5.4 GREENHOUSE GAS EMISSIONS

This section of the Draft Supplemental Environmental Impact Report (SEIR) evaluates potential cumulative impacts to greenhouse gas (GHG) emissions in areas proposed for land use changes under the Newport Beach General Plan LUE Amendment. Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are considered on a cumulative basis. The 2006 General Plan EIR did not evaluate GHG emissions impacts because it was certified prior to Senate Bill 97, which went into effect January 1, 2010. GHG was not included in the CEQA Guidelines Appendix G checklist, and the City of Newport Beach had not adopted thresholds at the time of preparation of the 2006 General Plan EIR.

In the interest of carrying out CEQA's mandate to promote informed decision making, this Draft SEIR will provide the most current scientific data on GHG emissions. This chapter is based on the methodology recommended by the South Coast Air Quality Management District (SCAQMD). The transportation sector is based on vehicle miles traveled (VMT) provided by Urban Crossroad (see Appendix I of the Draft SEIR). GHG emissions are modeled using the California Emissions Estimator Model (CalEEMod), Version 2013.2.2., assumptions and emissions factors from the CalEEMod User's Guide; and EMFAC2011-PL. Modeling is included in Appendix D of this Draft SEIR.

5.4.1 Environmental Setting

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHG, to the atmosphere. The primary source of these GHG is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHG—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).[1, 2] The major GHG are briefly described below.

- **Carbon dioxide** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). CO_2 is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

[1] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant.

[2] Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. Reducing black carbon emissions globally can have immediate economic, climate, and public health benefits. California has been an international leader in reducing emissions of black carbon, with close to 95 percent control expected by 2020 due to existing programs that target reducing PM from diesel engines and burning activities (CARB 2013).

- **Methane** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.

- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

- **Fluorinated gases** are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent GHGs, they are sometimes referred to as high global-warming-potential (GWP) gases.

    - **Chlorofluorocarbons (CFCs)** are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are also ozone-depleting gases and are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.

    - **Perfluorocarbons (PFCs)** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential.

    - **Sulfur Hexafluoride (SF_6)** is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF_6 is a strong GHG used primarily in electrical transmission and distribution systems as an insulator.

    - **Hydrochlorofluorocarbons (HCFCs)** contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are also GHGs.

    - **Hydrofluorocarbons (HFCs)** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs (IPCC 2001; EPA 2012).

Table 5.4-1 lists the GHG applicable to the proposed project and their GWPs compared to CO_2.

Table 5.4-1 GHG Emissions and their Relative Global Warming Potential Compared to CO_2

GHGs	Atmospheric Lifetime (Years)	Global Warming Potential Relative to CO_2[1]
Carbon Dioxide (CO_2)	50 to 200	1
Methane[2] (CH_4)	12 (±3)	21
Nitrous Oxide (N_2O)	120	310
Hydrofluorocarbons:		
HFC-23	264	11,700
HFC-32	5.4	650
HFC-125	32.6	2,800
HFC-134a	14.6	1,300
HFC-143a	48.3	3,800
HFC-152a	1.5	140
HFC-227ea	36.5	2,900
HFC-236fa	209	6,300
HFC-4310mee	17.1	1,300
Perfluoromethane: CF_4	50,000	6,500
Perfluoroethane: C_2F_6	10,000	9,200
Perfluorobutane: C_4F_{10}	2,600	7,000
Perfluoro-2-methylpentane: C_6F_{14}	3,200	7,400
Sulfur Hexafluoride (SF_6)	3,200	23,900

Source: IPCC 2001.
[1] Based on 100-year time horizon of the GWP of the air pollutant relative to CO_2 (IPCC 2001).
[2] The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

California's Greenhouse Gas Sources and Relative Contribution

California is the second largest emitter of GHG in the United States, surpassed only by Texas, and the tenth largest GHG emitter in the world (CEC 2005). However, California also has over 12 million more people than Texas. Because of more stringent air emission regulations, in 2001 California ranked fourth lowest in carbon emissions per capita and fifth lowest among states in CO_2 emissions from fossil fuel consumption per unit of Gross State Product (total economic output of goods and services)(CEC 2006a).

CARB's latest update to the statewide GHG emissions inventory was conducted in 2012 for year 2009 emissions.[3] In 2009, California produced 457 million metric tons (MMT) of CO_2-equivalent (CO_2e) GHG emissions. California's transportation sector is the single largest generator of GHG emissions, producing 37.9 percent of the state's total emissions. Electricity consumption is the second largest source, comprising 22.7 percent. Industrial activities are California's third largest source of GHG emissions, comprising 17.8 percent

[3] Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (AB 32) (2006).

of the state's total emissions. Other major sectors of GHG emissions include commercial and residential, recycling and waste, high global warming potential GHGs, agriculture, and forestry (CARB 2012).[4]

Human Influence on Climate Change

For 1,000 years before the Industrial Revolution, the amount of GHG in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and climate change pollutants that is attributable to human activities. The amount of CO_2 has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million (ppm) per year since 1960, mainly due to combustion of fossil fuels and deforestation (IPCC 2007). These recent changes in climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is rising at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006).

Climate-change scenarios are affected by varying degrees of uncertainty. IPCC's "2007 IPCC Fourth Assessment Report" projects that the global mean temperature increase from 1990 to 2100, will range from 1.4 to 5.8°C (2.5 to 10.4°F). In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC 2007).

Potential Climate Change Impacts for California

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are also hard to predict. In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures, 2) a smaller fraction of precipitation falling as snow, 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones, 4) an advance snowmelt of 5 to 30 days earlier in the springs, and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms (CAT 2006). According to the California Climate Action Team, even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 5.4-1), and the inertia of the Earth's climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks to California are shown in Table 5.4-2. Specific climate change impacts that could affect the project include health impacts from a deterioration in air quality, water resources impacts from a reduction in water supply, and increased energy demand.

[4] CO_2-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

Table 5.4-2 Summary of GHG Emissions Risks to California

Impact Category	Potential Risk
Public Health Impacts	Poor air quality made worse More severe heat
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: CEC 2006b; CEC 2008.

5.4.1.1 REGULATORY BACKGROUND

Federal Laws

The U.S. Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements, but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (EPA 2009).

The EPA's endangerment finding covers emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world (the first three are applicable to the proposed project).

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 metric tons (MT) or more of CO_2 per year are required to submit an annual report.

State Laws

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, Assembly Bill 32 (AB 32), and Senate Bill 375 (SB 375).

Executive Order S-03-05

Executive Order S-03-05 was signed June 1, 2005, and set the following GHG reduction targets for the state:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Assembly Bill 32, The Global Warming Solutions Act

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB 32, the Global Warming Solutions Act. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-03-05.

AB 32 directed the California Resources Board (CARB) to adopt discrete early action measures to reduce GHG emissions and outline additional reduction measures to meet the 2020 target. Based on the GHG emissions inventory conducted for the Scoping Plan by CARB, GHG emissions in California by 2020 are anticipated to be approximately 596 $MMTCO_2e$. In December 2007, CARB approved a 2020 emissions limit of 427 $MMTCO_2e$ (471 million tons) for the state. The 2020 target requires a total emissions reduction of 169 $MMTCO_2e$, 28.5 percent from the projected emissions of the business-as-usual (BAU) scenario for the year 2020 (i.e., 28.5 percent of 596 $MMTCO_2e$) (CARB 2008).[5]

In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MT of CO_2 per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012. The Climate Action Registry Reporting Online Tool was established through the Climate Action Registry to track GHG emissions.

