 3,000 megawatts (MW) of new solar capacity by 2017—moving the state toward a cleaner energy future and helping lower the cost of solar systems for consumers. The Million Solar Roofs Initiative is a ratepayer-financed incentive program aimed at transforming the market for rooftop solar systems by driving down costs over time.

The project is consistent with this scoping plan measure because the project will provide solar ready roofs.

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#### *Water*

GHG emissions also result from electricity consumption related to water supply, treatment, and distribution, as well as wastewater treatment. As shown in Tables 5.6-4 and 5.6.5, the project's GHG emissions related to water consumption are less than 3 percent of total GHG emissions.

#### *Renewable Portfolio Standard Related to Water Supply and Conveyance*

This measure would increase electricity production from eligible renewable power sources to 33 percent by 2020. A reduction in GHG emissions results from replacing natural gas-fired electricity production with zero GHG emitting renewable sources of power. By 2020, this requirement will reduce emissions from electricity used for water supply and conveyance in California by approximately 21.3 MMTCO<sub>2e</sub>, representing 15.2 percent of emissions from electricity generation (in-state and imports).

As previously discussed, as a customer of Southern California Edison, the proposed project will purchase from an increasing supply of renewable energy sources and more efficient baseload generations consistent with RPS and thereby reduce GHG emissions.

#### *Model Water Efficient Landscape Ordinance*

The Model Water Efficient Landscape Ordinance was required by AB 1881, the Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent, consistent with the SBX-7-7 2020 mandate are expected upon compliance with the ordinance. The revised Ordinance, effective December 15, 2015, covers new development projects that include landscape areas of 500 square feet or more.

The project is required to comply with the Ordinance, which will result in a minimum of 20 percent reduced water use for outdoor irrigation. The project is consistent with this measure as it will result in a minimum 20 percent reduced water use pursuant to the project design features.

#### *Waste Diversion*

Disposal of solid waste in landfills contributes less than 3 percent of GHG emissions from the project, as shown on Table 5.6-5.

#### *Scoping Plan*

The Scoping Plan recommends three measures for reducing emissions from municipal solid waste: 1) landfill methane control; 2) increase the efficiency of landfill methane capture; and 3) high recycling/zero waste. Implementation of the CALGreen code and state measures reduce the amount of solid waste disposed of in landfills. The CalGreen code requires jurisdictions to divert a minimum of 50 percent of their nonhazardous construction and demolition waste from landfills. In addition, SB 341 amended the California Integrated Waste Management Act of 1989 to 75 percent. The proposed project is subject to these regulations as well as SB 341's policy goal and thereby reduces GHG emissions.

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#### *Executive Orders S-3-05 and B-30-15*

At the state level, Executive Orders S-3-05 and B-30-15 are orders from the State's Executive Branch for the purpose of reducing GHG emissions. The goal of Executive Order S-3-05 is to reduce GHG emissions to 1990 levels by 2020 as codified by the Legislature as the 2006 Global Warming Solutions Act (AB 32). The project, as analyzed above, is consistent with AB 32.

Therefore, the project does not conflict with this component of Executive Order S-3-05. The Executive Orders also establish goals to reduce GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. However, studies have shown that, in order to meet the 2030 and 2050 targets, aggressive technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. In its Climate Change Scoping Plan, CARB acknowledged that the "measures needed to meet the 2050 are too far in the future to define in detail." In the First Scoping Plan Update, however, CARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; largescale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately."

Unlike the 2020 and 2030 reduction targets of AB 32 and SB 32, respectively the 2050 target of Executive Order S-3-05 has not been codified. Accordingly, the 2050 reduction target has not been the subject of any analysis by CARB. For example, CARB has not prepared an update to the aforementioned Scoping Plan that provides guidance to local agencies as to how they may seek to contribute to the achievement of the 2050 reduction target.

In 2017, the California Supreme Court examined the need to use the Executive Order S-3-05 2050 reduction target in *Cleveland National Forest Foundation v. San Diego Association of Governments* (2017) 3 Cal.5th 497 (Cleveland National). The case arose from SANDAG's adoption of its 2050 Regional Transportation Plan, which included its Sustainable Communities Strategy, as required by SB 375 (discussed above). On review, the Supreme Court held that SANDAG did not violate CEQA by not considering the Executive Order S-3-05 2050 reduction target.

As explained above, the 2050 reduction target of Executive Order S-3-05 has not been codified, unlike the 2020 and 2030 reduction targets of AB 32 and SB 32, respectively. Accordingly, the 2050 reduction target has not been the subject of any analysis by CARB. For example, CARB has not prepared an update to the aforementioned Scoping Plan that provides guidance to local agencies as to how they may seek to contribute to the achievement of the 2050 reduction target.

