



5.7 GREENHOUSE GAS EMISSIONS

This section evaluates greenhouse gas (GHG) emissions associated with the proposed project and analyzes project compliance with applicable regulations. Consideration of the project's consistency with applicable plans, policies, and regulations, as well as the introduction of new sources of GHGs, is included in this section. Greenhouse gas technical data is included as [Appendix 11.4, *Air Quality/Greenhouse Gas Emissions Data*](#).

5.7.1 EXISTING SETTING

The project site lies within the southern portion of the South Coast Air Basin (Basin). The Basin is a 6,600-square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Geronio Pass area in Riverside County. The Basin's terrain and geographical location (i.e., a coastal plain with connecting broad valleys and low hills) determine its distinctive climate.

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. The climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the Basin.

SCOPE OF ANALYSIS FOR CLIMATE CHANGE

The study area for climate change and the analysis of GHG emissions is broad as climate change is influenced by world-wide emissions and their global effects. However, the study area is also limited by the CEQA Guidelines [Section 15064(d)], which directs lead agencies to consider an "indirect physical change" only if that change is a reasonably foreseeable impact which may be caused by the project.

The baseline against which to compare potential impacts of the project includes the natural and anthropogenic drivers of global climate change, including world-wide GHG emissions from human activities that have grown more than 70 percent between 1970 and 2004. The State of California is leading the nation in managing GHG emissions. Accordingly, the impact analysis for this project relies on guidelines, analyses, policy, and plans for reducing GHG emissions established by the California Air Resources Board (CARB). This analysis also cites and relies on local air quality management district recommendations from the South Coast Air Quality Management District (SCAQMD) for CEQA assessment of GHG emissions.



GLOBAL CLIMATE CHANGE – GREENHOUSE GASES

The natural process through which heat is retained in the troposphere is called the “greenhouse effect.”¹ The greenhouse effect traps heat in the troposphere through a three fold process as follows: Short wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long wave radiation; and GHG in the upper atmosphere absorb this long wave radiation and emit this long wave radiation into space and toward the Earth. This “trapping” of the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

The most abundant GHGs are water vapor and carbon dioxide (CO₂). Many other trace gases have greater ability to absorb and re-radiate long wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and re-radiate long wave radiation.

GHGs normally associated with the proposed project include the following:²

- Water Vapor (H₂O). Although water vapor has not received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers, and transpiration from plants, contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively.

The primary human related source of water vapor comes from fuel combustion in motor vehicles; however, this is not believed to contribute a significant amount (less than one percent) to atmospheric concentrations of water vapor. The Intergovernmental Panel on Climate Change (IPCC) has not determined a GWP for water vapor.

- Carbon Dioxide (CO₂). Carbon dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, the concentration of carbon dioxide in the atmosphere has increased 39 percent.³ Carbon dioxide is the most widely emitted GHG and is the reference gas (GWP of 1) for determining GWP for other GHGs.
- Methane (CH₄). Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of methane are landfills, natural gas systems, and enteric fermentation. Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The GWP of methane is 21.

¹ The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth’s surface to 10 to 12 kilometers.

² All Global Warming Potentials are given as 100 year GWP. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change.

³ U.S. Environmental Protection Agency, *Inventory of United States Greenhouse Gas Emissions and Sinks 1990 to 2011*, April 2013.



- Nitrous Oxide (N_2O). Nitrous oxide is produced by both natural and human related sources. Primary human related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of nitrous oxide is 310.
- Hydrofluorocarbons (HFCs). HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing, as the continued phase out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The GWP of HFCs range from 140 for HFC-152a to 11,700 for HFC-23.⁴
- Perfluorocarbons (PFCs). Perfluorocarbons are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semi conductor manufacturing. Perfluorocarbons are potent GHGs with a GWP several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years).⁵ The GWP of PFCs range from 6,500 to 9,200.
- Sulfur hexafluoride (SF_6). Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent GHG that has been evaluated by the IPCC with a GWP of 23,900. However, its global warming contribution is not as high as the GWP would indicate due to its low mixing ratio compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm], respectively).⁶

In addition to the six major GHGs discussed above (excluding water vapor), many other compounds have the potential to contribute to the greenhouse effect. Some of these substances were previously identified as stratospheric ozone (O_3) depleters; therefore, their gradual phase out is currently in effect. The following is a listing of these compounds:

- Hydrochlorofluorocarbons (HCFCs). HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. All developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The GWP of HCFCs range from 93 for HCFC-123 to 2,000 for HCFC-142b.⁷
- 1,1,1 trichloroethane. 1,1,1 trichloroethane or methyl chloroform is a solvent and degreasing agent commonly used by manufacturers. The GWP of methyl chloroform is 110 times that of carbon dioxide.⁸

⁴ U.S. Environmental Protection Agency, *Greenhouse Gas Emissions – Emissions of Fluorinated Gases*, June 14, 2012.

⁵ Ibid.

⁶ Ibid.

⁷ United States Environmental Protection Agency, *Strategic Ozone Protection and Climate Change*, <http://www.epa.gov/ozone/climate.html>, dated August 19, 2010.

⁸ Ibid.



- *Chlorofluorocarbons (CFCs)*. CFCs are used as refrigerants, cleaning solvents, and aerosols spray propellants. CFCs were also part of the U.S. Environmental Protection Agency's (EPA) Final Rule (57 FR 3374) for the phase out of O₃ depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain suspended in the atmosphere contributing to the greenhouse effect. CFCs are potent GHGs with GWP ranging from 4,600 for CFC 11 to 14,000 for CFC 13.⁹

5.7.2 REGULATORY SETTING

FEDERAL

The Federal government is extensively engaged in international climate change activities in areas such as science, mitigation, and environmental monitoring. The EPA actively participates in multilateral and bilateral activities by establishing partnerships and providing leadership and technical expertise. Multilaterally, the United States is a strong supporter of activities under the United Nations Framework Convention on Climate Change (UNFCCC) and the IPCC.

In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus around the evidence that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

In December 2007, Congress passed the first increase in corporate average fleet fuel economy (CAFE) standards. The new CAFE standards represent an increase to 35 miles per gallon (mpg) by 2020. In March 2009, the Obama Administration announced that for the 2011 model year, the standard for cars and light trucks will be 27.3 mpg, the standard for cars will be 30.2 mpg; and standard for trucks would be 24.1 mpg. Additionally, in May 2009 President Barack Obama announced plans for a national fuel-economy and GHG emissions standard that would significantly increase mileage requirements for cars and trucks by 2016. The new requirements represent an average standard of 39 mpg for cars and 30 mpg for trucks by 2016.

In May 2010, EPA and Department of Transportation's National Highway Traffic Safety Administration (NHTSA) issued a joint Final Rule to establish a National Program comprised of new standards for light-duty vehicles that will reduce GHG emissions and improve fuel economy. In October 2012, the EPA and NHTSA issued final rules to extend the National Program standards to further decrease greenhouse gas emissions and increase fuel economy for light-duty vehicles for model years 2017-2025. NHTSA is finalizing CAFÉ standards for model years 2017-2012 while issuing augural standards for 2022-2025 model years under the Energy and Security Act. EPA is finalizing GHG emission standards for 2017-2025 model years under the Federal Clean Air Act (FCAA) and modifying changes to the regulations applicable to model years 2012-2016 in regards to air conditions performance, nitrous oxides measurement, off-cycle technology credits, and police and emergency vehicles.

⁹ U.S. Environmental Protection Agency, *Class I Ozone Depleting Substances*, August 19, 2010. <http://www.epa.gov/ozone/ods.html>.



In September 2009, the EPA finalized a GHG reporting and monitoring system that began on January 1, 2010. In general, this national reporting requirement will provide the EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons (MT) or more of CO₂ per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost-effective emissions reduction strategies. This new program covers approximately 85 percent of the nation's GHG emissions and applies to approximately 10,000 facilities. The reporting system is intended to provide a better understanding of where GHGs are coming from and will guide development of the best possible policies and programs to reduce emissions.

Currently, the EPA is moving forward with two key climate change regulatory proposals, one to establish a mandatory GHG reporting system and one to address the 2007 Supreme Court decision in *Massachusetts v. EPA* (Supreme Court Case 05-1120) regarding the EPA's obligation to make an endangerment finding under Section 202(a) of the FCAA with respect to GHGs. *Massachusetts v. EPA* was argued before the United States Supreme Court on November 29, 2006. Under the FCAA, the EPA is now obligated to issue rules regulating global warming pollution from all major sources. In April 2009, the EPA concluded that GHGs are a danger to public health and welfare, establishing the basis for GHG regulation.