CARB 2008 Scoping Plan

The final Scoping Plan was adopted by CARB on December 11, 2008. Key elements of CARB's GHG reduction plan that may be applicable to the proposed project include:

[5] CARB defines BAU in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards (adopted and cycle updates in progress).

- Achieving a mix of 33 percent for energy generation from renewable sources (anticipated by 2020).

- A California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system for large stationary sources (adopted 2011).

- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets (several Sustainable Communities Strategies have been adopted).

- Adopting and implementing measures pursuant to state laws and policies, including California's clean car standards (amendments to the Pavley Standards, adopted 2009; Advanced Clean Car standard, adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (LCFS) (adopted 2009).[6]

- Creating target fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation (in progress).

Table 5.4.-3, *Scoping Plan GHG Reduction Measures and Reductions toward 2020 Target*, shows the proposed reductions from regulations and programs outlined in the 2008 Scoping Plan. Though local government operations were not accounted for in achieving the 2020 emissions reduction, CARB estimates that land use changes implemented by local governments that integrate jobs, housing, and services result in a reduction of 5 $MMTCO_2e$, which is approximately 3 percent of the 2020 GHG emissions reduction goal. In recognition of the critical role local governments play in the successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of today's levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target.[7] Measures that local governments take to support shifts in land use patterns are anticipated to emphasize compact, low-impact growth over development in greenfields, resulting in fewer VMT (CARB 2008).

[6] On December 29, 2011, the U.S. District Court for the Eastern District of California issued several rulings in the federal lawsuits challenging the LCFS. One of the court's rulings preliminarily enjoined the CARB from enforcing the regulation during the pendency of the litigation. In January 2012, CARB appealed the decision and on April 23, 2012, the Ninth Circuit Court granted CARB's motion for a stay of the injunction while it continued to consider CARB's appeal of the lower court's decision. On July 15, 2013, the State of California Court of Appeals held that the LCFS would remain in effect and that CARB can continue to implement and enforce the 2013 regulatory standards while it corrects certain aspects of the procedures by which the LCFS was adopted. Accordingly, CARB is continuing to implement and enforce the LCFS while addressing the court's concerns.

[7] The Scoping Plan references a goal for local governments to reduce community GHG emissions by 15 percent from current (interpreted as 2008) levels by 2020, but it does not rely on local GHG reduction targets established by local governments to meet the state's GHG reduction target of AB 32.

Table 5.4-3 Scoping Plan GHG Reduction Measures and Reductions toward 2020 Target

Recommended Reduction Measures	Reductions Counted toward 2020 Target of 169 MMT CO_2e	Percentage of Statewide 2020 Target
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets[1]	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
Total Cap and Trade Program Reductions	146.7	87%
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
Total Uncapped Sources/Sectors Reductions	27.3	16%
Total Reductions Counted toward 2020 Target	174	100%
Other Recommended Measures – Not Counted toward 2020 Target		
State Government Operations	1.0 to 2.0	1%
Local Government Operations[2]	To Be Determined	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
Total Other Recommended Measures – Not Counted toward 2020 Target	42.8	NA

Source: CARB 2008.
Notes: The percentages in the right-hand column add up to more than 100 percent because the emissions reduction goal is 169 $MMTCO_2e$ and the Scoping Plan identifies 174 $MTCO_2e$ of emissions reductions strategies.
$MMTCO_2e$: million metric tons of CO_2e
[1] Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.
[2] According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO_2e (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 target.

Update to the 2008 Scoping Plan

Since release of the 2008 Scoping Plan, CARB has updated the statewide GHG emissions inventory to reflect GHG emissions in light of the economic downturn and of measures not previously considered in the 2008 Scoping Plan baseline inventory. The updated forecast predicts emissions to be 507 $MMTCO_2e$ by 2020. The

new inventory identifies that an estimated 80 $MMTCO_2e$ of reductions are necessary to achieve the statewide emissions reduction of AB 32 by 2020, 15.4 percent of the projected emissions compared to BAU in year 2020 (i.e., 15.4 percent of 507 $MMTCO_2e$) (CARB 2012).

CARB is in the process of completing a five-year update to the 2008 Scoping Plan, as required by AB 32. A discussion draft of the 2013 Scoping Plan was released on October 1, 2013. The 2013 Scoping Plan update defines CARB's climate change priorities for the next five years and lays the groundwork to reach post-2020 goals in Executive Orders S-03-05 and B-16-2012. The update includes the latest scientific findings related to climate change and its impacts, including short-lived climate pollutants. The GHG target identified in the 2008 Scoping Plan is based on IPCC's GWPs identified in the Second and Third Assessment Reports (see Table 5.4-1). IPCC's Fourth Assessment Report identified more recent GWP values based on the latest available science. CARB recalculated the 1990 GHG emission levels with these updated GWPs, and the 427 $MMTCO_2e$ 1990 emissions level and 2020 GHG emissions limit, established in response to AB 32, is slightly higher, at 431 $MMTCO_2e$ (CARB 2013).

The 2013 update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals defined in the original 2008 Scoping Plan. According to the 2013 Scoping Plan update, California is on track to meeting the goals of AB 32. However, the 2013 Scoping Plan also addresses the state's longer-term GHG goals within a post-2020 element. The post-2020 element provides a high level view of a long-term strategy for meeting the 2050 GHG goals, including a recommendation for the state to adopt a midterm target. According to the 2013 Scoping Plan update, reducing emissions to 80 percent below 1990 levels will require a fundamental shift to efficient, clean energy in every sector of the economy. Progressing toward California's 2050 climate targets will require significant acceleration of GHG reduction rates. Emissions from 2020 to 2050 will have to decline several times faster than the rate needed to reach the 2020 emissions limit (CARB 2013).

Senate Bill 375

In 2008, Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act, was adopted to connect the GHG emissions reductions targets established in the Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 17 regions in California managed by a metropolitan planning organization (MPO). Southern California Association of Governments (SCAG) is the MPO for the southern California region, which includes the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial.

Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035 (CARB 2010).

The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's existing transportation network. The proposed targets would result in 3 $MMTCO_2e$ of reductions by 2020 and 15 $MMTCO_2e$ of reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2010).

SCAG's 2012 RTP/SCS

SB 375 requires the MPOs to prepare a Sustainable Communities Strategy (SCS) in their regional transportation plan. For the SCAG region, the 2012 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted in April 2012 (SCAG 2012). The SCS outlines a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement). The SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets. The SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives for consistency for governments and developers.

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles.

Executive Order S-01-07

On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. Executive Order S-1-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods.

Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the CEC, the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate zero-emissions vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). The executive order also directs the number of zero-emission vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero-

emission by 2015 and at least 25 percent by 2020. The executive order also establishes a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.

