IV. Environmental Impact Analysis

E. Greenhouse Gas Emissions

1. Introduction

This section compares the Project's characteristics with applicable regulations, plans, and policies set forth by the State of California, the Southern California Association of Governments (SCAG) and the City to reduce greenhouse gas (GHG) emissions to determine whether the Project is consistent with and/or would conflict with the provisions of these plans. To assist in analyzing the Project's potential to conflict with applicable regulations, plans and policies, this section also estimates the Project's GHG emissions generated by Project construction and operations, taking into account mandatory and voluntary energy and resource conservation measures that have been incorporated into the Project to reduce GHG emissions. The GHG data supporting this section is included as **Appendix B** of this Draft EIR.

2. Environmental Setting

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and severe weather events. Global warming, a related concept, is the observed increase in average temperature of Earth's surface and atmosphere. One identified cause of global warming is an increase of GHGs in the atmosphere. GHGs are those compounds in Earth's atmosphere that play a critical role in determining Earth's surface temperature.

Earth's natural warming process is known as the "greenhouse effect." It is called the greenhouse effect because Earth and the atmosphere surrounding it are similar to a greenhouse with glass panes in that the glass allows solar radiation (sunlight) into Earth's atmosphere but prevents radiative heat from escaping, thus warming Earth's atmosphere. Some levels of GHGs keep the average surface temperature of Earth close to a hospitable 60 degrees Fahrenheit. However, as GHG from human activities increase, they build up in the atmosphere and warm the climate, leading to many other changes around the world - in the atmosphere, on land, and in the oceans, with associated adverse climatic and ecological consequences.[1]

Scientists studying the particularly rapid rise in global temperatures have determined that human activity has resulted in increased emissions of GHGs, primarily from the burning of fossil fuels (from motor vehicle travel, electricity generation, consumption of natural gas, industrial activity, manufacturing, etc.), deforestation, agricultural activity, and the decomposition of solid waste.

[1] *USEPA, Climate Change Indicators: Greenhouse Gases, https://www.epa.gov/climate-indicators/greenhouse-gases, accessed December 2021.*

Scientists refer to the global warming context of the past century as the "enhanced greenhouse effect" to distinguish it from the natural greenhouse effect.[2]

Global GHG emissions due to human activities have grown since pre-industrial times. As reported by the United States Environmental Protection Agency (USEPA), global carbon emissions from fossil fuels increased by over 16 times between 1900 and 2008 and by about 43 percent between 1990 and 2015. In addition, in the Global Carbon Budget 2019 report, published in December 2019, atmospheric carbon dioxide (CO_2) concentrations in 2018 were found to be 47 percent above the concentration at the start of the Industrial Revolution, and the present concentration is the highest during at least the last 800,000 years.[3] Global increases in CO_2 concentrations are due primarily to fossil fuel use, with land use change providing another significant but smaller contribution. Regarding emissions of non-CO_2 GHGs, these have also increased significantly since 1990.[4] In particular, studies have concluded that it is very likely that the observed increase in methane (CH_4) concentration is predominantly due to agriculture and fossil fuel use.[5]

In August 2007, international climate talks held under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC) led to the official recognition by the participating nations that global emissions of GHG must be reduced. According to the "Ad Hoc Working Group on Further Commitments of Annex I Parties under the Kyoto Protocol," avoiding the most catastrophic events forecast by the United Nations Intergovernmental Panel on Climate Change (IPCC) would entail emissions reductions by industrialized countries in the range of 25 to 40 percent below 1990 levels. Because of the Kyoto Protocol's Clean Development Mechanism, which gives industrialized countries credit for financing emission-reducing projects in developing countries, such an emissions goal in industrialized countries could ultimately spur efforts to cut emissions in developing countries as well.[6]

In December 2015, the US entered into the Paris Agreement which has a goal of keeping a global temperature rise this century below 2 degrees Celsius above pre-industrial levels and limit the temperature increase further to 1.5 degrees Celsius. This agreement requires that all parties report regularly on emissions and implementation efforts to achieve these goals.

Regarding the adverse effects of global warming, as reported by SCAG:

> *Global warming poses a serious threat to the economic well-being, public health and natural environment in southern California and beyond. The potential adverse impacts of global warming include, among others, a reduction in the quantity and quality of water supply, a rise in sea level, damage to marine and other ecosystems, and an increase in*

[2] *Pew Center on Global Climate Change, Climate Change 101: Understanding and Responding to Global Climate Change.*

[3] *P. Friedlingstein et al.: Global Carbon Budget 2019, 2019.*

[4] *USEPA, Global Greenhouse Gas Emissions Data, www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data, Accessed December 2021.*

[5] *USEPA, Climate Change Indicators: Atmospheric Concentrations of Greenhouse Gas, updated April 2021.*

[6] *United Nations Framework Convention on Climate Change, Press Release—Vienna UN Conference Shows Consensus on Key Building Blocks for Effective International Response to Climate Change, August 31, 2007.*

the incidences of infectious diseases. Over the past few decades, energy intensity of the national and state economy has been declining due to the shift to a more service-oriented economy. California ranked fifth lowest among the states in CO_2 emissions from fossil fuel consumption per unit of Gross State Product. However, in terms of total CO_2 emissions, California is second only to Texas in the nation and is the 12th largest source of climate change emissions in the world, exceeding most nations. The SCAG region, with close to half of the state's population and economic activities, is also a major contributor to the global warming problem.[7]

a) GHG Fundamentals

GHGs are those compounds in the Earth's atmosphere that play a critical role in determining temperature near the Earth's surface. GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).[8] More specifically, these gases allow high-frequency shortwave solar radiation to enter the Earth's atmosphere, but retain some of the low frequency infrared energy which is radiated back from the Earth towards space, resulting in a warming of the atmosphere. Compounds that are regulated as GHGs are discussed in **Table IV.E-1, Description of Identifies GHGs**.

Table IV.E-1
Description of Identified Greenhouse Gases [a]

GHG	General Description
Carbon Dioxide (CO_2)	An odorless, colorless GHG, which has both natural and anthropocentric sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human-caused) sources of CO_2 are burning coal, oil, natural gas, and wood.
Methane (CH_4)	A flammable gas and the main component of natural gas. When one molecule of CH_4 is burned in the presence of oxygen, one molecule of CO_2 and two molecules of water are released. A natural source of CH_4 is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain CH_4, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle.
Nitrous Oxide (N_2O)	A colorless GHG. High concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used in rocket engines, race cars, and as an aerosol spray propellant.

[7] *SCAG, The State of the Region—Measuring Regional Progress, December 2006, p. 121.*
[8] *As defined by California Assembly Bill (AB) 32 and Senate Bill (SB) 104.*

Table IV.E-1
Description of Identified Greenhouse Gases [a]

GHG	General Description
Hydrofluorocarbons (HFCs)	Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are non-toxic, non-flammable, insoluble, and chemically unreactive in the troposphere (the level of air at Earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. Because they destroy stratospheric ozone, the production of CFCs was stopped as required by the Montreal Protocol in 1987. HFCs are synthetic man-made chemicals that are used as a substitute for CFCs as refrigerants. HFCs deplete stratospheric ozone, but to a much lesser extent than CFCs.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane and hexafluoroethane. The two main sources of PFCs are primary aluminum production and semi-conductor manufacturing.
Sulfur Hexafluoride (SF_6)	An inorganic, odorless, colorless, non-toxic, and non-flammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.
Nitrogen Trifluoride (NF_3)	An inorganic, non-toxic, odorless, non-flammable gas. NF_3 is used in the manufacture of semi-conductors, as an oxidizer of high energy fuels, for the preparation of tetrafluorohydrazine, as an etchant gas in the electronic industry, and as a fluorine source in high power chemical lasers.

a GHGs identified in this table are ones identified in the Kyoto Protocol and other synthetic gases recently added to the IPCC's Fifth Assessment Report.
Source: Association of Environment Professionals, Alternative Approaches to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, Final, June 29, 2007; United States Environmental Protection Agency, Acute Exposure Guideline Levels for Nitrogen Trifluoride, January 2009.

Not all GHGs possess the same ability to induce climate change. Carbon dioxide is the most abundant GHG in Earth's atmosphere. Other GHGs are less abundant but have higher global warming potential (GWP) than CO_2. Thus, emissions of other GHGs are commonly quantified in the units of equivalent mass of carbon dioxide (CO_2e). GWP is based on several factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO_2, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years otherwise referred to as atmospheric lifetime) relative to that of CO_2.

The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time.[9] These GWP ratios are available from the Intergovernmental Panel on Climate Change (IPCC). Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report (SAR). The IPCC updated the GWP values in its Fourth Assessment Report (AR4). The GWPs in the IPCC AR4 are used by CARB for reporting Statewide GHG emissions inventories, consistent with international reporting standards. By applying the GWP

[9] *GWPs and associated CO2e values were developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) in 1996. Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's SAR. The IPCC updated the GWP values based on the latest science in its Fourth Assessment Report (AR4). CARB has begun reporting GHG emission inventories for California using the GWP values from the IPCC AR4.*

ratios, Project-related CO_2e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline.

The IPCC has issued an updated Fifth Assessment Report (AR5), which has revised down the majority of the GWP for key regulated pollutants. As CARB still uses AR4 values and the modeling software CalEEmod is built on these assumptions, AR4 GWP values are used for the Project. Generally, the changes from AR4 to AR5 are reductions in warming potential for the GHG most associated with construction and operation of typical development projects. The GWP from AR4 and AR5 and atmospheric lifetimes for key regulated GHGs are provided in **Table IV.E-2, Atmospheric Lifetimes and Global Warming Potentials**.

Table IV.E-2
Atmospheric Lifetimes and Global Warming Potentials

GHG	Atmospheric Lifetime (Years)	Global Warming Potential (100-Year) (AR4 Assessment)	Global Warming Potential (100-Year) (AR5 Assessment)
Carbon Dioxide (CO_2)	50-200	1	1
Methane (CH_4)	12 (+/-3)	25	28
Nitrous Oxide (N_2O)	.114	298	265
HFC-23: Fluoroform (CHF_3)	270	14,800	12,400
HFC-134a: 1,1,1,2-Tetrafluoroethane (CH_2FCF_3)	14	1,430	1,300
HFC-152a: 1,1-Difluoroethane ($C_2H_4F_2$)	1.4	124	138
PFC-14: Tetrafluoromethane (CF_4)	50,000	7,390	6,630
PFC-116: Hexafluoroethane (C_2F_6)	10,000	12,200	11,100
Sulfur Hexafluoride (SF_6)	3,200	22,800	23,500
Nitrogen Trifluoride (SF_6)	740	17,200	16,100
Source: IPCC, Climate Change 2007: Working Group I: The Physical Science Basis, Direct Global Warming Potentials.			

b) Projected Impacts of Global Warming in California

In 2009, California adopted a statewide Climate Adaptation Strategy (CAS) that summarizes climate change impacts and recommends adaptation strategies across seven sectors: Public Health, Biodiversity and Habitat, Oceans and Coastal Resources, Water, Agriculture, Forestry, and Transportation and Energy. The California Natural Resources Agency will be updating the CAS and is responsible for preparing reports to the Governor on the status of the CAS. The Natural Resources Agency has produced climate change assessments which detail impacts of global warming in California.[10] These include:

- Sea level rise, coastal flooding and erosions of California's coastlines would increase, as well as sea water intrusion;
- The Sierra snowpack would decline between 70 and 90 percent, threatening California's water supply;

[10] *State of California, Department of Justice, Office of the Attorney General, Climate Change Impacts in California, https://oag.ca.gov/environment/impact, Accessed December 2021.*

- Higher risk of forest fires resulting from increasing temperatures and making forests and brush drier. Climate change will affect tree survival and growth;
- Attainment of air quality standards would be impeded by increasing emissions, accelerating chemical processes, and raising inversion temperatures during stagnation episodes resulting in public health impacts;
- Habitat destruction and loss of ecosystems due to climate changing affecting plans wildlife habitats;
- Global warming can cause drought, warmer temperatures, and salt water contamination, resulting in impacts to California's agricultural industry.

With regard to public health, as reported by the Center for Health and the Global Environment at the Harvard Medical School, the following are examples of how climate change can affect cardio-respiratory disease: (1) pollen is increased by higher levels of atmospheric CO2; (2) heat waves can result in temperature inversions, leading to trapped masses or unhealthy air contaminants by smog, particulates, and other pollutants; and (3) the incidence of forest fires is increased by drought secondary to climate change and to the lack of spring runoff from reduced winter snows. These fires can create smoke and haze, which can settle over urban populations causing acute and exacerbating chronic respiratory illness.[11]

c) Regulatory Framework

There are a number of plans, regulations, programs, and agencies that provide policies, requirements, and guidelines regarding GHG emissions at the federal, state, regional, and local levels. As described below, these plans, guidelines, and laws include the following:

- Federal Clean Air Act
- Corporate Average Fuel Economy (CAFE) Standards
- Energy Independence and Security Act
- California Air Resources Board
- California Greenhouse Gas Reduction Targets
- California Global Warming Solutions Act (AB 32)
- Climate Change Scoping Plan
- Cap-and-Trade Program
- Emission Performance Standards
- Renewables Portfolio Standard Program
- Clean Energy and Pollution Reduction Act
- Pavley Standards
- California Low Carbon Fuel Standard
- Advanced Clean Cars Regulations
- Sustainable Communities and Climate Protection Act (SB 375)
- Senate Bill 743

[11] *Paul R. Epstein, et al., Urban Indicators of Climate Change, Report from the Center for Health and the Global Environment, Harvard Medical School and the Boston Public Health Commission, August 2003, unpaginated.*

- Executive Order N-79-20
- California Appliance Efficiency Regulations
- Title 24, Building Standards Code and CALGreen Code
- CEQA Guidelines
- South Coast Air Quality Management District
- Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy
- Green New Deal
- City of Los Angeles Green Building Code
- City of Los Angeles Solid Waste Programs and Ordinances
- City of Los Angeles General Plan
- Traffic Study Policies and Procedures

(1) Federal

(a) Federal Clean Air Act

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The United States Supreme Court (Supreme Court) ruled in *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007), that CO_2 and other GHGs are pollutants under the federal Clean Air Act (CAA), which the USEPA must regulate if it determines they pose an endangerment to public health or welfare. In December 2009, U.S. EPA issued an endangerment finding for GHGs under the Clean Air Act, setting the stage for future regulation.