STATE

Various statewide and local initiatives to reduce the state's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is under way, and there is a real potential for severe adverse environmental, social, and economic effects in the long term. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation will be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

Executive Order S-1-07. Executive Order S-1-07 proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least ten percent by 2020. This order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

Executive Order S-3-05. Executive Order S-3-05 set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

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

The Executive Order directed the secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary will also submit biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's



resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of Cal/EPA created the California Climate Action Team (CAT), made up of members from various State agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

Executive Order S-13-08. Executive Order S-13-08 seeks to enhance the State's management of climate impacts including sea level rise, increased temperatures, shifting precipitation, and extreme weather events by facilitating the development of State's first climate adaptation strategy. This will result in consistent guidance from experts on how to address climate change impacts in the State of California.

Executive Order S-14-08. Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, Executive Order S-21-09 (signed on September 15, 2009) directs CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the "Renewable Electricity Standard" on September 23, 2010, which requires 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

Executive Order S-20-04. Executive Order S-20-04, the California Green Building Initiative, (signed into law on December 14, 2004), establishes a goal of reducing energy use in State-owned buildings by 20 percent from a 2003 baseline by 2015. It also encourages the private commercial sector to set the same goal. The initiative places the California Energy Commission (CEC) in charge of developing a building efficiency benchmarking system, commissioning and retro-commissioning (commissioning for existing commercial buildings) guidelines, and developing and refining building energy efficiency standards under Title 24 to meet this goal.

Executive Order S-21-09. Executive Order S-21-09, 33 percent Renewable Energy for California, directs CARB to adopt regulations to increase California's Renewable Portfolio Standard (RPS) to 33 percent by 2020. This builds upon SB 1078 (2002) which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006) which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

Assembly Bill 32 (California Global Warming Solutions Act of 2006). California passed the California Global Warming Solutions Act of 2006 (AB 32; *California Health and Safety Code* Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

Assembly Bill 1493. AB 1493 (also known as the Pavley Bill) requires that CARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of GHG emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State."



To meet the requirements of AB 1493, CARB approved amendments to the California Code of Regulations (CCR) in 2004 by adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 and adoption of 13 CCR Section 1961.1 require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty weight classes for passenger vehicles (i.e., any medium-duty vehicle with a gross vehicle weight rating less than 10,000 pounds that is designed primarily to transport people), beginning with the 2009 model year. Emissions limits are reduced further in each model year through 2016. When fully phased in, the near-term standards will result in a reduction of about 22 percent in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term standards will result in a reduction of about 30 percent.

Assembly Bill 3018. AB 3018 established the Green Collar Jobs Council (GCJC) under the California Workforce Investment Board (CWIB). The GCJC will develop a comprehensive approach to address California's emerging workforce needs associated with the emerging green economy. This bill will ignite the development of job training programs in the clean and green technology sectors.

Senate Bill 97. SB 97, signed in August 2007 (Chapter 185, Statutes of 2007; PRC Sections 21083.05 and 21097), acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions (or the effects of GHG emissions), as required by CEQA.

OPR published a technical advisory recommending that CEQA lead agencies make a good-faith effort to estimate the quantity of GHG emissions that would be generated by a proposed project. Specifically, based on available information, CEQA lead agencies should estimate the emissions associated with project-related vehicular traffic, energy consumption, water usage, and construction activities to determine whether project-level or cumulative impacts could occur, and should mitigate the impacts where feasible. OPR requested CARB technical staff to recommend a method for setting CEQA thresholds of significance as described in CEQA Guidelines Section 15064.7 that will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the State.

The Natural Resources Agency adopted the CEQA Guidelines Amendments prepared by OPR, as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the CEQA Guidelines Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The CEQA Guidelines Amendments became effective on March 18, 2010.

Senate Bill 375. SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPOs regional transportation plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the



reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects may not be eligible for funding programmed after January 1, 2012.