Senate Bills 1078 and 107 and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewable portfolio standard (RPS) established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. CARB has now approved an even higher goal of 33 percent by 2020. In 2011, the state legislature adopted this higher standard in SBX1-2. Executive Order S-14-08 was signed in November 2008, which expands the state's Renewable Energy Standard to 33 percent renewable power by 2020. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

California Building Code

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission [CEC]) in June 1977 and most recently revised in 2008 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the CEC adopted the 2013 Building and Energy Efficiency Standards, which go into effect on January 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") was adopted as part of the California Building Standards Code (Title 24 CCR). CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.[8] The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and nonfederally regulated appliances. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

[8] The green building standards became mandatory in the 2010 edition of the code.

5.4.1.2 EXISTING CONDITIONS

Existing Greenhouse Gas Emissions Inventory

Table 5.4-4 provides an estimate of the GHG emissions generated by the existing land uses within the City.

Table 5.4-4 Existing City of Newport Beach GHG Emissions

Category	Existing 2013 GHG Emissions	
	$MTCO_2e$/Year	Percent of Total
Transportation	795,805	64%
Energy	254,953	20%
Area Sources	3,219	0%
Solid Waste	159,217	13%
Water/Wastewater	31,968	3%
Total	1,245,162	100%
$MTCO_2e$/SP[1]	7.72	—

Source: CalEEMod 2013.2.2 and EMFAC2011-PL.
Notes: Based on 2013 running exhaust emission rates from VMT provided by Urban Crossroads.
Carbon intensity of electricity for Southern California Edison (SCE) is based on the CalEEMod User's Guide, Version 2013.2.2.
Existing energy use based on the 2005 Building and Energy Efficiency Standards. Includes mandatory sectors associated with the City's land uses. Includes bio-genic emissions from use of fireplaces and solid waste disposal. Fireplace emissions revised to account for the fact that not all people who have fireplaces use them, and even if they use the fireplace during the year, not everyone would use it on the same night.
SCAQMD implements a curtailment program that restricts fireplace use in the SoCAB. The inventory does not include emissions from industrial sources, beach bonfires, and use of pleasure-crafts in the harbor.
For assumptions on the existing inventory, see Appendix D.
[1] Based on a service population of 161,302 people (84,976 residents and 76,326 employees).

5.4.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

GHG-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

GHG-2 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

5.4.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

SCAQMD has adopted a significance threshold of 10,000 $MTCO_2e$ per year for permitted (stationary) sources of GHG emissions for which SCAQMD is the designated lead agency. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD has convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting, held in September 2010 (Meeting No. 15), SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency:

- **Tier 1.** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD is proposing a "bright-line" screening-level threshold of 3,000 $MTCO_2e$ annually for all land use types or the following land-use-specific thresholds: 1,400 $MTCO_2e$ for commercial projects, 3,500 $MTCO_2e$ for residential projects, or 3,000 $MTCO_2e$ for mixed-use projects. This bright-line threshold is based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed these bright-line thresholds. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore less than cumulatively considerable, impact on GHG emissions:

- **Tier 3.** If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.

- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

SCAQMD has proposed an efficiency target for projects that exceed the screening threshold. The current recommended approach is per capita efficiency targets. SCAQMD is not recommending use of a percent emissions reduction target. Instead, SCAQMD proposes a 2020 efficiency target of 4.8 $MTCO_2e$ per year per service population ($MTCO_2e$/year/SP) for project-level analyses and 6.6 $MTCO_2e$/year/SP for plan level projects (e.g., program-level projects such as general plans). The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.[9]

Because the proposed project is a General Plan, project emissions are compared to the SCAQMD's plan level efficiency threshold of 6.6 $MTCO_2e$/year/SP for year 2020. If projects exceed this per capita efficiency target, GHG emissions would be considered potentially significant in the absence of mitigation measures.

[9] SCAQMD took the 2020 statewide GHG reduction target for land-use-only GHG emissions sectors and divided it by the 2020 statewide employment for the land use sectors to derive a per capita GHG efficiency metric that coincides with the GHG reduction targets of AB 32 for year 2020.

5.4.3 Environmental Impacts

2006 General Plan EIR

The 2006 EIR did not evaluate GHG emissions impacts because it was prior to Senate Bill 97, which went into effect January 1, 2010. GHG was not included in the CEQA Guidelines Appendix G checklist, and the City did not have adopted thresholds at the time of preparation.

General Plan LUE Amendment (Proposed Project)

Methodology

GHG emissions modeling was conducted using emission factors and methodologies in the CalEEMod Version 2013.2.2 and CalEEMod user's guide (SCAQMD 2013).

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.5-1:	The proposed project would generate an increase in GHG compared to the 2006 General Plan but would meet the SCAQMD's proposed efficiency threshold. However, similar to impacts under the 2006 EIR, the City would not achieve the long-term GHG reductions goals under Executive Order S-03-05. [Threshold GHG-1]

Impact Analysis: Buildout of the City of Newport Beach would contribute to global climate change through direct emissions of GHG from onsite area sources and vehicle trips, and indirectly through offsite energy production required for onsite activities, water use, and waste disposal. A project does not generate enough GHG emissions on its own to influence global climate change; therefore, the GHG chapter measures a project's contribution to the cumulative environmental impact.

City of Newport Beach GHG Emissions Inventory

Annual GHG emissions calculated for the 2006 General Plan and the proposed project are shown in Table 5.4-5.

Table 5.4-5 Newport Beach GHG Emissions

Category	GHG Emissions $MTCO_2e$/Year		
	2006 General Plan	General Plan LUE Amendment (Proposed Project)	Change from 2006 General Plan
Transportation	719,037	724,717	5,680
Energy	290,379	292,706	2,326
Area Sources	5,827	6,266	439
Solid Waste	176,459	181,990	5,530
Water/Wastewater	29,938	30,492	555
Total	1,221,640	1,236,171	14,531
$MTCO_2e$/SP[1]	6.50	6.47	-0.03
SCAQMD Plan-Level Efficiency Threshold	6.6	6.6	—
Exceeds Plan-Level Efficiency Threshold?	No	No	—

Source: CalEEMod 2013.2.2 and EMFAC2011-PL.
Notes: Based on 2013 running exhaust emission rates from VMT provided by Urban Crossroads. Emissions were calculated using a conservative buildout scenario for the proposed project.
Carbon intensity of electricity for Southern California Edison (SCE) is based on the CalEEMod User's Guide, Version 2013.2.2.
Existing energy use based on the 2005 Building and Energy Efficiency Standards. Includes mandatory sectors associated with the City's land uses. Includes bio-genic emissions from use of fireplaces and solid waste disposal. Fireplace emissions revised to account for the fact that not all people who have fireplaces use them, and even if they use the fireplace during the year, not everyone would use it on the same night.
SCAQMD implements a curtailment program that restricts fireplace use in the SoCAB. The inventory does not include emissions from industrial sources, beach bonfires, and use of pleasure-crafts in the harbor.
For assumptions on the existing inventory, see Appendix D.
Construction emissions generated by the proposed project are not available because information regarding the phasing, construction schedule, and preliminary list of construction equipment is not known.
[1] Based on a service population of the 2006 General Plan: 187,876 people (102,359 residents and 85,517 employees) and the project: 191,062 people (105,157 residents and 85,905 employees).

