

GREENHOUSE GAS EMISSIONS – REGULATORY BACKGROUND

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 storms. 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 greenhouse gas (GHG) emissions in the atmosphere. GHG emissions 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 GHG emissions keep the average surface temperature of Earth close to a hospitable 60 degrees Fahrenheit. However, it is believed that excessive concentrations of anthropogenic GHG emissions in the atmosphere can result in increased global mean temperatures, with associated adverse climatic and ecological consequences.

Scientists studying the particularly rapid rise in global temperatures have determined that human activity has resulted in increased emissions of GHG emissions, primarily from the burning of fossil fuels (from motor vehicle travel, electricity generation, consumption of natural gas, industrial activity, manufacturing), deforestation, agricultural activity, and the decomposition of solid waste. Scientists refer to the global warming context of the past century as the "enhanced greenhouse effect" to distinguish it from the natural greenhouse effect.

Global GHG emissions due to human activities have grown since pre-industrial times. As reported by the USEPA, global carbon emissions from fossil fuels increased by over 16 times between 1900 and 2008 and by about 1.5 times between 1990 and 2008. In addition, in the Global Carbon Budget 2014 report, published in September 2014, atmospheric CO₂ concentrations in 2013 were found to be 43 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. Global increases in CO₂ concentrations are due primarily to fossil fuel use, with land use change providing another significant but smaller contribution. With regard to emissions of non-CO₂ GHG, these have also increased significantly since 1990. In particular, studies have concluded that it is very likely that the observed increase in methane (CH₄) concentration is predominantly due to agriculture and fossil fuel use.

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 GHG emissions 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.

With regard to 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 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 CO₂ emissions from fossil fuel consumption per unit of Gross State Product. However, in terms of total CO₂ 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. Southern California, with close to half of the state's population and economic activities, is also a major contributor to the global warming problem."

GHG Emissions Background. GHG emissions include CO₂, CH₄, nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃). CO₂ is the most abundant GHG. Other GHG emissions are less abundant but have higher global warming potential than CO₂. Thus, emissions of other GHG emissions are frequently expressed in the equivalent mass of CO₂, denoted as CO₂e. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. A general description of the GHG emissions is provided in Table 1.

Global Warming Potential (GWP) is one type of simplified index based upon radiative properties used to estimate the potential future impacts of emissions of different gases on the climate system. The GWP is based on a number of factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO₂, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO₂. The larger the GWP, the more that a given gas warms the Earth compared to CO₂ over that time period. A summary of the atmospheric lifetime and GWP of selected gases is presented in Table 2. As indicated in the table, the GWP ranges from 1 to 22,800.

Table 1
Description of Identified GHG Emissions^a

Greenhouse Gas	General Description
Carbon Dioxide (CO₂)	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 (CH₄)	A flammable gas and is 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 (N₂O)	A colorless GHG. High concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. N ₂ O 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, racecars, and as an aerosol spray propellant.
Hydrofluorocarbons (HFCs)	Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH ₄ or ethane (C ₂ H 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 (SF₆)	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 (NF₃)	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.
<p>^a GHG emissions identified in this table are ones identified in the Kyoto Protocol and other synthetic gases recently added to the IPCC's Fifth Assessment Report.</p> <p>Source: Association of Environmental Professionals, <i>Alternative Approaches to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, Final, June 29, 2007</i>; Environmental Protection Agency, <i>Acute Exposure Guideline Levels (AEGLs) for Nitrogen Trifluoride; January 2009</i>.</p>	

Projected Impacts of Global Warming in California. The scientific community’s understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. However, there remain significant scientific uncertainties in, for example, predictions of local effects of climate change, occurrence, frequency, and magnitude of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth’s climate system and inability to accurately model it, the uncertainty surrounding climate change may never be completely eliminated. Nonetheless, the IPCC’s Fifth Assessment Report, Summary for Policy Makers states that, “it is extremely likely that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forces together.” A report from the National Academy of Sciences concluded that 97 to 98 percent of the climate researchers most actively publishing in the field support the tenets of the IPCC in that climate change is very likely caused by human (i.e., anthropogenic) activity.