Senate Bills 1078 and 107. SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

Senate Bill 1368. SB 1368 (Chapter 598, Statutes of 2006) is the companion bill of AB 32 and was signed into law in September 2006. SB 1368 required the California Public Utilities Commission (CPUC) to establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007. SB 1368 also required the CEC to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural gas fired plant. Furthermore, the legislation states that all electricity provided to California, including imported electricity, must be generated by plants that meet the standards set by CPUC and CEC.

CARB Scoping Plan. On December 11, 2008, CARB adopted its Scoping Plan, which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's Scoping Plan contains the main strategies California will implement to reduce CO₂eq¹⁰ emissions by 174 million MT, or approximately 30 percent, from the State's projected 2020 emissions level of 596 million MT CO₂eq under a business as usual (BAU)¹¹ scenario. This is a reduction of 42 million MT CO₂eq, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

CARB's Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. At the time CARB's Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32. On February 10, 2014, CARB released the draft proposed first update. The appendices to the report, including the environmental analysis will be released at a later date. On February 20, 2014, CARB will have a Board meeting discussion that will include additional opportunities for stakeholder feedback and public comment. In late-Spring 2014, CARB will hold a Board Hearing to consider the Final Scoping Plan Update and Environmental Analysis.

¹⁰ Carbon Dioxide Equivalent (CO₂eq) - A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

¹¹ "Business as Usual" refers to emissions that would be expected to occur in the absence of GHG reductions. See <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.



LOCAL

City of Newport Beach

Energy Action Plan. On July 2013, the City prepared an *Energy Action Plan*, created in partnership with Southern California Edison (SCE) and Southern California Gas Company. The Plan provides the City guidance in reducing greenhouse emissions by lowering municipal and community wide energy use. The Plan assists in identifying a clear path to successfully implementing goals, policies, and actions that will achieve the City's reduction targets.

Orange County Cities Energy Leadership Partnership Program. In 2011, the City entered into the Orange County Cities Energy Leadership Partnership Program (OCCELP), a joint partnership with SCE, Southern California Gas Company and neighboring cities Fountain Valley, Westminster and Costa Mesa to improve long term energy and sustainability throughout the local area. The partnership provides a performance-based opportunity to demonstrate energy efficiency leadership in its community through energy saving actions including installing energy efficient lighting, lighting and temperature controls, air conditioning and heating system improvements, monitoring local government utility accounts, carbon reporting, and technical energy audits of the City's major facilities.

5.7.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

At this time, there is no absolute consensus in the State of California among CEQA lead agencies regarding the analysis of global climate change and the selection of significance criteria. In fact, numerous organizations, both public and private, have released advisories and guidance with recommendations designed to assist decision-makers in the evaluation of GHG emissions given the current uncertainty regarding when emissions reach the point of significance.

Lead agencies may elect to rely on thresholds of significance recommended or adopted by State or regional agencies with expertise in the field of global climate change (CEQA Guidelines Section 15064.7(c).) CEQA leaves the determination of significance to the reasonable discretion of the lead agency and encourages lead agencies to develop and publish thresholds of significance to use in determining the significance of environmental effects. However, the City of Newport Beach has not yet established specific quantitative significance thresholds for GHG emissions for development projects.

The SCAQMD has formed a GHG CEQA Significance Threshold Working Group (Working Group) to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. As of the last Working Group meeting (Meeting No. 15) held in September 2010, the SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency.¹²

¹² The most recent SCAQMD GHG CEQA Significance Threshold Working Group meeting was held on September 2010.



With the tiered approach, the project is compared with the requirements of each tier sequentially and would not result in a significant impact if it complies with any tier. Tier 1 excludes projects that are specifically exempt from SB 97 from resulting in a significant impact. Tier 2 excludes projects that are consistent with a GHG reduction plan that has a certified final CEQA document and complies with AB 32 GHG reduction goals. Tier 3 excludes projects with annual emissions lower than a screening threshold. For all non-industrial projects, the SCAQMD is proposing a screening threshold of 3,000 MTCO₂eq per year. SCAQMD concluded that projects with emissions less than the screening threshold would not result in a significant cumulative impact.

