

3.7 - Greenhouse Gas Emissions

This section describes the existing greenhouse gas conditions and potential effects from project implementation on the site and its surrounding area. Descriptions and analysis in this section are based on information contained in the County of Riverside General Plan (2015), and the Air Quality and Greenhouse Gas Analysis Report prepared in March 2017 by FirstCarbon Solutions, included in this EIR as Appendix B.

3.7.1 - Existing Conditions

The project is located in the County of Riverside and within the South Coast Air Basin (SoCAB). The San Gabriel, San Bernardino, and San Jacinto Mountains bound the SoCAB on the west, north, and east. The southern limit of the SoCAB is the San Diego County line. The SoCAB consists of Orange County, Los Angeles County (except for the Antelope Valley), the non-desert portion of western San Bernardino County, and the western Coachella Valley portions of Riverside County.

Introduction to Global Climate Change

Global climate change is the change in average meteorological conditions on the Earth with respect to temperature, precipitation, and storms. Global climate change is currently one of the most controversial environmental issues in the United States, and much debate exists within the scientific community about whether or not global climate change is occurring naturally or because of human activity. Some data suggests that global climate change has occurred in the past over the course of thousands or millions of years. These historical changes to the Earth's climate have occurred naturally without human influence, as in the case of an ice age. However, many scientists believe that the climate-shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that global climate change is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed project cannot generate enough greenhouse gas emissions to effect 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 gasses combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on global climate change. This section will evaluate the potential for the proposed project to have an effect upon the environment because of its potential contribution to the greenhouse effect.

Global Climate Change Defined

Global climate change is the change in the average meteorological conditions on the Earth with respect to surface temperatures, wind patterns, precipitation, and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO₂, N₂O, and CH₄, and man-made gases such as hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. All of these

particular gases impact global warming, due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the Earth's atmosphere, but prevent radioactive heat from escaping, thus warming the Earth's atmosphere. Global climate change can occur naturally, as it has in the past with the previous ice ages. According to the California Air Resources Board (ARB), the climate change since the industrial revolution differs from previous climate changes in both rate and magnitude.

Gases that trap heat in the atmosphere are greenhouse gases. Greenhouse gases are emitted into the atmosphere by both natural and anthropogenic (human) activity. Without the natural greenhouse gas effect, the Earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently.¹ The cumulative accumulation of these gases in the earth's atmosphere is considered by the scientific community to be the main cause for the observed increase in the earth's temperature.

Although California's rate of growth of GHG emissions is slowing, the state is still a substantial contributor to the U.S. emissions inventory total. In 2016, California produced 441.5 million gross metric tons of carbon dioxide equivalent (MMT CO₂e) greenhouse gas emissions. However, since 2000, GHG emissions within the state have decreased from 466 MMT CO₂e to 441.5 MMT CO₂e, a 5.3 percent decrease. From 2000 to 2014, per capita emissions have decreased by 18 percent, despite a population increase of 10.3 percent over the same time period. In-state per capita electricity generation has declined by approximately 22 percent from 2000 to 2012. California has significantly slowed the rate of growth of greenhouse gas emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls.

Greenhouse Gases

Gases that trap heat in the atmosphere are called greenhouse gases. The effect is analogous to the way a greenhouse retains heat. Common greenhouse gases include water vapor, CO₂, CH₄, N₂O, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit greenhouse gases. The presence of greenhouse gases in the atmosphere affects the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

One of the driving forces in climate change is "radiative climate forcings" and positive or negative feedbacks.² Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface, while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a greenhouse gas compared with the reference gas, CO₂.

¹ Karl TR, Trenberth KE. 2003. "Modern Global Climate Change." *Science*. 302 (5651): 1719–23.

² U.S. Environmental Protection Agency (EPA). 2010. "Climate Change Indicators in the United States". Greenhouse Gases: Figure 1. The Annual Greenhouse Gas Index, 1979–2008.

Individual greenhouse gas compounds have varying global warming potential and atmospheric lifetimes. Carbon dioxide, the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a greenhouse gas is a measure of how much a given mass of a greenhouse gas contributes to global warming. To describe how much global warming a given type and amount of greenhouse gas may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing greenhouse gas emissions since it normalizes various greenhouse gas emissions to a consistent reference gas, CO₂. For example, CH₄'s warming potential of 21 indicates that CH₄ has 21 times greater warming affect than CO₂ on a molecule per molecule basis. A carbon dioxide equivalent is the mass emissions of an individual greenhouse gas multiplied by its global warming potential. Greenhouse gases defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section of Draft EIR Appendix B for a description) include CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. These greenhouse gases are described further in Table 3.7-1.

Table 3.7-1: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide is a colorless gas. It has a lifetime of 114 years. Its global warming potential is 310.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Methane	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 21.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.
Carbon dioxide	Carbon dioxide (CO ₂) is an odorless, colorless, natural gas. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960 ³ .	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. In 1987, The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production.
Hydrofluorocarbons	Hydrofluorocarbons are a group of synthetic gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic chemicals used as substitutes for chlorofluorocarbons in automobile air conditioners and refrigerants.

³ Blasing, T. J. 2013. Current Greenhouse Gas Concentrations, CDIAC. February.

Table 3.7-1 (cont.): Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Perfluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 6,500 to 9,200.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.

Source: Appendix B.

The State has begun the process of addressing pollutants referred to as short-lived climate pollutants. Senate Bill (SB) 605, approved by the Governor on September 14, 2014 required the ARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants by January 1, 2016. ARB will complete an emission inventory of these pollutants, identify research needs, identify existing and potential new control measures that offer co-benefits, and coordinate with other state agencies and districts to develop measures. The emission inventory and strategy were released on March 2017. The final rule was adopted September 21, 2014.

The short-lived climate pollutants include three main components: black carbon, fluorinated gases, and CH₄. Table 3.7-1 above describes fluorinated gases and CH₄, and they are already included in the California GHG inventory. Black carbon has not been included in past GHG inventories; however, ARB will include it in its comprehensive strategy (ARB 2015c).

Ozone is another short-lived climate pollutant that will be part of the comprehensive ARB strategy. Ozone affects evaporation rates, cloud formation, and precipitation levels. Ozone is not a chemical that is directly emitted into the atmosphere, so its precursor emissions, volatile organic compounds (VOC) and oxides of nitrogen (NO_x) on a regional scale, and CH₄ on a hemispheric scale will be subject of the strategy (ARB 2015c).

Black carbon is a component of fine particulate matter. Incomplete combustion of fossil fuels, biofuels, and biomass create black carbon. Sources of black carbon within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning of biofuels used for transportation, the burning of biomass for electricity generation and heating, prescribed burning of agricultural residue, and wildfires. Black carbon is not a gas but an aerosol—particles or liquid droplets suspended in air. Black carbon only remains in the atmosphere for days to weeks, whereas other

GHGs that can remain in the atmosphere for years. If black carbon is deposited on snow, it absorbs sunlight, reduces sunlight reflectivity, and hastens snowmelt. Direct effects include absorbing incoming and outgoing radiation; indirectly, black carbon can also affect cloud reflectivity, precipitation, and surface dimming (cooling).

The Intergovernmental Panel on Climate Change (IPCC) in its Fourth Assessment Report did not define global warming potentials for black carbon. The ARB has identified a global warming potential of 3,200 using a 20-year time horizon and 900 using a 100-year time horizon based on the IPCC Fifth Assessment. The ARB and local air district regulations for criteria pollutant and toxics control fine particulate emissions from diesel engines and other combustion sources (ARB 2015c) regulate sources of black carbon.

The project would emit black carbon through emissions of diesel PM during construction and operation. The SCAQMD does not currently recommend analyzing the effects of black carbon in California Environmental Quality Act documents based on limited data availability. This analysis does not estimate the emissions of black carbon.

Water vapor is also a GHG. Water vapor is an important component of our climate system but is not a regulated pollutant. Water vapor is a gas in the atmosphere that absorbs and emits radiation within the thermal infrared range. This process is the fundamental cause of the greenhouse effect and it leads to warmer temperatures, which causes more water vapor to be absorbed into the air. Warming of the atmosphere and higher water absorption increase in a spiraling cycle. Water vapor feedback can also amplify the warming effect of other greenhouse gases, such that the warming brought about by increased CO₂ allows more water vapor to enter the atmosphere (NASA 2015b).

Although there could be health effects resulting from changes in the climate and the consequences climate change can bring about, inhalation alone of greenhouse gases at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (particulate matter). The potential health effects of ozone and particulate matter are discussed in Section 3.3. At very high indoor concentrations (not at levels existing outside), carbon dioxide, methane, sulfur hexafluoride, and some chlorofluorocarbons can cause suffocation as the gases can displace oxygen.

Emissions Inventories

An emissions inventory is a database that lists, by source, the amount of air pollutants discharged into the atmosphere of a geographic area during a given time period. Emissions worldwide were approximately 43,286 million metric tons of carbon dioxide equivalents (MMT CO₂e) in 2012. As shown in Figure 3.7-1, China was the largest GHG emitter with over 10,000 MMT CO₂e, and the United States was the second largest GHG emitter with over 6,000 MMT CO₂e (WRI 2014).

Figure 3.7-1: Greenhouse Gas Emissions Trends

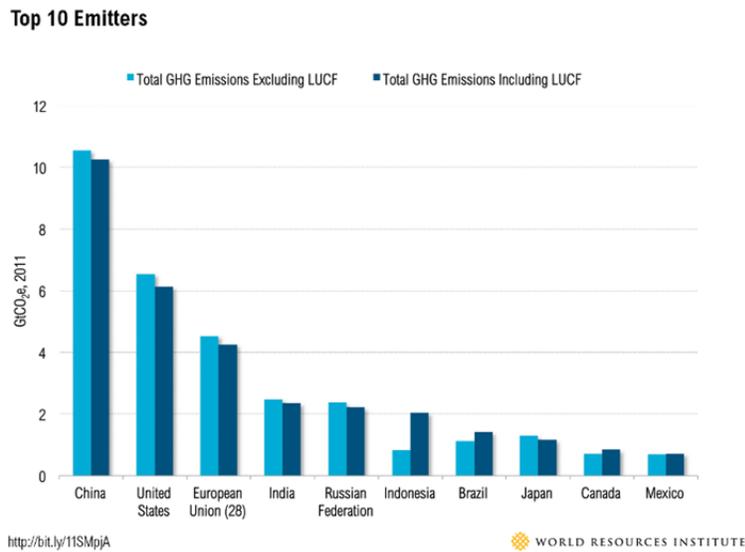
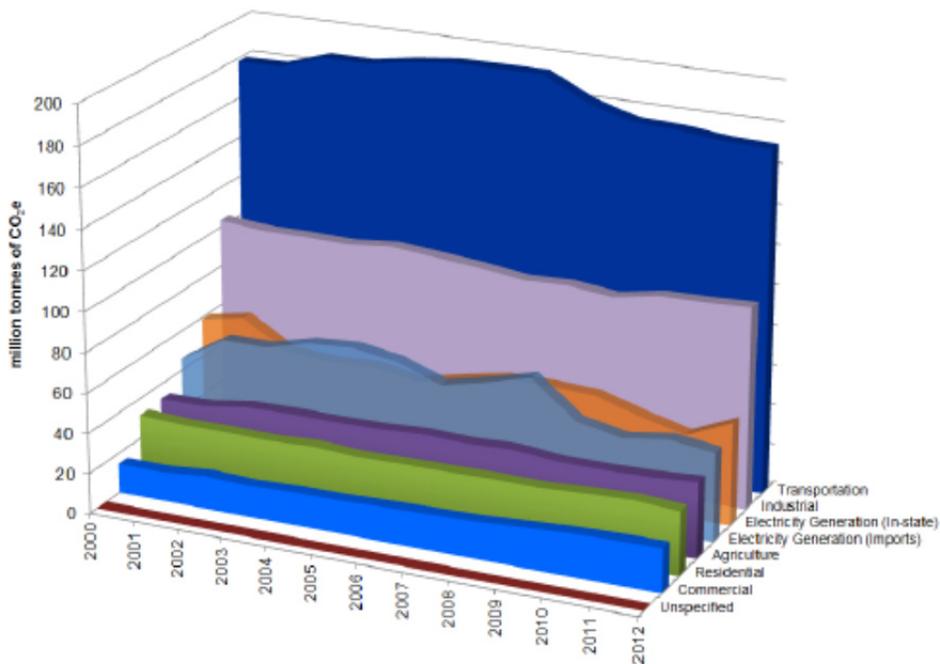


Figure 3.7-2 shows the contributors of GHG emissions in California between years 2000 and 2012 by economic sector. The main contributor was transportation. The second highest sector was industrial, which includes sources from refineries, general fuel use, oil and gas extraction, cement plants, and cogeneration heat output. ARB reported that California’s GHG emissions inventory was 459 MMT CO₂e in 2012 (ARB 2014a).