Table 2
Atmospheric Lifetimes and Global Warming Potential

Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO ₂)	50–200	1
Methane (CH ₄)	12 (+/-3)	25
Nitrous Oxide (N ₂ O)	114	298
HFC-23: Fluoroform (CHF ₃)	270	14,800
HFC-134a: 1,1,1,2-Tetrafluoroethane (CH ₂ FCF ₃)	14	1,430
HFC-152a: 1,1-Difluoroethane (C ₂ H ₄ F ₂)	1.4	124
PFC-14: Tetrafluoromethane (CF ₄)	50,000	7,390
PFC-116: Hexafluoromethane (C ₂ F ₆)	10,000	12,200
Sulfur Hexafluoride (SF ₆)	3,200	22,800
Nitrogen Trifluoride (NF ₃)	740	17,200
<i>Source: IPCC, Climate Change 2007: Working Group I: The Physical Science Basis, Direct Global Warming Potentials</i>		

According to CARB, the potential impacts in California due to global climate change may include loss in snowpack; sea level rise; more extreme heat days per year; more high ozone days; more large forest fires; more drought years; increased erosion of California’s coastlines and sea water intrusion into the Sacramento and San Joaquin Deltas and associated levee systems; and increased pest infestation. Below is a summary of some of the potential effects that could be experienced in California as a result of global warming and climate change.

Air Quality. Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect and, therefore, its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would exacerbate air quality. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires.

In 2009, the California Natural Resources Agency (CNRA) published the California Climate Adaptation Strategy as a response to the Governor's Executive Order S-13-2008. The CNRA report lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the California Climate Adaptation Strategy, the California Energy Commission (CEC) was directed to develop a website on climate change scenarios and impacts that would be beneficial for local decision makers. The website, known as Cal-Adapt, became operational in 2011. The information provided on the Cal-Adapt website represents a projection of potential future climate scenarios. The data are comprised of the average values (i.e., temperature, sea-level rise, snowpack) from a variety of scenarios and models and are meant to illustrate how the climate may change based on a variety of different potential social and economic factors. According to the Cal-Adapt website, the portion of the city in which the Project Site is located could result in an average increase in temperature of approximately 5.4 to 8.0°F by 2070–2099, compared to the baseline 1961–1990 period.

Water Supply. Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. Studies have found that, “[c]onsiderable uncertainty about precise impacts of climate change on California hydrology and water resources will remain until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change.” For example, some studies identify little change in total annual precipitation in projections for California while others show significantly more precipitation. Warmer, wetter winters would increase the amount of runoff available for groundwater recharge; however, this additional runoff would occur at a time when some basins are either being recharged at their maximum capacity or are already full. Conversely, reductions in spring runoff and higher evapotranspiration because of higher temperatures could reduce the amount of water available for recharge.

The California Department of Water Resources report on climate change and effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta, concludes that “climate change will likely have a significant effect on California’s future water resources...[and] future water demand.” It also reports that “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain.” It also reports that the relationship between climate change and its potential effect on water demand is not well understood, but “[i]t is unlikely that this level of uncertainty will diminish

significantly in the foreseeable future.” Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows. In its Fifth Assessment Report, the IPCC states “Changes in the global water cycle in response to the warming over the 21st century will not be uniform. The contrast in precipitation between wet and dry regions and between wet and dry seasons will increase, although there may be regional exceptions.”

Hydrology and Sea Level Rise. As discussed above, climate change could potentially affect the amount of snowfall, rainfall and snowpack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide, and high runoff events); sea-level rise and coastal flooding; coastal erosion; and the potential for saltwater intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California’s water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a \$30 billion agricultural industry that produces half the country’s fruits and vegetables. Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thus affect their quality.

Ecosystems and Wildlife. Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise by 2-11.5°F (1.1-6.4°C) by 2100, with significant regional variation. Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as 2 feet along most of the United States coastline. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species’ composition within communities; and (4) ecosystem processes such as carbon cycling and storage.

Regulatory Framework

In response to growing scientific and political concern with global climate change, federal and state entities have adopted a series of laws to reduce emissions of GHG emissions to the atmosphere.

Federal

Federal Clean Air Act. The U.S. Supreme Court ruled in *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007), that CO₂ and other GHG emissions are pollutants under the federal CAA, which the USEPA must regulate if it determines they pose an

endangerment to public health or welfare. The U.S. Supreme Court did not mandate that the USEPA enact regulations to reduce GHG emissions. Instead, the Court found that the USEPA could avoid taking action if it found that GHG emissions do not contribute to climate change or if it offered a “reasonable explanation” for not determining that GHG emissions contribute to climate change.