Tier 4 consists of three decision tree options. Under the Tier 4 first option, the project would be excluded if design features and/or mitigation measures resulted in emissions 30 percent lower than business as usual emissions. Under the Tier 4 second option the project would be excluded if it had early compliance with AB 32 through early implementation of CARB's Scoping Plan measures. Under the Tier 4 third option, project would be excluded if it was below an efficiency-based threshold of 4.8 MTCO₂eq per service population (SP) per year.¹³ Tier 5 would exclude projects that implement offsite mitigation (GHG reduction projects) or purchase offsets to reduce GHG emission impacts to less than the proposed screening level.

The 3,000 MTCO₂eq per year has been selected as the significance threshold, as it is most applicable to the proposed project. The 3,000 MTCO₂eq per year is used in addition to the qualitative thresholds of significance set forth below from Section VII of CEQA Guidelines Appendix G.

CEQA SIGNIFICANCE CRITERIA

The issues presented in the Initial Study Environmental Checklist (*CEQA Guidelines* Appendix G) have been utilized as thresholds of significance in this Section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

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

Based on these significance thresholds and criteria, the project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

The standards used to evaluate the significance of impacts are often qualitative rather than quantitative because appropriate quantitative standards are either not available for many types of impacts or are not applicable for some types of projects.

¹³ The project-level efficiency-based threshold of 4.8 MTCO₂eq per SP per year is relative to the 2020 target date. The SCAQMD has also proposed efficiency-based thresholds relative to the 2035 target date to be consistent with the GHG reduction target date of SB 375. GHG reductions by the SB 375 target date of 2035 would be approximately 40 percent. Applying this 40 percent reduction to the 2020 targets results in an efficiency threshold for plans of 4.1 MTCO₂eq per SP per year and an efficiency threshold at the project level of 3.0 MTCO₂eq/year.



5.7.4 IMPACTS AND MITIGATION MEASURES

GREENHOUSE GAS EMISSIONS

GHG-1 GREENHOUSE GAS EMISSIONS GENERATED BY THE PROJECT COULD HAVE A SIGNIFICANT IMPACT ON GLOBAL CLIMATE CHANGE.

Impact Analysis: The proposed project’s “business as usual” GHG emissions have been calculated. As previously stated, “Business as Usual” refers to emissions that would be expected to occur in the absence of GHG reduction measures.

Direct Project Related Sources of Greenhouse Gases

Direct project-related GHG emissions for “business as usual” conditions include emissions from construction activities, area sources, and mobile sources. Table 5.7-1, Business As Usual Greenhouse Gas Emissions, presents the estimated CO₂, N₂O, and CH₄ emissions.

**Table 5.7-1
Business As Usual Greenhouse Gas Emissions**

Source	CO ₂	CH ₄		N ₂ O		Total Metric Tons of CO ₂ eq
	Metric Tons/yr ¹	Metric Tons/yr ¹	Metric Tons of CO ₂ eq ²	Metric Tons/yr ¹	Metric Tons of CO ₂ eq ²	
Direct Emissions						
• Construction (amortized over 30 years)	30.90	0.01	0.1	0.00	0.00	30.91
• Area Source	0.00	0.00	0.14	0.00	0.00	0.14
• Mobile Source	1,054.06	0.04	0.89	0.00	0.00	1,054.95
Total Direct Emissions³	1,084.96	0.05	1.15	0.00	0.00	1,086
Indirect Emissions						
• Energy	905.34	0.03	0.67	0.01	3.7	909.71
• Solid Waste	14.45	0.85	17.93	0.00	0.00	32.38
• Water Demand	14.50	0.11	2.27	0.00	0.84	3.11
Total Indirect Emissions³	934.29	0.99	20.87	0.01	4.55	945.2
Total Project-Related Emissions³	2,031.2 MTCO₂eq/yr					
Notes:						
1. Emissions calculated using CalEEMod computer model.						
2. CO ₂ Equivalent values calculated using the EPA Website, <i>Greenhouse Gas Equivalencies Calculator</i> , http://www.epa.gov/cleanenergy/energy-resources/calculator.html , accessed January 2014.						
3. Totals may be slightly off due to rounding.						
Refer to Appendix 11.4, <i>Air Quality/Greenhouse Gas Emissions Data</i> , for detailed model input/output data.						