Figure 3.7-2: Greenhouse Gas Emission Trends by Sector in California



Consequences of Climate Change in California

In California, climate change may result in adverse environmental consequences such as the following (from California Climate Change Center 2006 and Moser et al. 2009):

- **A reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower generation.
- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California may increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant “fuel” available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today’s conditions. This is more than twice the increase that would be expected if rising temperatures remain in the lower warming range. This increase in ozone formation could result in an increase in asthma and other health-related problems.
- **A rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California’s coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level may rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- **An increase temperature and extreme weather events.** Climate change may lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness in sensitive populations.
- **A decrease in the health and productivity of California’s forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

Human Health Effects of GHG Emissions

The cumulative effects to global climate change from increased GHG emissions may cause adverse effects to human health. Increases in Earth’s ambient temperatures could result in more intense heat waves, thus causing more heat-related deaths. Scientists also purport that higher ambient

temperatures would increase disease survival rates and result in more widespread disease.^{4,5} Climate change may cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas. Although there could be adverse health effects resulting from changes in the global climate, inhalation of GHGs at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (particulate matter). The potential health effects of ozone and particulate matter are discussed in the air quality criteria pollutant analyses (see Section 3.3). At very high indoor concentrations (not at levels existing outside), CO₂, CH₄, sulfur hexafluoride, and some chlorofluorocarbons can cause suffocation as the gases can displace oxygen (CDC 2010 and OSHA 2003).

3.7.2 - Regulatory Setting

International

Climate change is a global issue involving greenhouse gas emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce greenhouse gases.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations Framework Convention on Climate Change (Convention). On March 21, 1994, the United States joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol. The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at average of five (5) percent against 1990 levels over the five-year period 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change

⁴ Blauw LL, Aziz NA, Tannemaat MR, et al. Diabetes incidence and glucose intolerance prevalence increase with higher outdoor temperature. *BMJ Open Diabetes Research and Care* 2017.

⁵ Confalonieri, U., B. Menne, R. Akhtar, K.L. Ebi, M. Hauengue, R.S. Kovats, B. Revich and A. Woodward, 2007: Human health. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 391-431.

commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2° Celsius above pre-industrial levels, subject to a review in 2015. The UN Climate Change Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings are gradually gaining consensus among participants on individual climate change issues.

On September 23, 2014, more than 100 Heads of State and leaders from the private sector and civil society met at the Climate Summit in New York hosted by the United Nations. At the Summit, heads of government, business and civil society announced actions in areas that would have the greatest impact on reducing emissions, including climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Parties to the U.N. Framework Convention on Climate Change (UNFCCC) reached a landmark agreement on December 12, 2014 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating a four-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen them in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts, and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties, or COP 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2 degrees Celsius, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make “nationally determined contributions” (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and “progress made in implementing and achieving” their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they will “represent a progression” beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing \$100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address “loss and damage” resulting from climate change, which explicitly will not “involve or provide a basis for any liability or compensation;”
- Require parties engaging in international emissions trading to avoid “double counting;” and

- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC (C2ES 2015a).

National

Prior to the last decade, there have been 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.

Greenhouse Gas Endangerment. *Massachusetts v. EPA* (Supreme Court Case 05-1120) decided on April 2, 2007, the Supreme Court found that four GHGs, including CO₂, are air pollutants subject to regulation under Section 202(a)(1) of the Clean Air Act. The Court held that the 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 United States Environmental Protection Agency (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 greenhouse gases—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 greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

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 United States Supreme Court declined to review an Appeals Court ruling that upheld the EPA Administrator findings (EPA 2009b).

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 United States. 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 United States.

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 CO₂ per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO₂ level solely through fuel economy improvements. Together, these standards would cut CO₂ 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 will result in an average industry fleetwide level of 163 grams/mile of CO₂ 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 U.S. 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 on September 15, 2011, effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20-percent reduction in CO₂ emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10-percent reduction for gasoline vehicles and a 15-percent reduction for diesel vehicles by 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 CO₂ emissions from the 2014 to 2018 model years.

Mandatory Reporting of Greenhouse Gases. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the United States, and collects 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 (PSD) 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 PSD 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 greenhouse gas sources, starting with the largest greenhouse gas 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 greenhouse gas 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 Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of CO₂ for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatt would be required to meet an output based standard of 1,000 pounds (lbs) of CO₂ per megawatt-hour, based on the performance of widely used natural gas combined cycle technology.

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 United States include the Acid Rain Program and the NO_x 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 Regional Greenhouse Gas Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps CO₂ emissions from power plants, auctions CO₂ emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008.

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 have taken place in 2015 (C2ES 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 greenhouse gas emissions and air pollution) of the goods movement supply chains. SmartWay is comprised of four components (EPA 2014):

1. SmartWay Transport Partnership: A partnership in which freight carriers and shippers commit to benchmark operations, track fuel consumption, and improve performance annually;
2. SmartWay Technology Program: A testing, verification, and designation program to help freight companies identify equipment, technologies, and strategies that save fuel and lower emissions;

3. SmartWay Vehicles: A program that ranks light-duty cars and small trucks and identifies superior environmental performers with the SmartWay logo; and
4. SmartWay International Interests: Guidance and resources for countries seeking to develop freight sustainability programs modeled after SmartWay.

SmartWay effectively refers to requirements geared towards 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 ARB Greenhouse Gas Regulation with the SmartWay Program in mind, to reduce greenhouse gas 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.

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 the following types of technologies provide fuel saving and/or emission reducing benefits when properly used in their designed applications, and has verified certain products:

- Idle reduction technologies—less unnecessary idling of the engine 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., which would reduce emissions; and
- 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 AB 32 California Global Warming Solutions Act of 2006 addresses GHG emissions. Other legislation such as Title 24 and Title 20 energy standards (originally adopted for other purposes such as energy and water conservation), also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that by the year 2020, GHGs emitted in California be reduced to 1990 levels. “Greenhouse gases” as defined under AB 32 include CO₂, CH₄, NO_x, 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 (ARB) 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 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.

The ARB approved the 1990 GHG emissions level of 427 MMT CO₂e on December 6, 2007 (ARB 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMT CO₂e. Emissions in 2020 in a “business as usual” (BAU) scenario may be 596 MMT CO₂e, which do not account for reductions from AB 32 regulations (ARB 2008). At that level, a 28.4 percent reduction was required to achieve the 427 million MT CO₂e 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. The revised forecasted inventory without the benefits of adopted regulation may now be 545 million MT CO₂e. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels.

Progress in Achieving AB 32 Targets and Remaining Reductions Required

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05 (targeting GHG reduction goals for 2010, 2020, and 2050, signed into law June 24, 2005). Updated emission inventories prepared by ARB for 2000 through 2016 (ARB 2016) demonstrate this progress. 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 MT CO₂e (AB 32 2020 target).
- **2000:** 463 million MT CO₂e (an average 8-percent reduction needed to achieve 1990 base).
- **2010:** 450 million MT CO₂e (an average 5-percent reduction needed to achieve 1990 base).

The ARB has also made substantial progress in achieving its goal of achieving 1990 emissions levels by 2020. As described earlier in this section, ARB 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 MT CO₂e BAU (an average 21.7-percent reduction from BAU needed to achieve 1990 base).

ARB Scoping Plan. The ARB'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 (ARB 2008). 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. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Create targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

The ARB approved the First Update to the Scoping Plan (Update) on May 22, 2014. The Update identifies the next steps for California's climate change strategy. The Update shows how California continues on its path to meet the near-term 2020 GHG limit, but also sets a path toward long-term, deep GHG emission reductions. The report establishes a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050. The Update identifies progress made to meet the near-term objectives of AB 32 and defines California's climate change priorities and activities for the next several years. The Update does not set new targets for the State, but describes a path that would achieve the long term 2050 goal of Executive Order S-05-03 for emissions to decline to 80 percent below 1990 levels by 2050 (ARB 2014).

The Update estimates that reductions averaging 5.2 percent per year would be required after 2020 to achieve the 2050 goal. The State Legislature recently approved legislation (SB 32) in August 2016 that sets a target of a 40 percent reduction below 1990 levels by 2030. SB 32 became effective on January 1, 2017.

Forecasting the amount of BAU emissions for 2020 was necessary to assess the amount of reductions California must achieve to return to the 1990 emissions level as required by AB 32. The ARB originally defined the BAU scenario as emissions in the absence of any GHG emission reduction measures discussed in the Scoping Plan.

As part of California Environmental Quality Act (CEQA) compliance for the Scoping Plan, ARB prepared a Supplemental Functional Equivalent Document (FED) in 2011. The FED included an updated 2020 BAU emissions inventory projection based on current economic forecasts (i.e., as influenced by the economic downturn) and emission reduction measures already in place, replacing its prior 2020 BAU emissions inventory. ARB staff derived the updated emissions estimates by projecting emissions growth, by sector, from the state's average emissions from 2006–2008. The new BAU estimate includes emission reductions for the million-solar-roofs program, the AB 1493 (Pavley I) motor vehicle GHG emission standards, and the Low Carbon Fuels Standard. In addition, ARB factored into the 2020 BAU inventory emissions reductions associated with 33-percent Renewable Energy Portfolio Standard (RPS) for electricity generation. The updated BAU estimate of 507 MMT CO₂e by 2020 requires a reduction of 80 MMT CO₂e, or a 16-percent reduction below the estimated BAU levels to return to 1990 levels (i.e., 427 MMT CO₂e) by 2020.

In order to provide a BAU reduction that is consistent with the original definition in the Scoping Plan and with threshold definitions used in thresholds adopted by lead agencies for CEQA purposes and many climate action plans, the updated inventory without regulations was also included in the Supplemental FED. The estimated ARB 2020 BAU projection for GHG emissions in California was 596 MMT CO₂e. The updated ARB 2020 BAU projection in the Supplemental FED is 545 MMT CO₂e. Considering the updated BAU estimate of 545 MMT CO₂e by 2020, ARB estimates a 21.7-percent reduction below the estimated statewide BAU levels is necessary to return to 1990 emission levels (i.e., 427 MMT CO₂e) by 2020, instead of the approximate 28.4-percent BAU reduction previously reported under the original Climate Change Scoping Plan (2008).

2017 ARB Scoping Plan. On January 20, 2017, ARB released the proposed Second Update to the Scoping Plan (Draft), which identifies the State's post-2020 reduction strategy. The Second Update would reflect the 2030 target of a 40 percent reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. Key programs that the proposed Second Update builds upon include the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and much cleaner cars, trucks and freight movement, utilizing cleaner, renewable energy, and strategies to reduce methane emissions from agricultural and other wastes. It should be noted the proposed Second Update is undergoing a public review period and has not yet been formally adopted. Notwithstanding, if adopted, the Project would comply with all applicable provisions contained in the final 2017 Scoping Plan.

According to research conducted by the Lawrence Berkeley National Laboratory and supported by the 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. The research utilized a new, validated model known as the California LBNL GHG Analysis of Policies Spreadsheet (CALGAPS), which simulates GHG and criteria pollutant emissions in California from 2010 to 2050 in accordance to existing and future GHG-reducing policies. The CALGAPS model showed that GHG emissions through 2020 could range from 317 to 415 MT CO₂e per year, "indicating that existing state policies will likely allow California to meet its target [of 2020 levels under AB 32]." CALGAPS also showed that by 2030, emissions could range from 211 to 428 MT CO₂e per year, indicating that "even if all modeled policies are not implemented, reductions could be sufficient to reduce emissions 40 percent below the 1990 level [of SB 32]." CALGAPS analyzed emissions through 2050 even though it did not generally account for policies that might be put in place after 2030. Though

the research indicated that the emissions would not meet the state's 80 percent reduction goal by 2050, various combinations of policies could allow California's cumulative emissions to remain very low through 2050.

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 ARB, 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.

ARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32 (see 17 CCR Sections 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 MT CO₂e per year must comply with the Cap-and-Trade Program. Triggering of the 25,000 MT CO₂e per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (Mandatory Reporting Rule or "MRR").