The Federal Government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

(b) Corporate Average Fuel Economy (CAFE) Standards

In response to the *Massachusetts v. Environmental Protection Agency* ruling, President George W. Bush issued Executive Order 13432 in 2007, directing the USEPA, the United States Department of Transportation (USDOT), and the United States Department of Energy (USDOE) to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. The National Highway Traffic Safety Administration (NHTSA) subsequently issued multiple final rules regulating fuel efficiency for and GHG emissions from cars and light-duty trucks for model year 2011 and later for model years 2012-2016, and 2017-2021. In March 2020, the USDOT and the USEPA issued the final Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, which amends existing CAFE standards and tailpipe carbon dioxide

emissions standards for passenger cars and light trucks and establishes new standards covering model years 2021 through 2026.[12] These standards set a combined fleet wide average of 36.9 to 37 for the model years affected.[13]

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011 the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the USEPA, this regulatory program would reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines. Building on the first phase of standards, in August 2016, the EPA and NHTSA finalized Phase 2 standards for medium and heavy-duty vehicles through model year 2027 that will improve fuel efficiency and cut carbon pollution. The Phase 2 standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons.[14]

(c) Energy Independence and Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;

- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;

- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and

- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

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[12] *United States Environmental Protection Agency, Final Rule for Model Year 2021 - 2026 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, published April 30, 2020.*

[13] *National Highway Traffic Safety Administration (NHTSA), Corporate Average Fuel Economy standards.*

[14] *U.S. EPA, EPA and NHTSA Adopt Standards to Reduce GHG and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles for Model Year 2018 and Beyond, August 2016.*

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."[15]

(2) State

(a) California Air Resources Board

The California Air Resources Board (CARB), a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the Federal Government and the local air districts. The SIP is required for the State to take over implementation of the Federal Clean Air Act. CARB also has primary responsibility for adopting regulations to meet the State's goal of reducing GHG emissions. The State has met its goals to reduce GHG emissions to 1990 levels by 2020. Subsequent State goals include reducing GHG emissions to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.

(b) California Greenhouse Gas Reduction Targets

(i) Executive Order S-3-05

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

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

In accordance with Executive Order S-3-05, the Secretary of CalEPA is required to coordinate efforts of various agencies, which comprise the California Climate Action Team (CAT), in order to collectively and efficiently reduce GHGs. The CAT provides periodic reports to the Governor and Legislature on the State of GHG reductions in the State as well as strategies for mitigating and adapting to climate change.

The CAT stated that smart land use is an umbrella term for strategies that integrate transportation and land-use decisions. Such strategies generally encourage jobs/housing proximity, promote

[15] *A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.*

transit-oriented development (TOD), and encourage high-density residential/commercial development along transit corridors. These strategies develop more efficient land-use patterns within each jurisdiction or region to match population increases, workforce, and socioeconomic needs for the full spectrum of the population.

(ii) Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030:
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

(iii) Executive Order B-55-18

Executive Order B-55-18, issued by Governor Brown in September 2018, establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter. Based on this executive order, CARB would work with relevant state agencies to develop a framework for implementation and accounting that tracks progress towards this goal as well as ensuring future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

(c) California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code (HSC), Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines regulated GHGs as CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 and represents the first enforceable Statewide program to limit emissions of these GHGs from all major industries, with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing State actions that would achieve GHG emissions reductions.

To achieve these goals, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources consistent with the CAT strategies, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. In order to achieve the

reduction targets, AB 32 requires CARB to adopt rules and regulations in an open public process that achieve the maximum technologically feasible and cost-effective GHG reductions.[16]

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amend HSC Division 25.5, establish a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and include provisions to ensure that the benefits of state climate policies reach disadvantaged communities. The new goals outlined in SB 32 update the scoping plan requirement of AB 32 and involve increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

AB 197, signed September 8, 2016, is a bill linked to SB 32 and signed on September 8, 2016, prioritizes efforts to cut GHG emissions in low-income or minority communities. AB 197 requires CARB to make available, and update at least annually, on its website the emissions of GHGs, criteria pollutants, and toxic air contaminants for each facility that reports to CARB and air districts. In addition, AB 197 adds two Members of the Legislature to the CARB board as ex officio, non-voting members and creates the Joint Legislative Committee on Climate Change Policies to ascertain facts and make recommendations to the Legislature and the houses of the Legislature concerning the State's programs, policies, and investments related to climate change.

(d) Climate Change Scoping Plan

AB 32 required CARB to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (HSC section 38561 (h)). The 2008 Climate Change Scoping Plan proposed a "comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health." The 2008 Climate Change Scoping Plan had a range of GHG reduction actions which included direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms, such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

The 2008 Climate Change Scoping Plan called for a "coordinated set of solutions" to address all major categories of GHG emissions. Transportation emissions were addressed through a combination of higher standards for vehicle fuel economy, implementation of the Low Carbon Fuel Standard (LCFS), and greater consideration to reducing trip length and generation through land use planning and transit-oriented development. Buildings, land use, and industrial operations were encouraged and, sometimes, required to use energy more efficiently. Utility energy providers

[16] *CARB's list of discrete early action measures that could be adopted and implemented before January 1, 2010, was approved on June 21, 2007. The three adopted discrete early action measures are: (1) a low-carbon fuel standard, which reduces carbon intensity in fuels statewide; (2) reduction of refrigerant losses from motor vehicle air conditioning system maintenance; and (3) increased methane capture from landfills, which includes requiring the use of state-of-the-art capture technologies.*

were required to include more renewable energy sources through implementation of the Renewables Portfolio Standard. Additionally, the 2008 Climate Change Scoping Plan emphasized opportunities for households and businesses to save energy and money through increasing energy efficiency. It indicates that substantial savings of electricity and natural gas will be accomplished through "improving energy efficiency by 25 percent."

The 2008 Climate Change Scoping Plan identified several specific issues relevant to the development projects, including:

- The potential of using the green building framework as a mechanism, which could enable GHG emissions reductions in other sectors (i.e., electricity, natural gas), noting that:

  A Green Building strategy will produce greenhouse gas savings through buildings that exceed minimum energy efficiency standards, decrease consumption of potable water, reduce solid waste during construction and operation, and incorporate sustainable materials. Combined, these measures can also contribute to healthy indoor air quality, protect human health, and minimize impacts to the environment.

- The importance of supporting the Department of Water Resources' work to implement the Governor's objective to reduce per capita water use by 20 percent by 2020. Specific measures to achieve this goal include water use efficiency, water recycling, and reuse of urban runoff. The *Climate Change Scoping Plan* notes that water use requires significant amounts of energy, including approximately one-fifth of statewide electricity.

- Encouraging local governments to set quantifiable emission reduction targets for their jurisdictions and use their influence and authority to encourage reductions in emissions caused by energy use, waste and recycling, water and wastewater systems, transportation, and community design.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions reduction target for 2020. The 2020 emissions reduction target was originally set at 427 million metric tons (MMT) of CO_2e using the GWP values from the IPCC SAR. Forecasting the amount of emissions that would occur in 2020 if no actions are taken was necessary to assess the scope of the reductions California must make to return to the 1990 emissions level by 2020 as required by AB 32. CARB originally defined the "business-as-usual" or BAU scenario as emissions in the absence of any GHG emission reduction measures discussed in the 2008 Climate Change Scoping Plan, as approximately 596 $MMTCO_2e$ (using GWP values from the IPCC SAR). For example, in further explaining CARB's BAU methodology, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards. Therefore, under these original projections, the State would have had to reduce its 2020 BAU emissions by 28.4 percent to meet the 1990 target of 427 $MMTCO_2e$.

(i) 2014 Update to the Climate Change Scoping Plan

The First Update to the Scoping Plan was approved by CARB in May 2014 and built upon the initial Scoping Plan with new strategies and recommendations.[17] In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined the 1990 GHG emissions inventory and 2020 GHG emissions limit to be increased to 431 $MMTCO_2e$. CARB also updated the State's 2020 BAU emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that had recently been adopted for motor vehicles and renewable energy. CARB's projected statewide 2020 emissions estimate using the GWP values from the IPCC AR4 was 509.4 $MMTCO_2e$. Therefore, under the first update to the Scoping Plan, the emission reductions necessary to achieve the 2020 emissions target of 431 $MMTCO_2e$ would have been 78.4 $MMTCO_2e$, or a reduction of GHG emissions by approximately 15.4 percent, (down from 28.4 percent).

The stated purpose of the First Update was to "highlight… California's success to date in reducing its GHG emissions and lay… the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050."[18] The First Update found that California was on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the State realizes the expected benefits of existing policy goals.[19]

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the State's economy to evaluate and describe the larger transformative actions that will be needed to meet the State's more expansive emission reduction needs by 2050."[20] Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of the 2050 reduction target.

Based on CARB's research efforts, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050."[21] Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

The First Update discussed new residential and commercial building energy efficiency improvements, specifically identifying progress towards zero net energy buildings as an element of meeting mid-term and long-term GHG reduction goals. The First Update expressed CARB's

[17] *CARB, First Update to the AB 32 Scoping Plan, 2014.*
[18] *CARB, 2014 Update, May 2014, p. 4.*
[19] *CARB, 2014 Update, May 2014, p. 34.*
[20] *CARB, 2014 Update, May 2014, p. 6*
[21] *CARB, 2014 Update, May 2014, p. 32*

commitment to working with the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) to facilitate further achievements in building energy efficiency.

(ii) 2017 Update to the Climate Change Scoping Plan

In response to the passage of SB 32 and the identification of the 2030 GHG reduction target, CARB adopted the 2017 Climate Change Scoping Plan in December 2017.[22] The 2017 Update builds upon the framework established by the 2008 Climate Change Scoping Plan and the First Update while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health. The 2017 Update includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade program, which constraints and reduces emissions at covered sources.[23]

CARB's projected Statewide 2030 emissions takes into account 2020 GHG reduction policies and programs.[24] The 2017 Scoping Plan also addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. Under the Scoping Plan Scenario, the majority of the reductions would result from the continuation of the Cap-and-Trade regulation. Additional reductions would be achieved from electricity sector standards (i.e., utility providers to supply 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. Implementation of mobile source strategies (cleaner technology and fuels) include the following:

- At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025
- At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030
- Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Cars regulations
- Medium- and heavy-duty GHG Phase 2
- Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.

[22] *CARB, California's 2017 Climate Change Scoping Plan, November 2017.*
[23] *CARB, 2017 Update, November 2017, p. 6*
[24] *CARB, 2017 Update, November 2017*

- Last Mile Delivery: New regulation that would result in the use of low NO_X or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for Class 3–7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.
- Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."

The alternatives in the Scoping Plan are designed to consider various combinations of these programs, as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued. However, in July 2017, the California Legislature voted to extend the Cap-and-Trade regulation to 2030.

The 2017 Scoping Plan discusses the role of local governments in meeting the State's GHG reductions goals because local governments have jurisdiction and land use authority related to: community-scale planning and permitting processes, local codes and actions, outreach and education programs, and municipal operations.[25] Furthermore, local governments may have the ability to incentivize renewable energy, energy efficiency, and water efficiency measures.[26]

For individual projects under CEQA, the 2017 Scoping Plan states that local governments can support climate action when considering discretionary approvals and entitlements. According to the 2017 Scoping Plan, lead agencies have the discretion to develop evidence-based numeric thresholds consistent with the Scoping Plan, the State's long-term goals, and climate change science.[27]

The City of Los Angeles has not developed per capita targets for 2030 or 2050; however, the City recognizes that GHG emissions reductions are necessary in the public and private sectors. The City has taken the initiative in combating climate change by developing programs such as the Green New Deal and Green Building Code. Each of these programs is discussed further below.

A summary of the GHG emissions reductions required under HSC Division 25.5 is provided in **Table IV.E-3**, **Estimated Statewide Greenhouse Gas Emissions Reductions Required by HSC Division 25.5**.

[25] *CARB, 2017 Update, November 2017, p.97.*
[26] *CARB, 2017 Update, November 2017, p.97.*
[27] *CARB, 2017 Update, November 2017, p.100.*

Table IV.E-3
Estimated Statewide Greenhouse Gas Emissions Reductions Required by HSC Division 25.5

EMISSIONS SCENARIO	GHG EMISSIONS ($MMTCO_2E$)
2008 Scoping Plan (IPCC SAR)	
2020 BAU Forecast (CARB 2008 Scoping Plan Estimate)	596
2020 Emissions Target Set by AB 32 (i.e., 1990 level)	427
Reduction below Business-As-Usual necessary to achieve 1990 levels by 2020	169 (28.4%) [a]
2014 Scoping Plan Update (IPCC AR4)	
2020 BAU Forecast (CARB 2014 Scoping Plan Estimate)	509.4
2020 Emissions Target Set by AB 32 (i.e., 1990 level)	431
Reduction below Business-As-Usual necessary to achieve 1990 levels by 2020	78.4 (15.4%) [b]
2017 Scoping Plan Update	
2030 BAU Forecast ("Reference Scenario" which includes 2020 GHG reduction policies and programs)	389
2030 Emissions Target Set by HSC Division 25.5 (i.e., 40% below 1990 Level)	260
Reduction below Business-As-Usual Necessary to Achieve 40% below 1990 Level by 2030	129 (33.2%) [c]

$MMTCO_2e$ = million metric tons of carbon dioxide equivalents
[a] 596 – 427 = 169 / 596 = 28.4%
[b] 509.4 – 431 = 78.4 / 509.4 = 15.4%
[c] 389 – 260 = 129 / 389 = 33.2%
Source: CARB, Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (FED), Attachment D, August 19, 2011; CARB, 2020 Business-as-Usual (BAU) Emissions Projection, 2014 Edition, 2017, http://www.arb.ca.gov/cc/inventory/data/bau.htm. Accessed October 2017; CARB, California's 2017 Climate Change Scoping Plan, November 2017.

Under the Scoping Plan Scenario, continuation of the Cap-and-Trade regulation (or carbon tax) is expected to cover approximately 34 to 79 $MMTCO_2$ of the 2030 reduction obligation.[28] The State's short-lived climate pollutants strategy, which is for GHGs that remain in the atmosphere for shorter periods of time compared to longer-lived GHGs like CO_2, is expected to cover approximately 17 to 35 $MMTCO_2e$. The Renewables Portfolio Standard with 50 percent renewable electricity by 2030 is expected to cover approximately 3 $MMTCO_2$. The mobile source strategy and sustainable freight action plan includes maintaining the existing vehicle GHG emissions standards, increasing the number of zero emission vehicles and improving the freight system efficiency, and is expected to cover approximately 11 to 13 $MMTCO_2$. Under the Scoping Plan Scenario, CARB expects that the reduction in GHGs from doubling of the energy efficiency savings in natural gas and electricity end uses in the CEC 2015 Integrated Energy Policy Report by 2030 would cover approximately 7 to 9 $MMTCO_2$ of the 2030 reduction obligation. The other strategies would be expected to cover the remaining 2030 reduction obligations.

[28] *CARB, California's 2017 Climate Change Scoping Plan, Appendix G, November 2017.*

(e) Cap-and-Trade Program

The Climate Change Scoping Plan identifies a Cap-and-Trade Program as one of the strategies California would employ to reduce GHG emissions. CARB asserts that this program will help put California on the path to meet its goal of 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.

CARB designed and adopted a California Cap-and-Trade Program[29] pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from public and private major sources (deemed "covered entities") by setting a firm cap on Statewide GHG emissions and employing market mechanisms to achieve the State's emission-reduction mandates. The Statewide cap for GHG emissions from the capped sectors[30] (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.