GHG emissions of the General Plan are compared to SCAQMD's GHG thresholds. As shown in this table, the net increase GHG emissions generated by the proposed project would exceed 3,000 $MTCO_2e$ SCAQMD's bright-line significance criterion and would be considered substantial. Because emissions would exceed the bright-line threshold, GHG emissions associated with the project were compared to the proposed General Plan efficiency metric of 6.6 $MTCO_2e$/SP/yr. New projects that generate a substantial increase in emissions are compared to the efficiency metric to determine whether they achieve the efficiency standards and are in line with policies to reduce GHG emissions per capita (e.g., high density/mixed-use, reduced VMT, energy efficient, and water efficient).

The proposed project would generate 6.47 $MTCO_2e$/SP/yr. Although the project would represent a substantial increase in GHG emissions in the City, it would slightly improve GHG emissions on a per capita basis compared to the 2006 General Plan, even though the number of people who live or work within City would increase. GHG emissions would be below SCAQMD's efficiency metric of 6.6 $MTCO_2e$/SP/yr, and short-term GHG impacts would be less than significant.

Consistency with the Long-Term Goal of Executive Order S-03-05

Governor Brown's Executive Order S-03-05 identified a long-term goal of reducing GHG emissions to 80 percent of 1990 levels by 2050. At this time, there is no plan past 2020 that achieves the long-term GHG reduction goal established under S-03-05. As identified by the California Council on Science and Technology,

the state cannot meet the 2050 goal without major advancements in technology (CCST 2012). As identified in CARB's 2013 Scoping Plan Update, California's emissions are likely to continue to gradually decline through 2030 due to existing programs. However, the scale of reductions is less than is needed after 2020, and without additional actions, emissions are likely to begin increasing again in the 2030s, when population and economic growth begin to outweigh emission reductions from current policies (CARB 2013). Interpolating the efficiency metric for 2035 based on progress toward the long-term goal of reducing GHG emissions to 80 percent of 1990 levels by 2050, GHG emissions per capita would need to be on the order of 4.0 $MTCO_2e/SP/yr$ for the City of Newport Beach to ensure a continuing downward trend of GHG emissions levels. However, the community-wide GHG emissions in the City would not meet such an aggressive efficiency threshold by 2035 in the absence of statewide GHG reduction measures. Therefore, GHG impacts within the City of Newport Beach from the 2006 General Plan and the proposed project would not achieve the long-term GHG reductions goals under Executive Order S-03-05 and would cumulatively contribute to the long-term GHG emissions in the state.

Impact 5.5-2: The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. [Threshold GHG-2]

Impact Analysis: Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan and SCAG's 2012 RTP/SCS. A consistency analysis with these plans is presented below.

CARB Scoping Plan

In accordance with AB 32, CARB developed the 2008 Scoping Plan to outline the state's strategy to achieve 1990 level emissions by year 2020. To estimate the reductions necessary, CARB projected statewide 2020 BAU GHG emissions (i.e., GHG emissions in the absence of statewide emission reduction measures). CARB identified that the state as a whole would be required to reduce GHG emissions by 28.5 percent from year 2020 BAU to achieve the targets of AB 32 (CARB 2008). The revised BAU 2020 forecast shows that the state would have to reduce GHG emissions by 21.6 percent from BAU without Pavley and the 33 percent RPS or 15.4 percent from the adjusted baseline (i.e., with Pavley and 33 percent RPS) (CARB 2012).

Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations, California Building Standards (i.e., CALGreen and the 2008 Building and Energy Efficiency Standards), California Renewable Energy Portfolio standard (33 percent RPS), changes in the corporate average fuel economy standards (e.g. Pavley I and Pavley II), and other measures that would ensure the state is on target to achieve the GHG emissions reduction goals of AB 32. Statewide GHG emissions reduction measures that are being implemented over the next six years would reduce the project's GHG emissions. According to the 2013 update to the Scoping Plan, the state is on track to achieving the 2020 targets of AB 32 (CARB 2013).

As identified above, the project would slightly improve the GHG efficiency of the City even though the number of people who live or work in the City would increase. The new structures would be significantly more energy efficient than the current buildings onsite, many of which were constructed prior to modern building and energy efficiency standards. Likewise, plumbing fixtures and landscaping installed as part of the

proposed project would decrease water use on a per capita basis. The proposed project would not conflict with statewide programs adopted for the purpose of reducing GHG emissions. Impacts would be less than significant.

Table 5.4-6 City of Newport Beach Policies and Implementation Actions That Reduce GHG Emissions

Policy	Policy/Implementation Action Description
Circulation/Land Use	
State Measures	
Pavley I	California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA.
LCFS	LCFS for transportation fuels sold within the state. Executive Order S-1-07 sets a declining standard for GHG emissions measured in CO_2e gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The LCFS applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the fuel cycle using the most economically feasible methods
General Plan Policies	
NR 6.1	Walkable Neighborhoods Provide for walkable neighborhoods to reduce vehicle trips by siting amenities such as services, parks, and schools in close proximity to residential areas.
NR 6.2	Mixed-Use Development Support mixed-use development consisting of commercial or office with residential uses in accordance with the Land Use Element that increases the opportunity for residents to live in proximity to jobs, services, and entertainment.
NR 6.3	Vehicle-Trip Reduction Measures Support measures to reduce vehicle-trip generation such as at-work day care facilities, and on-site automated banking machines.
NR 6.4	Transportation Demand Management Ordinance Implement the Transportation Demand Management (TDM) Ordinance, which promotes and encourages the use of alternative transportation modes, and provides those facilities such as bicycle lanes that support such alternate modes.
NR 6.5	Local Transit Agency Collaboration Collaborate with local transit agencies to: develop programs and educate employers about employee rideshare and transit; establish mass transit mechanisms for the reduction of work-related and non-work-related vehicle trips; promote mass transit ridership through careful planning of routes, headways, origins and destinations, and types of vehicles; and develop bus shelters, bicycle lanes, and other bicycle facilities.
NR 6.6	Traffic Signal Synchronization Encourage synchronization of traffic signals throughout the City and with adjoining cities and counties to allow free flow of traffic.
NR 6.7	City Fleet Vehicles Implement the program to replace existing vehicles in the City fleet with clean vehicles that are commercially available and will provide needed services.
NR 6.8	Accessible Alternative Fuel Infrastructure Support the development of alternative fuel infrastructure that is available and accessible to the public, and provide incentives for alternative fuel vehicles.
NR 6.9	Education on Mobile Source Emission Reduction Techniques Provide education to the public on mobile source emission reduction techniques such as using alternative modes of transportation.
CE 1.1.1	Comprehensive Transportation System Provide a diverse transportation system that provides mobility options for the community.