Under the Cap-and-Trade Program, ARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits. Each covered entity with a compliance obligation is required to surrender "compliance instruments" (agency-verified emission calculations) for each MT CO₂e of GHG they emit. There also are requirements to surrender compliance instruments covering 30 percent of the prior year's compliance obligation by November of each year. For example, in November 2014, a covered entity was required to submit compliance instruments to cover 30 percent of its 2013 GHG emissions.

The Cap-and-Trade Program provides a firm cap, ensuring that there is no exceedance of the 2020 statewide emission limit. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emission reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by ARB in the First Update:

The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to reduce emissions at their own facilities in a cost-effective manner. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. However, as the cap declines, there must be a reduction in

aggregate emissions. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is appropriate because climate change is a global phenomenon, and the effects of GHG emissions are cumulative (ARB 2014).

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program assures that California will meet its 2020 GHG emissions reduction mandate:

The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the “capped sectors.” Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. The Cap-and-Trade Regulation provides assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by ARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures (ARB 2014).

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, the Cap-and-Trade Program covers GHG emissions associated with a CEQA projects' electricity usage.

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). Accordingly, as with stationary source GHG emissions and

GHG emissions attributable to electricity use, the Cap-and-Trade Program covers virtually all, if not all, of GHG emissions from CEQA projects associated with vehicle-miles traveled (VMT) (ARB 2015).

In addition, the Scoping Plan differentiates between “capped” and “uncapped” strategies. “Capped” strategies are subject to the proposed cap-and-trade program. Despite some degree of uncertainty in the emission reduction estimates for any individual measure, the Scoping Plan states that the inclusion of these emissions within the Cap-and Trade Program will help ensure that the year 2020-emission targets are met. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. “Uncapped” strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.⁶

SB 375—the Sustainable Communities and Climate Protection Act of 2008. The Governor signed SB 375 on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits 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 does the following: it (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 determinations 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 it:

1. Is the project in an area with an approved sustainable community’s strategy or an alternative planning strategy that achieves the GHG emission reduction targets accepted by the ARB;
2. Is the project consistent with that strategy (in designation, density, building intensity, and applicable policies) and
3. Does the project incorporate 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 the ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Lawsuits filed by automakers and by the EPA’s denial of an implementation waiver delayed implementation of the regulation. The EPA subsequently granted

⁶ On March 17, 2011, the San Francisco Superior Court issued a final decision in *Association of Irrigated Residents v. California Air Resources Board* (Case No. CPF-09-509562). While the Court upheld the validity of the ARB Scoping Plan for the implementation of AB 32, the Court enjoined ARB from further rulemaking under AB 32 until ARB amends its CEQA environmental review of the Scoping Plan to address the flaws identified by the Court. On May 23, 2011, ARB filed an appeal. On June 24, 2011, the Court of Appeal granted ARB’s petition staying the trial court’s order pending consideration of the appeal. In the interest of informed decision-making, on June 13, 2011, ARB released the expanded alternatives analysis in a draft Supplement to the AB 32 Scoping Plan Functional Equivalent Document. The ARB Board approved the Scoping Plan and the CEQA document on August 24, 2011.

the requested waiver in 2009, and the U.S. District Court for the District of Columbia in 2011 upheld that waiver.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22-percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will 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 1368—Emission Performance Standards. In 2006, the State Legislature adopted SB 1368, and signed into law by the Governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law will effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will dramatically lower GHG emissions associated with California's energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out-of-state producers that cannot satisfy the performance standard for GHG emissions required by SB 1368. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 lbs CO₂ per megawatt-hour (MWh).

SB 1078—Renewable Electricity Standards. On September 12, 2002, Governor Gray Davis signed SB 1078 requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 1078 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-

09) to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020. The ARB Board approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10–23.

SBX 7-7—The Water Conservation Act of 2009. The legislation directs urban retail water suppliers to set individual 2020 per capita water use targets and begin implementing conservation measures to achieve those goals. Meeting this statewide goal of 20 percent decrease in demand will result in a reduction of almost 2 million acre-feet in urban water use in 2020 and related reduction in energy use for transporting and treating water.

SB 350—Clean Energy and Pollution Reduction Act of 2015. The legislature recently 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 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 25 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; and
- Reorganize the Independent System Operator (ISO) to develop regional electricity transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

Executive Orders Related to GHG Emissions

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

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 greenhouse gas emissions to 2000 levels;
- By 2020, reduce greenhouse gas emissions to 1990 levels; and
- By 2050, reduce greenhouse gas 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 established a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector. (However, the 2020 GHG emission level reduction to 1990 levels, specifically mentioned in S-3-05, is codified in AB 32 and is law.)

Executive Order S-01-07—Low Carbon Fuel Standard. The Governor signed Executive Order S 01-07 on January 18, 2007. The order mandates 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 ARB, 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 submitted to ARB for consideration as an “early action” item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

The Low Carbon Fuel Standard was challenged in the United States District Court in Fresno in 2011. The court’s ruling issued on December 29, 2011 included a preliminary injunction against ARB’s implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012 pending final ruling on appeal, allowing the ARB to continue to implement and enforce the regulation. The Ninth Circuit Court’s decision filed September 18, 2013, vacated the preliminary injunction. In essence, the court held that Low Carbon Fuel Standards adopted by ARB were not in conflict with federal law. On August 8, 2013, the Fifth District Court of Appeal (California) ruled ARB failed to comply with CEQA and the Administrative Procedure Act (APA) when adopting regulations for Low Carbon Fuel Standards. In a partially published opinion, the Court of Appeal reversed the trial court’s judgment and directed issuance of a writ of mandate setting aside Resolution 09-31 and two executive orders of ARB approving Low Carbon Fuel Standards (LCFS) regulations promulgated to reduce GHG emissions. However, the court tailored its remedy to protect the public interest by allowing the LCFS regulations to remain operative while ARB complies with the procedural requirements it failed to satisfy.

To address the Court ruling, ARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. 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-CI fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The second public hearing was held on September 24, 2015 and September 25, 2015 where the LCFS Regulation was adopted. The Final Rulemaking Package adopting the regulation was filed with Office of Administrative Law (OAL) on October 2, 2015. OAL has until November 16, 2015 to make a determination (ARB 2015d).

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.

Executive Order B-30-15. On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish by 2030 a GHG reduction target of 40 percent below 1990 levels. The Governor’s

executive order aligns California's GHG reduction target with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The executive order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030. This executive order ensures California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050 and directs the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO₂ equivalent (MMCO₂e). The executive order also requires an update of the state's climate adaptation plan every 3 years and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this executive order is not legally enforceable for local governments and the private sector. Legislation that would update AB 32 to make post 2020 targets and requirements a mandate is in process in the State Legislature. SB 32 passed into law in September 2016. SB 32 creates specific 2030 GHG emission thresholds—a 40 percent reduction from 1990 GHG levels (256.2 MMT CO₂e).

California Regulations and 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 1601-1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations. The standards within these regulations apply to appliances 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 (CEC 2012).

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 newest version of Title 24, adopted by the California Energy Commission (CEC) on May 31, 2012, became effective on July 1, 2014.

The California Energy Commission (CEC) indicates that the 2013 Title 24 standards will reduce energy consumption by 30 percent above that achieved by 2008 Title 24 (CEC 2012). More specifically, based on a comparison of 2008 to 2013 Title 24 reductions required, newly constructed non-residential buildings result in an overall reduction of approximately 22 percent energy demand, while non-residential redevelopment (which would apply to existing buildings) results in an overall reduction of only approximately 10 percent energy demand. Additionally, the 2013 Title 24

standards currently in effect yield an approximately 68 percent energy savings when compared with the 2005 Title 24 standards (in place pre-AB 32)⁷.

At this time, the 2013 Title 24 standards are currently in effect; notwithstanding, it is likely that by the time the building permits are processed for this Project, the 2016 Title 24 standards will be in effect (the 2016 Title 24 standards take effect on January 1, 2017). The analysis did not take any credit for implementation of the more restrictive 2016 Title 24 standards for which the CEC estimates will provide five (5) percent electric energy savings from non-residential buildings compared to 2013 Title 24.⁸

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 January 1, 2011 administered by the California Building Standards Commission. The code is updated on a regular basis, with the most recent update consisting of the 2013 California Green Building Code Standards that became effective January 1, 2014. More stringent requirements can be adopted by local jurisdictions, as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they establish a minimum 50-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. The California Green Building Standards Code 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 buildings with over 10 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 for the depositing, storage and collection of nonhazardous materials for recycling (5.410.1).
- Construction waste. A minimum of 50-percent diversion of construction and demolition waste from landfills (increasing voluntarily to 65 and 80 percent for new homes and 80-percent for commercial projects) is needed (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).

⁷ See Table 2: Summary of First-Year-Electricity Savings in the Impact Analysis 2008 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings, November 2007. See Table 2: Summary of First-Year-Electricity Savings in the California Energy Commission's Consultant Report: Impact Analysis California's 2013 Building Energy Efficiency Standards, July 2013.

⁸ See CEC 2015. 2016 Building Energy Efficiency Standards Adoption Hearing Presentation. Website: http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2015-06-10_hearing/2015-06-10_Adoption_Hearing_Presentation.pdf. Accessed May 11, 2016.

- Wastewater reduction. Each building shall reduce the generation of wastewater by one of the following methods:
 - The installation of water-conserving fixtures; or
 - Using non-potable water systems (5.303.4).
- Water use savings. 20-percent mandatory reductions in 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) are required.
- Materials pollution control. Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard (5.404) are required.
- Building commissioning. Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet are necessary 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) is part of 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 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; and
- Reporting requirements for local agencies.

ARB Refrigerant Management Program. The ARB 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 lbs of a high GWP refrigerant. The refrigerant management program (1) reduces emissions of high-GWP GHG refrigerants from leaky stationary, non-residential refrigeration equipment; (2) reduces emissions

from the installation and servicing of refrigeration and air-conditioning appliances using high-GWP refrigerants; and (3) verifies GHG emission reductions.

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

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.

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, assists 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 estimated GHG emissions from a project 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 Greenhouse Gas Reduction Plans. Compliance with such plans can support a determination that a project's cumulative effect is not cumulatively considerable, according to proposed 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 now includes GHG questions.

Regional

The project is within the SoCAB, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

South Coast Air Quality Management District

The SCAQMD is the agency responsible for air quality planning and regulation in the SoCAB. For greenhouse gases, the agency 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 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 address GHG emissions.

The SCAQMD formed a working group to identify greenhouse gas emissions thresholds for land use projects that local lead agencies can use in the air basin in 2008. The working group developed several different options that are contained in the SCAQMD Draft Guidance Document—Interim CEQA Greenhouse Gas 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 the lead agency can consider 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 greenhouse gas emissions.

- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. The lead agency can select one of two options regarding screening values and they are Option #1 and Option #2 below. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
 - Option #1: All residential or commercial or mixed use land use types: 3,000 MT CO₂e per year and industrial: 10,000 MT CO₂e;
 - Option #2: Based on land use type—residential: 3,500 MT CO₂e per year; commercial: 1,400 MT CO₂e per year; industrial: 10,000 MT CO₂e; or mixed use: 3,000 MT CO₂e 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 MT CO₂e/SP/year for projects and 6.6 MT CO₂e/SP/year for plans;
 - Option 4, 2035 target: 3.0 MT CO₂e/SP/year for projects and 4.1 MT CO₂e/SP/year for plans
- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD's draft threshold uses the Executive Order S-3-05 year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO₂ concentrations at 450 ppm, thus stabilizing global climate.

The SCAQMD only has authority over GHG emissions from development projects that include air quality permits. The project does not include stationary sources of emissions subject to SCAQMD permit; however, the SCAQMD has adopted a regulation that includes voluntary programs that are available for use in CEQA compliance.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post-global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, Greenhouse Gas Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through requests for proposals or purchase reductions from other parties.

Local

The County of Riverside adopted a Climate Action Plan (CAP) on December 8, 2015. The CAP is part of the County's General Plan and contains further guidance on Riverside County's GHG Inventory reduction goals, policies, guidelines, and implementation programs. In particular, the CAP elaborates on the General Plan goals and policies relative to GHG emissions and provides a specific implementation tool to guide future decisions of the County.