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities that emit more than 25,000 $MTCO_2e$ per year must comply with the Cap-and-Trade Program.[31] Triggering of the 25,000 $MTCO_2e$ 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").[32]

Each covered entity with a compliance obligation is required to surrender "compliance instruments"[33] for each $MTCO_2e$ of GHG they emit. Covered entities are allocated free allowances in whole or part (if eligible), and can buy allowances at auction, purchase allowances from others, or purchase offset credits.

The Cap-and-Trade Regulation provides a firm cap, ensuring that the Statewide emission limits will not be exceeded. 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 framework adopted by CARB 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.

The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported.[34] Accordingly, for projects that are subject to the CEQA, GHG emissions from electricity consumption are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel

[29] *California Code of Regulations 17, Section 95800 to 96023.*
[30] *California Code of Regulations 17, Section 95811, 95812.*
[31] *California Code of Regulations 17, Section 95812.*
[32] *California Code of Regulations 17, Section 95100-95158.*
[33] *Compliance instruments are permits to emit, the majority of which will be "allowances," but entities also are allowed to use CARB-approved offset credits to meet up to 8 percent of their compliance obligations.*
[34] *California Code of Regulations 17, Section 95811(b).*

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.[35]

The Program applies to emissions that cover approximately 80 percent of the State's GHG emissions. Demonstrating the efficacy of AB 32 policies, California achieved its 2020 GHG Reduction Target four years earlier than mandated. The largest reductions were the result of increased renewable electricity in the electricity sector, which is a covered sector in the Cap-and-Trade Program.

AB 398 was enacted in 2017 to extend and clarify the role of the State's Cap-and-Trade Program through December 31, 2030. As part of AB 398, refinements were made to the Cap-and-Trade program to establish updated protocols and allocation of proceeds to reduce GHG emissions.

(f) Energy-Related (Stationary) Sources

(i) Emission Performance Standards

SB 1368, signed September 29, 2006, is a companion bill to AB 32, which requires the CPUC and the CEC to establish GHG emission performance standards for the generation of electricity. These standards also generally apply to power that is generated outside of California and imported into the State. SB 1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting CARB to meet its mandate under AB 32.

(ii) Renewables Portfolio Standard

SB 1078 (Chapter 516, Statutes of 2002) required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017 as a Renewables Portfolio Standard (RPS). Subsequent amendments provided additional targets throughout the years. Most recently, on October 7, 2015, SB 350 (Chapter 547, Statues of 2015), also known as the Clean Energy and Pollution Reduction Act, further increased the RPS to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. SB 350 also requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. The 2017 Climate Change Scoping Plan incorporated the SB 350 standards and estimated the GHG reductions would account for approximately 21 percent of the Scoping Plan reductions.[36] On September 10, 2018, SB 100, provided additional RPS targets of 44 percent by 2024, 52 percent by 2027, and 60 percent by 2030, and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by 2045.[37]

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[35] *California Code of Regulations 17, Section 95811, 95812(d).*

[36] *CARB, California's 2017 Climate Change Scoping Plan, Table 3, p. 31, November 2017. Calculated as: (108 – 53) / 260 = 21 percent.*

[37] *California Legislative Information, SB-100 California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases.*

(g) Mobile Sources

(i) Pavley Standards

AB 1493 (Chapter 200, Statutes of 2002), enacted on July 22, 2002, required CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In 2004, CARB approved the Pavley regulation to require automakers to control greenhouse gas emissions from new passenger vehicles for the 2009 through 2016 model years. Upon adoption of subsequent federal greenhouse gas standards by the United States Environmental Protection Agency (U.S. EPA) that preserved the benefits of the Pavley regulations, the Pavley regulations were revised to accept compliance with the federal standards as compliance with California's standards in the 2012 through 2016 model years. This is referred to as the "deemed to comply" option.

In January 2012, CARB approved greenhouse gas emission regulations which require further reductions in passenger greenhouse gas emissions for 2017 and subsequent vehicle model years. As noted above, in August 2012, the USEPA and USDOT adopted GHG emission standards for model year 2017 through 2025 vehicles.[38] On November 15, 2012, CARB approved an amendment that allows manufacturers to comply with the 2017-2025 national standards to meet State law. Automobile manufacturers generally comply with these standards through a combination of improved energy efficiency in vehicle equipment (e.g., air conditioning systems) and engines as well as sleeker aerodynamics, use of strong but lightweight materials, and lower-rolling resistance tires.[39]

In 2018, the USEPA proposed the Safer Affordable Fuel-Efficient Vehicles Rule (SAFE) which would roll back fuel economy standards and revoke California's waiver. The rule amended certain average fuel economy and GHG standards for passenger cars covering model years 2021 through 2026. On March 30, 2020, the SAFE Rule was finalized and published in the Federal Register, commencing a review period. Subsequent legal challenges from a coalition of states, including California, and private industry groups were issued. In August 2021, USEPA proposed to revise and strengthen the emissions standards for passenger cars and light trucks for model years 2023-2026.

On September 27, 2019, the USEPA withdrew the waiver it had previously provided to California for the State's GHG and ZEV programs under Section 209 of the Clean Air Act.[40] The withdrawal of the waiver was effective November 26, 2019. In response, several states including California filed a lawsuit challenging the withdrawal of the EPA waiver.[41] In April 2021, the USEPA

[38] *United States Environmental Protection Agency, 2012.*
[39] *CARB, California's Advanced Clean Cars Midterm Review, pp. ES-17, C-9.*
[40] *84 FR 51310.*
[41] *United States District Court for the District Court of Columbia, State of California vs. Chao, Case 1:19-cv-02826, 2019.*

announced it will move to reconsider its previous withdrawal and grant California permission to set more stringent climate requirements for cars and SUVs.[42]

(ii) California Low Carbon Fuel Standard

Executive Order S-01-07 was enacted on January 18, 2007. The order mandates the following: (1) that a Statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and (2) that a LCFS for transportation fuels be established in California. The final regulation was approved by the Office of Administrative Law and filed with the Secretary of State on January 12, 2010; the LCFS became effective on the same day. In September 2015, CARB approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted.[43]

The development of the 2017 Scoping Plan Update has identified LCFS as a regulatory measure to reduce GHG emission to meet the 2030 emissions target. In September 2018, the standards were amended by CARB to require a 20 percent reduction in carbon intensity by 2030, aligning with California's 2030 targets set by SB 32.[44]

(iii) Advanced Clean Cars Regulations

In 2012, CARB approved the Advanced Clean Cars program, an emissions-control program for model years 2015–2025.[45] The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.[46] During the March 2017 Midterm Review, CARB voted unanimously to continue with the vehicle GHG emission standards and the ZEV program for cars and light trucks sold in California through 2025.[47] Effective November 26, 2019, the federal SAFE Vehicles Rule Part One: One National Program withdrew the California waiver for the GHG and ZEV programs under section 209 of the Clean Air Act, which revokes California's authority to

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[42] *United States Federal Register, California State Motor Vehicle Pollution Control Standards; Advanced Clean Car Program; Reconsideration of a Previous Withdrawal of a Waiver of Preemption; Opportunity for Public Hearing and Public Comment (Document Number: 2021-08826), April 28, 2021.*

[43] *CARB, Low Carbon Fuel Standard - About, https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/about. Accessed December 2021.*

[44] *CARB, CARB amends Low Carbon Fuel Standard for wider impact, 2018, https://ww2.arb.ca.gov/index.php/news/carb-amends-low-carbon-fuel-standard-wider-impact. Accessed December 2021.*

[45] *CARB, Advanced Clean Cars Program - About, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about, Accessed December 2021.*

[46] *CARB, Advanced Clean Cars Program - About, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about, Accessed December 2021.*

[47] *CARB, News Release: CARB finds vehicle standards are achievable and cost-effective, ww2.arb.ca.gov/news/carb-finds-vehicle-standards-are-achievable-and-cost-effective, Accessed December 2021.*

implement the Advanced Clean Cars and ZEV mandates. In response, several states including California filed a lawsuit challenging the withdrawal of the EPA waiver.[48] In April 2021, the USEPA announced it will move to reconsider its previous withdrawal of the waiver.[49]

In addition, Governor Gavin Newsom signed an executive order (Executive Order No. N-79-20) on September 23, 2020 that would phase out sales of new gas-powered passenger cars by 2035 in California with an additional 10-year transition period for heavy vehicles. The state would not restrict used car sales, nor forbid residents from owning gas-powered vehicles. In accordance with the Executive Order, CARB is developing a 2020 Mobile Source Strategy, a comprehensive analysis that presents scenarios for possible strategies to reduce the carbon, toxic and unhealthy pollution from cars, trucks, equipment, and ships. The strategies will provide important information for numerous regulations and incentive programs going forward by conveying what is necessary to address the aggressive emission reduction requirements.

The primary mechanism for achieving the ZEV target for passenger cars and light trucks is CARB's Advanced Clean Cars II (ACC II) Program. The ACC II regulations will focus on post-2025 model year light-duty vehicles, as requirements are already in place for new vehicles through the 2025 model year. A rulemaking package is anticipated to be presented to the Board in June 2022.

(iv) Sustainable Communities and Climate Protection Act (SB 375)

The Sustainable Communities and Climate Protection Act of 2008, or SB 375 (Chapter 728, Statutes of 2008), establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the State on September 30, 2008. SB 375 finds that the "transportation sector is the single largest contributor of greenhouse gases of any sector."[50] Under SB 375, CARB is required, in consultation with the Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. SCAG is the Metropolitan Planning Organization in which the City of Los Angeles is located in. CARB set targets for 2020 and 2035 for each of the 18 metropolitan planning organization regions in 2010, and updated them in 2018.[51] In March 2018, the CARB updated the SB 375 targets for the SCAG region to require an 8 percent reduction by 2020 and a 19 percent reduction by 2035 in per capita passenger vehicle GHG emissions.[52] As discussed further below, SCAG has adopted an updated Regional Transportation Plan / Sustainable Community Strategies (RTP/SCS) subsequent to the update of the emission targets. The 2020–

[48] *United States District Court for the District Court of Columbia, State of California vs. Chao, Case 1:19-cv-02826, 2019.*

[49] *United States Federal Register, California State Motor Vehicle Pollution Control Standards; Advanced Clean Car Program; Reconsideration of a Previous Withdrawal of a Waiver of Preemption; Opportunity for Public Hearing and Public Comment (Document Number: 2021-08826), April 28, 2021.*

[50] *State of California, Senate Bill No. 375, September 30, 2008.*

[51] *CARB, Sustainable Communities & Climate Protection Program – About. https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-climate-protection-program/about. Accessed December 2021.*

[52] *CARB, SB 375 Regional Greenhouse Gas Emissions Reduction Targets, 2018.*

2045 RTP/SCS is expected to reduce per capita transportation emissions by 19 percent by 2035, which is consistent with SB 375 compliance with respect to meeting the State's GHG emission reduction goals.[53]

Under SB 375, the target must be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plans) are not required to be consistent with either the RTP or SCS.

(v) Senate Bill 743

Governor Brown signed Senate Bill (SB) 743 in 2013, which creates a process to change the way that transportation impacts are analyzed under CEQA. Specifically, SB 743 requires the Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to level of service (LOS) methodology for evaluating transportation impacts. Particularly within areas served by transit, the required alternative criteria must "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." Measurements of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated."

(h) Building Standards and Other Regulations

(i) California Appliance Efficiency Regulations

The Appliance Efficiency Regulations (Title 20, Sections 1601 through 1608), adopted by the CEC, include standards for new appliances (e.g., refrigerators) and lighting, if they are sold or offered for sale in California. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

(ii) Title 24, Building Standards Code and CALGreen Code

The CEC first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the State. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

On Part 11 of the Title 24 Building Standards is referred to as the California Green Building Standards (CALGreen) Code and was developed to help the State achieve its GHG reduction

[53] *SCAG, Final 2020–2045 RTP/SCS, Chapter 0: Making Connections, p. 5, 2020.*

goals under HSC Division 25.5 (e.g., AB 32) by codifying standards for reducing building-related energy, water, and resource demand, which in turn reduces GHG emissions from energy, water, and resource demand. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."[54] The CALGreen Code is not intended to substitute for or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality.[55]

On May 9, 2018, the CEC adopted the 2019 Title 24 Standards, which went into effect on January 1, 2020. The 2019 standards continue to improve upon the previous (2016) Title 24 standards for new construction of, and additions and alterations to, residential and non-residential buildings.[56] The 2019 Title 24 Standards ensure that builders use the most energy efficient and energy conserving technologies and construction practices. As described in the 2019 Title 24 Standards represent "challenging but achievable design and construction practices" that represent "a major step towards meeting the Zero Net Energy (ZNE) goal." Single-family homes built with the 2019 Title 24 Standards are projected to use approximately seven percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once the mandated rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. Nonresidential buildings are projected to use approximately 30 percent less energy due mainly to lighting upgrades.[57] Compliance with Title 24 is enforced through the building permit process.

(i) CEQA Guidelines

In August 2007, the California State Legislature adopted Senate Bill 97 (SB 97) (Chapter 185, Statutes of 2007), requiring the Governor's Office of Planning and Research (OPR) to prepare and transmit new CEQA guidelines for the mitigation of GHG emissions or the effects of GHG emissions to the Resources Agency by July 1, 2009. In response to SB 97, the OPR adopted CEQA guidelines that became effective on March 18, 2010.

However, neither a threshold of significance nor any specific mitigation measures are included or provided in the guidelines.[58] The guidelines require a lead agency to make a good-faith effort,

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[54] *California Building Standards Commission, 2010 California Green Building Standards Code, (2010).*
[55] *California Building Standards Commission, 2010 California Green Building Standards Code, (2010).*
[56] *CEC, 2019 Building Energy Efficiency Standards.*
[57] *CEC, 2019 Building Energy Efficiency Standards, Fact Sheet.*
[58] *See 14 Cal. Code Regs. §§ 15064.7 (generally giving discretion to lead agencies to develop and publish thresholds of significance for use in the determination of the significance of environmental effects), 15064.4 (giving discretion to lead agencies to determine the significance of impacts from GHGs).*

based on the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. Discretion is given to the lead agency whether to: (1) use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use; or (2) rely on a qualitative analysis or performance-based standards. Furthermore, three factors are identified that should be considered in the evaluation of the significance of GHG emissions:

1. The extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
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 GHG emissions.[59]

The administrative record for the Guidelines Amendments also clarifies "that the effects of greenhouse gas emissions are cumulative, and should be analyzed in the context of California Environmental Quality Act's requirements for cumulative impact analysis."[60]

(3) Regional

(a) South Coast Air Quality Management District CEQA Guidance

The City of Los Angeles is located in the South Coast Air Basin (Air Basin), which consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside Counties, in addition to the San Gorgonio Pass area in Riverside County. The South Coast Air Quality Management District (SCAQMD) is responsible for air quality planning in the Air Basin and developing rules and regulations to bring the area into attainment of the ambient air quality standards. This is accomplished through air quality monitoring, evaluation, education, implementation of control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations, and by supporting and implementing measures to reduce emissions from motor vehicles.