Table 5.4-6 City of Newport Beach Policies and Implementation Actions That Reduce GHG Emissions

Policy	Policy/Implementation Action Description
CE 1.1.2	Integrated System of Multiple Modes Provide an integrated transportation system that supports the land use plan set forth in the Land Use Element.
CE 1.2.2	Shuttle Service Encourage remote visitor parking and shuttle services.
CE 1.2.3	Traffic System Management Identify and implement measures, such as special traffic signal timing, to reduce the impact of high volume summer traffic on persons living along and around the beach and bay, as well as visitors.
CE 1.2.4	Public Transit Support and encourage OCTA efforts to provide / fund summertime expanded bus service and/or local shuttle services to reduce visitor traffic.
CE 2.3.3	Traffic Conditions Data Base Monitor traffic conditions and optimize traffic signal operations and coordination on an ongoing basis.
CE 2.3.4	Improvements to Reflect Changing Traffic Conditions Based on the monitoring of traffic conditions, consider additional improvements in areas with operations issues, such as intersections with heavy turn volumes (e.g. additional turn lanes, traffic signal progression, etc.).
CE 3.1.4	Regional Traffic Mitigation Participate in programs (Congestion Management Program, Growth Management Program, etc.) to mitigate regional traffic congestion.
CE 4.1.1	Public Transit Efficiency Support efforts by OCTA and other agencies to increase the effectiveness and productivity of transit services, possibly including local shuttle services.
CE 4.1.3	Seasonal Public Transit Coordinate with OCTA to provide seasonal, recreational, and special events shuttles.
CE 4.1.4	Land Use Densities Supporting Public Transit Accommodate residential densities sufficient to support transit patronage, especially in mixed use areas such as the Airport Area.
CE 4.1.5	John Wayne Airport Shuttles Encourage the use of airport shuttle services to minimize the impacts of air travelers on the local roadway system.
CE 4.1.6	Transit Support Facilities Participate in efforts to develop transit support facilities, including park-and-ride lots, bus stops, and shelters.
CE 4.1.7	School Transit Monitor the demand for additional private, public, and school transportation available to serve the needs of K–12 students and advocate for improvements in traffic from students.
CE 5.1.1	Trail System Promote construction of a comprehensive trail system as shown on Figure CE4.
CE 5.1.2	Pedestrian Connectivity Link residential areas, schools, parks, and commercial centers so that residents can travel within the community without driving.
CE 5.1.3	Pedestrian Improvements in New Development Projects Require new development projects to include safe and attractive sidewalks, walkways, and bike lanes in accordance with the Master Plan, and, if feasible, trails.
CE 5.1.4	Linkages to Citywide Trail System and Neighborhoods Require developers to construct links to the planned trail system, adjacent areas, and communities where appropriate.
CE 5.1.5	Bikeway System Cooperate with state, federal, county, and local agencies to coordinate bikeways and trails throughout the region.

Table 5.4-6 City of Newport Beach Policies and Implementation Actions That Reduce GHG Emissions

Policy	Policy/Implementation Action Description
CE 5.1.6	Bicycle Supporting Facilities Incorporate bicycle and pedestrian facilities in the design plans for new streets and highways and, where feasible, in the plans for improving existing roads.
CE 5.1.8	Bicycle Conflicts with Vehicles and Pedestrians Minimize conflict points among motorized traffic, pedestrians, and bicycle traffic.
CE 5.1.9	Integrated Bicycle Improvements Coordinate community bicycle and pedestrian facilities in a citywide network for continuity of travel.
CE 5.1.11	School Access Work with schools to promote walking, biking, safe drop-off, and other improvements.
CE 5.1.12	Pedestrian Street Crossings Implement improved pedestrian crossings in key high volume areas such as Corona Del Mar, Mariners' Mile, West Newport, Airport Area, Newport Center/Fashion Island, and the Balboa Peninsula.
CE 5.1.13	Overhead Pedestrian Street Crossings Consider overhead pedestrian crossings in areas where pedestrian use limits the efficiency of the roadway or signalized intersection.
CE 5.1.14	Newport Harbor Trails and Walkways Develop and implement a long-range plan for public trails and walkways to access all appropriate commercial areas of the harbor, as determined to be physically and economically feasible including the following: a. Extension of the Lido Marina Village boardwalk across all of the waterfront commercial properties in Lido Village. b. Provide a continuous waterfront walkway along the Rhine Channel, connecting Cannery Village and McFadden Square waterfront commercial areas with Las Arenas Beach at 19th Street. c. Provide a walkway connecting the Lido Village area with Mariners' Mile. d. Provide a continuous walkway along the Mariners' Mile waterfront from the Coast Highway/Newport Boulevard Bridge to the Balboa Bay Club.
CE 5.1.15	Equestrian Trails Maintain the existing equestrian trail system in Santa Ana Heights
CE 5.1.16	Bicycle and Pedestrian Safety Provide for the safety of bicyclists and pedestrians through provision of adequate facilities, including maintenance of extra sidewalk width where feasible.
CE 5.2.2	Expanded Water Transportation Modes Promote opportunities to expand water transportation modes, such as water based shuttle services and water taxis.
CE 6.1.1	Traffic Signals Improve traffic signal operations by optimizing signal timing, interconnecting signalized intersections along arterial streets, and installing computerized master traffic signal control systems in intensively utilized areas.
CE 6.1.2	Intelligent Transportation Systems Explore and implement intelligent transportation system and infrastructure improvements which will reduce peak hour traffic from that forecast in this Element.
CE 6.1.3	Coordination with Adjacent Jurisdictions Coordinate operations with adjacent jurisdictions to enhance the efficiency of inter-jurisdictional roadway system operations.
CE 6.2.1	Alternative Transportation Modes Promote and encourage the use of alternative transportation modes, such as ridesharing, carpools, vanpools, public transit, bicycles, and walking; and provide facilities that support such alternate modes.
CE 6.2.2	Support Facilities for Alternative Modes Require new development projects to provide facilities commensurate with development type and intensity to support alternative modes, such as preferential parking for carpools, bicycle lockers, showers, commuter information areas, rideshare vehicle loading areas, water transportation docks, and bus stop improvements.

Table 5.4-6 City of Newport Beach Policies and Implementation Actions That Reduce GHG Emissions

Policy	Policy/Implementation Action Description
CE 6.2.3	Project Site Design Supporting Alternative Modes Encourage increased use of public transportation by requiring project site designs that facilitate the use of public transportation and walking.
CE 7.1.7	Shared Parking Facilities Consider allowing shared parking in mixed use and pedestrian oriented areas throughout the City.
LU 2.2	Sustainable and Complete Community Emphasize the development of uses that enable Newport Beach to continue as a self-sustaining community and minimize the need for residents to travel outside of the community for retail, goods and services, and employment.
LU 2.8	Adequate Infrastructure Accommodate the types, densities, and mix of land uses that can be adequately supported by transportation and utility infrastructure (water, sewer, storm drainage, energy, and so on) and public services (schools, parks, libraries, seniors, youth, police, fire, and so on).
LU 3.3	Opportunities for Change Provide opportunities for improved development and enhanced environments for residents in the following districts and corridors, as specified in Polices 6.3.1 through 6.22.7: • West Newport: consolidation of retail and visitor-serving commercial uses, with remaining areas developed for residential units. • West Newport Mesa: re-use of underperforming commercial and industrial properties for offices and other uses that support Hoag Hospital's medical activities, improvement of remaining industrial properties adjoining the City of Costa Mesa, accommodation of non-water marine-related industries, and development of residential in proximity to jobs and services. • Santa Ana Heights: use of properties consistent with the adopted Specific Plan and Redevelopment Plan. • John Wayne Airport Area: re-use of underperforming industrial and office properties and development of cohesive residential neighborhoods in proximity to jobs and services. • Fashion Island/Newport Center: expanded retail uses and hotel rooms and development of residential in proximity to jobs and services, while limiting increases in office development. • Balboa Peninsula: more efficient patterns of use that consolidate the Peninsula's visitor-serving and mixed uses within the core commercial districts; encourage marine-related uses especially along the bay front; integrate residential with retail and visitor-serving uses in Lido Village, McFadden Square, Balboa Village, and along portions of the Harbor frontage; re-use interior parcels in Cannery Village for residential and limited mixed-use and live/work buildings; and redevelop underperforming properties outside of the core commercial districts along the Balboa Boulevard corridor for residential. Infill development shall be designed and sited to preserve the historical and architectural fabric of these districts • Mariners' Mile: re-use of underperforming properties for retail, visitor-serving, and marine-related uses, integrated with residential. • Corona del Mar: enhancement of public improvements and parking.
LU 6.4.6	BANNING RANCH Approaches for a Livable Neighborhood Site and design development to enhance neighborhood quality of life by: • Establishing a pattern of blocks that promotes access and neighborhood identity Designing streets to slow traffic, while maintaining acceptable fire protection and traffic flows. • Integrating a diversity of residential types within a neighborhood, while ensuring compatibility among different residential types. • Orienting and designing the residential units to relate to the street frontage. • Locating and designing garages to minimize their visual dominance from the street. • Incorporating sidewalks and parkways to foster pedestrian activity Promoting architectural diversity.
LU 6.4.7	BANNING RANCH Neighborhood Structure and Form Establish a "village center" containing local serving commercial, community parks, community meeting facilities, hotel, and/or other amenities as the focal point. Buildings in the village center shall be designed to enhance pedestrian activity (e.g., visual transparency and façade modulation and articulation), integrating plazas and open spaces for public events.