As part of the CAP, the County of Riverside published a guidance document titled “Greenhouse Gas Emissions, Screening Tables, County of Riverside, California” (December 2015). As part of this guidance, the County determined the size of development that is too small to be able to provide the level of GHG emission reductions expected from the Screening Tables or alternate emissions analysis method. The County’s analysis determined that the 3,000 MT CO₂e per year value be used in defining small projects that, when combined with modest energy efficiency measures shown in the bullet points below are considered less than significant and do not need to use the Screening Tables or alternative calculations. The efficiency measures required of small projects are:

- Energy efficiency at least five percent greater than 2010 Title 24 requirements; and
- Water conservation measures that match the January 2011 California Green Building Code.

If the project exceeds the 3,000 MT CO₂e per year threshold, then project emissions need to be reduced by 25 percent from year 2011 emissions levels or alternatively the project would need to achieve a minimum of 100 points pursuant to the CAP Screening Tables. The screening tables also allow developers to tailor their mitigation measures to the project’s needs, rather than have them be subject to one-size fits all mitigation measures that may be too stringent for them.

The CAP Screening Table (CAP Appendix F) includes a discussion of how the 100-point minimum relates to the County’s emission reduction target. Using the emission reductions within the Screening Table, the amount of emission reductions afforded new development is segregated out of the aggregate total. Once the process of segregating new development out of the aggregate reduction totals is completed, the points are then proportioned by residential unit or square feet of commercial/industrial uses. This is accomplished by taking the predicted growth in households and commercial/industrial uses by the year 2020 and proportioning the appropriate Implementation Measure reduction quantities for new development to the residential and commercial/industrial land use sectors within the Screening Table. These calculations create point values that are allocated by residential unit or commercial/industrial square footage (measured in 1000 square feet). Because of this, the size of the project is not relevant to the Screening Table. Regardless of size, each project needs to garnish 100 points to demonstrate consistency with the Technical Report. Efficiency, not size of the project is critical.

Therefore, projects that achieve at least 100 points are determined to be consistent with the reduction quantities anticipated in the County’s GHG Technical Report. As such, further project-specific GHG quantification is not required. Consistent with the CEQA guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.

3.7.3 - Thresholds of Significance

According to the CEQA Guidelines Appendix G thresholds, to determine whether impacts from greenhouse gas emissions are significant, would a project:

- a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG?

The evaluation of an impact under CEQA requires measuring data from a project against both existing conditions and a “threshold of significance.” For establishing significance thresholds, the Office of Planning and Research’s amendments to the CEQA Guidelines Section 15064.7(c) state “[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.”

CEQA Guidelines Section 15064.4(a) further states, “. . . A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . . ; or (2) Rely on a qualitative analysis or performance based standards.”

CEQA Guidelines Section 15064.4 provides that a lead agency may take into account the following three considerations in assessing the significance of impacts from greenhouse gas emissions:

- **Consideration #1:** The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2:** Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3:** The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project’s incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Biological Diversity v. California Department of Fish and Wildlife (“Newhall Ranch”)

On November 30, 2015, the California Supreme Court in *Center for Biological Diversity v. California Department of Fish and Wildlife (“Newhall Ranch”)* invalidated the GHG analysis for a large, master planned residential development in Los Angeles County consisting of over 20,000 residential dwelling units and other uses, determining that the GHG significance finding was “not supported by a reasoned explanation based on substantial evidence.” Specifically, the Court upheld: (1) the use of the statewide emissions reduction goal in AB 32 as a significance criterion (pp. 15–19); (2) the use of the Scoping Plan’s BAU model “as a comparative tool for evaluating efficiency and conservation efforts” of the project (pp. 18–19); and (3) a comparison of the project’s expected emissions to a BAU model rather than a baseline of pre-project conditions (pp. 15–19) is acceptable.

Notwithstanding, however, the Court invalidated the GHG analysis on the grounds that the “administrative record discloses no substantial evidence that the Newhall Ranch’s project-level reduction of 31 percent in comparison to [BAU] is consistent with achieving AB 32’s statewide goal of

a 29 percent reduction from [BAU] . . . “ (p. 19, original italics; see also p. 23 (“Nor is Justice Corrigan correct that our analysis ‘assumes project-level reduction in greenhouse gas emissions must be greater than the reduction California is seeking to achieve statewide.’ [internal citations omitted] . . . [W]e only hold that DFW erred in failing to substantiate its assumption that the Scoping Plan’s statewide measure of emissions reduction can also serve as the criterion for an individual land use project.”)

In so doing, the Court in *Newhall Ranch* questioned whether “a greater degree of reduction may be needed” from new versus existing development to achieve the statewide goal set forth in AB 32 (p. 20). The Court also stated that the EIR failed to contain sufficient evidence to conclude that the “land use density” assumptions used in the EIR’s GHG emissions model relate to the land use density assumptions used in the Scoping Plan’s BAU model (pp. 21–22). Because this information was not contained in the *Newhall Ranch* EIR, the Court determined that the record in *Newhall Ranch* did not contain substantial evidence supporting the BAU threshold.

The Court in *Newhall Ranch* outlined “potential pathways to compliance” that future EIRs could use to determine if GHG emissions from a given project are significant. Specifically, the Court advised that:

- **Substantiation of Project Reductions from BAU.** A lead agency may use a BAU comparison based on the Scoping Plan’s methodology if it also substantiates the reduction a particular project must achieve to comply with statewide goals. The Court suggested a lead agency could examine the “data behind the Scoping Plan’s business-as-usual model” to determine the necessary project-level reductions from new land use development at the proposed location (p. 25).
- **Compliance with Regulatory Programs or Performance Based Standards.** A lead agency “might assess consistency with AB 32’s goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities. (See Final Statement of Reasons, supra, at p. 64 [greenhouse gas emissions ‘may be best analyzed and mitigated at a programmatic level.’].) To the extent a project’s design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by the Air Resources Board or other state agencies, a lead agency could appropriately rely on their use as showing compliance with ‘performance based standards’ adopted to fulfill ‘a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions’ (State CEQA Guidelines § 15064.4(a)(2), (b)(3); see also id., § 15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including ‘plans or regulations for the reduction of greenhouse gas emissions’])” (p. 25).
- **Compliance with GHG Reduction Plans or Climate Action Plans (CAPs).** A lead agency may utilize “geographically specific GHG emission reduction plans” such as climate action plans or GHG emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis (p. 26.)
- **Compliance with Local Air District Thresholds.** A lead agency may rely on “existing numerical thresholds of significance for GHG emissions” adopted by, for example, local air districts (p. 27).

Therefore, consistent with CEQA Guidelines Appendix G, the three factors identified in CEQA Guidelines Section 15064.4 and the *Newhall Ranch* opinion, the following thresholds determine the significance of impacts from GHG.

- **Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs (see Impact GHG-1)?**

Analysis under Impact GHG-1 involves an analysis of the project's compliance with the County of Riverside's CAP. The CAP is a geographically specific plan adopted by the County of Riverside for reducing GHG emissions under the control or influence of the County consistent with AB 32 and subsequent state legislation and state agency action to address climate change. This threshold is also consistent with the SCAQMD's draft interim threshold Tier 2, which consists of determining whether a project is consistent with a qualified GHG reduction plan.

- **Would the project conflict with the ARB Scoping Plan and regulations adopted for reducing emissions of greenhouse gases (see Impact GHG-2)?**

Analysis under Impact GHG-2 involves a qualitative analysis of the project's consistency with the ARB's Scoping Plan and with GHG emission reducing regulations. The Scoping Plan (and its adopted regulations) are considered a statewide plan, policy, or regulation adopted by a public agency to reduce GHG emissions that may be used to assess consistency with AB 32.

The County has further determined that each one of the above-two thresholds is considered a separate and independent basis upon which to substantiate the significance of the project's GHG impact.

3.7.4 - Methodology

FirstCarbon Solutions (FCS) used CalEEMod Version 2016.3.1 to quantify emissions associated with the construction and operation of the proposed project. This assessment was conducted within the context of CEQA (California Public Resources Code Sections 21000, et seq.). The methodology follows South Coast Air Quality Management District (SCAQMD) recommendations for quantification of emissions and evaluation of potential greenhouse gas impacts. Supporting information is provided in Appendix F.

Existing Emissions

The project site is currently vacant. Therefore, for the purposes of this analysis, existing GHG emissions at the project site are assumed to be zero, and all activities related to the project are considered potential increases in GHG emissions.

Greenhouse Gas Emissions Quantification

GHG emissions per unit of activity, also referred to as emission factors, are incorporated in CalEEMod for each analysis year. Quantification of project-related greenhouse gas emissions is based on the project's buildout year of 2017.

Construction Emissions

The project would emit GHGs from upstream emission sources and direct sources from construction activities (combustion of fuels from worker vehicles and construction equipment).

An upstream emission source (also known as life cycle emissions) refers to generated emissions during the manufacture of products for construction of the project. Upstream emission sources for the project include but are not limited to the following: emissions from the manufacture of cement; emissions from the manufacture of steel; and/or emissions from the transportation of building materials to the seller. No upstream emissions were estimated, as they are expressly not within the purview of EIRs, according to CEQA Guidelines Section 15144. Additionally, the California Air Pollution Control Officers Association (CAPCOA) White Paper on CEQA and Climate Change states “The full life-cycle of GHG [greenhouse gas] emissions from construction activities is not accounted for . . . and the information needed to characterize [life-cycle emissions] would be speculative at the CEQA analysis level” (CAPCOA 2008). Therefore, pursuant to CEQA Guidelines Sections 15144 and 15145 and the CAPCOA White Paper, upstream/life cycle emissions are not calculated or evaluated in this EIR.

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site emissions principally consist of exhaust emissions (CO₂, CH₄, and N₂O) from heavy-duty construction equipment and motor vehicle operation. Off-site emissions are caused by motor vehicle exhaust (CO₂, CH₄, and N₂O) from delivery vehicles and worker traffic.

The project would emit GHGs from upstream emission sources and direct sources (combustion of fuels from worker vehicles and construction equipment). CalEEMod default values estimate GHG emissions from project construction equipment and worker vehicles. The emissions are from all phases of construction. The emissions analysis assumed full buildout of the project in 2018. The construction schedule utilized in the analysis, represents a “worst-case” analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent.⁹ In order to provide an appropriate analysis, CEQA allows the short-term construction emissions to be amortized over the expected (long-term) operational life of the project and are included in the quantification of operational emissions. The operational life of a conventional commercial/industrial building is 30 years in accordance with SCAQMD guidance.

GHG emissions from project construction equipment and worker vehicles are shown in Table 3.7-2. The emissions are from all phases of construction.

⁹ As shown in the California Emissions Estimator Model (CalEEMod) User’s Guide Version 2013.2, Table 3.4 “OFFROAD Equipment Emission Factors” as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

Table 3.7-2: Construction Greenhouse Gas Emissions

Phase	Total MT CO ₂ e per year
2016	1,285
2017	2,087
<i>Total</i>	3,372
Amortized over 30 years	112
Notes: Total MT CO ₂ e may be different from CalEEMod output due to rounding. MT CO ₂ e = metric tons of carbon dioxide equivalents Source: GHG Modeling Results (Appendix F).	

Operational GHG Emissions

Operational or long-term emissions occur over the life of the project. Sources of operational emissions include:

- **Area.** Consumer products; area architectural coatings; and landscaping equipment. Area emissions were estimated using CalEEMod.
- **Indirect Electricity.** GHG emissions generated by off-site power plants to supply electricity required for the project. Electricity emissions were estimated using CalEEMod.
- **Mobile.** Motor vehicle/exhaust emissions from the employee and customer vehicles; heavy-duty trucks that would access the project site. Motor vehicle and truck emissions calculated using CalEEMod and information contained in the project's traffic impact study.
- **Natural Gas.** Exhaust from natural gas usage. Carbon dioxide emissions were estimated using CalEEMod.
- **Water.** Estimates the land uses contribution of greenhouse gas emissions associated with supplying and treating the water and wastewater. Water emissions were estimated using CalEEMod.
- **Waste.** GHG emissions associated with disposal of solid waste into landfills. Waste emissions were estimated using CalEEMod.

Proposed Project Emissions

This analysis is restricted to greenhouse gases identified by AB 32, which include CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The project would generate a variety of greenhouse gases during construction and operation, including several defined by AB 32 such as CO₂, CH₄, and N₂O.

The project may also emit GHGs not listed in AB 32. For example, the project may generate aerosols. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Black carbon is a component of aerosol. Studies have indicated that black carbon has a high global

warming potential; however, the IPCC states that it has a low level of scientific certainty. There may be water vapor emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities.¹⁰ The project would emit nitrogen oxides and volatile organic compounds, which are ozone precursors. Ozone is a GHG; however, unlike the other GHGs, ozone in the troposphere (lower atmosphere) is relatively short-lived and reduced in the troposphere on a daily basis. Stratospheric ozone is long-lived but is reduced through reactions with other pollutants (e.g., chlorofluorocarbons).

