
IV. ENVIRONMENTAL IMPACT ANALYSIS

G. GREENHOUSE GAS EMISSIONS

INTRODUCTION

The information and analysis in this section is based primarily on the following (refer to Appendix C):

- *Greenhouse Gas Emissions Modeling Results, DKA Planning, January 2017.*

The global nature of climate change creates unique challenges for assessing the Project's climate change impact under CEQA, which focuses on cause and effect. When compared to the cumulative inventory of greenhouse gas (GHG) emissions across the globe, a single project's impact will be negligible. To further complicate this, there is debate about whether a project's emissions are adding to the net emissions worldwide, or simply redistributing emissions that would have occurred anyway somewhere in the world.

Climate change analyses are also unique because emitting carbon dioxide (CO₂) into the atmosphere is not itself an adverse environmental effect. It is the increased concentration of CO₂ in the atmosphere resulting in global climate change and the associated consequences of climate change that results in adverse environmental affects (e.g., sea level rise, loss of snowpack, severe weather events). Although it is possible to estimate a project's incremental contribution of CO₂ into the atmosphere, it is typically not possible to determine whether or how an individual project's relatively small incremental contribution might translate into physical effects on the environment. Nevertheless, both short-term impacts occurring during construction and long-term effects related to the ongoing operation of the Project are discussed in this section.

ENVIRONMENTAL SETTING

Various gases in the Earth's atmosphere, classified as atmospheric GHG emissions, play a critical role in determining the Earth's surface temperature. Solar radiation entering Earth's atmosphere is absorbed by the Earth's surface. When the Earth emits this radiation back toward space, the radiation changes from high-frequency solar radiation to lower-frequency infrared radiation. GHG emissions are transparent to solar radiation and absorb infrared radiation. As a result, radiation that otherwise would escape back into space is now retained, warming the atmosphere. This phenomenon is known as the greenhouse effect.

GHG emissions that contribute to the greenhouse effect include the following:

- CO₂ is released to the atmosphere when solid waste, fossil fuels (oil, natural gas, and coal), and wood and wood products are burned. CO₂ emissions from motor vehicles occur during operation

of vehicles and operation of air conditioning systems. CO₂ comprises over 80 percent of GHG emissions in California.¹

- Methane (CH₄) is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from the decomposition of organic waste in solid waste landfills, raising livestock, natural gas and petroleum systems, stationary and mobile combustion, and wastewater treatment. Mobile sources represent 0.5 percent of overall methane emissions.²
- Nitrous Oxide (N₂O) is emitted during agricultural and industrial activities, as well as during combustion of solid waste and fossil fuels. Mobile sources represent about 14 percent of N₂O emissions.³ N₂O emissions from motor vehicles generally occur directly from operation of vehicles.
- Hydrofluorocarbons (HFCs) are one of several high global warming potential (GWP) gases that are not naturally occurring and are generated from industrial processes. HFC (refrigerant) emissions from vehicle air conditioning systems occur due to leakage, losses during recharging, or release from scrapping vehicles at end of their useful life.
- Perfluorocarbons (PFCs) are another high GWP gas that are not naturally occurring and are generated in a variety of industrial processes. Emissions of PFCs are generally negligible from motor vehicles.
- Sulfur Hexafluoride (SF₆) is another high GWP gas that is not naturally occurring and are generated in a variety of industrial processes. Emissions of SF₆ are generally negligible from motor vehicles.

For most non-industrial development projects, motor vehicles make up the bulk of GHG emissions, particularly carbon dioxide, methane, nitrous oxide, and HFCs.⁴ As shown on Table IV.G-1, the other GHGs are less abundant but have higher GWP than CO₂. To account for this higher potential, emissions of other GHGs are frequently expressed in the equivalent mass of CO₂, denoted as CO₂e. Expressing

¹ California Environmental Protection Agency, *Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006, p. 11.*

² United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks, 1990-2003, April 2005 (EPA 430-R-05-003)*

³ United States Environmental Protection Agency, *U.S. Adipic Acid and Nitric Acid N₂O Emissions 1990-2020: Inventories, Projections and Opportunities for Reductions, December 2001*

⁴ California Air Resources Board, *Climate Change Emission Control Regulations, 2004*

GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO₂ were being emitted. High GWP gases such as HFCs, PFCs, and SF₆ are the most heat-absorbent.