Table 5.4-6 City of Newport Beach Policies and Implementation Actions That Reduce GHG Emissions

Policy	Policy/Implementation Action Description
LU 6.4.10	BANNING RANCH Sustainable Development Practices Require that any development of Banning Ranch achieve high levels of environmental sustainability that reduce pollution and consumption of energy, water, and natural resources to be accomplished through land use patterns and densities, site planning, building location and design, transportation and utility infrastructure design, and other techniques. Among the strategies that should be considered are the concentration of development, reduction of vehicle trips, use of alternative transportation modes, maximized walkability, use of recycled materials, capture and re-use of storm water on-site, water conserving fixtures and landscapes, architectural elements that reduce heat gain and loss, and preservation of wetlands and other habitats.
LU 6.14.5	NEWPORT CENTER/FASHION ISLAND Urban Form Encourage that some new development be located and designed to orient to the inner side of Newport Center Drive, establishing physical and visual continuity that diminishes the dominance of surface parking lots and encourages pedestrian activity.
LU 6.14.6	NEWPORT CENTER/FASHION ISLAND Pedestrian Connectivity and Amenity Encourage that pedestrian access and connections among uses within the district be improved with additional walkways and streetscape amenities concurrent with the development of expanded and new uses.
LU 6.15.20	AIRPORT AREA Pedestrian Improvements Require the dedication and improvement of new pedestrian ways as conceptually shown on [General Plan] Figure LU23. The alignment is tentative and may change as long as the path provides the intended connectivity. For safety, the full length of pedestrian ways shall be visible from intersecting streets. To maintain an intimate scale and to shade the path with trees, pedestrian ways should not be sized as fire lanes. Pedestrian ways shall be open to the public at all hours
LU 6.15.23	AIRPORT AREA Sustainable Development Practices Require that development achieves a high level of environmental sustainability that reduces pollution and consumption of energy, water, and natural resources. This may be accomplished through the mix and density of uses, building location and design, transportation modes, and other techniques. Among the strategies that should be considered are the integration of residential with jobs-generating uses, use of alternative transportation modes, maximized walkability, use of recycled materials, capture and re-use of storm water on-site, water conserving fixtures and landscapes, and architectural elements that reduce heat gain and loss.
LU 6.15.29	AIRPORT AREA Priority Uses Encourage the development of administrative, professional, and office uses with limited accessory retail and service uses that provide jobs for residents and benefit adjoining mixed-use districts.
LU 6.18.4	OLD NEWPORT BOULEVARD Streetscape Design and Connectivity Develop a plan for streetscape improvements and improve street crossings to facilitate pedestrian access to Hoag Hospital and discourage automobile trips.
LU 6.19.11	MARINE'RS MILE Pedestrian-Oriented Village Require that inland properties that front onto internal streets within the Community/Neighborhood Village locate buildings along and forming a semicontinuous building wall along the sidewalk, with parking to the rear in structures or in shared facilities and be designed to promote pedestrian activity.
LU 6.20.4	CORONA DEL MAR Pedestrian-Oriented Streetscapes Work with business associations, tenants, and property owners to implement Corona del Mar Vision Plan streetscape improvements that contribute to the corridor's pedestrian character.

Table 5.4-6 City of Newport Beach Policies and Implementation Actions That Reduce GHG Emissions

Policy	Policy/Implementation Action Description
Building and Energy Efficiency	
State Measures	
Title 24 Energy Standards	Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission in June 1977 and updated triannually (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the California Energy Commission (CEC) adopted the 2013 Building and Energy Efficiency Standards, which go into effect on January 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.
Title 24 CALGreen	On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (CALGreen) was adopted as part of the California Building Standards Code (Part 11, Title 24, California Code of Regulations). CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011.
33% RPS	Executive Order S-14-08 was signed in November 2008, which expands the state's renewable energy standard to 33 percent renewable power by 2020. In 2011, the state legislature adopted this higher standard in SBX1-2. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects, because electricity production from renewable sources is generally considered carbon neutral.
Title 25	The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances.
General Plan Policies	
NR 24.1	Incentives for Energy Conservation Develop incentives that encourage the use of energy conservation strategies by private and public developments.
NR 24.2	Energy-Efficient Design Features Promote energy-efficient design features.
NR 24.3	Incentives for Green Building Program Implementation Promote or provide incentives for "Green Building" programs that go beyond the requirements of Title 24 of the California Administrative Code and encourage energy efficient design elements as appropriate to achieve "green building" status.
NR 24.4	Incentives for Provision of LEED Certified Buildings Provide incentives for implementing Leadership in Environmental and Energy Design (LEED) certified building such as fee waivers, bonus densities, and/or awards recognition programs.
General GHG Reduction Policies and Implementation Actions	
State Measures	
LCFS	LCFS for transportation fuels sold within the state. Executive Order S-1-07 sets a declining standard for GHG emissions measured in CO_2e gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The LCFS applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the fuel cycle using the most economically feasible methods

Table 5.4-6 City of Newport Beach Policies and Implementation Actions That Reduce GHG Emissions