Certain greenhouse gases defined by AB 32 would not be emitted by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

An upstream emission source (also known as life cycle emissions) refers to emissions generated during the manufacture of products to be used for construction of the project. Upstream emission sources for the project include but are not limited to emissions from the manufacture of cement, emissions from the manufacture of steel, and/or emissions from the transportation of building materials to the seller. No upstream emissions were estimated as they are expressly not within the purview of EIRs, according to CEQA Guidelines Section 15144. Additionally, the California Air Pollution Control Officers Association (CAPCOA) White Paper on CEQA and Climate Change states “The full life-cycle of GHG [greenhouse gas] emissions from construction activities is not accounted for . . . and the information needed to characterize [life-cycle emissions] would be speculative at the CEQA analysis level” (CAPCOA 2008). Therefore, pursuant to CEQA Guidelines Sections 15144 and 15145 and the CAPCOA White Paper, upstream/life cycle emissions are not calculated nor evaluated in this EIR.

The operational emissions for the project based on the anticipated 2017 opening year are shown in Table 3.7-3. As shown, the project would emit approximately 29,041 MT CO₂e under the 2018 opening year scenario. For the complete assumptions, please refer to Appendix B.

Table 3.7-3: Project Operational Emissions

Source	Emissions (MT CO ₂ e per year)
Area	<1
Energy	1,814
Mobile—Passenger Vehicles	3,115
Mobile—Trucks	23,385
Waste	880
Water	95

¹⁰ “Climate Change Indicators in the United States.” U.S. Environmental Protection Agency (EPA). 2010. Greenhouse Gases: Figure 1. The Annual Greenhouse Gas Index, 1979–2008.

Table 3.7-3 (cont.): Project Operational Emissions

Source	Emissions (MT CO ₂ e per year)
Construction Emissions Amortized over 30 years	112
Total	29,401
Notes: Total MT CO ₂ e may be different from CalEEMod output due to rounding. MT CO ₂ e = metric tons of carbon dioxide equivalents Source: GHG Modeling Results (Appendix B).	

3.7.5 - Project Impact Analysis and Mitigation Measures

Conflict with Applicable Plan, Policy, or Regulation

Impact GHG-1: The project would generate direct and indirect greenhouse gas emissions; however, these emissions would not result in a significant impact on the environment.

Impact Analysis

As discussed in the *Newall Ranch* decision, a lead agency may assess the significance of GHG emissions by determining a project's consistency with a local GHG reduction plan or CAP that qualifies under Section 15183.5 of the CEQA Guidelines. The County of Riverside's CAP serves to fulfill this role.

The CAP is designed to ensure that the development accommodated by the buildout of the General Plan supports the goals of Assembly Bill (AB) 32—the Global Warming Solutions Act of 2006. The California Air Resources Board (ARB) adopted the State's strategy for achieving AB 32 targets in its Climate Change Scoping Plan (Scoping Plan) in 2008. The Scoping Plan GHG reduction goal is to reduce statewide emissions to 1990 levels by 2020. The Riverside County CAP includes strategies that will achieve this target. The CAP target is to reduce County emissions by the amount recommended in the Scoping Plan for local government of 15 percent below 2008 levels by 2020. This was roughly equivalent to the 28.4 percent overall reduction in statewide emissions from BAU in 2020. The strategy will continue to provide reductions past 2020 and includes a commitment to update the CAP beginning in 2017. The new plan will include a specific target for GHG reductions for 2035 and 2050. The targets will be consistent with broader state and federal reduction targets and with the scientific understanding of the needed reductions by 2050. The CAP includes analysis that includes the conceptual reductions required to achieve the percent reductions that would be required to achieve the levels needed to achieve the 2050 target outlined in Executive Order S-3-05, but the CAP does not include a comprehensive strategy to achieve the later targets pending adoption of a statewide strategy for those later years.

In determining whether the project conflicts with any applicable plan, policy, or regulation, the California Resources Agency has stated that in order to be used for the purpose of determining significance, a plan must contain specific requirements that result in reductions of greenhouse gas

emissions to a less than significant level. The following from CEQA Guidelines Section 15183.5(b) lists the requirements for greenhouse gas reduction plans used for this purpose:

- (1) Plan Elements. A plan for the reduction of greenhouse gas emissions should:
 - (A) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area;
 - (B) Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable;
 - (C) Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area;
 - (D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level;
 - (E) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and
 - (F) Be adopted in a public process following environmental review.
- (2) Use with Later Activities. A plan for the reduction of GHG emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a GHG reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable notwithstanding the project's compliance with the specified requirements in the plan for the reduction of greenhouse gas emissions, an EIR must be prepared for the project.

The CAP meets these requirements as shown below:

- The CAP quantifies emissions for a 2008 base year and future inventories for 2020, 2035, and 2050 for the County.
- The CAP has adopted a target of reducing GHG emissions down to 15 percent below 2008 levels within the County of Riverside by 2020. This reduction target is compliant with AB 32. The AB 32 Climate Change Scoping Plan states: "In recognition of the critical role local governments will play in the successful implementation of AB 32, ARB recommended a greenhouse gas reduction goal for local governments of 15 percent below today's levels by 2020 to ensure that their municipal and community-wide emissions match the State's

reduction target” (Scoping Plan page ES-5, ARB December 2008). As such, the County is consistent with the State’s efforts to reduce GHG emissions globally and substantially lessen the cumulative contribution.

- The CAP analyzed the GHG emissions resulting from specific sources under the jurisdiction of the County or within the County’s ability to influence including source categories common to most climate action plans in California.
- The CAP identified specific measures that would reduce GHG emissions by the required amount from regulations that apply to existing and new development and local measures that apply to the sources of emissions including:
 - Land Use and Transportation;
 - Transportation Facilities Strategies;
 - Transportation Demand Strategies;
 - Energy Conservation Strategies for New and Existing Buildings;
 - Waste Diversion and Recycling and Energy Recovery;
 - Strategies for Existing Development; and
 - Municipal Strategies.
- The CAP includes procedures for tracking and monitoring plan performance measures including annual and triennial data collection and reporting to identify trends and potential shortfalls requiring corrective actions.
- The CAP was included as part of the General Plan Update Master Environmental Impact Report and was adopted and certified in a public hearing on December 8, 2015.
- The CAP includes binding and enforceable requirements that apply to development projects to ensure plan consistency. All emission reductions required to reach the plan 2020 targets are through compliance with adopted regulations, ordinances, and code enforced by the State and the County. Reductions from mobile sources anticipated through implementation of the County’s land use plan are enforced through the development review process. Conditions of approval may be applied for measures requiring project specific actions not specifically addressed by the regulation or code.

The point values in the March 2015 Riverside County GHG Emissions Screening Tables were obtained from the projected emission reductions that each of the Implementation Measures (IM) within the Riverside County GHG Technical Report would achieve. The total emission reductions offered by each measure are based on both changes in existing land use activities as well as how new development is designed and built. To correctly allocate the emission reductions within the Screening Table, the amount of emission reductions afforded new development had to be segregated out of the aggregate total in a manner that is described below. Once the process of segregating new development out of the aggregate reduction totals was completed, the points were then proportioned by residential unit or square feet of commercial/industrial uses. This was accomplished by taking the predicted growth in households and commercial/industrial uses by the year 2020 and proportioning the appropriate IM reduction quantities for new development to the residential and commercial/industrial land use sectors within the Screening Table. These

calculations result in point values that are allocated by residential unit or commercial/industrial square footage (measured in 1000 square feet). Because of this, the size of the project is not relevant to the Screening Table. Regardless of size, each project needs to garnish 100 points to demonstrate consistency with the Technical Report. Efficiency, not size of the project is critical. The following emission factor can be used in determining the amount of emissions reduced per point in the Screening Table:

- The respective calculated emission values are in metric tons of carbon dioxide equivalents (MT CO₂e);
- For Residential Projects: 0.069 MT CO₂e per Point per Residential Unit;
- For Commercial and Industrial Projects: 0.031 MT CO₂e per Point per 1,000 Square Feet of gross Commercial/Industrial building area; and
- The first step in developing the point system was the need to determine the total reductions afforded the GHG Plan. In total 4,288,863 MT CO₂e will be reduced as a result of the GHG Plan.

As shown in Table 1, in Appendix A: Methodology for The Development and Application of the Screening Tables of the Riverside County GHG Plan, 1,807,866 MT CO₂e will be reduced through state strategies. The next step in developing the point system is to segregate out the County's efforts in reducing GHG emissions. As shown in the GHG Plan, 2,448,997 MT CO₂e are reduced by the County's Implementation Measures. This amount includes reductions afforded existing building retrofits, other changes to activities associated with existing land uses, as well as reductions associated with new development.

The next step is to segregate out of the 2,448,997 MT CO₂e that the County needs to reduce, the total the amount of emissions that will be reduced by new development.

The GHG Plan summarizes the reduction in emissions afforded new development from the Implementation measures. As summarized in Table 2, in Appendix A: Methodology for The Development and Application of the Screening Tables of the Riverside County GHG Plan, 1,302,569 MT CO₂e will be reduced from new development as a result of the County strategies. Within the 1,302,569 MT CO₂e of new development reductions afforded County strategies, 619,336 MT CO₂e of emissions reduced is accomplished through new Commercial and Industrial Projects, and 683,233 MT CO₂e of emissions reduced is accomplished through new residential projects.

The next step in allocating point values is to determine the number of new homes and commercial buildings that are anticipated by year 2020. The County predicts that 100,477 new residential units will be needed by 2020 to accommodate the population growth by 2020. A total of approximately 195,547,000 square feet of new commercial and industrial buildings within the unincorporated County area is needed to accommodate anticipated job growth. This estimate is based on the relationship between past growth in employment to the average growth in commercial/industrial building area for Riverside County.

Dividing the 683,233 MT CO₂e reductions of emissions afforded the Implementation Measures for new residential development by the anticipated 100,477 new residential units that will be built yields 6.80 MT CO₂e per residential unit that needs to be reduced to fulfill the anticipated reductions of the GHG Technical Report. That amount equals 100 points, producing the following for the point values: 0.0680 MT CO₂e per Point per Residential Unit.

A similar process was used to derive the point value for new commercial/Industrial development. Because commercial/industrial land uses are typically described in thousand square feet of building space, the point value was calculated as follows: 0.031 MT CO₂e per 1,000 square feet of gross Commercial/Industrial building area.

The final step was to allocate points to each of the reduction measures in order to provide the menu of point values. Table 3.7-4 shows the requisite points afforded each measure. Note that emissions associated with new development are reduced by the State's measures, as well as the County's Implementation measures. The Screening Tables focus on those measures the County is implementing associated with new development within the unincorporated County area. For this reason, the menu of options pertains to all of the Implementation Measures pertaining to new development.

Pursuant to the CAP, Projects that achieve at least 100 points based on the County's screening tables are determined to be consistent with the reduction quantities anticipated in the County's GHG Technical Report. As such, further project-specific GHG quantification is not required. Consistent with CEQA guidelines, such projects would be determined to have a less than significant individual and cumulative impact for GHG emissions.

In order to enforce the requirements of the CAP Screening Tables, Mitigation Measure GHG-1 requires that the project implement at least 100 points from the Riverside County Greenhouse Gas Emissions Screening Tables. Table 3.7-4 displays the points (as in the March 2015 Riverside County GHG Emissions Screening Tables for Commercial Development and Public Facilities, Table 2) that are anticipated to be used by the project; during construction and operation of the project, the points may be switched for feasibility. Therefore, since the project will incorporate at least 100 points from the screening tables, the project's impact on greenhouse gas emissions is less than significant.

The CAP also includes an assessment of Post-2020 GHG emissions and concludes that Post-2020, GHG emissions would continue to grow; however, the growth in Riverside County's future emissions would be offset by the reductions from incorporation of the CAP measures. The reduction measures included in the CAP have been developed to meet the 2020 reduction target; however, the implementation of the CAP would require periodic updates to ensure that Riverside County is continually tracking GHG emissions and making adjustments as necessary to ensure that future targets are met. The CAP includes a 2035 inventory that represents the estimated GHG emissions from Riverside County with the continued implementation of the reduction measures outlined in the CAP as well as the assumption that the current statewide measures would be extended beyond 2020. This represents a strategy for Riverside County to continue to reduce emissions below the 2020 reduction target through to 2035 and beyond.