On April 17, 2009, the USEPA issued a proposed finding that GHG emissions contribute to air pollution that may endanger public health or welfare. On April 24, 2009, the proposed rule was published in the Federal Register under Docket ID No. EPA-HQ-OAR-2009-0171. The USEPA stated that high atmospheric levels of GHG emissions “are the unambiguous result of human emissions and are very likely the cause of the observed increase in average temperatures and other climatic changes.” The USEPA further found that “atmospheric concentrations of greenhouse gases endanger public health and welfare within the meaning of Section 202 of the Clean Air Act.” The findings were signed by the USEPA Administrator on December 7, 2009. The final findings were published in the Federal Register on December 15, 2009. The final rule was effective on January 14, 2010. While these findings alone do not impose any requirements on industry or other entities, this action is a prerequisite to regulatory actions by the USEPA, including, but not limited to, GHG emissions standards for light-duty vehicles.

On April 4, 2012, the USEPA published a proposed rule to establish, for the first time, a new source performance standard for GHG emissions. Under the proposed rule, new fossil fuel-fired electric generating units larger than 25 megawatts (MW) are required to limit emissions to 1,000 pounds of CO₂ per MW-hour (CO₂/MWh) on an average annual basis, subject to certain exceptions. Subsequently, on April 23, 2018, the USEPA issued a policy stating that CO₂ emissions from biomass-fired and other biogenic sources would be considered carbon neutral when used for energy production at stationary sources.

On April 17, 2012, the USEPA issued emission rules for oil production and natural gas production and processing operations, which are required by the CAA under Title 40 of the Code of Federal Regulations, Parts 60 and 63. The final rules include the first federal air standards for natural gas wells that are hydraulically fractured, along with requirements for several other sources of pollution in the oil and gas industry that currently are not regulated at the federal level.

Corporate Average Fuel Economy (CAFE) Standards. In response to the Massachusetts v. Environmental Protection Agency ruling, the George W. Bush Administration 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. In 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency for and GHG emissions from cars and light-duty trucks for model year 2011; in 2010, the USEPA and the NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.

In 2012, the Obama administration implemented ambitious targets requiring automakers to achieve a fleet-wide average of 54.5 mpg by 2025, aiming to reduce oil consumption and the

resulting GHG emissions. These standards were designed to encourage the production of more fuel-efficient vehicles, including hybrids and electric cars. However, the first Trump administration suggested freezing CAFE standards at 2020 levels and The Biden administration reversed these rollbacks and reinstated stricter fuel economy standards. In 2022, NHTSA finalized new CAFE standards requiring a fleet-wide average of approximately 49 mpg by model year 2026, with annual increases of eight percent for 2024-2025 and ten percent for 2026. The current Trump administration has proposed rollbacks of CAFÉ standards for light- and medium-duty vehicles for model year 2027 and later. Additionally, Congress is considering revoking California's waiver under the Clean Air Act, which allowed the state to set more stringent emissions standards.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011 the USEPA and the NHTSA announced fuel economy and GHG emissions standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO₂ 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 success of the first phase of standards, in August 2016, the USEPA and the 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 were to lower CO₂ emissions by approximately 1.1 billion metric tons and save vehicle owners fuel costs of about \$170 billion. On August 10, 2021, NHTA proposed new CAFE standards for 2024-2026 that would increase the stringency of standards by 8 percent per year rather than the previous 1.5 percent.

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 the 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.

Additional provisions of the 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.” The current Trump administration is considering modifications of regulations for numerous products, including standards for household ovens.

2024 Fleet Rules. On March 20, 2024, the USEPA issued final rules mandating significant reductions in future light- and medium-duty vehicles from model years 2027 to 2032. These rules call for vehicle manufacturers to achieve an industry-wide average target of 85 grams of CO₂ per mile, a fifty-percent reduction compared to standards for model year 2026 vehicles. Similar regulations would reduce CO₂ emission 44 percent when compared to standards for model year 2026 vehicles. On March 29, 2024, the USEPA approved its “Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles – Phase 3” regulations that sets more stringent standard for heavy-duty vehicles beginning in model year 2027. This regulation would accelerate the shift of heavy-duty vehicles to cleaner fuels and electric drivetrains. The current Trump administration may reconsider these standards and a 2022 regulation governing NOx emissions from heavy-duty trucks.

State

California Executive Order S-3-05 and Executive Order B-30-15. Executive Order S-3-05, issued by Governor Schwarzenegger in June 2005, established GHG emissions targets for the state, as well as a process to ensure the targets are met. The order directed the Secretary of the California Environmental Protection Agency (CalEPA) to report every two years on the state’s progress toward meeting the Governor’s GHG emission reduction targets. The statewide GHG emissions reduction targets are as follows:

- By 2010, reduce to 2000 emission levels;
- By 2020, reduce to 1990 emission levels;
- By 2030, reduce to 40 percent below 1990 levels; and
- By 2050, reduce to 80 percent below 1990 levels.