Further, the project is much smaller in size and scope in comparison to the Regional Transportation Plan examined in *Cleveland National*. In that case, the California Supreme Court held that SANDAG did not violate CEQA by not considering the Executive Order S-3-05 2050 reduction target. Accordingly, there is no information presently available to assess the project's consistency with regard to the 2050 target of Executive Order S-3-05.

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The 2017 Scoping Plan builds on the 2008 Scoping Plan in order to achieve the 40 percent reduction from 1990 levels by 2030. Major elements of the 2017 Scoping Plan framework that will achieve the GHG reductions include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZEV buses and trucks. When adopted, this measure would apply to all trucks accessing the project site, this may include existing trucks or new trucks purchased by the project proponent could be eligible for incentives that expedite the project's implementation of ZEVs.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030). When adopted, this measure would apply to all fuel purchased and used by the project in the state.
- Implementing SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030. When adopted, this measure would apply when electricity is provided to the project by a utility company.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks. When adopted, this measure would apply to all trucks accessing the project site, this may include existing trucks or new trucks that are part of the statewide goods movement sector.
- Implementing the proposed Short-Lived Climate Pollutant Strategy (SLPS), which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030. When adopted, the project would be required to comply with this measure and reduce SLPS accordingly.
- Continued implementation of SB 375. The project is not within the purview of SB 375 and would therefore not conflict with this measure.
- Post-2020 Cap-and-Trade Program that includes declining caps. When adopted, the project would be required to comply with the Cap-and-Trade Program if it generates emissions from sectors covered by Cap-and-Trade.
- 20 percent reduction in GHG emissions from refineries by 2030. When adopted, the project would be required to comply with this measure if it were to utilize any fuel from refineries.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink. This is a statewide measure that would not apply to the project.

As shown above, the project would not conflict with any of the 2017 Scoping Plan elements as any regulations adopted would apply directly or indirectly to the project.

Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030.

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### Western Riverside Council of Governments Subregional Climate Action Plan

In 2014, the City of Jurupa Valley was one of 12 cities that collaborated with the Western Riverside Council of Governments (WRCOG) on a Subregional Climate Action Plan (Subregional CAP) that includes 36 measures to guide GHG reduction efforts through 2020. However, the City of Jurupa Valley has not adopted the Subregional CAP because it did not go through formal CEQA review by WRCOG, which intended it to be a framework for cities to implement AB 52 and for cities to develop their own CAPs. The 2017 General Plan contains the following policy relative to a CAP:

AQ 9.1.1. Climate Action Plan. Within 2 years of General Plan adoption, prepare and adapt a Climate Action Plan (CAP) for the City, including a 2030 and 2035 reduction target and local emissions inventory. The CAP will be consistent with the WRCOG Subregional CAP but will identify specific additional measures for the reduction of future GHG emissions. The CAP shall demonstrate how the City will reduce its GHG emissions to 50% below 1990 levels by 2030 and 80% below 1990 levels by 2050, consistent with state law and current guidance on GHG reduction planning. Specific actions that may be included in the City CAP to help keep Citywide emissions below the SCAQMD service population significance threshold include, but not limited to, requiring the installation of electric conduit improvements to support the installation of future roof-mounted photovoltaic solar systems and electric vehicle charging station for individual homes and businesses.

The WRCOG Subregional CAP establishes policies and priorities to enable member jurisdictions, including Jurupa Valley, to implement strategies that successfully address state legislation AB 32 and SB 375. The CAP addresses the overall GHG emissions in Western Riverside County by preparing GHG inventories, identifying emissions reduction targets, and developing and evaluating GHG emissions to 80 percent below 1990 levels by 2050 in accordance with Executive Order S-3-05, AB 52, and SB 375.

Until the City formally adopts a CAP, local development is not required to be consistent on a project-by-project evaluation of GHG emissions identified in the WRCOG Subregional CAP, so the project will be evaluated relative to the goals of AB 32, SB 32, the City's adopted General Plan policies that pertain to GHG emissions, and SCAG's 2016-2040 RTP/SCS.