**Table IV.G-1
Global Warming Potential for Greenhouse Gases**

Greenhouse Gas	Global Warming Potential
Carbon Dioxide (CO ₂)	1
Methane (CH ₄)	28
Nitrous Oxide (N ₂ O)	265
Perfluorocarbons (PFCs)	7,000 – 11,000
Hydrofluorocarbons (HFCs),	100-12,000
Sulfur Hexafluoride (SF ₆)	23,500
<i>Note: Global warming potential measures how much heat a GHG traps in the atmosphere, in this case, over a 100-year period.</i>	
<i>Source: California Air Resources Board, First Update to the Climate Change Scoping Plan. May 2014.</i>	

The effects of increasing global temperature are far-reaching and difficult to quantify. If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the state. According to a California Energy Commission report, the snowpack portion of the supply could potentially decline by 70 to 90 percent by the end of the 21st century. This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the state. However, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system. Sea level has risen approximately seven inches during the last century and, according to the CEC report, it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels. If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion, and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of species, or worse, failure of species to migrate in time to adapt to the perturbations in climate, could also result.

While efforts to reduce the rate of GHG emissions continue, the state has developed a strategy to adapt public infrastructure to the impacts of climate change. The 2009 California Climate Adaptation Strategy (Strategy) analyzes risks and vulnerabilities and proposes strategies to reduce risks. The Strategy begins what will be an ongoing process of adaptation, as directed by Governor Schwarzenegger's Executive Order S-13-08. The Strategy analyzes two components of climate change: (1) projecting the amount of climate change that may occur using computer-based global climate models and (2) assessing the natural or human systems' abilities to cope with and adapt to change by examining past experience with climate

variability and extrapolating from this to understand how the systems may respond to the additional impact of climate change. The Strategy's key preliminary adaptation recommendations include:

- Appointment of a Climate Adaption Advisory Panel;
- Improved water management in anticipation of reduced water supplies, including a 20 percent reduction in per capita water use by 2020 from 2011 levels;
- Consideration of project alternatives that avoid significant new development in areas that cannot be adequately protected from flooding due to climate change;
- Preparation of agency-specific adaptation plans, guidance or criteria by September 2010;
- Consideration of climate change impacts for all significant state projects;
- Assessment of climate change impacts on emergency preparedness;
- Identification of key habitats and development of plans to minimize adverse effects from climate change;
- Development of guidance by the California Department of Public Health by September 2010 for use by local health departments to assess adaptation strategies;
- Amendment of General Plans and Local Coastal Plans to address climate change impacts and to develop local risk reduction strategies; and
- Inclusion of climate change impact information into fire program planning by state fire fighting agencies.

Regulatory Setting

International

Kyoto Protocol

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States (the "U.S.") joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (the "UNFCCC") agreement with the goal of controlling GHG emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHG emissions in the U.S. The plan currently consists of more than 50 voluntary programs for member nations to adopt.

The Kyoto Protocol (the “Protocol”) is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. Some have estimated that if the commitments outlined in the Protocol are met, global GHG emissions could be reduced an estimated five percent from 1990 levels during the first commitment period of 2008-2012. Notably, while the U.S. is a signatory to the Kyoto protocol, Congress has not ratified the Protocol and the U.S. is not bound by the Protocol’s commitments. In December 2009, international leaders from 192 nations met in Copenhagen to address the future of international climate change commitments post-Protocol.

The major feature of the Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions. The targets amount to an average of five percent reduction levels against 1990 levels over the five-year period 2008-2012. The major distinction between the Protocol and the UNFCCC is that while the UNFCCC encouraged industrialized countries to stabilize GHG emissions, the Protocol commits them to do so. Recognizing that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of industrial activity, the Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

On December 12, 2015, a Conference of the Parties to the UNFCCC and the 11th session of the Kyoto Protocol negotiated an agreement in Paris that would keep the rise of temperature below 2 degrees Celsius. While 186 countries published their action plans detailing how they plan to reduce their GHG emissions, these reductions would still result in up to 3 degrees Celsius of global warming. The Paris agreement asks all countries to review their plans every five years from 2020 and acknowledges that \$100 billion is needed each year to enable countries to adapt to climate change. The agreement would be signed into law on April 22, 2016 and would require ratification by 55 countries representing 55 percent of emissions.