In 2008, SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds.[61] A GHG Significance Threshold Working Group was formed to further evaluate

[59] *14 Cal. Code Regs. § 15064.4(b).*
[60] *Letter from Cynthia Bryant, Director of the Governor's Office of Planning and Research to Mike Chrisman, California Secretary for Natural Resources, dated April 13, 2009.*
[61] *SCAQMD, Board Meeting, December 5, 2008, Agenda No. 31, http://www3.aqmd.gov/hb/2008/December/081231a.htm. Accessed December 2021.*

potential GHG significance thresholds.[62] The SCAQMD proposed the use of a percent emission reduction target to determine significance for commercial/residential projects that emit greater than 3,000 $MTCO_2e$ per year. Under this proposal, commercial/residential projects that emit fewer than 3,000 $MTCO_2e$ per year would be assumed to have a less than significant impact on climate change. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold of 10,000 $MTCO_2e$ per year for stationary source/industrial projects where the SCAQMD is the lead agency. However, the SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects). The Working Group has been inactive since 2011, and SCAQMD has not formally adopted any GHG significance threshold for other jurisdictions.

(b) SCAG Regional Transportation Plan/Sustainable Communities Strategy

To implement SB 375 and reduce GHG emissions by correlating land use and transportation planning, SCAG adopted the 2020–2046 Regional Transportation Plan/Sustainable Communities Strategy (2020–2045 RTP/SCS) in October 2020. The vision for the region incorporates a range of best practices for increasing transportation choices, reducing dependence on personal automobiles, further improving air quality, and encouraging growth in walkable, mixed-use communities with ready access to transit infrastructure and employment. More and varied housing types and employment opportunities would be located in and near job centers, transit stations and walkable neighborhoods where goods and services are easily accessible via shorter trips. To support shorter trips, people would have the choice of using neighborhood bike networks, car share or micro-mobility services like shared bicycles or scooters. For longer commutes, people would have expanded regional transit services and more employer incentives to carpool or vanpool. Other longer trips would be supported by on-demand services such as microtransit, carshare, and citywide partnerships with ride hailing services. For those that choose to drive, hotspots of congestion would be less difficult to navigate due to cordon pricing and using an electric vehicle will be easier thanks to an expanded regional charging network.

The 2020–2045 RTP/SCS states that the SCAG region was home to about 18.8 million people in 2016 and currently includes approximately 6.0 million homes and 8.4 million jobs.[63] By 2045, the integrated growth forecast projects that these figures will increase by 3.7 million people, with nearly 1.6 million more homes and 1.6 million more jobs. Transit Priority Areas[64] (TPAs) will account for less than 1 percent of regional total land but are projected to accommodate 30 percent of future household growth between 2016 and 2045. The 2020–2045 RTP/SCS overall land use pattern reinforces the trend of focusing new housing and employment in the region's TPAs. TPAs are a cornerstone of land use planning best practice in the SCAG region because they

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[62] *SCAQMD, Greenhouse Gases CEQA Significance Thresholds, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds. Accessed December 2021.*

[63] *2020–2045 RTP/SCS population growth forecast methodology includes data for years 2010, 2010, 2016, and 2045.*

[64] *Defined by the 2020–2045 RTP/SCS as generally walkable transit villages or corridors that are within 0.5 mile of a major transit stop (rail or bus rapid transit station) with 15-minute or less service frequency during peak commute hours*

concentrate roadway repair investments, leverage transit and active transportation investments, reduce regional life cycle infrastructure costs, improve accessibility, create local jobs, and have the potential to improve public health and housing affordability.

The 2020–2045 RTP/SCS is expected to reduce per capita transportation emissions by 19 percent by 2035, which is consistent with SB 375 compliance with respect to meeting the State's GHG emission reduction goals.[65] Due to fuel economy and efficiency improvements, GHG emission rates of model year 2017 vehicles have decreased by 15 to 20 percent when compared to model year 2008 and earlier vehicles. However, for purposes of SB 375 emissions reduction targets, the fuel economy improvements have been largely excluded from the reduction calculation. The SB 375 target focuses on the amount of vehicle travel per capita. As discussed above, OPR recommended that achieving 15 percent lower per capita (residential) or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals (i.e., SB 375 goal). The reductions generated by fuel economy improvements are already included as part of the State's GHG emissions reduction program and are not double counted in the SB 375 target calculation.

(4) Local

(a) Green New Deal

The City of Los Angeles addressed the issue of global climate change in *Green LA, An Action Plan to Lead the Nation in Fighting Global Warming* ("LA Green Plan/ClimateLA") in 2007. This document outlines the goals and actions the City has established to reduce the generation and emission of GHGs from both public and private activities.

In April 2019, the *Green New Deal (Sustainable City Plan 2019)*, was released, consisting of a program of actions designed to create sustainability-based performance targets through 2050 designed to advance economic, environmental, and equity objectives.[66] L.A.'s Green New Deal is the first four-year update to the City's first Sustainable City pLAn that was released in 2015.[67] It augments, expands, and elaborates L.A.'s vision for a sustainable future and tackles the climate emergency with accelerated targets and new aggressive goals.

While not a plan adopted solely to reduce GHG emissions, within the Green New Deal, "Climate Mitigation," or reduction of GHG is one of eight explicit benefits that help define its strategies and goals. These include reducing GHG emissions through near-term outcomes:

- Reduce potable water use per capita by 22.5 percent by 2025; 25 percent by 2035; and maintain or reduce 2035 per capita water use through 2050.
- Reduce building energy use per square feet for all building types 22 percent by 2025; 34 percent by 2035; and 44 percent by 2050 (from a baseline of 68 mBTU/sq.ft in 2015).

[65] *SCAG, Final 2020–2045 RTP/SCS, Chapter 0: Making Connections, p. 5, 2020.*
[66] *City of Los Angeles. LA's Green New Deal, 2019.*
[67] *City of Los Angeles, Sustainable City pLAn, April 2015.*

- All new buildings will be net zero carbon by 2030 and 100 percent of buildings will be net zero carbon by 2050.
- Increase cumulative new housing unit construction to 150,000 by 2025; and 275,000 units by 2035.
- Ensure 57 percent of new housing units are built within 1,500 feet of transit by 2025; and 75 percent by 2035.
- Increase the percentage of all trips made by walking, biking, micro-mobility/matched rides, or transit to at least 35 percent by 2025, 50 percent by 2035, and maintain at least 50 percent by 2050.
- Reduce VMT per capita by at least 13 percent by 2025; 39 percent by 2035; and 45 percent by 2050.
- Increase the percentage of electric and zero emission vehicles in the city to 25 percent by 2025; 80 percent by 2035; and 100 percent by 2050.
- Increase landfill diversion rate to 90 percent by 2025; 95 percent by 2035 and 100 percent by 2050.
- Reduce municipal solid waste generation per capita by at least 15 percent by 2030, including phasing out single-use plastics by 2028 (from a baseline of 17.85 lbs. of waste generated per capita per day in 2011).
- Eliminate organic waste going to landfill by 2028.
- Reduce urban/rural temperature differential by at least 1.7 degrees by 2025; and 3 degrees by 2035.
- Ensure the proportion of Angelenos living within 1/2 mile of a park or open space is at least 65 percent by 2025; 75 percent by 2035; and 100 percent by 2050.

(b) City of Los Angeles Green Building Code

On December 11, 2019, the Los Angeles City Council approved Ordinance No. 186,488, which amended Chapter IX of the Los Angeles Municipal Code (LAMC), referred to as the Los Angeles Green Building Code, by adding a new Article 9 to incorporate various provisions of the 2019 CALGreen Code. Projects filed on or after January 1, 2020, must comply with the provisions of the Los Angeles Green Building Code. Specific mandatory requirements and elective measures are provided for three categories: (1) low-rise residential buildings; (2) nonresidential and high-rise residential buildings; and (3) additions and alterations to nonresidential and high-rise residential buildings. Article 9, Division 5 includes mandatory measures for newly constructed nonresidential and high-rise residential buildings.

(c) City of Los Angeles Solid Waste Programs and Ordinances

The recycling of solid waste materials also contributes to reduced energy consumption. Specifically, when products are manufactured using recycled materials, the amount of energy that

would have otherwise been consumed to extract and process virgin source materials is reduced as well as disposal energy averted. In 1989, California enacted AB 939, the California Integrated Waste Management Act, which establishes a hierarchy for waste management practices such as source reduction, recycling, and environmentally safe land disposal.

The City has developed and is in the process of implementing the Solid Waste Integrated Resources Plan, also referred to as the Zero Waste Plan, whose goal is to lead the City towards being a "zero waste" City by 2030. These waste reduction plans, policies, and regulations, along with Mayoral and City Council directives, have increased the level of waste diversion for the City to 76 percent as of 2013.[68] The RENEW LA Plan, aims to achieve a zero waste goal through reducing, reusing, recycling, or converting the resources not going to disposal and achieving a diversion rate of 90 percent or more by 2025.[69] The City has also approved the Waste Hauler Permit Program (Ordinance No. 181,519, LAMC Chapter VI, Article 6, Section 66.32-66.32.5), which requires private waste haulers to obtain AB 939 Compliance Permits to transport construction and demolition waste to City-certified construction and demolition waste processors. The City's Exclusive Franchise System Ordinance (Ordinance No. 182,986), among other requirements, sets a maximum annual disposal level and diversion requirements for franchised waste haulers to promote waste diversion from landfills and support the City's zero waste goals. These programs reduce the number of trips to haul solid waste and therefore reduce the amount of petroleum-based fuels and energy used to process solid waste.

(d) City of Los Angeles General Plan

The City does not have a General Plan Element specific to climate change and GHG emissions, and its General Plan does not have any stated goals, objectives, or policies specifically addressing climate change and GHG emissions. However, the following five goals from the City's General Plan Air Quality Element would also lead to GHG emission reductions[70]:

- Less reliance on single-occupancy vehicles with fewer commute and non-work trips;
- Efficient management of transportation facilities and system infrastructure using cost-effective system management and innovative demand-management techniques;
- Minimal impacts of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation, and air quality;
- Energy efficiency through land use and transportation planning, the use of renewable resources and less-polluting fuels and the implementation of conservation measures including passive measures, such as site orientation and tree planting; and

[68] *City of Los Angeles, Department of Public Works, LA Sanitation, Recycling. https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-r?_adf.ctrl-state=kq9mn3h5a_188. Accessed December 2021.*

[69] *City of Los Angeles, RENEW LA, Five-Year Milestone Report, 2011.*

[70] *City of Los Angeles, Air Quality Element, June 1991, pages IV-1 to IV-4.*

- Citizen awareness of the linkages between personal behavior and air pollution and participation in efforts to reduce air pollution.

(e) Transportation Study Policies and Procedures

The City of Los Angeles Department of Transportation (LADOT) has developed the City Transportation Assessment Guidelines (TAG) (July 2019, updated July 2020) to provide the public, private consultants, and City staff with standards, guidelines, objectives, and criteria to be used in the preparation of a transportation assessment. The TAG establishes the reduction of vehicle trips and VMT as the threshold for determining transportation impacts and thus is an implementing mechanism of the City's strategy to reduce land use transportation-related GHG emissions consistent with AB 32, SB 32, and SB 375.

d) Existing Conditions

GHG emissions are the result of both natural and human-influenced activities. Regarding human-influenced activities, motor vehicle travel, consumption of fossil fuels for power generation, industrial processes, heating and cooling, landfills, agriculture, and wildfires are the primary sources of GHG emissions. Without human intervention, Earth maintains an approximate balance between the emission of GHGs into the atmosphere and the storage of GHGs in oceans and terrestrial ecosystems. Events and activities, such as the industrial revolution and the increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), have contributed to the rapid increase in atmospheric levels of GHGs over the last 150 years. As reported by the CEC, California contributes 1.4 percent of global and 6.2 percent of national GHG emissions.[71] California represents approximately 12 percent of the national population. Approximately 80 percent of GHGs in California consist of CO_2 produced from fossil fuel combustion. The current California GHG inventory compiles statewide anthropogenic GHG emissions and carbon sinks/storage from years 2000 to 2016.[72] It includes estimates for CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. The GHG inventory for California for years 2012 through 2018 is presented in **Table IV.E-4** below.

As shown in **Table IV.E-4**, the GHG inventory for California in 2018 was 425.3 million $MTCO_2e$. Based on data presented above, the 2016 statewide GHG inventory fell below 1990 levels, consistent with goals of AB 32.[73]

Table IV.E-4
California GHG Inventory (million metric tons CO_2e)

	2012	2013	2014	2015	2016	2017	2018
Transportation	**161.22**	**160.90**	**162.28**	**166.14**	**169.38**	**169.86**	**169.5**
On Road	147.71	147.07	148.04	151.52	154.64	155.75	154.4

[71] *CEC, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004, CEC-600-2006-013, October 2006.*

[72] *A carbon inventory identifies and quantifies sources and sinks of greenhouse gases. Sinks are defined as a natural or artificial reservoir that accumulates and stores some carbon-containing chemical compound for an indefinite period.*

[73] *California Air Resources Board, Climate pollutants fall below 1990 levels for first time, ww2.arb.ca.gov/news/climate-pollutants-fall-below-1990-levels-first-time, accessed February 5, 2020.*

Table IV.E-4
California GHG Inventory (million metric tons CO_2e)