Table 3.7-4: County of Riverside Greenhouse Gas Screening Table

Feature	Description	Project Consistency	Points
E5.A.1	Insulation: Modestly enhance insulation (walls R-13, roof/attic R-38)	The project will satisfy this measure by installing wall insulation rated at R-13 or better and roof/attic insulation at R-38 or better for the conditioned portions of the building. Although most the proposed warehouse would not be conditioned and therefore not subject to the enhanced insulation requirement, it is still appropriate to take credit for this measure since the conditioned space would generate the increased energy demand and consequently more GHG emissions without enhanced insulation.	15
E5.A.2	Window Insulation: Modestly enhanced window insulation (5% > Title 24)	The project will satisfy this measure by installing windows with insulation that exceeds the incumbent 2013 Title 24 standards by a minimum of 5 percent.	7
E5.A.4	Air infiltration: Minimizing leaks in the building envelope is as important as the insulation properties of the building. Insulation does not work effectively if there is excess air leakage. Modest Building Envelope Leakage (5% > Title 24).	The project will satisfy this measure by designing the building envelope to ensure that there is minimal building envelope leakage for the conditioned space. The building envelope that is conditioned will exceed the incumbent 2013 Title 24 standards by a minimum of 5 percent. Although the Project includes multiple bays that may be open to ambient air, the bays and air infiltration would occur in the unconditioned space and therefore not subject to the minimized air infiltration, it is still appropriate to take credit for this measure since the conditioned space would be required to reduce building envelope leakage which would reduce energy demand and consequently reduce GHG emissions.	4
E5.B.1	Heating/Cooling Distribution System: Minimum Duct Insulation (R-4.2 required)	—	0
E5.B.2	Space Heating/Cooling Equipment: High efficiency HVAC (EER15/72% AFUE or 8.5 HSPF)	The project will satisfy this measure by installing a high efficiency HVAC unit rated EER15/72% AFUE or 8.5 HSPF or better.	8
E5.B.4	Water Heaters: 2008 Minimum Efficiency (0.57 Energy Factor)	—	0
E5.B.5	Daylighting: All rooms within building have daylight (through use of windows, solar tubes, skylights, etc.)	The project will satisfy this measure by installing daylighting such that all of the conditioned space will have daylight via windows, solar tubes, skylights or equivalents. For example, the warehouse buildings will have skylights and the office areas will contain windows.	5

Table 3.7-4 (cont.): County of Riverside Greenhouse Gas Screening Table

Feature	Description	Project Consistency	Points
E5.B.6	Artificial Lighting: High efficiency lights (50% of in-unit fixtures are high efficacy)	The project will satisfy this measure by installing high efficacy lighting at a minimum of 50 percent of the in-unit lighting fixtures.	12
E6.A.1	Solar Photovoltaic panels: 23 percent of the power needs of the project	As identified in the Project Description, Section 2.3.1 of the DEIR, the project will include the use of solar panels on the roofs, which will provide approximately 23 percent of the project's power needs. The building will be built with enough solar panels on the roof to meet the minimum 23% solar power requirement.	14
W1.C.1	Water Efficient Landscaping: Eliminate turf and only provide drought tolerant plants	The project will satisfy this measure through compliance with the landscaping plan that identifies the use of drought tolerant plants.	4
W1.C.2	Water Efficient Irrigation Systems: Weather based irrigation control systems combined with drip irrigation (demonstrate 20 percent reduced water use)	The project will satisfy this measure through compliance with the modern water efficient landscape ordinance (MWELO) as required by the Riverside County Ordinance 859.2. Implementation of the MWELO will result in a minimum of 20 percent reduced water use for outdoor irrigation. Specifically, the irrigation system will be designed utilizing "state of the art" irrigation equipment such as smart controllers, rain shut-off devices, master valves and flow sensors, as well as water-efficient irrigation heads. Plant materials will also be separated by hydrozones.	5
W1.D.1	Showers: Water Efficient Showerheads (2.0 gpm) Title 24 standard (required)	The project will satisfy this measure through compliance with the 2013 California Plumbing Code Section 408.0 Showers, showerheads shall have a maximum flow rate of 2.0 gallons per minute consistent with 2013 CALGreen which currently applies to the project.	3
W1.D.2	Toilets: Water Efficient Toilets/Urinals (1.5 gpf)	The project will satisfy this measure through compliance with the 2013 California Plumbing Code Section 403.2.1 Water Closets, either flush tank, flushometer tank, or flushometer valve operated, shall not exceed the effective flush volume of 1.28 gallons. Urinals shall have an average water consumption not to exceed 0.125 gallon per flush. Both of these requirements are consistent with 2013 CALGreen, which currently applies to the project.	3

Table 3.7-4 (cont.): County of Riverside Greenhouse Gas Screening Table

Feature	Description	Project Consistency	Points
W1.D.3	Faucets: Water Efficient faucets (1.28 gpm)	The project will satisfy this measure through compliance with the 2013 California Plumbing Code Section 403.8 Lavatory Faucets, the maximum flow rate of lavatory faucets shall not exceed 1.0 gallon per minute.	3
T1.A.2	Car/vanpools: Car/vanpool program with preferred parking	The project will satisfy this measure through compliance with the 2013 Cal Green Code section 5.106.5.2, the project will provide designated parking stalls for low-emitting, fuel-efficient, and/or carpool/vanpool vehicles. As such, the project will provide a minimum of 36 preferred parking spaces for car/vanpools or low-emitting/fuel efficient vehicles.	2
T1.A.3	Bike lockers and secure racks Showers and changing facilities	The project will satisfy this measure through compliance with MM AQ-1h(c), which requires that, each building shall provide secure bicycle storage space equivalent to two (2) percent of the automobile parking spaces provided. Pursuant to MM AQ-1h(d), each building shall provide a minimum of two shower and changing facilities within 200 yards of a building entrance.	3
T4.A.1	Parking: Provide reserved preferential parking spaces for car-share, carpool, and ultra-low or zero emission vehicles.	The project will satisfy this measure through compliance with MM AQ-1h(e), which requires that, each building shall provide preferred parking for low-emitting and fuel-efficient vehicles equivalent to five (5) percent of the required number of parking spaces. This measure is also consistent with 2013 Cal Green Code section 5.106.5.2, which requires that the project provide designated parking stalls for low-emitting, fuel-efficient, and/or carpool/vanpool vehicles for 5 percent of required spaces. As such, the project will provide a minimum of 36 preferred parking spaces for car-share, carpool, and ultra-low or zero emission vehicles.	1
T7.B.1	Electric Vehicle Recharging: Install electric vehicle charging stations in parking areas.	The project will satisfy this measure through compliance with MM AQ-1h(b), which requires that, a minimum of two electric vehicle-charging stations for automobiles or light-duty trucks shall be provided at each building. As such, the project will provide a minimum of four electric vehicle-charging stations for automobiles or light-duty trucks at the site.	16

Table 3.7-4 (cont.): County of Riverside Greenhouse Gas Screening Table

Feature	Description	Project Consistency	Points
T8.A.1	Vehicle Idling Restriction: All commercial vehicles are restricted to 5-minutes or less per trip on-site and at loading docks	The project will satisfy this measure through compliance with, MM AQ-1g(b), which requires the project to post signs in all dock and delivery areas containing the following: truck drivers shall turn off engines when not in use; trucks shall not idle for more than 5 minutes; telephone numbers of the building facilities manager and the California Air Resources Board to report violations.	2
L2.B.1	Landscaping Equipment: Project provides electrical outlets on the exterior of all buildings so that electric landscaping equipment is compatible with all built facilities	The project will satisfy this measure through installation of electrical outlets on the exterior of all buildings.	2
SW1.B.1	Recycling: Provide separated recycling bins within each building/floor and provide large external recycling collection bins at central location for pick-up	The project will satisfy this measure through requiring the provision of separated recycling bins within each building and will include a recycling collection bin for pick-up by the local waste hauler consistent with the requirements of Assembly Bill 341.	2
SW2.B.1	Recycling of Construction/Demolition Debris: Recycle at least 20 percent of debris	The project will satisfy this measure by requiring that the project will implement and develop a plan to recycle a minimum of 20 percent of construction debris.	6
Total			117
Source: TSG-Cherry Valley L.P., personal communication, July 2016.			

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

Implement Mitigation Measures AQ-1g and AQ-1h, which serve to reduce mobile source emissions, and the following:

MM GHG-1 Prior to issuance of building permits, the applicant shall provide documentation to the County of Riverside Building Department as part of the plan check process, demonstrating that the project will implement the project features described in Table 3.7-4 above that will achieve at least 100 points from the Riverside County Greenhouse Gas Emissions Screening Tables. The project may also achieve equivalent emission reductions from other measures approved by the County of Riverside. Implementing these mitigation measures shall be verified by the County of Riverside Building Department prior to the issuance of the final Certificate of Occupancy.

Level of Significance After Mitigation

Less than significant impact. Mitigation Measure GHG-1 will ensure that the project is consistent with the County of Riverside's CAP; since the project will incorporate at least 100 points from the screening tables, the project's impact on greenhouse gas emissions would be less than significant.

Impact GHG-2: The project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Impact GHG-2 assesses the project's consistency with the overarching goals of AB 32 and the strategies of ARB's Scoping Plan as well as the regulatory measures adopted to further AB 32's goals.

CEQA allows lead agencies to consider whether regulatory programs are adequate to reduce a project's potentially significant environmental effects. Under AB 32, the State's emission inventory must be reduced to 1990 levels by 2020. One of the questions in the CEQA Guidelines checklist regarding GHG asks whether a project conflicts with any applicable plan, policy, or regulation of an agency adopted for reducing the emissions of GHGs. The ARB Scoping Plan and its implementing regulations provide the regulatory framework for the State to achieve its target and to track its progress. Moreover, *Newhall Ranch* describes that a lead agency may assess consistency with AB 32's goal in whole or in part by looking to compliance with regulatory programs designed to reduce GHG emissions from particular activities [Newhall, p. 25]. *Newhall Ranch* further describes that "[t]o the extent a project's design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by the Air Board or other state agencies, a lead agency could appropriately rely on their use as showing compliance with 'performance based standards' adopted to fulfill 'a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions' (State CEQA Guidelines § 15064.4(a)(2), (b)(3); see also id., § 15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including 'plans or regulations for the reduction of greenhouse gas emissions'].)"

An important underlying assumption when making a significance determination based on compliance with regulations is that the regulations are adequate to address the impact to a less than significant level. If compliance with regulations is sufficient to mitigate the impact to a less than significant level, then a project is not required to provide any additional mitigation to further reduce the impact. If, however, regulations are only partially effective in mitigating the impacts, or if the regulatory program is not fully implemented, there may be a gap between the amount that can be reasonably claimed from regulation and the amount needed to achieve the less than significant target.

The ARB 2008 Scoping Plan includes a regulatory strategy that will result in the State achieving the AB 32 target by 2020, accounting for growth projected by 2020. The measures in the 2008 Scoping Plan have all been in place since 2012. In the 2014 Scoping Plan Update was adopted in May 2014; however, ARB confirmed that the State had now adopted sufficient laws and regulations to achieve the AB 32 target and no new measures or targets were identified.

Measures of Plan Consistency or Conflict

Determining project consistency with greenhouse gas plans presents unique challenges because the impact is global and inherently cumulative in nature and the solutions require global and local action. A single state or nation or project cannot solve the problem and there are no binding international agreements in place that will achieve the amount of reductions scientists estimate will be required to prevent catastrophic climate change. California recognized this and decided to identify reduction targets for itself in AB 32 that would lead to California providing its fair share of reductions regardless of what other states or the federal government or other countries do to reduce their fair share. The hope is that this leadership by example will spur other governments to take action to reduce their greenhouse gas impacts. California through AB 32 set its fair-share reduction at the amount required to reduce emissions to 1990 levels by 2020.

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

Applicable Plans

The Scoping Plan provides the State's overall strategy in the form of measures that apply to emission sectors that comprise the State's GHG emission inventory. The Scoping Plan is the State's view from 30,000 feet for achieving the AB 32 mandates. The State's on-the-ground implementation strategy primarily takes the form of source specific regulations adopted by State agencies such as ARB, and the California Energy Commission (CEC). The State has adopted regulations described earlier in this section to implement the Scoping Plan measures and achieve the emission reductions required. 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.