The State Legislature adopted equivalent 2020 and 2030 statewide targets in the California Global Warming Solutions Act of 2006 (also known as Assembly Bill [AB] 32) and Senate Bill 32, respectively, both of which are discussed below. However, the Legislature has not yet adopted a target for the 2050 horizon year.

As a result of Executive Order S-3-05, the California CAT, led by the Secretary of CalEPA, was formed. The CAT is made up of representatives from a number of state agencies and was formed to implement global warming emission reduction programs and to report on the progress made toward meeting statewide targets established under the Executive Order. The CAT reported several recommendations and strategies for reducing GHG emissions and reaching the targets established in the Executive Order. 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 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. “Intelligent transportation systems” is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and the movement of people, goods, and service.

Executive Order B-30-15. Issued by Governor Brown in April 2015, established an additional statewide policy goal to reduce GHG emissions 40 percent below their 1990 levels by 2030. Reducing GHG emissions by 40 percent below 1990 levels in 2030 and by 80 percent below 1990 levels by 2050 (consistent with Executive Order S-3-05) aligns with scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius.¹

Executive Order B-55-18. Issued by Governor Jerry Brown in September 2018, this establishes a 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.

Executive Order S-1-07 (California Low Carbon Fuel Standard). Executive Order S-1-07, the LCFS (issued on January 18, 2007), requires a reduction of at least 10 percent in the carbon intensity of California’s transportation fuels by 2020. Regulatory proceedings and implementation of the LCFS were directed to CARB. The LCFS has been identified by CARB as a discrete early action item in the adopted Climate Change Scoping Plan. The LCFS program was re-adopted in 2015 and will continue to complement other AB 32 measures, transform, and diversify the fuel pool, and is a key part of the State’s petroleum reduction goals for 2030.

California Assembly Bill 32 (California Global Warming Solutions Act of 2006) and Senate Bill 32. The California Global Warming Solutions Act of 2006 (also known as AB 32) commits the state to achieving the following:

- By 2010, reduce to 2000 GHG emission levels, and
- By 2020, reduce to 1990 levels**

To achieve these goals, which are consistent with the California CAT GHG emissions reduction targets for 2010 and 2020, 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

¹ California Air Resources Board, *Frequently Asked Questions about Executive Order B-30-15, 2030 Carbon Target and Adaptation FAQs*, April 29, 2015.

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 emissions reductions.

Senate Bill (SB) 32, signed September 8, 2016, updates AB 32 (Global Warming Solutions Act) to include an emissions reductions goal for 2030. Specifically, SB 32 requires the state board to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. The new plan, outlined in SB 32, involves 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.

Assembly Bill 197. Assembly Bill (AB) 197, signed September 8, 2016, is a bill linked to SB 32 that 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 Internet Web site the emissions of greenhouse gases, 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.

Senate Bill 350. Senate Bill (SB) 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. SB 350 is the implementation of some of the goals of Executive Order B-30-15. The objectives of SB 350 are: (1) to increase the procurement of electricity from renewable sources from 33 percent to 50 percent by December 31, 2030; and (2) to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.²

Senate Bill 1368. Senate Bill (SB) 1368, signed September 29, 2006, is a companion bill to AB 32 that 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 AB32. On January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard, which is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO₂ per MWh. Furthermore, on May 23, 2007, the CEC adopted regulations that establish and implement an identical Emissions Performance Standard of 1,100 pounds of CO₂ per MWh (see CEC Order No. 07-523-7).

Assembly Bill 1493 (Pavley I). Assembly Bill (AB) 1493, passed in 2002, requires the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other

² *Senate Bill 350 (2015–2016 Reg, Session) Stats 2015, ch. 547.*

vehicles used primarily for personal transportation in the state. CARB originally approved regulations to reduce GHG emissions from passenger vehicles in September 2004, with the regulations to take effect in 2009. On September 24, 2009, CARB adopted amendments to these “Pavley” regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016.³ Although setting emission standards on automobiles is solely the responsibility of the USEPA, the federal CAA allows California to set state-specific emission standards on automobiles if the state first obtains a waiver from the USEPA. The USEPA granted California that waiver on July 1, 2009. A comparison between the AB 1493 standards and the Federal CAFE standards was completed by CARB and the analysis determined that California emission standards are 16 percent more stringent through the 2016 model year and 18 percent more stringent for 2020 model year.⁴ California is also committed to further strengthening these standards beginning with 2020 model year vehicles to obtain a 45-percent GHG reduction in comparison to the 2009 model year.