Policy	Policy/Implementation Action Description
General Plan Policies	
NR 1.1	Water Conservation in New Development Enforce water conservation measures that limit water usage, prohibit activities that waste water or cause runoff, and require the use of water–efficient landscaping and irrigation in conjunction with new construction projects.
NR 1.2	Use of Water Conserving Devices Establish and actively promote use of water conserving devices and practices in both new construction and major alterations and additions to existing buildings. This can include the use of rainwater capture, storage, and reuse facilities.
NR 1.3	Tiered Water Rates Explore the appropriateness of implementing tiered water rates.
NR 1.4	Alternative Conservation Measures Explore implementation of alternative conservation measures and technology as they become available.
NR 1.5	Education Establish educational programs on water conservation.
NR 2.1	Recycled Water Use Increase the use of recycled water in the City by continuing to provide financial incentives, staff assistance, and training opportunities for customers, and expand recycled water infrastructure and programs, when feasible.
NR 7.1	Fuel Efficient Equipment Support the use of fuel efficient heating equipment and other appliances.
NR 7.2	Source Emission Reduction Best Management Practices Require the use of Best Management Practices (BMP) to minimize pollution and to reduce source emissions.
NR 7.3	Incentives for Air Pollution Reduction Provide incentives to promote siting or to use clean air technologies and building materials (e.g., fuel cell technologies, renewable energy sources, UV coatings, hydrogen fuel).
NR 8.1	Management of Construction Activities to Reduce Air Pollution Require developers to use and operate construction equipment, use building materials and paints, and control dust created by construction activities to minimize air pollutants.
NR 9.1	Efficient Airport Operations Work with John Wayne Airport to minimize air pollution generated by stationary and nonstationary sources.
NR 9.2	Aircraft and Equipment Emission Reduction Work with John Wayne Airport to encourage development and use of reduced emission ground service equipment and transit vehicles.

2012 Regional Transportation Plan/Sustainable Communities Strategy

SCAG's 2012 RTP/SCS was adopted on April 4, 2012. The RTP/SCS is a regional growth management strategy that targets per capita GHG reduction from passenger vehicles and light duty trucks in the Southern California region. The 2012 RTP/SCS incorporates local land use projections and circulation networks in the cities' and counties' general plans. The projected regional development pattern, including location of land uses and residential densities included in local general plans, when integrated with the proposed regional transportation network in the 2012 RTP/SCS, would reduce per capita vehicular travel-related GHG emissions and achieve the subregional GHG reduction per capita targets for the SCAG region. Key strategies identified in the Orange County subregional SCS that were incorporated into the 2012 RTP/SCS are listed below, along with an assessment of applicability to the proposed project and a determination of consistency,

if applicable. For the most part, these broad regional strategies do not apply to relatively small-scale individual land use projects, particularly those in areas that are not near or along transportation routes that do or could support viable transit services, and cannot feasibly be developed with a range of mixed uses that could result in some trip reduction benefits:

- **Support transit-oriented development.** Several policies identified in the City of Newport Beach General Plan highlight the City's commitment to integrating residential development in key areas of the City to facilitate pedestrian connectivity and proximity to employment centers and services.

- **Support infill housing development and redevelopment.** The majority of Newport Beach is developed, with relatively few undeveloped parcels remaining. Consequently, a key component of the General Plan is identifying the target areas for infill housing and redevelopment, including the Airport Area and Newport Center/Fashion Island. The proposed project furthers this goal by providing an increase in residential and nonresidential intensity in these key areas within the City.

- **Support mixed-use development and thereby improve walkability of communities.** The General Plan encourages mixed use development within the City that increases the opportunity for residents to live in proximity to jobs, services, and entertainment (see Natural Resources Element Policy NR 6.2, Circulation Element Policy CE 4.1.4, and Land Use Element Policy LU 3.3 and LU 6.15.29).

- **Increase regional accessibility in order to reduce vehicle miles traveled.** The General Plan provides for a comprehensive transportation system that supports all modes of travel. Pursuant to Policy CE 3.1-4, the City participates in regional traffic programs to mitigate regional traffic congestion. In addition, the General Plan includes several policies for alternative transportation to reduce VMT, including use of seasonal public transit (Policy CE 4.1.3), shuttle service (Policy CE 1.2.2), coordination with neighboring jurisdictions (Policy CE 6.1.3), and measures to reduce trip generation (Policy NE 6.3). The City also implements its Transportation Demand Management (TDM) Ordinance, which promotes and encourages the use of alternate transportation modes and provides facilities that support alternate transportation modes (Policy NR 6.4).

- **Improve jobs-to-housing ratio.** The proposed project would increase residential and nonresidential land use intensity in portions of the City. This would result in an increase in population and employment compared to the 2006 EIR. At buildout of the 2006 General Plan the City would have a jobs-housing ratio of 1.81 using occupied housing units, rather than total housing units, as the measure of housing. Buildout of the General Plan LUE Amendment would result in a slight reduction in the jobs-housing ratio of 1.76, which is favorable because a ratio of 1.81 is considered jobs-rich.

- **Promote land use patterns that encourage alternatives to single-occupant automobile use.** The City of Newport Beach is mostly built out. However, the General Plan identifies several key areas in the City for redevelopment, which would increase residential and nonresidential intensities. Several policies identified in the City of Newport Beach General Plan highlight the City's commitment to integrating residential development in key areas of the City to facilitate pedestrian connectivity and proximity to

employment centers and services and reduce trips/VMT. The General Plan includes several policies for alternative transportation to reduce VMT, including use of seasonal public transit (Policy CE 4.1.3), shuttle service (Policy CE 1.2.2), coordination with neighboring jurisdictions (Policy CE 6.1.3), and measures to reduce trip generation (Policy NE 6.3).

- **Support retention and/or development of affordable housing.** The proposed project is an amendment to the General Plan. The Housing Element of the General Plan (updated September 2013) identifies land use strategies to support housing for all household types and income levels in the City.

- **Eliminate bottlenecks and reduce delay on freeways, toll roads, and arterials.** Improvements associated with Caltrans facilities are within the control of Caltrans and not the City of Newport Beach. Therefore, improvements to Caltrans facilities to reduce bottlenecks and reduce delay on freeways are not applicable to the project. However, the General Plan Circulation Element ensures project and cumulative traffic impacts are mitigated to the extent feasible.

- **Apply Transportation System Management and Complete Street practices to arterials and freeways to maximize efficiency.** As identified above, the Circulation Element of the General Plan includes policies to support a complete transportation system that supports all modes of transportation (see Policies CE 1.1.1, CE 1.1.2, CE 3.1.4, CE 6.2.1, CE 6.2.2, CE 6.2.3).

- **Improve modes through enhanced service, frequency, convenience, and choices.** The proposed project would not alter the frequency of service provided by OCTA. The General Plan Circulation Element includes several policies that ensure ongoing coordination with OCTA for transit service (see Policies CE 6.5, CE 1.2.4, CE 4.1.1, CE 4.1.3, CE 4.1.4, CE 4.1.6, CE 4.1.7, CE 6.2.1, and CE 6.2.2). In addition, Policy CE 6.2.3 encourages increased use of public transportation by requiring site designs that facilitate transit and walking.

- **Expand and enhance Transportation Demand Management practices to reduce barriers to alternative travel modes and attract commuters away from single-occupant vehicle travel.** As described above, the City has several policies for encouraging use of alternative modes of transportation. The City also implements its Transportation Demand Management Ordinance, which promotes and encourages the use of alternate transportation modes and provides facilities that support alternate transportation modes (Policy NR 6.4).

- **Continue existing and explore expansion of highway pricing strategies.** This is a regional transportation management strategy that is not applicable to the proposed project or other individual land use projects.