Relating Plans to Projects

The ARB Scoping Plan examines California's greenhouse gas profile in two ways—emissions-based and end use (demand side)-based. While it is possible to illustrate the inventory in many different ways, no chart or graph can fully display how diverse economic sectors fit together. California's economy is a web of activity where seemingly independent sectors and subsectors operate interdependently and often synergistically. For example, reductions in water use reduce the need to pump water, directly lowering electricity use and associated GHG emissions. Similarly, reducing the generation of waste reduces the need to transport the waste to landfills—lowering transportation emissions and, possibly, landfill CH₄ emissions. Increased recycling or re-use reduces the carbon emissions embedded in products—it takes less energy to make a soda can from recycled aluminum than from virgin feedstock.

Development projects are assessed for direct emissions from combustion of fuels for heating buildings and indirect emissions for fuel use from transportation activities associated with the project. Development projects are also end users of electricity that is often generated by power plants that are located far from the project site. Project emissions from electricity consumption are based on the projected use and the average emission rate for the electric utility serving the project.

The regulations implementing the Scoping Plan apply directly to the project in regards to energy efficiency of the buildings, water conservation, and refrigerant usage. Scoping Plan measures regarding motor vehicle fuel efficiency apply to vehicle manufacturers, but result in lower emissions from vehicles accessing the project site. The Renewable Portfolio Standard applies to electric utilities, but reduce emissions related to electricity used by the project. Transportation sector measures from the Scoping Plan are also implemented through SB 375—The Sustainable Communities and Climate Protection Act of 2008 which targets emissions from the transportation system through actions that make transportation more efficient at the regional level. Individual development projects have no direct requirements from SB 375 but may benefit from being located in areas designated as Transit Priority Areas and from systemwide infrastructure improvements that reduce congestion and improve traffic flow for all system users.

Development projects are constructed to accommodate California’s population and economic growth accounted for by the Scoping Plan. As described above, the regulations implementing the Scoping Plan touch many of the operations of the buildings and the day-to-day activities of people that will work and shop at the project. Most of the greenhouse gas regulations apply behind the scenes so that end users of the project do not notice them except to the extent that the types of cars available for purchase are more fuel efficient. The developer is directly impacted by building energy efficiency and conservation regulations that must be followed during building construction. The cost of the efficiency measures is built into the construction cost of the building and rents but the owners and tenants benefit from lower energy bills and water bills resulting from the increased energy efficiency.

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 2008 Scoping Plan included 18 measures to reduce emissions from the various sectors. The measures often overlap and have interdependent relationships with other measures as described earlier. The measures are implemented with regulations and programs applicable to specific sources of emissions. More detailed descriptions of the measures are provided in Scoping Plan Appendix C, Sector Overview and Emission Reduction Strategies. The State has been very aggressive in adopting regulations to implement the Scoping Plan and as a result, the state is on track to achieve the 2020 target as discussed above.

Most of the reductions required to reach the 2020 reduction target will be achieved by regulations that apply to both existing and new development. These regulations include the RPS, Pavley standards, low carbon fuel standard (LCFS), landfill regulations, regulations and programs on high global warming potential (GWP) gases, initiatives on water conservation (such as SB X7-7), and the indirect influence of the Cap and Trade system on electricity and transportation fuel prices.

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

Transportation

Approximately 90 percent of the project's opening year GHG emissions as summarized in Table 3.7-3 are from transportation (mobile sources), heavy-duty trucks in particular. 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 will be subject to and therefore not conflict with these transportation measures.

State Regulations/Scoping Plan Measures

Adopted regulations that will reduce the project's GHG emissions through engine emission standards and fuel requirements are described in detail in Section 3.7.2 above. These regulations are discussed in the following paragraphs.

California Light-Duty Vehicle Greenhouse Gas Standards

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

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards will result in about a 22-percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards will result in about a 30-percent reduction. 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.

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 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 (LCFS)

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, ARB 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. The project is consistent with this measure and its intended implementation, since the project will be required to become a SmartWay Partner. The facility operator will be required to incorporate incentives and requirements such that a maximum feasible number of truck trips will be carried by SmartWay 1.0 or greater carriers pursuant to MM AQ-1g(e) and MM AQ-1g(f).

Cap-and-Trade Program

Notably, the Cap-and-Trade Program covers transportation fuel suppliers to address emissions from 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 until 2015. The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether the fuels are refined in-state or imported. The point of regulation for transportation fuels is when they are supplied or delivered into commerce. Accordingly, 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 ARB Cap-and-Trade Program do not count against the 10,000 MT CO₂e 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 one issue a step further and adopted a policy: "CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation." This policy applies when the SJVAPCD is the lead agency and when it is a responsible agency. In short, the SJVAPCD "has determined that GHG emissions increases that are covered under ARB's Cap-and-Trade regulation cannot constitute significant increases under CEQA...." The SJVAPCD classifies ARB's Cap-and-Trade Program as an approved GHG emission reduction plan or GHG mitigation program under CEQA Guidelines Section 15064(h) (3). The policy acknowledges that "combustion of fossil fuels including transportation fuels used in California (on and off road including locomotives), not directly covered at large sources, are subject to Cap-and-Trade requirements, with compliance obligations starting in 2015." As such, the SJVAPCD concludes that GHG emissions

associated with VMT cannot 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.

The proposed project has a large mobile source component and Cap-and-Trade emission reductions are difficult to calculate on a project-level; thus, the proposed project's mobile source emissions are 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.

Regional and Local Measures

Southern California is a major hub for importing and exporting goods. Southern California Association of Governments estimates that over \$2 trillion in cargo was moved across the region in 2010 alone, much of which travels through inland Southern California, including Western Riverside County. However, the many warehouses and distribution facilities employ non-passenger vehicles that contribute to GHG emissions. At the state level, more standards are being implemented to increase vehicle efficiencies and the 2016 Regional Transportation Plan/Sustainable Community Strategy and SCAQMD are supporting greater use of low-emission trucks in the region. While goods will continue to be moved to support local and regional economies, electrification and other low-emission technologies installed in vehicles can reduce the GHG emissions of goods movement.

The Inland Empire is the heart of the region's warehouse Goods Movement network for goods that enter the Ports and are moved east to the rest of the country. The entire Goods Movement network is based on the Ports of Los Angeles/Long Beach (Ports of LA/LB) and all truck trips generated by the project are conservatively assumed to come from the Ports of LA/LB. The Ports have adopted several plans and policies to reduce GHG emissions including Green LA: An Action Plan to Lead the Nation in Fighting Global Warming, the Port of LA CAP, the Long Beach Sustainable City Action Plan, and the San Pedro Bay Ports Clean Air Action Plan.

As identified in the Riverside County CAP, the County has adopted several General Plan Policies that reduce automobile use and consequently GHG emissions, these measures go above and beyond the regulatory requirements of AB 32. A summary of applicable measures identified in the CAP are as follows:

R2-T1: Employment Based Trip and VMT Reduction

This measure would implement General Plan Policies AQ 3.3, AQ 10.1, AQ 10.3, and AQ 10.4 through the adoption of a voluntary trip reduction program for new commercial and industrial development that promotes commuter choices, employer transportation management, guaranteed ride home programs and commuter assistance and outreach type programs intended to reduce commuter vehicle miles traveled. The project is consistent with this measure and its intended implementation as the project will be required to participate in Riverside County's Rideshare Program pursuant to MM AQ-1h(a).

R2-T4: Preferential Parking

This measure would implement General Plan Policies AQ 3.3 and AQ 10.3 by encouraging proposed development projects to incorporate a comprehensive parking program to facilitate carpooling and alternate transportation. The project is consistent with this measure and its intended implementation as the project will be required, pursuant to MM AQ-1h(a), and MM AQ-1h(b), to install a minimum of two electric-vehicle charging stations per building, and each building shall provide preferred parking for low-emitting and fuel-efficient vehicles equivalent to 5 percent of the required number of parking spaces.

R2-T5: Roadway Improvements Including Signal Synchronization and Transportation Flow Management

This R2 measure would implement General Plan Policies AQ 12.1 and AQ 12.3. Proposed development projects pay fare-share fees toward signal synchronization improvements or construct signalized intersections within a traffic signal synchronization system. These modifications include, but are not limited to, synchronization of signals, improvement of traffic flow, the development of parallel roadways and support for the extension of freight rail into Riverside County's industrial areas. The project is consistent with this measure as it will implement any required traffic signal synchronization or construction of new traffic signals as identified in the project's traffic impact analysis.

Project Design Features and Mitigation Measures

Lastly, the project will incorporate several project design features and mitigation measures that will further reduce the project's GHG emissions from transportation. These measures further support the AB 32/Scoping Plan reduction goals. A summary of mitigation measures that will reduce transportation-related GHG emissions are as follows:

MM AQ-1b All Heavy-Heavy Duty Haul Trucks (HHD) accessing the project site during construction shall use year 2007 or newer engines during all construction activities.

MM AQ-1g The project shall implement the following measures to reduce emissions from on-site heavy duty trucks within six months after operations commence:

- a) Post signs in all dock and delivery areas containing the following: truck drivers shall turn off engines when not in use (as by law, trucks shall not idle for more than five minutes); telephone numbers of the building facilities manager and the California Air Resources Board to report violations;
- c) Tenants shall maintain records on its fleet equipment and vehicle engine maintenance to ensure that equipment and vehicles serving the warehouses within the project are in good condition, and in proper tune pursuant to manufacturer's specifications. Tenants shall maintain records on its fleet equipment and ensure that all Heavy-Heavy Duty Trucks (HHD) accessing the project site use year 2010 or newer engines. The records shall be maintained on-site and be made available for inspection by the County;
- d) The facility operator will ensure that site enforcement staff in charge of keeping the daily log and monitoring for excess idling will be trained/certified in diesel health effects and technologies, for example, by requiring attendance at California Air Resources Board approved courses (such as the free, one-day Course #512);
- e) Require facility operator to become a SmartWay Partner; and

- f) Require facility operator to incorporate incentives and requirements such that the maximum feasible number of truck trips will be carried by SmartWay 1.0 or greater carriers.

MM AQ-1h The following measures shall be incorporated into each building to reduce motor vehicle emissions:

- a) All tenants shall participate in Riverside County's Rideshare Program. The purpose of the program would be to discourage single-occupancy vehicle trips and encourage alternate modes of transportation such as carpooling, transit, walking, and biking. The program shall provide employees with assistance in using alternate modes of travel, including carpooling encouragement, ride-matching assistance, and vanpool assistance;
- b) A minimum of two electric vehicle-charging stations for automobiles or light-duty trucks shall be provided at each building;
- c) Each building shall provide secure bicycle storage space equivalent to two percent of the automobile parking spaces provided;
- d) Each building shall provide a minimum of two shower and changing facilities within 200 yards of a building entrance;
- e) Each building shall provide preferred parking for electric, low-emitting, and fuel-efficient vehicles equivalent to five percent of the required number of parking spaces.
- f) All on-site forklifts and yard trucks shall be electric with the necessary electrical charging stations provided.

Energy

The second largest source, approximately 7 percent, of GHG emissions shown in Table 3.7-3 from the project is energy consumption from electricity and natural gas.

State Regulations/Scoping Plan Measures

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 policies reduce GHG emissions at the source, the project will be subject to and therefore implement these energy measures.

Energy Efficiency—Title 24/CalGreen

As previously discussed in Section 3.7.2, the CEC indicates that the 2013 Title 24 standards will reduce energy consumption by 30 percent above that achieved by 2008 Title 24 (CEC 2012). More specifically, based on a comparison of 2008 to 2013 Title 24 reductions required, newly constructed non-residential buildings result in an overall reduction of approximately 22 percent energy demand. Additionally, the 2013 Title 24 standards currently in effect yield an approximately 68 percent energy savings when compared with the 2005 Title 24 standards (in place pre-AB 32)¹¹.

¹¹ See Table 2: Summary of First-Year-Electricity Savings in the Impact Analysis 2008 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings, November 2007. See Table 2: Summary of First-Year-Electricity Savings in the California Energy Commission's Consultant Report: Impact Analysis California's 2013 Building Energy Efficiency Standards, July 2013.

At this time, the 2013 Title 24 standards are currently in effect; notwithstanding, it is likely that by the time the building permits are processed for this Project, the 2016 Title 24 standards will be in effect (the 2016 Title 24 standards take effect on January 1, 2017). The analysis did not take any credit for implementation of the more restrictive 2016 Title 24 standards for which the CEC estimates will provide 5 percent electric energy savings from non-residential buildings compared to 2013 Title 24.¹²

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

As previously described above in Section 3.7.2, California's 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 be built so that it incorporates solar panels on its roofs, which will provide approximately 23 percent of the project's power needs.