Senate Bill 97. SB 97, passed in August 2007, is designed to work in conjunction with CEQA and AB 32. SB 97 requires the Office of Planning and Rules (OPR) to prepare and develop guidelines for the mitigation of GHG emissions or the effects thereof, including, but not limited to, the effects associated with transportation and energy consumption. The Draft Guidelines Amendments for Greenhouse Gas Emissions (Guidelines Amendments) were adopted on December 30, 2009 and address the specific obligations of public agencies when analyzing GHG emissions under CEQA to determine a project’s effects on the environment.

However, neither a threshold of significance nor any specific mitigation measures are included or provided in the Guidelines Amendments.⁵ The Guidelines Amendments require a lead agency to make a good-faith effort, based on the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The Guidelines Amendments give discretion 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, the Guidelines Amendments identify the following three factors 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;

³ California Air Resources Board, *Clean Car Standards—Pavley, Assembly Bill 1493*, www.arb.ca.gov/cc/ccms/ccms.htm, accessed April 2020.

⁴ California Air Resources Board, “Comparison of Greenhouse Gas Reductions for all Fifty United States under CAFE Standards and ARB Regulations Adopted Pursuant to AB 1493”, January 23, 2008.

⁵ 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 GHG emissions).

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.⁶

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 CEQA’s requirements for cumulative impact analysis.”⁷

In December 2018, the OPR approved a CEQA and Climate Change Advisory that updated the 2009 guidance for project-level analyses. It reaffirms the discretion that lead agencies have in establishing an appropriate methodology and determining significance.

Senate Bill 743. This 2013 legislation updates the way transportation impacts are measured in California, focusing on vehicle miles traveled (VMT) rather than level of service as the main measure of transportation impacts. It calls on decisionmakers throughout the State to focus on reducing overall VMT and the GHG emissions from such vehicle activity. Traffic studies in the City of Compton began formally analyzing projects in this fashion effective July 1, 2020.

Senate Bill 375. Acknowledging the relationship between land use planning and transportation sector GHG emissions, Senate Bill (SB) 375 was passed by the State Assembly on August 25, 2008 and signed by the Governor on September 30, 2008. This legislation links regional planning for housing and transportation with the GHG reduction goals outlined in AB 32. Reductions in GHG emissions would be achieved by, for example, locating employment opportunities close to transit. Under SB 375, each Metropolitan Planning Organization (MPO) would be required to adopt a Sustainable Community Strategy (SCS) to encourage compact development that reduce passenger VMT and trips so that the region will meet a target, created by CARB, for reducing GHG emissions. If the SCS is unable to achieve the regional GHG emissions reduction targets, then the MPO is required to prepare an alternative planning strategy that shows how the GHG emissions reduction target could be achieved through alternative development patterns, infrastructure, and/or transportation measures.

Assembly Bill 1279. This 2022 legislation creates a legally binding goal that California achieves carbon neutrality by 2045. It would also require the State to reduce GHG emissions by 85 percent below 1990 levels by 2045.

California Renewables Portfolio Standard. The California RPS program (2002, SB 1078) required that 20 percent of the available energy supplies are from renewable energy sources by 2017. In 2006, SB 107 accelerated the 20 percent mandate to 2010. These mandates apply directly to investor-owned utilities. On April 12, 2011, California Governor Jerry Brown signed into

⁶ 14 Cal. Code Regs. § 15064.4(b).

⁷ 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.

law SB 2X, which modified California's RPS program to require that both public and investor-owned utilities in California receive at least 33 percent of their electricity from renewable sources by the year 2020. California SB 2X also requires regulated sellers of electricity to meet an interim milestone of procuring 25 percent of their energy supply from certified renewable resources by 2016. These levels of reduction are consistent with the Southern California Edison's (SCE) commitment to achieve 35 percent renewables by 2020.

SCE indicates that 31 percent of its electricity came from renewable resources in 2018. Therefore, under SB 2X, SCE is required to increase its electricity from renewable resources by an additional two percent to comply with the RPS of 33 percent.⁸

Advanced Clean Cars Regulations. In 2012, CARB approved the Advanced Clean Cars (ACC) program, a new emissions-control program for model years 2015–2025.⁹ The components of the Advance Clean Car 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.¹⁰

On September 23, 2020, Governor Gavin Newsom signed Executive Order No. N-79-20 that phases out sales of new gas-powered passenger cars by 2035 in California with an additional ten-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.

In November 2022, the ACC II regulations took effect, setting annual ZEV and plug-in hybrid vehicle sales requirements for model years 2026 to 2035 (ZEV program) and increasingly more stringent exhaust and evaporative emission standards (LEV program) to ensure automakers phase out new sales of internal combustion engine vehicles.