	2012	2013	2014	2015	2016	2017	2018
Passenger Vehicles	111.77	111.52	112.20	116.33	119.03	119.94	119.4
Heavy Duty Trucks	35.93	35.55	35.83	35.19	35.62	35.81	35.0
Ships & Commercial Boats	3.43	3.42	3.49	3.42	3.24	3.32	3.7
Aviation (Intrastate)	3.75	3.93	3.90	4.22	4.44	4.68	4.6
Rail	2.38	2.38	2.38	2.38	2.37	1.83	2.2
Unspecified	1.71	1.77	2.04	2.07	2.07	1.54	4.6
Percent of Total Emissions	*36%*	*36%*	*37%*	*38%*	*39%*	37%	39.8%
Electric Power	**95.09**	**89.65**	**88.24**	**83.67**	**68.58**	**62.39**	**63.1**
In-State Generation	51.03	49.47	51.72	49.93	42.30	38.45	38.5
Natural Gas	45.77	45.66	46.43	45.16	38.28	34.88	34.88
Other Fuels	4.44	2.91	4.40	3.65	2.55	2.61	2.61
Fugitive and Process Emissions	0.82	0.90	0.90	1.13	1.48	0.95	0.95
Imported Electricity	44.07	40.17	36.51	33.74	26.28	23.94	24.6
Unspecified Imports	17.48	11.82	13.44	11.21	9.68	8.84	11.6
Specified Imports	26.59	28.35	23.07	22.52	16.60	15.10	13.0
Percent of Total Emissions	*21%*	*20%*	*20%*	*19%*	*16%*	15%	14.8%
Commercial and Residential	**42.89**	**43.54**	**37.37**	**37.94**	**39.36**	**41.14**	**41.4**
Residential Fuel Use	27.34	28.14	22.87	23.29	24.20	26.00	25.7
Natural Gas	25.76	26.52	21.58	21.90	22.80	23.62	23.62
Other Fuels	1.58	1.62	1.28	1.39	1.40	2.38	2.38
Commercial Fuel Use	13.41	13.30	12.51	12.67	12.92	13.02	15.6
Natural Gas	11.25	11.28	10.39	10.50	10.89	11.06	11.06
Other Fuels	2.16	2.02	2.12	2.16	2.03	1.95	1.95
Commercial Cogeneration Heat Output	0.76	0.71	0.58	0.56	0.81	0.68	0.68
Other Commercial and Residential	1.38	1.40	1.41	1.42	1.43	1.44	1.44
Percent of Total Emissions	*10%*	*10%*	*8%*	*9%*	*9%*	6%	9.7%
Industrial	**91.07**	**93.73**	**93.96**	**91.58**	**89.61**	**89.40**	**89.2**
Refineries	29.88	29.22	29.40	28.21	29.61	29.89	30.1
General Fuel Use	18.91	19.31	19.87	19.23	18.53	19.07	18.6
Natural Gas	14.48	14.36	15.56	14.79	14.99	15.28	15.28
Other Fuels	4.43	4.94	4.31	4.45	3.53	3.78	3.78
Oil & Gas Extraction[a]	16.73	19.11	19.47	19.58	17.93	17.22	16.7
Fuel Use	14.87	16.99	17.18	17.22	15.66	14.94	14.94
Fugitive Emissions	1.86	2.12	2.29	2.36	2.27	2.28	2.28
Cement Plants	6.14	6.92	7.20	7.61	7.56	7.60	7.9
Clinker Production	4.08	4.65	4.93	5.27	5.17	5.15	4.85
Fuel Use	2.07	2.26	2.28	2.34	2.39	2.45	2.81
Cogeneration Heat Output	11.15	10.81	10.99	9.64	8.98	8.00	8.1
Other Process Emissions	8.02	7.81	7.90	7.98	8.01	7.95	7.9
Percent of Total Emissions	*20%*	*20%*	*21%*	*21%*	*21%*	*21%*	*21%*
Recycling and Waste	**8.47**	**8.49**	**8.52**	**8.59**	**8.73**	**8.81**	**9.1**

Table IV.E-4
California GHG Inventory (million metric tons CO_2e)

	2012	2013	2014	2015	2016	2017	2018
Landfills[b]	8.19	8.20	8.22	8.28	8.40	8.47	8.54
Composting	0.27	0.29	0.30	0.31	0.33	0.34	0.35
Percent of Total Emissions	*2%*	*2%*	*2%*	*2%*	*2%*	*2%*	2.1%
High Global Warming Potential	**14.54**	**15.54**	**16.65**	**17.70**	**18.93**	**19.78**	**20.5**
Ozone Depleting Substance Substitutes	14.21	15.25	16.38	17.42	18.37	19.24	18.4
Electricity Grid SF6 Losses[c]	0.25	0.24	0.18	0.14	0.42	0.37	0.18
Semiconductor Manufacturing[b]	0.08	0.06	0.08	0.14	0.14	0.16	0.17
Percent of Total Emissions	*3%*	*3%*	*4%*	*4%*	*4%*	*5%*	*4.8%*
Agriculture[d]	**34.89**	**36.08**	**34.61**	**35.95**	**34.41**	**33.84**	**32.6**
Livestock	23.84	24.47	23.49	23.81	23.10	22.99	22.8
Enteric Fermentation (Digestive Process)	11.98	12.10	11.78	11.85	11.40	11.35	11.1
Manure Management	11.86	12.38	11.71	11.96	11.70	11.64	11.7
Crop Growing & Harvesting	7.40	7.73	7.42	7.48	6.91	6.89	6.5
Fertilizers	5.67	5.93	5.65	5.72	5.28	5.25	5.14
Soil Preparation and Disturbances	1.65	1.73	1.69	1.68	1.56	1.56	1.40
Crop Residue Burning	0.08	0.08	0.08	0.08	0.08	0.08	0.09
General Fuel Use	3.65	3.88	3.71	4.66	4.39	3.95	3.2
Diesel	2.52	2.47	2.53	3.54	3.66	3.19	2.40
Natural Gas	0.66	0.70	0.69	0.63	0.64	0.72	0.67
Gasoline	0.48	0.71	0.49	0.49	0.10	0.04	0.05
Other Fuels	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Percent of Total Emissions	*8%*	*8%*	*8%*	*8%*	*8%*	*8%*	*7.7%*
Total Emissions	**451.6**	**447.6**	**451.6**	**440.8**	**429.2**	**424.5**	**425.3**

[a] *Reflects emissions from combustion of fuels plus fugitive emissions.*
[b] *These categories are listed in the Industrial sector of CARB's GHG Emission Inventory sectors.*
[c] *This category is listed in the Electric Power sector of CARB's GHG Emission Inventory sectors.*
[d] *Reflects use of updated USEPA models for determining emissions from livestock and fertilizers.*
Source: California GHG Inventory for 2000–2018—by Category as Defined in the 2008 Climate Change Scoping Plan million metric tons of CO_2e—(based upon IPCC Second Assessment Report's Global Warming Potentials).

The Project Site is currently developed 32,550 square feet of existing commercial industrial buildings, and a vacant 46,626 square foot, 111-unit single-resident occupancy (SRO) hotel. Construction activities would include: demolition of the existing buildings at 1220, 1224, and 1240 Hope Street and removal of the existing surface parking lot, grading/excavation, and building construction for the hotel expansion and the new hotel and residential tower. Demolition activities are anticipated to start no sooner than early 2020, and construction completion and building occupancy is anticipated in 2024. The existing annual GHG emissions for the Project Site were assumed to be 0 $MTCO_2e$, and no offsets were taken for the existing uses.

3. Project Impacts

a) Thresholds of Significance

In accordance with the State *CEQA Guidelines* Appendix G (Appendix G), the Project would have a significant impact related to GHGs if it would:

Threshold a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Threshold b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Section 15064.4 of the CEQA Guidelines provides that a lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of greenhouse gas emissions resulting from a project. It also states that the lead agency shall have the discretion to determine, in the context of a particular project, whether to (1) quantify greenhouse gas emissions resulting from a project and/or (2) rely on a qualitative analysis or performance-based standards. Lead agencies should consider several factors when determining of significance of GHG emissions from a project: (a) the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting; (b) whether a project exceeds a significance threshold that the lead agency determines applies to the project; and (c) 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.

Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, such as the California Air Pollution Control Officers Association (CAPCOA), as long as any threshold chosen is supported by substantial evidence (see CEQA Guidelines Section 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130(f)).[74] It is noted that the CEQA Guidelines were amended in response to SB 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact less than significant.

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project.[75] To qualify, such plans

[74] *See, generally, CEQA Guidelines Section 15130(f); see also Letter from Cynthia Bryant, Director of the Office of Planning and Research to Mike Chrisman, Secretary for Natural Resources, dated April 13, 2009.*

[75] *14 CCR §15064(h)(3).*

or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency.[76] Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions."[77] Put another way, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies, and/or other regulatory schemes to reduce GHG emissions.[78]

The City has not adopted a numeric significance threshold for the analysis of GHG impacts. Nor have the SCAQMD, OPR, CARB, CAPCOA, or any other state or regional agency adopted a numerical significance threshold for assessing GHG emissions that the City has adopted that would be applicable to the Project. In the absence of any applicable adopted numeric threshold, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b) by considering whether the Project is consistent with applicable regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. For this Project, as a land use development project, the most directly applicable adopted regulatory plan to reduce GHG emissions is the 2016–2040 RTP/SCS, which is designed to achieve regional GHG reductions from the land use and transportation sectors as required by SB 375 and the State's long-term climate goals. This analysis also considers consistency with regulations or requirements adopted by the AB 32 *Climate Change Scoping Plan* and subsequent updates, and the Sustainable City pLAn/L.A.'s Green New Deal.

(1) SCAQMD Thresholds

As discussed above, SCAQMD only has an interim GHG significance threshold of 10,000 $MTCO_2e$ per year for stationary source/industrial projects where SCAQMD is the lead agency.

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[76] *14 CCR §15064(h)(3).*

[77] *14 CCR §15064(h)(3).*

[78] *See, for example, San Joaquin Valley Air Pollution Control District, CEQA Determinations of Significance tor Projects Subject to ARB's GHG Cap-and-Trade Regulation, APR—2030 (June 25, 2014), in which the SJVAPCD "determined that GHG emissions increases that are covered under ARB's Cap-and-Trade regulation cannot constitute significant increases under CEQA..." Further, the South Coast Air Quality Management District (SCAQMD) has taken this position in CEQA documents it has produced as a lead agency. SCAQMD has prepared three Negative Declarations and one Draft Environmental Impact Report that demonstrate SCAQMD has applied its 10,000 $MTCO_2e$ /yr. significance threshold in such a way that GHG emissions covered by the Cap-and-Trade Program do not constitute emissions that must be measured against the threshold. See: SCAQMD, Final Negative Declaration for: Ultramar Inc. Wilmington Refinery Cogeneration Project, SCH No. 2012041014 (October 2014); SCAQMD, Final Negative Declaration tor Phillips 66 Los Angeles Refinery Carson Plant—Crude Oil Storage Capacity Project, SCH No. 2013091029 (December 2014); Final Mitigated Negative Declaration for Toxic Air Contaminant Reduction for Compliance with SCAQMD Rules 1420.1 and 1402 at the Exide Technologies Facility in Vernon, CA, SCH No. 2014101040 (December 2014); and Draft Environmental Impact Report for the Breitburn Santa Fe Springs Blocks 400/700 Upgrade Project, SCH No. 2014121014 (April 2014).*

This SCAQMD interim GHG significance threshold is not applicable to the Project as the Project is a residential/commercial project and the City of Los Angeles is the Lead Agency.

(2) 2006 L.A. CEQA Thresholds Guide

The *L.A. CEQA Thresholds Guide* does not identify any factors to evaluate GHG emissions impacts. Thus, the potential for the Project to result in impacts from GHG emissions is based on the Appendix G thresholds. For the reasons set forth above, to answer both of the above Appendix G thresholds, the City will consider whether the project is consistent with AB 32 and SB 375 (through demonstration of conformance with the 2016–2040 RTP/SCS), and the Sustainable City pLAn/L.A.'s Green New Deal. As discussed above, OPR has noted that lead agencies "should make a good-faith effort to calculate or estimate GHG emissions from a project.[79] GHG emissions are quantified below, consistent with OPR guidelines.

b) Methodology

Because there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the Project's impacts related to GHG emissions focuses on its consistency with statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation of consistency with such plans is the sole basis for determining the significance of the Project's GHG-related impacts on the environment. Both the Connect SoCal 2020-2045 RTP/SCS and the 2016–2040 RTP/SCS are designed to achieve regional GHG reductions from the land use and transportation sectors as required by SB 375 and the state's long-term climate goals. CARB's Climate Change Scoping Plan, SCAG's 2016 RTP/SCS; the City's Green New Deal/Sustainable City pLAn all apply to the Project and are all intended to reduce GHG emissions to meet the statewide targets set forth in AB 32. Thus, the Lead Agency has determined that the Project would not have a significant effect on the environment if the Project is found to be consistent with the applicable regulatory plans and policies to reduce GHG emissions, including the emissions reduction measures discussed within CARB's 2017 Climate Change Scoping Plan, SCAG's 2020-2045 and 2016-2040 RTP/SCS, and the City's Green New Deal/Sustainable City pLAn.

However, for informational purposes, the analysis also calculates the amount of GHG emissions that would be attributable to the Project using recommended air quality models, as described below. The primary purpose of quantifying the Project's GHG emissions is to satisfy State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The estimated emissions inventory is also used to estimate the GHG reductions there would be a reduction in the Project's incremental contribution of GHG emissions as a result of compliance with regulations and requirements adopted to implement plans for the reduction or mitigation of GHG emissions. However, the determination of whether the Project would have a significant impact with regard to GHG emissions is not based on the numeric amount of GHG emissions resulting from the Project.

[79] *OPR Technical Advisory, page 5.*

The Project is anticipated to generate GHG emissions from area sources, energy usage, mobile sources, waste, water, and construction equipment. The following provides the methodology used to calculate the project-related GHG emissions and the Project impacts.

CalEEMod Version 2016.3.2 was used to calculate the GHG emissions from the Project. The CalEEMod Annual Output for year 2024 is available in **Appendix B** to this Draft EIR. Each source of GHG emissions is described in greater detail below."

(1) Area Sources

Area sources include emissions from consumer products, landscape equipment and architectural coatings. No changes were made to the default area source emissions.

(2) Energy Usage

Energy usage includes emissions from the generation of electricity and natural gas used on-site. 2019 Title 24 commercial standards are approximately 30 percent more efficient than 2016 Title 24 Standards. This reduction is shown in the mitigated values of the CalEEMod Output available in **Appendix B** of this Draft EIR. No changes were made to the default energy usage parameters.

(3) Mobile Sources

Mobile sources include emissions from the additional vehicle miles generated from the Project. The vehicle trips associated with the Project have been analyzed based on the project trip generation calculated in the TIA. Emissions of GHGs associated with mobile sources from operation of the Project are based on the average daily trip rate, trip distance, the GHG emission factors for the mobile sources, and the GWP values for the GHGs emitted. The types of vehicles that would visit the Project Site include all vehicle types including automobiles, light-duty trucks, delivery trucks, and waste haul trucks. Modeling for the Project was conducted using the vehicle fleet mix for the Los Angeles County portion of the South Coast Air Basin as provided in EMFAC2014 and CalEEMod. Annual mobile source GHG emissions in units of $MTCO_2e$ are generally calculated as follows:

Annual Emissions [$MTCO_2e$] = (Σi (Units × ADT × DTRIP × Days × EF × GWP)i) ÷ 2204.6

Where:		
Units	=	Number of vehicles (same vehicle model year and class)
ADT	=	Average daily trip rate [trips/day]
DTRIP	=	Trip distance [miles/trip]
Days	=	Number of days per year [days/year]
EF	=	GHG emission factor [pounds per mile]
GWP	=	Global Warming potential [CO_2 = 1, CH_4 = 25, NO_2 = 298]
2204.6	=	Conversion factor [pounds/MT]
i	=	Summation index

For the trip generation rate-based analysis, the TIA found that the Project would generate approximately 5,603 total trips per day (includes reductions for transit, internal capture, pass-by, and reductions for the Transportation Demand Management Plan [TDMP], which is required by the City's Trip Reduction Ordinance). Trip generation rates include 3.78 trips per dwelling unit per day for the apartment use (with incorporation of the 15 percent transit reduction), 7.11 trips per room for the hotel use (with incorporation of the 15 percent transit reduction), 61.03 trips per thousand square foot per day for the high-turnover restaurant (with incorporation of the 15 percent transit reduction, 20 percent internal capture reduction, and 20 percent pass-by reduction), 57.0 trips per thousand square foot per day for the quality restaurant/rooftop lobby/restaurant lounge use (with incorporation of the 15 percent transit reduction, and 20 percent internal capture reduction), and 53.1 trips per thousand square foot per day for the immersive museum use (with incorporation of the 15 percent transit reduction and 20 percent internal capture reduction.