The CalEEMod computer model outputs contained within the Appendix 11.4, Air Quality/Greenhouse Gas Emissions Data, were used to calculate mobile source, area source, and construction GHG emissions. Operational GHG estimations are based on energy emissions from natural gas usage, electricity consumption, water demand, wastewater generation, solid waste generation, and automobile emissions. CalEEMod relies upon construction phasing and project specific land use data to calculate emissions; refer to Appendix 11.4.



GHGs associated with area sources and mobile sources would be 0.14 MTCO₂eq/yr and 1,054.95 MTCO₂eq/yr, respectively. GHG emissions from construction would result in 30.91 MTCO₂eq for the development of the hotel use. Construction GHG emissions are typically summed and amortized over the lifetime of the project (assumed to be 30 years), then added to the operational emissions.¹⁴ Total project-related direct operational emissions would result in 1,086 MTCO₂eq/yr.

Indirect Project Related Sources of Greenhouse Gases

Energy Consumption. Energy Consumption emissions were calculated using the CalEEMod model and project-specific land use data. Electricity would be provided to the project site via Southern California Edison. The project would indirectly result in 909.71 MTCO₂eq/year due to energy consumption.

Solid Waste. Solid waste associated with operations of the proposed project would result in 32.38 MTCO₂eq/year.

Water Demand. The City would be the main water supply provider to the proposed project. The project's water supply would be provided by imported sources and local groundwater. Emissions from indirect energy impacts due to water supply would result in 3.11 MTCO₂eq/year.

Total Project-Related Sources of Greenhouse Gases. As shown in Table 5.7-1, the total amount of project-related "business as usual" GHG emissions from direct and indirect sources combined would total 2,031.2 MTCO₂eq/yr.

Project Design Features

Although the proposed project's greenhouse gas emissions are below the 3,000 metric tons carbon dioxide equivalent per year greenhouse gas threshold, the proposed project includes design features that would further reduce project-related greenhouse gas emissions. The project involves the development of a 130-room hotel. The hotel has been designed with features to consider the surrounding urban and residential context along Newport Boulevard and 32nd Street and other nearby areas. Implementation of the project design features can result in additional GHG emission reductions including:

- Improving pedestrian connectivity to the City amenities such as Lido Village, the Marina, and Beach area;
- An enhanced "gateway" entry experience within the Finley Avenue and Newport Boulevard intersection provides generous landscaped pedestrian access in a park-like setting that connects the intersection at 32nd street along the hotel edge and Newport Boulevard and up to the Lido Village area with opportunities for seating and gathering for events.
- All pedestrian edges will be enhanced to provide connectivity to the surrounding commercial and City functions while being sensitive to the residential and commercial neighborhoods surrounding the site.

¹⁴ The project lifetime is based on the standard 30-year assumption of the South Coast Air Quality Management District (<http://www.aqmd.gov/hb/2008/December/081231a.htm>).



The project design features would further reduce the GHG emissions from the business as usual scenario. However, as shown in Table 5.7-1, the “business as usual” emissions would be 2,031.2 MTCO₂eq/yr, which are below the 3,000 MTCO₂eq/yr threshold. As such, the GHG reductions resulting from project design features were not applied in CalEEMod due to the threshold not being exceeded.

Conclusion

As shown in Table 5.7-1, project-related “business as usual” emissions would be 2,031.2 MTCO₂eq/yr, which are below the 3,000 MTCO₂eq/yr threshold. The project’s design features would further reduce project-related GHG emissions. However, as depicted in Table 5.7-1, the Project would not exceed the 3,000 MTCO₂eq/yr threshold in an unmitigated condition. Therefore, the proposed project would result in a less than significant impact with regards to GHG emissions.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

CONSISTENCY WITH APPLICABLE GHG PLANS, POLICIES, OR REGULATIONS

GHG-2 IMPLEMENTATION OF THE PROPOSED PROJECT COULD CONFLICT WITH AN APPLICABLE GREENHOUSE GAS REDUCTION PLAN, POLICY, OR REGULATION.