### Conclusion

The project is consistent with all applicable Scoping Plan goals and policies as evaluated herein. Additionally, the project incorporates a number of project design features that go beyond the Scoping Plan requirements that would further minimize GHG emissions. The project promotes the goals of the Scoping Plan through implementation of the design measures that reduce energy consumption, and water consumption, and reduction in vehicle miles traveled. In addition, the project is required to comply with the regulations described in this section that have been adopted to implement the Scoping Plan and to achieve the AB 32 2020 target and the SB 32 2030 target. Therefore, the project does not conflict with any plans to reduce GHG emissions and furthers the State's goals relative to this impact.

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Notwithstanding, because the project exceeds the applicable numeric threshold and results in a cumulatively considerable impact with respect to GHG emissions, a significant and unavoidable finding with respect to this criterion is also identified.

**Level of Significance before Mitigation:** No feasible mitigation measures exist that would reduce emissions to levels that are less than significant and Impact GHG-2 would be significant and unavoidable.

#### 5.6.6 Cumulative Impacts

Climate change is a global phenomenon that is cumulative by nature, the result of combined worldwide contributions of GHGs to the atmosphere over many years. Therefore, significant direct impacts associated with the proposed project, as discussed above, also serve as the proposed project's cumulative impacts.

The proposed project would generate a net increase in GHG emissions and would exceed the SCAQMD Working Group's bright-line threshold of 3,000 MTCO<sub>2e</sub> for all land use types. As a result, the proposed project would substantially contribute to GHG emissions impacts in California. GHG emissions impacts would be cumulatively considerable.

#### 5.6.7 Level of Significance Before Mitigation

Without mitigation, these impacts would be **potentially significant**:

- **Impact GHG-1** The proposed project would generate a net increase in GHG emissions that would have a significant impact on the environment.
- **Impact GHG-2** The proposed project would conflict with applicable plan, policy, and regulations adopted to reduce GHG emissions.

#### 5.6.8 Mitigation Measures

##### Impact GHG-1

The following air quality-related mitigation measures would also reduce GHG emissions impacts of the project (see Section 5.3, *Air Quality*)

- AQ-4            The project shall place signs that identify CARB anti-idling regulations prior to the issuance of a Certificate of Occupancy for each industrial building. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for trucks drivers to restrict idling to no more than 5 minutes once the vehicle is stopped, the transmission is set to "neutral" or "park", and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and CARB to report violations. The applicant shall submit plans (1) identifying the location of the signs, (2) required details of the signs that meets this mitigation measure, and (3) dimensions of the sign prior to the issuance of any building permit for each industrial building.

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- AQ-5 The City shall require operators of the proposed facilities to encourage the vendor trucks (e.g., commercial deliveries) to incorporate energy efficiency improvement features through the Carl Moyer Program — including truck modernization, retrofits, and/or aerodynamic kits and low rolling resistance tires—to reduce fuel consumption.
- AQ-6 All buildings shall be designed to provide infrastructure to support use of electric powered forklifts and/or other on-site equipment and shall be verified by the City prior to the issuance of the building permit for each building.

The project also includes PDF-GHG-1 through PDF-GHG-8 as well as PDF-AQ-1 through PDF-AQ-2 that would reduce GHG emissions to the extent feasible. No feasible mitigation measures exist that would reduce these emissions to levels that are less than significant.

### Impact GHG-2

No feasible mitigation measures exist that would reduce these emissions to levels that are less than significant.

## 5.6.9 Level of Significance After Mitigation

### Impact GHG-1

The project includes PDF-GHG-1 through PDF-GHG-8 as well as PDF-AQ-1 through PDF-AQ-2 that would reduce GHG emissions to the extent feasible. Specifically, PDF-GHG-2 would require use of 2010 or new trucks. Air quality mitigation measures MM AQ-1 through MM AQ-4 would also help to reduce GHG emissions. No feasible mitigation measures exist that would reduce these emissions to levels that are less than significant. Moreover, more than 89 percent of all operational-source emissions (by weight) would be generated by project mobile sources (traffic). Neither the project applicant nor the lead agency (City of Jurupa Valley) can substantively or materially affect reductions in project mobile-source emissions beyond the regulatory requirements. Impact GHG-1 is **significant and unavoidable**.

### Impact GHG-2

The project would not conflict with or impede implementation of applicable plans, policies, and regulations adopted to reduce GHG emissions. While the project is consistent with applicable Scoping Plan goals and policies and incorporates PDFs that would further minimize GHG emissions, it would exceed the numeric threshold and result in a cumulatively considerable impact with respect to GHG emissions (see Impact GHG-1 above). Impact GHG-2 is **significant and unavoidable**.

## 5.6.10 References

Urban Crossroads. 2019, January. Agua Mansa Commerce Park Specific Plan, Air Quality Impact Analysis, City of Jurupa Valley.

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