The TIA also analyzed vehicle miles traveled (VMT). As discussed in Section IV.J. Transportation. Of this Draft EIR, the Project VMT and trips were derived from the LADOT VMT Calculator. The VMT Calculator was developed by the City and LADOT to comply with SB 743 which requires lead agencies to adopt VMT criteria to determine transportation related impacts. The LADOT-derived VMT values account for the daily and seasonal variations in trip frequency and length associated with new resident, employee, and visitor trips to and from the Project Site and other activities that generate a vehicle trip. The City-based VMT analysis estimated the Project would generate a net increase in daily VMT of 26,132 (6,794,320 annual VMT); 22,267 daily VMT (5,789,420 annual VMT) with incorporation of traffic mitigation (Transportation Demand Management [TDM] strategies). The VMT calculator only estimates weekday trips. To estimate VMT emissions from mobile sources for weekdays, the CalEEMod runs used 1,000 SF of User Defined Commercial as a base land use, changed the trip percentage to 100 percent H-S or C-C and the trip purpose to 100 percent primary. The trip generation rate was calculated based on the number of trips per day for the base unit (TSF). The trip mileage was then adjusted to give the same annual VMT as reported in the TIA for both with and without TDM. As the VMT given in the traffic study was only for weekdays, CalEEMod runs were also performed to calculate the weekend emissions only using the trip generation rates from TIA as reported above. Please see the VMT CalEEMod output for details available in **Appendix B** of this Draft EIR. The weekday emissions were then added to the weekend emissions to give a combined total for the VMT-based mobile source emissions, which was then included in the calculation tables.

(4) Stationary Sources

Stationary sources for the Project include emissions from an emergency generator. The Project Site is to include a 2682 horsepower (HP) emergency generator that operates approximately 11 hours per year.[80] A diesel particulate matter filter will be installed on the vent. The CalEEMod stationary source parameters have been adjusted accordingly.

[80] *Per the project applicant, emergency generators are anticipated to operate for approximately 30 minutes every month with one annual run of approximately 90 minutes. In addition, there is to be a one-time start up run that is anticipated to last for approximately 3.5 hours. Therefore, to be conservative,*

(5) Waste

Waste includes the GHG emissions generated from the processing of waste from the Project as well as the GHG emissions from the waste once it is interred into a landfill. According to the City of Los Angeles Zero Waste Progress Report (March 2013), the City achieved a landfill diversion rate of approximately 76 percent by year 2012.[81] AB 341 requires that 75 percent of waste be diverted from landfills by 2020, reductions for this are shown in the mitigated CalEEMod output values. No other changes were made to the default waste parameters.

(6) Water

Water includes the water used for the interior of the building as well as for landscaping and is based on the GHG emissions associated with the energy used to transport and filter the water. California Green Building Standards require a 20 percent reduction in indoor water usage, reductions for this are shown in the mitigated CalEEMod output values. No other changes were made to the default water usage parameters.

(7) Construction

The construction-related GHG emissions were also included in the analysis and were based on a 30-year amortization rate as recommended in the SCAQMD GHG Working Group meeting on November 19, 2009. The construction-related GHG emissions were calculated by CalEEMod. It should be noted that the City may in its discretion permit an 86 percent parking reduction in connection with the Zone Variance to reduce parking at the Project Site from 233 vehicular parking spaces to 52 vehicular parking spaces, which would require one subterranean parking level instead of three levels as proposed by the Project.[82] The analysis in this section assumes and quantifies emissions from the construction of the proposed three-level subterranean parking structure, which would therefore result in a more conservative analysis if the 86 percent parking reduction is permitted by the City for the Project as less grading would be required.

c) Project Design Features

The Project would implement the following Project Design Features (PDFs) to ensure implementation of conservation measures:

- **PDF GHG-1:** The design of the new buildings shall incorporate the following sustainability features:

the one-time start up run time was included in the total annual operational hours is anticipated to be approximately 11 hours (7.5 hours for maintenance plus 3.5 hours for start-up run).

[81] *City of Los Angeles, Department of Public Works, LA Sanitation, Zero Waste Progress Report, March 2013, https://bioenergyproducers.files.wordpress.com/2016/11/la-zero-waste-report.pdf. Accessed December 2018.*

[82] *The parking reduction would support the anticipated parking requirements in DTLA 2040, the City's joint update of the Central City Community Plan and Central City North Community Plan. In the current draft of DTLA 2040, the Project Site is proposed to have no parking minimums as part of the Transit Core.*

- Incorporate energy-saving technologies and components to reduce the Project's electrical use profile. Examples of these components include the use of light-emitting diode (LED) and other efficient lighting technology, energy saving lighting control systems such as light- and motion-detection controls (where applicable), and energy efficient heating, ventilation, and air conditioning (HVAC) equipment.
- HVAC mechanical systems and building lighting shall be controlled with timing systems to prevent accidental or inappropriate conditioning or lighting of unoccupied space.
- Demand control ventilation shall be utilized in HVAC systems, and refrigerants in HVAC equipment shall have low GHG emission rates. In particular, the HVAC system shall be designed to optimize exterior and interior air-flow to ensure healthy indoor air quality.

In addition, as part of the Project, the Applicant would incorporate project features to further support and promote environmental sustainability. The sustainability features to be incorporated into the Project would include, but would not be limited to the following: photovoltaic cells; electric vehicle charging stations (discussed further below); material recycling stations; highly efficient HVAC systems; energy-efficient wall insulation and glazing units; WaterSense-labeled plumbing fixtures and weather-based controller and drip irrigation systems to promote a reduction of indoor and outdoor water use; Energy Star–labeled appliances; and water-efficient landscape design (i.e., grouping plants according to their water needs, use of native and low-water plants, etc.). The Project would comply with all applicable State and local regulatory requirements, including the provisions set forth in the City's Green Building Ordinance. The Project would comply with the City's EV charging requirements which specifies that 10 percent of new parking spaces would require EV charging equipment. In addition, 30 percent of all new parking spaces would be required to be EV "ready" which will be capable of supporting future EV charging equipment.[83] The Project would also include water conservation and waste reduction features as set forth in Project Design Feature WAT-PDF-1 in Section IV.K.1, Utilities and Service Systems—Water Supply and Infrastructure, of this Draft EIR.

d) Analysis of Project Impacts

Threshold a) ***Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

Threshold b) ***Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?***

[83] *City of Los Angeles Ordinance No. 186,485. December 11, 2019.*

(1) Impact Analysis

(a) Consistency with Applicable Plans and Policies

The following describes the Project's consistency with applicable regulatory plans and policies intended to reduce GHG emissions, including Executive Orders S-3-05 and B-30-15, AB 32 Scoping Plan, SCAG's 2016-2040 and 2020-2045 RTP/SCS, the LA Sustainable City pLAn, the LA Green Building Code, the LA Green Plan, and the ClimateLA Implementation Plan. As shown in Section IV.G of this Draft EIR, the Project is consistent with the City's General Plan. As shown below, the Project would be consistent with the applicable GHG reduction plans, policies, and regulations.

(i) Executive Orders S-3-05 and B-30-15

The Executive Orders establish a goal to reduce GHG emissions to 80 percent below 1990 levels by 2050. This goal has not been codified by the Legislature and CARB has not adopted a strategy goal, aggressive technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. In its original Climate Change Scoping Plan, CARB acknowledged that the "measures needed to meet the 2050 goal are too far in the future to define in detail."[84] In the First Update, CARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large-scale 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."[85] The 2017 Scoping Plan recognizes that additional work is needed to achieve the more stringent 2050 target: "While the Scoping Plan charts the path to achieving the 2030 GHG emissions reduction target, we also need momentum to propel us to the 2050 statewide GHG target (80 percent below 1990 levels). In developing this Scoping Plan, we considered what policies are needed to meet our mid-term and long-term goals."[86] For example, the 2017 Scoping Plan acknowledges that "though Zero Net Carbon Buildings are not feasible at this time and more work needs to be done in this area, they will be necessary to achieve the 2050 target. To that end, work must begin now to review and evaluate research in this area, establish a planning horizon for targets, and identify implementation mechanisms."

Energy Sector: Continued improvements in California's lighting, appliance, and building energy efficiency programs and initiatives, such as the State's building energy efficiency standards and zero net energy building goals, would serve to reduce the project's emissions level.[87] Additionally, further technological improvements and additions to California's renewable resource portfolio would favorably influence the project's emissions level.[88]

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[84] *California Air Resources Board, Climate Change Scoping Plan, December 2008, page 117.*
[85] *California Air Resources Board, First Update, May 2014, page 32.*
[86] *California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017.*
[87] *California Air Resources Board, First Update, pages 37-39 and 85.*
[88] *California Air Resources Board, First Update, pages 40-41.*

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 project's emissions level.[89]

Water Sector: The project's emissions level will be reduced as a result of further enhancements to water conservation technologies.[90]

Waste Management Sector: Plans to further improve recycling, reuse, and reduction of solid waste will beneficially reduce the project's emissions level.[91]

The quantitative GHG emissions analysis (detailed above) was prepared after thorough investigation of feasible methodologies to determine the potential GHG emissions associated with the Project. Due to the technological shifts required and the unknown parameters of the regulatory framework in 2050, quantitatively analyzing the Project's emissions relative to the 2050 goal is speculative for purposes of CEQA. Although the Project's emissions level in 2050 cannot be reliably quantified, statewide efforts are underway to facilitate the State's achievement of that goal and it is reasonable to expect the Project's emissions level (6,386.57 metric tons of CO_2e per year) to decline as the regulatory initiatives identified by CARB in the Climate Change Scoping Plan are implemented, and other technological innovations occur. Due to the uncertainty regarding specific state and local actions that will be implemented to achieve the 2050 GHG emission reduction targets, calculating Project emissions levels for 2050 would be highly speculative. Nonetheless, statewide efforts are underway to facilitate the State's achievement of those goals and it is reasonable to expect the Project's emissions level to decline as the regulatory initiatives identified by CARB in the 2017 Scoping Plan are implemented, and other technological innovations occur.

Many of the emission reduction strategies recommended by ARB would serve to reduce the Project's post- 2020 emissions level to the extent applicable by law and help lay the foundation "…for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," as called for in ARB's First Update to the AB 32 Scoping Plan. As such, the Project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets and Executive Order S-3-05 and B-30-15. The project's consistency with the AB 32 Scoping Plan is examined below.

(ii) Climate Change Scoping Plan

Emission reductions in California alone would not be able to stabilize the concentration of greenhouse gases in the earth's atmosphere. However, California's actions set an example and drive progress towards a reduction in greenhouse gases elsewhere. If other states and countries were to follow California's emission reduction targets, this could avoid medium or higher ranges of global temperature increases. Thus, severe consequences of climate change could also be avoided.

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89 *California Air Resources Board, First Update, pages 55-56.*
90 *California Air Resources Board, First Update, page 65.*
91 *California Air Resources Board, First Update, page 69.*

At the state level, Executive Orders S-3-05 and B-30-15 are orders from the State's Executive Branch for the purpose of reducing GHG emissions. Executive Order S-3-05's goal to reduce GHG emissions to 1990 levels by 2020 was adopted by the Legislature as the 2006 Global Warming Solutions Act (AB 32) and codified into law in HSC Division 25.5. Executive Order B-30-15's goal to reduce GHG emissions to 40 percent below 1990 levels by 2030 was adopted by the Legislature in SB 32 and also codified into law in HSC Division 25.5. In support of HSC Division 25.5, the State has promulgated specific laws and strategies aimed at GHG reductions applicable to the Project. The primary focus of many of the statewide and regional plans, policies and regulations is to address worldwide climate change. Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, there is no basis for concluding that the Project's increase in annual GHG emissions would cause a measurable change in global GHG emissions necessary to influence global climate change. Newer construction materials and practices, energy efficiency requirements, and newer appliances tend to emit lower levels of air pollutant emissions, including GHGs, as compared to those built years ago; however, the net effect is difficult to quantify. The GHG emissions of the Project alone would not likely cause a direct physical change in the environment. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective."[92] It is global GHG emissions in their aggregate that contribute to climate change, not any single source of GHG emissions alone.

The Climate Change Scoping Plan outlines a framework that relies on a broad array of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, incentives, voluntary actions, and market-based mechanisms such as the Cap-and-Trade program. The Climate Change Scoping Plan builds off of a wide array of regulatory requirements that have been promulgated to reduce statewide GHG emissions, particularly from energy demand and mobile sources. While these regulatory requirements are not targeted at specific land use development projects, they would indirectly reduce a development project's GHG emissions. A discussion of these regulatory requirements that would reduce the Project's GHG emissions are provided below.

- **California Renewables Portfolio Standard (RPS) program (SB 100):** While this action does not directly apply to individual projects, the Project complies with the RPS program inasmuch as its electricity is provided by LADWP, which, in compliance with the RPS program, is required to obtain 33 percent renewable power by 2020 and has committed to achieving 50 percent renewables by 2025.[93] Furthermore, per the updated requirements of SB 100, signed by Governor Brown on September 10, 2018, LADWP would be required to procure eligible renewable electricity for 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030 and should plan to achieve 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045. Thus, the Project would be supplied with electricity via

[92] *California Air Pollution Control Officers Association, CEQA & Climate Change: Evaluating and Addressing Greenhous Gas Emissions from Projects Subject to the California Environmental Quality Act, 2008.*

[93] *LADWP, 2017 Power Strategic Integrated Long-Term Resource Plan, p. ES-18.*

renewable sources at increasing rates over time reducing the Project's electricity-related GHG emissions.

- **SB 1368/AB 398, CCR Title 20, Cap-and-Trade Program:** The State's Cap-and-Trade Program reduces GHG emissions from major sources (deemed "covered entities") by setting a firm cap on Statewide GHG emissions and employing market mechanisms to achieve emission reduction targets. While the Cap-and-Trade Program does not directly apply to individual projects, the Project would comply with the Program inasmuch as the Project's electricity usage would be covered by the Cap and- Trade Program as LADWP is a covered entity, resulting in a reduction of GHG emissions from the Project's energy consumption.

- **AB 1493 (Pavley Regulations):** The State's Pavley Regulations apply to new passenger vehicles from model year 2012 through 2016 (Phase I) and model years 2017–2025 (Phase II). While this action does not apply to individual projects, future residents, employees, and visitors to the Project Site would purchase new vehicles in compliance with this regulation. Mobile source emissions generated by future residents, employees, and visitors to the Project Site would be reduced with implementation of AB 1493. However, it is noted that the vehicle emissions standards beyond model year 2020 may not occur due to the Federal SAFE Vehicles Rules and the One National Program on Federal Preemption of State Fuel Economy Standards.