Impact Analysis: The City does not currently have an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. However, the City prepared an *Energy Action Plan*, created in partnership with Southern California Edison (SCE) and Southern California Gas Company (SCG). The Plan provides the City guidance in reducing greenhouse emissions by lowering municipal and community wide energy use. The Plan assists in identifying a clear path to successfully implementing goals, policies, and actions that will achieve the City’s reduction targets. Additionally, the City entered into the Orange County Cities Energy Leadership Partnership Program (OCCELP), a joint partnership with Southern California Edison (SCE), Southern California Gas Company and neighboring cities Fountain Valley, Westminster and Costa Mesa to improve long term energy and sustainability throughout the local area.

As concluded in Impact Statement GHG-1 the proposed project would not generate a significant amount of GHGs in an unmitigated condition. GHG emissions would be further reduced with implementation of project design features. The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Impacts are less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.



5.7.5 CUMULATIVE IMPACTS

Table 4.1, *Cumulative Projects List*, identifies the related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur. The following discussions are included per topic area to determine whether a significant cumulative effect would occur.

GREENHOUSE GAS EMISSIONS

● GREENHOUSE GAS EMISSIONS GENERATED BY THE PROPOSED PROJECT AND OTHER RELATED CUMULATIVE PROJECTS COULD HAVE A SIGNIFICANT IMPACT ON GLOBAL CLIMATE CHANGE.

Impact Analysis: As stated above, the proposed project would not result in a significant impact regarding GHG emissions, as the project would result in 2,031.2 MTCO₂eq/yr under buildout “business as usual” conditions. Therefore, project related GHG impacts were determined to be less than significant as they were below the 3,000 MTCO₂eq threshold. The background and formulation of the GHG threshold that was utilized is described under Section 5.7.3, *Impact Thresholds and Significance Criteria*.

On December 30, 2009, the Natural Resources Agency adopted the CEQA Guideline Amendments prepared by Office of Planning and Research (OPR), as directed by SB 97. On February 16, 2010, the Office of Administration Law approved the CEQA Guidelines Amendments, and filed them with the Secretary of State for inclusion in the *California Code of Regulations*. The CEQA Guidelines Amendments became effective on March 18, 2010. The Natural Resources Agency originally proposed to add subdivision (f) to Section 15130 to clarify that Sections 21083 and 21083.05 of the Public Resources Code do not require a detailed analysis of GHG emissions solely due to the emissions of other projects (i.e., CEQA Guidelines Section 15130(a)(1); *Santa Monica Chamber of Commerce v. City of Santa Monica* (2002) 101 Cal.App.4th 786, 799). Rather, the proposed subdivision (f) would have provided that a detailed analysis is required when evidence shows that the incremental contribution of the project’s GHG emissions is cumulatively considerable when added to other cumulative projects (i.e., *Communities for a Better Environment v. California Resources Agency* (2002), supra, 103 Cal.App.4th at 119-120). In essence, the proposed addition would be a restatement of law as applied to GHG emissions. Analysis of GHG emissions as a cumulative impact is consistent with case law arising under the National Environmental Policy Act (e.g., *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172, 1215-1217 [9th Cir. 2008]). Other portions of the CEQA Guideline Amendments address how lead agencies may determine whether a project’s emissions are cumulatively considerable (e.g., Proposed Sections 15064(h)(3) and 15064.4). However, public comments noted that the new subdivision merely restated the law, and was capable of misinterpretation. The Natural Resources Agency, therefore, determined that because other provisions of the *CEQA Guideline* Amendments address the analysis of GHG emissions as a cumulative impact, and because the reasoning of those is fully explained in the Initial Statement of Reasons, subdivision (f) should not be added to the *CEQA Guidelines*. The deletion was reflected in the revisions that were made available for further public review and comment on October 23, 2009, and was not adopted as part of the *CEQA Guidelines* Amendments that became effective on March 18, 2010.



It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory.¹⁵ GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.¹⁶ The additive effect of project-related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. In addition, the proposed project as well as other cumulative related projects would also be subject to all applicable regulatory requirements, which would further reduce GHG emissions. The proposed project would result in a less than significant impact regarding GHG emissions. Therefore, the proposed project's cumulative GHG emissions would be considered less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: Less Than Significant Impact.

5.7.6 SIGNIFICANT UNAVOIDABLE IMPACTS

No unavoidable significant impacts related to GHG emissions have been identified in this section.

¹⁵ California Air Pollution Control Officers Association, *CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, 2008.

¹⁶ Ibid.



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