California Appliance Efficiency Regulations (Title 20, Sections 1601 through 1608). The 2014 Appliance Efficiency Regulations, 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

⁸ SCE, 2018 Power Content Label update, https://www.SCE.com/SCE/faces/SCE/aboutus/a-power/a-p-powercontentlabel;jsessionid=dJLKfT5pp6lLZJIZtvTTIVVItXW1VPLLqnnKXLLSpkTGLbn6nh6n!56480797?_afLoop=49111251050871&_afWindowMode=0&_afWindowId=null#%40%3F_afWindowId%3Dnull%26_afLoop%3D49111251050871%26_afWindowMode%3D0%26_adf.ctrl-state%3Ddmbiw8w82_4.

⁹ California Air Resources Board, *California's Advanced Clean Cars Program*, www.arb.ca.gov/msprog/acc/acc.htm, accessed April 2020.

¹⁰ *Ibid.*

standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

California Building Energy Efficiency Standards (Title 24, Part 6). California's Energy Efficiency Standards for Residential and Nonresidential Buildings, located at Title 24, Part 6 of the California Code of Regulations and commonly referred to as "Title 24," were established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.¹¹ The 2022 standards continue to improve upon previous standards for new construction of, and additions and alterations to, residential and non-residential buildings and became effective January 1, 2023. Compliance with Title 24 is enforced through the building permit process. Key changes included encouraging heat pump technology for space and water heating, setting electric-ready requirements for single-family homes, expanding solar photovoltaic system and battery storage standards, and strengthening ventilation standards to improve indoor air quality.

California Green Building Standards (CALGreen Code). The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11) are mandatory green building standards for new structures. They focus on measures to reduce water consumption, GHG emissions, and materials and waste. These codes are updated every three years, with the 2022 CalGreen code updates effective January 1, 2023. New requirements address requirements for Level 2 electric vehicle chargers and use of solar photovoltaic shade structures instead of shade trees. Voluntary measures focus on higher EV charging requirements for parking facilities.

Scoping Plan for Achieving Carbon Neutrality (Scoping Plan). The Scoping Plan is a GHG emission reduction roadmap developed and updated by the California Air Resources Board (CARB) at least once every five years, as required by Assembly Bill (AB) 32. It lays out the transformations needed across various sectors to reduce GHG emissions and reach the State's climate targets. CARB published the Final 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan Update) in November 2022, as the third update to the initial plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32 target of returning to 1990 levels of GHG emissions by 2020, a reduction of approximately 15 percent below business as usual activities.¹² The 2008 Scoping Plan included a mix of incentives, regulations, and carbon pricing, laying out the portfolio approach to addressing climate change and clearly making the case for using multiple tools to meet California's GHG targets. The 2013 Scoping Plan Update (adopted in 2014) assessed progress toward achieving the 2020 target and

¹¹ California Energy Commission, 2019 Building Energy Efficiency Standards, <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency>, accessed April 2020.

¹² CARB. 2008. Climate Change Scoping Plan. <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2008-scoping-plan-documents>.

made the case for addressing short-lived climate pollutants (SLCPs).¹³ The 2017 Scoping Plan Update,¹⁴ shifted focus to the newer Senate Bill (SB) 32 goal of a 40 percent reduction below 1990 levels by 2030 by laying out a detailed cost-effective and technologically feasible path to this target, and also assessed progress towards achieving the AB 32 goal of returning to 1990 GHG levels by 2020. The 2020 goal was ultimately reached in 2016, four years ahead of the schedule called for under AB 32.

The 2022 Scoping Plan Update is the most comprehensive and far-reaching Scoping Plan developed to date. It identifies a technologically feasible, cost-effective, and equity-focused path to achieve new targets for carbon neutrality by 2045 and to reduce anthropogenic GHG emissions to at least 85 percent below 1990 levels, while also assessing the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan.¹⁵ The 2030 target is an interim but important stepping stone along the critical path to the broader goal of deep decarbonization by 2045. The relatively longer path assessed in the 2022 Scoping Plan Update incorporates, coordinates, and leverages many existing and ongoing efforts to reduce GHGs and air pollution, while identifying new clean technologies and energy. Given the focus on carbon neutrality, the 2022 Scoping Plan Update also includes discussion for the first time of the natural and working lands sectors as sources for both sequestration and carbon storage, and as sources of emissions as a result of wildfires. Table 3 summarizes the potential scenarios to reduce emissions through 2045.