- **Advanced Clean Cars Program:** The Advanced Clean Cars (ACC) program includes Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years. While this action does not directly apply to individual projects, the standards would apply to all vehicles purchased or used by residents, employees, and visitors to the Project Site. The Project design provides for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into a minimum of 30 percent of the parking spaces, with 10 percent of the Code-required spaces further improved with electric vehicle charging stations. As such, the Project would support compliance with this regulation.

- **Low Carbon Fuel Standard (Executive Order S-01-07):** This regulation establishes a Statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and 18 percent by 2030. While this action does not directly apply to individual projects, future residents, employees, and visitors to the Project Site would utilize transportation fuels in compliance with this regulation. GHG emissions related to vehicular travel by Project would benefit from this regulation and mobile source emissions generated by future residents, employees, and visitors to the Project Site would be reduced with implementation of the LCFS.

- **SB 375:** SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. Under SB 375, CARB is required, in consultation with the State's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. While this action does not directly apply to individual projects, the Project would be consistent with SCAG 2016-2040 RTP/SCS goals and objectives under SB 375 to implement "smart growth." As discussed below, the Project would be consistent with the SCAG 2016-2040 RTP/SCS.

- **SB X7-7:** The Water Conservation Act of 2009 sets an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. Each urban retail water supplier shall develop water use targets to meet this goal. While this action does not directly apply to individual projects, the Project would support compliance with this regulation through regulatory compliance measures RC GHG-2 and RC GHG-3 detailed above.

- **California Integrated Waste Management Act (IWMA) of 1989 and AB 341:** The IWMA mandated that State agencies develop and implement an integrated waste management plan which outlines the steps to be taken to divert at least 50 percent of their solid waste from disposal facilities. AB 341 directs CalRecycle to develop and adopt regulations for mandatory commercial recycling and sets a Statewide goal for 75 percent disposal reduction by the year 2020. While this action does not directly apply to individual projects, the Project would comply with the IWMA inasmuch as it would be served by a solid waste collection and recycling service that include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with Citywide recycling targets. According to the City of Los Angeles Zero Waste Progress Report (March 2013), the City achieved a landfill diversion rate of approximately 76 percent by year 2012.[94]

Table IV.E-5, *Project Consistency with CARB Scoping Plan*, contains a list of GHG-reducing measures and strategies applicable to the Project. The analysis describes the consistency of the Project with these measures and strategies outlined in the State's 2017 Climate Change Scoping Plan to reduce GHG emissions. The Climate Change Scoping Plan outlines a framework that relies on a broad array of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, incentives, voluntary actions, and market-based mechanisms such as the Cap-and-Trade program. As discussed below, the Project would implement PDFs, regulatory compliance, and incorporate characteristics to reduce energy use, conserve water, reduce waste generation, and reduce vehicle travel consistent with statewide strategies and regulations.

As the latest 2017 Scoping Plan builds upon previous versions, project consistency with applicable strategies of both the 2008 and 2017 Plan are assessed in **Table IV.E-5, Project Consistency with CARB Scoping Plan**. As shown in **Table IV.E-5**, the Project would not conflict with applicable Climate Change Scoping Plan strategies and regulations to reduce GHG emissions.

[94] *City of Los Angeles Department of Public Works, LA Sanitation, Zero Waste Progress Report, March 2013.*

Table IV.E-5
Project Consistency with CARB Scoping Plan

Strategies for Reducing GHG Emissions	Project Consistency
2008 Scoping Plan Measures	
California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted Pavley standards and planned second phase of the system. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	**No Conflict**. The Project would not conflict with implementation of the vehicle emissions standards because these are state regulatory requirements. The Project would also comply with the measure through incorporation of EV spaces on-site.
Energy Efficiency. Maximize energy efficiency building and appliance standards and pursue additional efficiency efforts including new technologies, and new policy and mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	**No Conflict**. Compliance with the LA Green Building Code and 2019 CALGreen Code would ensure energy efficiency because the standards ensure that builders use the most energy efficient and energy conserving technologies and construction practices. The Project would also include an energy efficient elevator, energy efficient mechanical systems, energy efficient glazing and window frames, Energy-Star appliances are to be installed on-site, and the use of high-efficiency lighting. Furthermore, the Project would use electricity provided by LADWP, which is required to obtain 33 percent renewable power by 2020 and has committed to achieving 50 percent renewables by 2025.[95]
Low-Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard.	**No Conflict.** The Project would not conflict with implementation of the transportation fuel standards. Additionally, patrons of the Project would be utilizing the fuels available to the public upon project commencement, including the State-regulated Low-Carbon Fuel Standard.
Vehicle Efficiency Measures. Implement light-duty vehicle efficiency measures.	**No Conflict.** These are CARB enforced standards; vehicles that access the Project (that are required to comply with these standards) will comply with the strategy.
Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	**No Conflict.** These are CARB enforced standards; vehicles that access the Project (that are required to comply with these standards) will comply with the strategy.
Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	**No Conflict**. Compliance with the LA Green Building Code and CALGreen Code would ensure energy efficiency. The Project would also include an energy efficient elevator, energy efficient mechanical systems, energy efficient glazing and window frames, energy-star appliances are to be installed on-site, and the use of high-efficiency lighting.
High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	**No Conflict.** CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the Project

[95] *Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, page ES-1.*

Table IV.E-5
Project Consistency with CARB Scoping Plan

Strategies for Reducing GHG Emissions	Project Consistency
	Site that are required to comply with the measures, will comply with the strategy. Additionally, the Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code for the use of HFCs in HVAC systems.
Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting and other beneficial uses of organic materials and mandate commercial recycling. Move toward zero waste.	**No Conflict.** The Project would be consistent with AB 341 which sets forth a mandate to divert 75 percent of solid waste from landfills (see **Section IV.J., Public Services**, and **Section IV.M., Utility and Service Systems,** of this DEIR).
Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	**No Conflict.** The Project would include the use of low-flow fixtures. The Project will comply with all applicable City ordinances and CAL Green requirements. Further, the Project includes the design feature of water-efficient irrigation systems/ drought-tolerant landscaping.
2017 Scoping Plan Measures	
Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations.	**No Conflict.** These are CARB enforced standards; vehicles that access the Project Site that are required to comply with the standards, will comply with the strategy.
Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030.	**No Conflict.** These are CARB enforced standards; vehicles that access the Project Site that are required to comply with the standards, will comply with the strategy. Furthermore, the Project will comply with applicable City of Los Angeles Building Codes pertaining to building code requirements for charging station prewiring in new multifamily construction/installation of charging stations at multi-unit dwellings and workplaces. Ten percent (10 percent) of the required parking spaces would be provided with a charger for electric vehicles within the parking garage, thereby further reducing consumption of petroleum-based fuels.
Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard.	**No Conflict**. These are CARB enforced standards; vehicles that access the Project Site that are required to comply with the standards, will comply with the strategy. Furthermore, the Project will take advantage of clean transit options as it is located close to transit opportunities, including the Pico Metro Station. The Project Site is also served by several bus lines as Metro runs multiple bus lines, including local and rapid lines, along Pico Boulevard with stops at Grand Avenue, Flower Street, and Figueroa Street.
Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the	**No Conflict.** These are CARB enforced standards; vehicles that access the Project (that are required to

Table IV.E-5
Project Consistency with CARB Scoping Plan

Strategies for Reducing GHG Emissions	Project Consistency
deployment of increasing numbers of zero emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	comply with these standards) will comply with the strategy.
Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	**No Conflict.** The Project will be compliant with the current Title 24 standards. Further, the Project includes the sustainability features: energy efficient elevator, energy efficient mechanical systems, energy efficient glazing and window frames, energy-star appliances are to be installed on-site, and the use of high-efficiency lighting.
By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383.	**No Conflict.** The Project will be required to comply with City programs, such as City's recycling and waste reduction program, which comply, with the 75 percent reduction required by 2020 per AB 341.
Source: CARB Scoping Plan (2008 and 2017).	

Furthermore, in addition to the Project's consistency with applicable GHG reduction laws and strategies, the Project would not conflict with the future anticipated statewide GHG reductions goals. CARB has outlined a number of potential strategies for achieving the 2030 reduction target of 40 percent below 1990 levels, as mandated by SB 32. These potential strategies include renewable resources for half of the State's electricity by 2030, increasing the fuel economy of vehicles and the number of zero-emission or hybrid vehicles, reducing the rate of growth in VMT, supporting high-speed rail and other alternative transportation options, and use of high-efficiency appliances, water heaters, and HVAC systems.[96] The Project would benefit from statewide and utility-provider efforts towards increasing the portion of electricity provided from renewable resources. As previously discussed, the utility provider for the Project, LADWP, currently provides 20 percent of electricity via renewable sources but has committed to providing an increasing percentage from renewable sources that exceed the Renewables Portfolio Standard requirements by providing 50 percent by 2025, 55 percent by 2030, and 65 percent by 2036.[97] The Project would also include an energy efficient elevator, energy efficient mechanical systems, energy efficient glazing and window frames, energy-star appliances are to be installed on-site, and the use of high-efficiency lighting. The Project would also benefit from statewide efforts towards increasing the fuel economy standards of vehicles. The Project would support reducing VMT growth given its location at an infill site within approximately 500 feet of the Pico Metro Station and accessible to Metro local and rapid bus lines along Pico Boulevard.

[96] *Energy + Environmental Economics, Summary of the California State Agencies' PATHWAYS Project: Long-Term Greenhouse Gas Reduction Scenarios, April 6, 2015.*

[97] *Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, page ES-1.*

As discussed in Table IV.E-5 above, the Project would be consistent with applicable GHG reduction strategies in the 2017 Climate Change Scoping Plan. The 2017 Scoping Plan also outlines strategies to reduce GHG emissions to achieve the 2030 target from sectors that are not directly controlled or influenced by the Project, but nonetheless contribute to Project-related GHG emissions. For instance, the Project itself is not subject to the Cap-and-Trade regulation; however, Project-related emissions would decline pursuant to the regulation as utility providers and transportation fuel producers are subject to renewable energy standards, Cap-and-Trade, and the LCFS. The 2017 Scoping Plan also calls for the doubling of the energy efficiency savings, including utility demand-response flexibility for 10 percent of residential and commercial electric space heating, water heating, air conditioning and refrigeration. The strategy is in the process of being designed specifically to accommodate existing residential and commercial uses under the CEC's Existing Building Energy Efficiency Action Plan.[98] While CARB is in the process of expanding the regulatory framework to meet the 2030 reduction target based on the existing laws and strategies in the 2017 Scoping Plan, the Project would support, or not impede implementation of these potential GHG reduction strategies identified by CARB.

(iii) 2016-2040 and 2020-2045 RTP/SCS

Consistent with SCAG's 2016-2040 RTP/SCS and 2020-2045 RTP/SCS alignment of transportation, land use, and housing strategies, the Project would accommodate increases in population, households, employment, and travel demand. The Project Site is located within an HQTA as designated by the 2016-2040 RTP/SCS.[99,100] As discussed previously, the Project Site is an urban center location close to jobs, off-site housing, shopping and entertainment uses and in close proximity to public transit stops, which would result in reduced VMT, as compared to a project of similar size and land uses at a location without close and walkable access to off-site destinations and public transit stops. The 2016-2040 RTP/SCS projects that these urban center/infill areas, while comprising only three percent of land area in the region make up 46 percent of future household growth and 55 percent of future job growth.

The Project would also not conflict with the following key GHG reduction strategies in SCAG's 2016-2040 RTP/SCS, which are based on changing the region's land use and travel patterns:

- Compact growth in areas accessible to transit;
- New multi-family housing (136 residential units) in an urban center/infill location together with 444 hotel rooms and 22,900 SF of restaurant uses;
- Jobs and housing closer to transit;
- New housing and job growth focused in HQTAs (defined by the 2016 RTP/SCS as generally walkable transit villages or corridors that are within 0.5 mile of a well-serviced

[98] *California Energy Commission, 2016 Existing Buildings Energy Efficiency Plan Update, December 2016.*
[99] *SCAG, 2016 RTP/SCS April 2016, Exhibit 5:1 High Quality Transit Areas in the SCAG Region for 2040 Plan, p. 77.*
[100] *Metro, High Quality Transit Areas-Southwest Quadrant Map.*

transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours); and

- Biking and walking infrastructure to improve active transportation options and transit access.

The Project would also not conflict with the applicable goals of the 2020-2045 RTP/SCS, which are as follows:

- Goal 2: Improve mobility, accessibility, reliability, and travel safety for people and goods.
- Goal 3: Enhance the preservation security, and resilience of the regional transportation system.
- Goal 4: Increase person and goods movement and travel choices within the transportation system.
- Goal 5: Reduce greenhouse gas emissions and improve air quality.
- Goal 6: Support healthy and equitable communities.
- Goal 7: Adapt to a changing climate and support an integrated regional development pattern and transportation network.
- Goal 9: Encourage development of diverse housing types in areas that are supported by multiple transportation options.

Further, the vertical integration of land uses on the Project Site will produce substantial reductions in auto mode share to and from the Project Site that will help the region accommodate growth and promote public transit ridership that minimizes GHG emission increases and reduces per capita emissions consistent with the RTP/SCS. Additionally, the inclusion of electric vehicle charging infrastructure (per LA Green Building Code) will support the penetration of electric zero-emission vehicles into the vehicle fleet.

Conflicts and consistency of the Project with the 2016-2040 RTP/SCS is addressed in **Table IV.G-1, Consistency with Applicable Goals of RTP/SCS,** found in **Appendix N** of this Draft EIR. Based on the analysis presented in **Table IV.G-1**, found in **Appendix N** of this Draft EIR, the Project would not be in conflict with applicable 2016-2040 RTP/SCS goals. Conflicts and consistency of the Project with the 2020-2045 RTP/SCS is addressed in **Table IV.G-2, Consistency with Applicable Goals of 2020-2045 RTP/SCS,** found in **Appendix N** of this Draft EIR. Based on the analysis presented in **Table IV.G-2**, found in **Appendix N** of this Draft EIR, the Project would not be in conflict with applicable 2020-2045 RTP/SCS goals. The Project would be located in an area well-served by public transit. Specifically, the Project Site is served by transit including the Metro light rail, Local, Rapid, Silver, and Silver Express, LADOT Commuter and DASH, OCTA, and BBB bus lines and their use would reduce air pollutant and GHG emissions. The Project would not result in an unmitigated impact to VMT. The Project would contribute to mobility, reliability of travel, and travel safety by providing a vehicular drop-off area on Hope

Street, and drop-off areas accessed from Hope Street and the northern portion of the existing alleyway to avoid creating congestion or hazards and would not interfere with person or goods movement in the area. The Project's location near public transit would provide travel choices. The Project would implement TDM measures, which would reduce Project-generated VMT and GHG emissions and would locate residential and commercial uses in a developed area proximate to transit, which would help to reduce greenhouse gases and air quality pollutant emissions. The Project would promote human health by including short-term and long-term bicycle facilities and create a pedestrian-friendly environment by providing landscaped walkways along street frontages. The Project Site is located adjacent to a mature network of streets that include vehicular, pedestrian and bicycle facilities. Development of the Project within this established community would promote a variety of travel choices and would create new employment and housing opportunities the area. The Project would not conflict with the RTP/SCS' goals to maximize mobility and accessibility for all people and goods in the region, ensure travel safety and reliability, preserve and ensure a sustainable regional transportation system, protect the environment, encourage energy efficiency, promote environmental justice, and facilitate the use of alternative modes of transportation.