Regional and Local Measures

As identified in the Riverside County CAP, the County has adopted several General Plan Policies that reduce energy use and consequently GHG emissions, these measures go above and beyond the regulatory requirements of AB 32. A summary of applicable measures identified in the CAP are as follows:

R2-E5: Commercial/Industrial Energy Efficiency Program

This R2 measure would implement General Plan Policies AQ 5.2, AQ 5.4, LU 4.1e, OS 16.1 and OS 16.9. This measure involves the adoption of a Riverside County Program that facilitates the energy efficient design for new commercial buildings so that new commercial buildings are 5 percent to 20 percent more efficient than the current Title 24 Standards. The high end of this voluntary energy

¹² See CEC 2015. 2016 Building Energy Efficiency Standards Adoption Hearing Presentation. Website: http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2015-06-10_hearing/2015-06-10_Adoption_Hearing_Presentation.pdf. Accessed May 11, 2016.

efficiency program is 10 percent greater than the minimum requirements of the LEED and ENERGY STAR programs. As energy efficiency standards increase, Riverside County may want to periodically re-evaluate their percentage beyond Title 24 goal to ensure it is still a feasibly achievable goal.

Commercial developments within the unincorporated portions of Riverside County are encouraged to participate in the voluntary Commercial Energy Efficiency Program. This voluntary program would set a minimum goal of achieving energy efficiency of 5 percent greater than current Title 24 Standards. Incentives to participate in this volunteer program would include prioritization and streamlining of the application process for commercial/industrial projects that achieve the minimum goal. The project is consistent with this measure as it will exceed the Title 24 Standards by a minimum of 5 percent pursuant to the Riverside County CAP Checklist implementation identified on Table 3.7-4 previously presented.

R2-E6: Commercial/Industrial Renewable Energy Program

This R2 measure will implement General Plan Policies OS 10.1, OS 11.2 and OS 11.3, and incorporate on-site renewable (solar or other renewable) energy generation into the construction of new commercial, office and industrial development.

The project is consistent with this measure as the project includes the use of solar panels on its roofs, which will provide approximately 23 percent of the project's power needs.

Project Design Features

Lastly, as identified in the Project Description, Section 2.3.1 of the DEIR, the project will construct buildings that will also be designed to provide CalGreen Standards with Leadership in Energy and Environmental Design (LEED) to be eligible for a Silver Certification level. 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.

For future office improvement, refrigerants and HVAC equipment will be selected to minimize or eliminate the emission of compounds that contribute to ozone depletion and global warming. Ventilation and HVAC systems will be designed to meet or exceed the minimum outdoor air ventilation rates described in the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) standards and/or per California Title 24 requirements. Additionally, the proposed project will implement design features for future office improvement to increase the efficiency of the building envelope (i.e., the barrier between conditioned and unconditioned spaces). This includes installation of insulation to minimize heat transfer and thermal bridging and to limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption.

Water

GHG emissions also result from electricity consumption related to water supply, treatment, and distribution, as well as wastewater treatment. As shown in Table 3.7-3, the project's GHG emissions related to water consumption are less than one percent of total GHG emissions.

State Regulations/Scoping Plan Measures

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 MMT CO₂e, 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 (MWELo) 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 MWELo by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are anticipated when projects comply 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 MWELo through expedited regulation. The California Water Commission approved the revised MWELo 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 MWELo.

The project is required to comply with the MWELo as required by Riverside County Ordinance 859.2. This compliance 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 Riverside County CAP Checklist implementation identified on Table 3.7-4 previously presented.

Regional and Local Measures

As identified in the Riverside County CAP, the County has adopted several General Plan Policies (in addition to Riverside County Ordinance No. 859, which requires water-efficient landscaping) that reduce water use and consequently GHG emissions, these measures go above and beyond the regulatory requirements of AB 32. A summary of applicable measures identified in the CAP are as follows:

R2-W1: Water Use Reduction Initiative

This measure would implement General Plan Policies LU 4.1d and f, C 5.2 and OS 2.1 through OS 2.4 and provide incentives for all new proposed development projects to comply with the California Green Building Standards Code. Under the California Green Building Code, new developments are required to reduce indoor potable water use by 20 percent beyond the Energy Policy Act of 1992 fixture performance requirements. New developments are to reduce outdoor potable water use by 50 percent from a mid-summer baseline average consumption through irrigation efficiency, native

plant selection, and the use of recycled water and/or captured rainwater, for example. The State is dependent upon local water purveyors and jurisdictions to implement these new requirements.

The project is consistent with this measure as it will provide water efficient landscaping, irrigation, showerheads, toilets, and faucets pursuant to the Riverside County CAP Checklist implementation identified on Table 3.7-4 previously presented.

Project Design Features/Mitigation

The proposed project will implement a drought tolerant landscape plan that identifies the use of drought tolerant plants. The project will also provide water efficient landscaping, irrigation, showerheads, toilets, and faucets pursuant to the Riverside County CAP Checklist implementation identified on Table 3.7-4 previously presented.

Waste Diversion

Disposal of solid waste in landfills contributes approximately three percent of GHG emissions from the project as shown on Table 3.7-3.

State Regulations/Scoping Plan

The ARB Scoping Plan recommends three measures for reducing emissions from Municipal Solid Waste at the state level, including (1) landfill methane control; (2) increase the efficiency of landfill methane capture; and (3) high recycling/zero waste. ARB developed a discrete early action program for methane recovery and it was adopted in early 2010. This measure is expected to result in a 1.0 MMT CO₂e reduction by 2020. Other measures proposed by ARB include increasing efficiency of landfill methane capture and instituting high recycling/zero waste policies. Potential reductions associated with these measures are still to be determined.

Implementation of the CalGreen code and state measures reduce the amount of solid waste disposed 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 include a provision declaring that it is the policy goal of the state that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020, and annually thereafter. The proposed project is subject to these regulations as well as SB 341's policy goal and these regulations will further reduce GHG emissions.

Regional and Local Measures

As identified in the Riverside County CAP, the County has adopted several General Plan Policies that reduce waste and consequently GHG emissions; these measures exceed the regulatory requirements of AB 32. A summary of applicable measures identified in the CAP are as follows:

R2-S1: County Diversion Program

This R2 measure would implement General Plan Policy AQ 5.1 through a countywide waste diversion plan to exceed the state requirements by diverting 75 percent of all waste from landfills by 2020. The following is a potential list of waste reduction measures incorporated into development projects that will further strengthen existing waste reduction/diversion programs:

- Encourage commercial, office, and industrial development to adopt a voluntary procurement standard and prioritize those products that have less packaging, are reusable, recyclable, or compostable;
- Include recycling and green waste collection infrastructure (assigned areas with separate designated bins for each type of recycled material) within residential, commercial, and industrial development;
- Require a minimum of 15 percent of materials used in construction be sourced locally, as feasible; and
- Encourage the use of recycled building materials and cement substitutes for new developments.

The project is consistent with this measure, as it will provide separated recycling bins within each building and a large external recycling collection bin. The project will also implement and develop a plan to recycle a minimum of 20 percent of construction debris pursuant to the Riverside County CAP Checklist implementation identified on Table 3.7-4 previously presented.

Project Design Features/Mitigation

As discussed previously, the project will provide separated recycling bins within each building and a large external recycling collection bin, the project will also implement and develop a plan to recycle a minimum of 20 percent of construction debris pursuant to the Riverside County CAP Checklist implementation identified on Table 3.7-4 previously presented.

Consistency with Executive Orders S-3-05 and B-30-15 and Senate Bill 32

At the state level, Executive Orders S-3-05 and B-30-15 are orders from the State's Executive Branch to reduce GHG emissions. The goal of Executive Order S-3-05 is to reduce GHG emissions to 1990 levels by 2020 was 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. SB 32, which was passed in August 2016 and went into effect on January 1, 2017, sets a target of a 40 percent reduction below 1990 levels by 2030. 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, ARB 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, ARB generally described the type of activities required to achieve the 2050 target. These activities include "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." Because of the technological shifts required and the unknown parameters of the regulatory framework in 2030 and 2050, quantitatively analyzing the project's impacts further relative to the 2030 and 2050 goals is speculative for purposes of CEQA. Moreover,

ARB has not calculated and released the BAU emissions projections for 2030 or 2050, which are necessary data points for quantitatively analyzing a CEQA project's consistency with these targets.

Although the proposed project's emissions levels in 2030 and 2050 currently have not been reliably quantified, statewide efforts are underway to facilitate the State's achievement of that goal. It is reasonable to expect the proposed project's emissions level (14,008 metric tons of CO₂e per year) to decline as the regulatory initiatives identified by ARB in the First Scoping Plan Update are implemented, and other technological innovations occur. Stated differently, the proposed project's emissions total presented in Table 3.6-7, represents the assumed emissions inventory for the project as California's emissions sources are being regulated (and foreseeably expected to continue to be regulated in the future) in furtherance of the State's environmental policy objectives. As such, the proposed project is consistent with the Executive Orders' goals because future regulations will require operating facilities to continue to reduce GHG emissions from existing and proposed facilities to meet stated GHG reduction goals. The Scoping Plan recognizes that AB 32 establishes an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [greenhouse gas emission reduction] measures also put the state on a path to meet the long-term 2050 goal of reducing California's greenhouse gas emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate." In addition, ARB's First Update "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by ARB would serve to reduce the proposed project's post-2020 emissions level to the extent applicable by law:

1. Energy Sector: Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the proposed Project's emissions level. Additionally, further additions to California's renewable resource portfolio would favorably influence the proposed Project's emissions level.
2. Transportation Sector: Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the proposed Project's emissions level.
3. Water Sector: The proposed Project's emissions level will be reduced as a result of further desired enhancements to water conservation technologies.
4. Waste Management Sector: Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the proposed Project's emissions level.

While the 2020 cap would remain in effect post-2020, additional GHG emissions reductions are not planned beyond 2020. However, ARB has expressed its intention to extend the Cap-and-Trade Program beyond 2020 in conjunction with setting a mid-term target. The "recommended action" in the First Update for the Cap-and-Trade Program is to "Develop a plan for a post-2020 Cap-and-Trade Program, including cost containment, to provide market certainty and address a mid-term emissions target." The "expected completion date" for this recommended action is 2017. In addition to ARB's First Update, in January 2015, during his inaugural address, Governor Jerry Brown expressed a commitment to achieve

“three ambitious goals” that he would like to see accomplished by 2030 to reduce the State’s GHG emissions. These goals include (1) increasing the State’s Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030; (2) cutting the petroleum use in cars and trucks in half; and (3) doubling the efficiency of existing buildings and making heating fuels cleaner. These expressions of Executive Branch policy may be manifested in adopted legislative or regulatory action through the state agencies and departments responsible for achieving the State’s environmental policy objectives, particularly those relating to global climate change (Brown 2015). 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, and to 80 percent below 1990 levels by 2050.

Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050. This suggests that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target (Energy and Economics [2015]).

Given the proportional contribution of mobile source-related GHG emissions to the State’s inventory, recent studies also show that relatively new trends are beginning to influence to a large degree transportation choices and the energy used by transportation modes. These trends include the increasing importance of web-based shopping, the emergence of different driving patterns by the “millennial” generation and the increasing effect of Web-based applications on transportation choices.. These factors have changed the direction of transportation trends in recent years, and will require the creation of new models to effectively analyze future transportation patterns and the corresponding effect on GHG emissions. For the reasons described above, the proposed Project’s post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets.

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed. However, operation of the project will comply with whatever future regulatory measures enacted by state lawmakers that would lead to an 80-percent reduction below 1990 levels by 2050. Note again that the project already includes several project design features that exceed regulatory requirements and reduce vehicle miles traveled.

Based on the proposed project’s emission reductions, project design features, standard mitigation measures and the progress being made by the State towards reducing emissions in key sectors (such as transportation, industry, and electricity generation), the project furthers the State’s goals of reducing greenhouse gas emissions to 1990 levels by 2020. The proposed project also obtains an 80-percent reduction below 1990 levels by 2050, and does not obstruct the attainment of these GHG levels.

Summary

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 and mitigation measures 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. 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. Therefore, the project does not conflict with any plans to reduce GHG emissions and furthers the State's goals relative to this impact. The impact would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.