- **Implement near-term (Transportation Improvement Program and Measure M2 Early Capital Action Plan) and long-term (Long Range Transportation Plan 2035 Preferred Plan) transportation improvements to provide mobility choices and sustainable transportation options.**

This is a regional transportation management strategy that is not applicable to the proposed project or other individual land use projects.

- **Acknowledge current sustainability strategies practices by Orange County jurisdictions and continue to implement strategies that will result in or support the reduction of GHG emissions.** This is a regional strategy that is not applicable at the individual project level. However, the General Plan Circulation Element includes several policies regarding coordination with adjacent jurisdictions (Policy CE 6.1.3) and regional transportation agencies (Policies CE 3.1.4 and CE 4.1.1).

Table 5.7-1, *SCAG 2012–2035 RTP/SCS Goals Consistency Analysis*, in Section 5.7, *Land Use and Planning*, provides an assessment of the project to the applicable goals in SCAG's 2012 RTP/SCS. As identified above and in Table 5.7-1, the proposed project would not conflict with regional programs adopted for the purpose of reducing GHG emissions. Impacts would be less than significant.

5.4.4 Relevant General Plan Policies

Existing Policies

While the 2006 General Plan EIR did not include a chapter on GHG emissions, the 2006 General Plan includes several policies that would reduce GHG emissions associated with future development projects in the City, including:

Natural Resources Element (NR)

Goal NR 6: Reduced mobile source emissions.

- **NR 6.1 – Walkable Neighborhoods:** Provide for walkable neighborhoods to reduce vehicle trips by siting amenities such as services, parks, and schools in close proximity to residential areas.

- **NR 6.2 – Mixed-Use Development:** Support mixed-use development consisting of commercial or office with residential uses in accordance with the Land Use Element that increases the opportunity for residents to live in proximity to jobs, services, and entertainment.

- **NR 6.3 – Vehicle-Trip Reduction Measures:** Support measures to reduce vehicle-trip generation such as at-work day care facilities, and on-site automated banking machines.

- **NR 6.4 – Transportation Demand Management Ordinance:** Implement the Transportation Demand Management (TDM) Ordinance, which promotes and encourages the use of alternative transportation modes, and provides those facilities such as bicycle lanes that support such alternate modes.

- **NR 6.5 – Local Transit Agency Collaboration:** Collaborate with local transit agencies to: develop programs and educate employers about employee rideshare and transit; establish mass transit mechanisms for the reduction of work-related and non-work-related vehicle trips; promote mass transit ridership

through careful planning of routes, headways, origins and destinations, and types of vehicles; and develop bus shelters, bicycle lanes, and other bicycle facilities.

- **NR 6.6 – Traffic Signal Synchronization:** Encourage synchronization of traffic signals throughout the City and with adjoining cities and counties to allow free flow of traffic.

- **NR 6.7 – City Fleet Vehicles:** Implement the program to replace existing vehicles in the City fleet with clean vehicles that are commercially available and will provide needed services.

- **NR 6.8 – Accessible Alternative Fuel Infrastructure:** Support the development of alternative fuel infrastructure that is available and accessible to the public, and provide incentives for alternative fuel vehicles.

- **NR 6.9 – Education on Mobile Source Emission Reduction Techniques:** Provide education to the public on mobile source emission reduction techniques such as using alternative modes of transportation.

Goals NR 7: Reduced pollutant emissions from stationary sources.

- **NR 7.1 – Fuel Efficient Equipment:** Support the use of fuel efficient heating equipment and other appliances.

- **NR 7.2 – Source Emission Reduction Best Management Practices:** Require the use of Best Management Practices (BMP) to minimize pollution and to reduce source emissions.

- **NR 7.3 – Incentives for Air Pollution Reduction:** Provide incentives to promote siting or to use clean air technologies and building materials (e.g., fuel cell technologies, renewable energy sources, UV coatings, hydrogen fuel).

Goal NR 8: Reduced air pollutant emissions from construction activities.

- **NR 8.1 – Management of Construction Activities to Reduce Air Pollution:** Require developers to use and operate construction equipment, use building materials and paints, and control dust created by construction activities to minimize air pollutants.

Goal NR 24: Increased energy efficiency in City facilities and operations and in private developments.

- **NR 24.1 – Incentives for Energy Conservation:** Develop incentives that encourage the use of energy conservation strategies by private and public developments.

- **NR 24.2 – Energy-Efficient Design Features:** Promote energy-efficient design features.

- **NR 24.3 – Incentives for Green Building Program Implementation:** Promote or provide incentives for "Green Building" programs that go beyond the requirements of Title 24 of the California

Administrative Code and encourage energy efficient design elements as appropriate to achieve "green building" status.

- **NR 24.4 – Incentives for Provision of LEED Certified Buildings:** Provide incentives for implementing Leadership in Environmental and Energy Design (LEED) certified building such as fee waivers, bonus densities, and/or awards recognition programs.

New and/or Modified Policies

No new or modified LUE policies are directly relevant to the topic of greenhouse gas emissions.

5.4.5 Existing Plans, Policies, and Programs

- Executive Order S-03-05: Greenhouse Gas Emission Reduction Targets
- AB 32: California Global Warming Solutions Act
- SB 375: Sustainable Communities Strategies
- AB 1493: Pavley Fuel Efficiency Standards
- Title 20 California Code of Regulations: Appliance Energy Efficiency Standards
- Title 17 California Code of Regulations: Low Carbon Fuel Standard
- AB 1881: California Water Conservation in Landscaping Act of 2006
- SB 1368: Statewide Retail Provider Emissions Performance Standards
- SB 1078: Renewable Portfolio Standards
- Title 24, Part 6, California Code of Regulations: Building and Energy Efficiency Standards
- Title 24, Part 11, California Code of Regulations: Green Building Standards Code

5.4.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.4-2.

Without mitigation, the following impact would be potentially significant:

- Impact 5.4-1 Similar to impacts under the 2006 EIR, the City would not achieve the long-term GHG reductions goals under Executive Order S-03-05.

5.4.7 Mitigation Measures

While the 2006 General Plan EIR did not include a chapter on GHG emissions, the City of Newport Beach's General Plan includes policies and implementation actions to reduce air quality and GHG emissions. No other additional measures to reduce GHG emissions are available.

5.4.8 Level of Significance After Mitigation

Impact 5.4-1

The proposed project would achieve SCAQMD's efficiency metric and would not conflict with plans adopted for the purpose of reducing GHG emissions. Compared to the 2006 General Plan, the proposed project would result in a substantial increase in the total magnitude of GHG emissions but would decrease GHG emissions on a per capita basis (i.e., increase plan efficiency). The policies and implementation actions in the City's General Plan would ensure that GHG emissions from buildout of the proposed General Plan LUE Amendment would be minimized to the extent practicable. However, additional statewide measures would be necessary to reduce GHG emissions under the proposed project to meet the long-term GHG reduction goals under Executive Order S-03-05, which identified a goal to reduce GHG emissions to 80 percent of 1990 levels by 2050. At this time, there is no plan past 2020 that achieves the long-term GHG reduction goal established under S-03-05. As identified by the California Council on Science and Technology, the state cannot meet the 2050 goal without major advancements in technology (CCST 2012). Since no additional statewide measures are currently available, Impact 5.4-1 would remain significant and unavoidable.

5.4.9 References

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