As demonstrated above, the Project would be consistent with the applicable goals, including those pertaining to reductions in GHG emissions, in both the 2016-2040 RTP/SCS and 2020-2045 RTP/SCS.

(iv) LA Sustainable City pLAn/L.A.'s Green New Deal

The Sustainable City pLAn includes both short-term and long-term aspirations through the year 2035 in various topic areas, including: water, solar power, energy-efficient buildings, carbon and climate leadership, waste and landfills, housing and development, mobility and transit, and air quality, among others. While not a plan adopted solely to reduce GHG emissions, within the Sustainable City pLAn, climate mitigation is one of eight explicit benefits that help define its strategies and goals.

The Sustainable City pLAn provides information as to what the City will do with buildings and infrastructure in their control. Specific targets related to housing and development, and mobility and transit, include the construction of new housing units within 1,500 feet of transit by 2017, reducing vehicle miles traveled per capita by five percent by 2025, and increasing trips made by walking, biking or transit by at least 35 percent by 2025. A discussion of the Project's consistency with the Sustainable City pLAn targets is provided below in **Table IV.E-6, Project Consistency with the LA Sustainable City pLAn**.

Table IV.E-6
Project Consistency with the LA Sustainable City pLAn

Targets	Project Consistency
Local Water. 20 percent reduction in water use per capita by 2017; 22.5 percent by 2025; and 25 percent by 2035.	**No Conflict**. The Project would be consistent with the LAMC to reduce water consumption by 20 percent. The Project's design features include: low-flow fixtures (faucets, showers, and toilets) low water use landscaping and water-efficient irrigation systems. In addition, the Project would include water-efficient landscaping.
Solar Power. Increase cumulative total megawatts of local solar photovoltaic power to between 900-1,500 megawatts by 2025 and 1,500 to 1,800 megawatts by 2035 as well as increasing the cumulative total megawatts of energy storage capacity to at least 1,654 to 1,750 megawatts by 2025.	**No Conflict**. Although the Project does not include the installation of solar panels, compliance with the LA Green Building Code and CALGreen Code would ensure energy efficiency. The Project would also include high-efficiency lighting, and energy-efficient appliances. Building rooftop areas without landscaping, pool, deck, garden or other improvements will be constructed as solar ready for the future installation of on-site solar photovoltaic (PV) or solar water heating (SWH) systems as required by the 2019 or better Title 24 Building Energy Efficiency Standards or applicable version at the time of building permit issuance.
Energy Efficient Buildings. Reduce energy use per square foot below 2013 baseline levels for all building types by at least 14 percent by 2025 and 30 percent by 2035 and use energy efficiency to deliver 15 percent of all of the City's projected electricity needs by 2020.	**No Conflict**. Compliance with the LA Green Building Code and CALGreen Code would ensure energy efficiency. The Project would include an energy efficient elevator, energy efficient mechanical systems, energy efficient glazing and window frames, energy-star appliances are to be installed on-site, and the use of high-efficiency lighting.
Carbon and Climate Leadership. Reduce GHG emissions below 1990 baseline by at least 45 percent by 2025, 60 percent by 2035, and 80 percent by 2050. Improve GHG efficiency of the City from 2009 levels by 55 percent by 2025 and 75 percent by 2035.	**No Conflict.** The Project would be designed to incorporate energy and water efficient design that meet or exceed the 2019 Title 24 Building Energy Efficiency Standards and CALGreen Code standards and incorporate energy and water efficiency measures. The Project includes design features and compliance with Code measures that will assist in the reduction of project related GHG emissions. Some of these design features and mitigation measures include: an energy efficient elevator, energy efficient mechanical systems, energy efficient glazing and window frames, energy-star appliances are to be installed on-site, and the use of high-efficiency lighting. Sidewalks/walkable areas are designed within the project boundary and will connect offsite, all building structures are to meet or exceed 2019 Title 24, Part 6 Standards and meet Green Building Code Standards, all faucets, toilets and showers installed in the proposed structures are to utilize low-flow fixtures that would reduce indoor water demand by 20 percent per CalGreen Standards, use of water-efficient irrigation systems, and recycling programs that reduce waste to landfills by a minimum of 75 percent (per AB 341).

Table IV.E-6
Project Consistency with the LA Sustainable City pLAn

Targets	Project Consistency
Waste and Landfills. Increase land fill diversion rates to at least 90 percent by 2025 and 95 percent by 2035, as well as increasing proportion of waste products and recyclable commodities productively reused and repurposed within the County of Los Angeles to at least 25 percent by 2025 and 50 percent by 2035.	**No Conflict**. The Project would be required to implement recycling programs that reduce waste to landfills by a minimum of 75 percent (per AB 341). The Project would be served by a solid waste collection and recycling service that may include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with citywide recycling targets. The Project would also comply with the City of Los Angeles Space Allocation Ordinance (171,687) which requires that developments include a recycling area or a room of a specified size on the Project Site.
Housing and Development. Increase cumulative new housing unit construction to 100k by 2021, 150k by 2025, and 275k by 2035. Ensure proportion of new housing units built within 1,500 feet of transit is at least 57 percent by 2025 and 65 percent by 2035.	**No Conflict.** The Project includes the development of apartments, hotel, restaurant, and commercial uses. The Project is also an infill development located in close proximity to transit.
Mobility and Transit. Reduce daily VMT per capita by at least 5 percent by 2025 and 10 percent by 2035. Increase the percentage of all trips made by walking, biking, or transit to at least 35 percent by 2025 and 50 percent by 2035.	**No Conflict.** The Project is an infill development located in close proximity to transit. Additionally, the Project is a mixed-use development with apartments, hotel, restaurant, and commercial uses. A total of 215 bicycle parking spaces will be provided on-site.
Air Quality. Increase the percentage of electric and zero emissions vehicles in the city to 10 percent by 2025 and 25 percent by 2035 as well as increasing the percentage of port-related goods movement trips that use zero-emissions technology to at least 15 percent in 2025 and 25 percent in 2035.	**No Conflict**. The Project will comply with applicable City of Los Angeles Building Codes pertaining to building code requirements for charging station prewiring in new multifamily construction/ installation of charging stations at multi-unit dwellings and workplaces. Ten percent (10 percent) of the required parking spaces would be provided with a charger for electric vehicles within the parking garage, thereby further reducing consumption of petroleum-based fuels.
Note: This analysis focuses on the Sustainable City pLAn targets most applicable to the Project. *Source: City of Los Angles Sustainable City pLAn, April 2015 and L.A.'s Green New Deal Sustainable City pLAn 2019.*	

The analysis above describes the consistency of the Project with the City's *Sustainable City pLAn*. As discussed in **Table IV.E-6**, generally the Project's consistency with the plans and policies should be demonstrated by a combination of regulatory compliance (green building code etc.) as well as project-specific characteristics and voluntary measures (e.g., PDFs). Additionally, as shown on the land use plan consistency tables in **Appendix N**, the Project would be consistent with the City of Los Angeles General Plan Framework Element, Housing Element, and Central City Community Plan. Lastly, the Project would be consistent with the policies of the 2019 and 2020 City of Los Angeles Transportation Assessment Guidelines. The Project would implement PDFs and incorporate water conservation, energy conservation, tree-planting, and other features

consistent with these plans. Therefore, the Project would be consistent with the City's applicable plans, policies, or regulations for the reduction of GHG emissions.

(v) LA Green Building Code

The Los Angeles Green Building Ordinance requires that all projects filed on or after January 1, 2020 comply with the current Los Angeles Green Building Code as amended to comply with the 2019 CALGreen Code. Mandatory measures under the Green Building Ordinance that would help reduce GHG emissions include short- and long-term bicycle parking measures; designated electric vehicle parking measure; and electric vehicle supply wiring. The project would comply with these mandatory measures, as the project would provide on-site bicycle parking spaces and ten percent of its required parking spaces would be provided chargers for electric vehicles within the parking structure. Furthermore, the Green Building Ordinance includes provisions that require the project to increase energy efficiency through the installation of Energy Star rated appliances and installation of water conserving fixtures. Therefore, the project is consistent with the Los Angeles Green Building Ordinance. The project will comply with the City of Los Angeles' Green Building Ordinance standards and reduce emissions beyond a "Business-as-Usual" scenario.

(b) Project Emissions

As detailed above, the primary purpose of quantifying the Project's GHG emissions is provided for informational purposes only and to satisfy State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The evaluation of consistency with CARB's 2017 Climate Change Scoping Plan, SCAG's 2020-2045 and 2016-2040 RTP/SCS, and the City's LA Green Plan, and Sustainable City pLAn is the sole basis for determining the significance of the Project's GHG-related impacts on the environment.

The Project would involve the demolition of approximately 32,550 square feet of existing commercial industrial buildings, the adaptive reuse and expansion of an existing 46,626-square-foot, 111-unit SRO Existing Hotel, and construction of a Hotel/Residential Tower. The total floor area of the Project would be approximately 420,303 square feet, with 136 dwelling units and 444 guest rooms. The Project includes 233 parking spaces to be located within three subterranean levels up to 36 feet in depth; however, if the City permits the 86 percent parking reduction option, one subterranean parking level would be constructed for 52 vehicular parking spaces instead, which would also reduce associated emissions from grading during construction. The parking entry ramp would be accessed via the covered entry from Hope Street. The subterranean levels would also include some hotel and residential back-of-house and storage uses and an immersive museum.

The Project is anticipated to be built in one phase, over 36 months, and be operational in 2024. Construction activities would include: demolition of the existing buildings at 1220, 1224, and 1240 Hope Street and removal of the existing surface parking lot, grading/excavation, and building construction for the hotel expansion and the new hotel and residential tower. Demolition activities are anticipated to start no sooner than early 2021, and construction completion and building occupancy is anticipated in 2024. Construction would consist of site preparation and demolition (4 months), grading/excavation (5 months), building construction (22 months), and finishing (5

months). The Project is estimated to require a net export of approximately 130,000 cubic yards of soil.

The GHG emissions have been calculated based on the parameters described above. A summary of the results is shown below in **Table IV.E-7, Project-Related GHG Emissions** and the CalEEMod Model run for the Project is provided in **Appendix B** of this Draft EIR. **Table IV.E-7** shows that the subtotal for the Project's emissions (without incorporation of design features/regulation) would be 7,919.00 $MTCO_2e$ per year. The data provided in **Table IV.E-8, Project-Related GHG Emissions With Incorporation of Design Features and Regulations** shows that the Project's total mitigated emissions (incorporation of design features and compliance with regulations is shown as "mitigation" in the CalEEMod output) would be reduced to 6,386.57 $MTCO_2e$ per year resulting in a reduction of 19.35 percent. The 19.35 percent reduction comes from incorporation of the following project design features and regulatory compliance: utilizing low-flow fixtures that would reduce indoor water demand by 20 percent per CalGreen Standards, using water-efficient irrigation systems on-site per City requirements, recycling programs that reduces waste to landfills by a minimum of 75 percent (per AB 341); use of Energy Star® appliances on-site, installation of energy efficient lighting, an energy efficient elevator, energy efficient mechanical systems, energy efficient glazing and energy efficient window frames; incorporation of the CAPCOA-based land use and site enhancement reduction measures: LUT-1 Increased Density,[101] LUT-3 Increased Diversity,[102] and SDT-1 Improve Pedestrian Network.[103] The reductions in emissions from mobile sources come from compliance with the City's TDM strategies (see Section IV.K of this Draft EIR for details).

Table IV.E-7
Project-Related GHG Emissions

Emissions Source	Estimated Project Generated CO_2e Emissions (Metric Tons per Year)
Area Sources	31.93
Energy Usage (Electricity & Natural Gas)	2,903.32
Mobile Sources (Motor Vehicles [VMT])	4,323.34
Stationary	11.27
Solid Waste Generation	250.44
Water Demand	318.94
Construction Emissions	79.75
Project Total	**7,919.00**

*Calculation sheets are provided in **Appendix B** of this Draft EIR.*
Source: CalEEMod Version 2016.3.2 for Opening Year 2024 and VMT

[101] *Project is more dense than typical developments.*
[102] *Different types of land uses are near each other.*
[103] *On-site pedestrian access network links all of the project internally and externally.*

Table IV.E-8
Project-Related GHG Emissions with Incorporation of Design Features and Regulations

Emissions Source	Estimated Project Generated CO_2e Emissions (Metric Tons per Year)
Area Sources	31.93
Energy Usage (Electricity & Natural Gas)	2,470.05
Mobile Sources (Motor Vehicles [VMT w/TDM])	3,469.28
Stationary	11.27
Solid Waste Generation	62.61
Water Demand	261.68
Construction Emissions [a]	79.75
Project Total	**6,386.57**

*Calculation sheets are provided in **Appendix B** of this Draft EIR.*
Source: CalEEMod Version 2016.3.2 for Opening Year 2024 Mitigated (with project design features) and VMT with TDM.

(c) Conclusion

Although the Project would generate GHG emissions, GHGs would be reduced in a manner consistent with applicable regulatory plans and policies to reduce GHG emissions, including: Executive Orders S-3-05 and B-30-15; AB 32 Scoping Plan; SCAG's 2016-2040 and 2020-2045 RTP/SCS; the LA Sustainable City pLAn/Green New Deal; the LA Green Building Code; and the City's General Plan. **Therefore, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs, and impacts with respect to GHGs would be less than significant. No mitigation measures would be required.**

(2) Mitigation Measures

The Project would not result in significant Project-level GHG impacts. Therefore, no mitigation measures are recommended.

(3) Level of Significance After Mitigation

Project-level impacts related to GHGs from the Project would be less than significant.

e) Cumulative Impacts

A cumulatively considerable impact would occur where the impact of the Project in addition to the related projects would be significant. However, in the case of global climate change, the proximity of the Project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG

emission impacts from a climate change perspective."[104] As noted above, the analysis of the Project's impact is a cumulative analysis and no further discussion is required. Given that the analysis above found that the Project GHG impacts would be less than significant, **the Project's cumulative impacts would be less than significant.**

(1) Mitigation Measures

No significant cumulative impacts related to GHG emissions were identified; therefore, no mitigation measures would be required.

(2) Level of Significance After Mitigation

The cumulative impacts associated with GHG emissions would be less than significant and no mitigation would be required.

[104] *California Air Pollution Control Officers Association, CEQA & Climate change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, 2008.*