The 2022 Scoping Plan Update reflects existing and recent direction in the Governor's Executive Orders and State Statutes, which identify policies, strategies, and regulations in support of and implementation of the Scoping Plan. Among these include Executive Order B-55-18 and AB 1279 (The California Climate Crisis Act), which identify the 2045 carbon neutrality and GHG reduction targets required for the Scoping Plan.

¹³ CARB. 2014. *First Update to the Climate Change Scoping Plan*.
https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf

¹⁴ CARB, *California's 2017 Climate Change Scoping Plan, 2017*,
https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf

¹⁵ *Ibid.*

Table 3
Estimated Statewide Greenhouse Gas Emissions Reductions in the 2022 Scoping Plan

Emissions Scenario	GHG Emissions (MMTCO_{2e})
2019	
2019 State GHG Emissions	404
2030	
2030 BAU Forecast	312
2030 GHG Emissions without Carbon Removal and Capture	233
2030 GHG Emissions with Carbon Removal and Capture	226
2030 Emissions Target Set by AB 32 (i.e., 1990 level by 2030)	260
Reduction below Business-As-Usual necessary to achieve 1990 levels by 2030	52 (16.7%) ¹
2045	
2045 BAU Forecast	266
2045 GHG Emissions without Carbon Removal and Capture	72
2045 GHG Emissions with Carbon Removal and Capture	(3)
<i>MMTCO_{2e} = million metric tons of carbon dioxide equivalents; parenthetical numbers represent negative values.</i>	
¹ $312 - 260 = 52$. $52 / 312 = 16.7\%$	
<i>Source: CARB, Final 2022 Climate Change Scoping Plan, November 2022.</i>	

South Coast Air Quality Management District. The SCAQMD adopted a “Policy on Global Warming and Stratospheric Ozone Depletion” on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- Phase out the use and corresponding emissions of chlorofluorocarbons, methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- Phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons by the year 2000;
- Develop recycling regulations for hydrochlorofluorocarbons (e.g., SCAQMD Rules 1411 and 1415);
- Develop an emissions inventory and control strategy for methyl bromide; and
- Support the adoption of a California GHG emission reduction goal.

Southern California Association of Governments. To implement SB 375 and reduce GHG emissions by correlating land use and transportation planning, SCAG adopted the 2024-2050 RTP/SCS on April 4, 2024, to serve as the roadmap to fulfilling the region’s compliance with GHG reduction targets. To this end, the 2024-2050 RTP/SCS recognizes that transportation

investments and future land use patterns are inextricably linked and acknowledges how this relationship can help the region make choices that sustain existing resources while expanding efficiency, mobility, and accessibility for people across the region.

The 2024-2050 RTP/SCS calls for \$751.7 billion in investments, including \$303.3 billion for transit projects and operations, \$75.4 billion for state highway operations and maintenance, \$62.6 billion for goods movement, and \$38 billion for active transportation. These investments would aim to achieve several key objectives.

- A 11.6 percent reduction in overall vehicle miles traveled among passenger vehicles (from 2019).
- A 31.8 percent reduction in minutes of daily traffic delay per person (from 2019).
- Achievement of the region's targets for reducing greenhouse gases from autos and light-duty trucks by 19 percent per capita, from 2005 levels, by 2035.
- 465,000 new jobs supported by transportation investments or improved competitiveness each year.
- An overall return on investment of \$2 for every \$1 spent.

The 2024-2050 RTP/SCS land use pattern continues the trend of focusing new housing and employment growth in the region's Priority Development Areas (PDAs) and aims to enhance and build out the region's transit network. According to the 2024-2050 RTP/SCS, 66 percent of new households and 54 percent of new jobs between 2019–2050 will be located in PDAs, either near transit or in walkable communities.

Regulatory Framework: Local

City of Los Angeles Green Building Code. On December 15, 2011, the Los Angeles City Council approved Ordinance No. 181,481, 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 2010 CALGreen Code. On December 20, 2016, the Los Angeles City Council approved Ordinance No. 184,692, which further amended Chapter IX of the LAMC, by amending certain provisions of Article 9 to reflect local administrative changes and incorporating by reference portions of the 2016 CALGreen Code. The 2020 Los Angeles Green Building Code incorporates by reference the mandatory requirements of the 2019 California Green Building Standards Code.

On November 29, 2022, the City Council adopted Ordinance 187714, which requires new development to be all electric powered, with the few exceptions (e.g., cooking equipment associated with any restaurants or eating facilities, gas-powered emergency backup systems).

Local: Green New Deal

The City of LA Green New Deal (formerly Sustainable City pLAn 2019) identifies a number of measures to reduce VMT and associated GHG emissions. Such measures that would support the local reduction strategy include converting all city fleet vehicles to zero emission where technically feasible by 2028. Starting in 2021, all vehicle procurement followed a “zero emission first” policy for City fleets. The Green New Deal also establishes a target to increase the percentage of zero emission vehicles to 25 percent by 2025, 80 percent by 2035 and 100 percent by 2050. In order to achieve this goal, the City would build 20 Fast Charging Plazas throughout the City. The City would also install 28,000 publicly available chargers by 2028 to encourage adoption of ZEVs.

Local: General Plan Housing Element (Housing Needs Assessment)

The Housing Element of the General Plan is prepared pursuant to state law and provides planning guidance in meeting housing needs identified in the SCAG Regional Housing Needs Assessment (RHNA). The Housing Element identifies the City’s housing conditions and needs, establishes the goals, objectives, and policies that are the foundation of the City’s housing and growth strategy, and provides the array of programs the City intends to implement to create and preserve sustainable, mixed-income neighborhoods across the City.

The Housing Needs Assessment chapter of the Housing Element discusses the City’s population and housing stock to identify housing needs for a variety of household types across the City. The current RHNA goal for affordable housing within the City is approximately forty percent of new construction. However, the City’s projections show affordable housing comprising twenty percent of new construction, which falls short of the forty percent RHNA goal. In order to address this shortfall in affordable housing, the Housing Element provides measures to streamline and incentivize development of affordable housing. Such measures include revising density bonuses for affordable housing; identifying locations which are ideal for funding programs to meet low-income housing goals; and rezoning areas to encourage low-income housing. With implementation of such measures to increase affordable housing, the Housing Element predicts a significant increase in housing production at all income ranges compared to previous cycles.

The Housing Element also promotes sustainability and resilience, and environmental justice through housing, as well as the need to reduce displacement. It encourages the utilization of alternatives to current parking standards that lower the cost of housing, support GHG and VMT goals and recognize the emergence of shared and alternative mobility. The Element also identifies housing strategies for energy conservation, water conservation, alternative energy sources and sustainable development which support conservation and reduce demand.

Local: Mobility Plan 2035

In August 2015, the City Council adopted Mobility Plan 2035 (Mobility Plan), which serves as the City’s General Plan circulation element. The City Council has adopted several amendments to the Mobility Plan since its initial adoption, including the most recent amendment on September 7,

2016.¹⁶ The Mobility Plan incorporates “complete streets” principles and lays the policy foundation for how the City’s residents interact with their streets. While the Mobility Plan 2035 mainly relates to transportation, certain components would serve to reduce VMT and mobile source GHG emissions. One component of the Mobility Plan is a GHG emission tracking program to establish compliance with SB 375, AB 32 and the region’s Sustainable Community Strategy.

Local: City of Los Angeles All-Electric Buildings

Chapter IX of the LAMC also requires that all new buildings be all-electric buildings, with some exceptions. Equipment typically powered by natural gas such as space heating, water heating, cooking appliances and clothes drying would need to be powered by electricity for new construction. Exceptions are made for commercial restaurants, laboratory, and research and development uses. The LAMC is consistent with 2022 Title 24 goals of encouraging all-electric development which requires new residential uses to be electric-ready (wiring installed for all-electric appliances). Buildings in Los Angeles account for 43 percent of greenhouse gas emissions—more than any other sector in the City. These LAMC requirements ensure that new buildings being constructed are built to leverage the increasingly clean electric grid, which is anticipated to be carbon-free by 2035, rather than relying on fossil fuels.

Traffic Study Policies and Procedures. The City of Los Angeles Department of Transportation (LADOT) has developed the Transportation Assessment Guidelines (TAG) (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 impact study. The TAG is consistent with the City’s goals to emphasize the importance of sustainability, smart growth, and reduction of GHG emissions in addition to traditional traffic flow considerations when evaluating and mitigating impacts to the transportation system because of land use policy decisions. The TAG prioritizes transportation demand management strategies and multi-modal strategies over automobile-centric solutions when mitigating project-related impacts to the City’s transportation system. Through acknowledgement of an imminent update that will identify VMT reduction thresholds, the TAG stands as an implementing mechanism of the City’s strategy to conform to the mandates and requirements of AB 32, SB 375, and SB 743.

¹⁶ Los Angeles Department of City Planning, Mobility Plan 2035: An Element of the General Plan, approved by City Planning Commission on June 23, 2016, and adopted by City Council on September 7, 2016.