The Western Regional Climate Action Initiative

The Western Regional Climate Action Initiative (WCI) is a partnership among seven states, including California, and four Canadian provinces to implement a regional, economy-wide cap-and-trade system to reduce global warming pollution. The WCI will cap GHG emissions from the region’s electricity, industrial, and transportation sectors with the goal to reduce the heat trapping emissions that cause global warming to 15 percent below 2005 levels by 2020. When the WCI adopted this goal in 2007, it estimated that this would require 2007 levels to be reduced worldwide between 50 percent and 85 percent by 2050. California is working closely with the other states and provinces to design a regional GHG reduction program that includes a cap-and-trade approach. The California Air Resources Board’s (ARB) planned cap and-trade program, discussed below, is also intended to link California and the other member states and provinces.

Federal

The United States Environmental Protection Agency (U.S. EPA) has historically not regulated GHGs because it determined the Clean Air Act did not authorize it to regulate emissions that addressed climate change. In 2007, the U.S. Supreme Court found that GHGs could be considered within the Clean Air Act's definition of a pollutant.⁵ In December 2009, U.S. EPA issued an endangerment finding for GHGs under the Clean Air Act, setting the stage for future regulation. In September 2009, the National Highway Traffic Safety Administration and U.S. EPA announced a joint rule that would tie fuel economy to GHG emission reduction requirements. By 2016, this could equate to an overall light-duty vehicle fleet average fuel economy of 35.5 miles per gallon.

In June 2013, President Obama announced a Climate Action Plan that calls for a number of initiatives, including funding \$8 billion in advanced fossil energy efficiency projects, calls for federal agencies to develop new emission standards for power plants, invests in renewable energy sources, calling for adaptation programs, and leading international efforts to address climate change. In September 2013, U.S. EPA announced its first steps to implement a portion of the Obama Climate Action Plan by proposing carbon pollution standards for new power plants.

Vehicle Standards

Other regulations have been adopted to address vehicle standards including the U.S. EPA and National Highway Traffic Safety Administration (NHTSA) joint rulemaking for vehicle standards.

- On March 30, 2009, the NHTSA issued a final rule for model year 2011.⁶
- On May 7, 2010, the U.S. EPA and the NHTSA issued a final rule regulating fuel efficiency and GHG emissions pollution from motor vehicles for cars and light-duty trucks for model years 2012–2016.⁷
- On August 9, 2011, U.S. EPA and NHTSA issued a Supplemental Notice of Intent announcing plans to propose stringent, coordinated federal GHG emissions and fuel economy standards for model year 2017-2025 light-duty vehicles.⁸

⁵ *Massachusetts v. Environmental Protection Agency et al* [127 S. Ct. 1438 (2007)]

⁶ *NHSTA. 2009. Average Fuel Economy Standards Passenger Cars and Light Trucks Model Year 2011, Final Rule. 75 Fed. Reg. 25324.*

⁷ *U.S. EPA. 2010. Light Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, Final Rule. 75 Fed. Reg. 25324.*

⁸ *Available: <http://www.gpo.gov/fdsys/pkg/FR-2011-08-09/pdf/2011-19905.pdf>.*

- NHSTA intends to set standards for model years 2022-2025 in a future rulemaking.⁹
- In addition to the regulations applicable to cars and light-duty trucks, on August 9, 2011, the U.S. EPA and the NHTSA announced fuel economy and GHG emissions standards for medium- and heavy-duty trucks that applies to vehicles from model year 2014–2018.¹⁰

Energy Independence and Security Act

Among other key measures, the Energy Independence and Security Act (EISA) would do the following, which would aid in the reduction of national GHG emissions, both mobile and non-mobile:

- 1) Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- 2) Prescribe or revise standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.
- 3) While superseded by NHTSA and U.S. EPA actions described above, EISA also set miles per gallon targets for cars and light trucks and directed the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of “green jobs.”

⁹ NHSTA. 2012. *2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards*. 77 Fed. Reg. 62624.

¹⁰ U.S. EPA Office of Transportation and Air Quality. 2011. *EPA and NHTSA Adopt First-Ever Program to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency of Medium-and Heavy-Duty Vehicles*. Available: <http://www.epa.gov/otaq/climate/documents/420f11031.pdf>. Accessed November 2011..

State

Assembly Bill 1493

California has adopted a series of laws and programs to reduce emissions of GHGs into the atmosphere. Assembly Bill (AB) 1493 was enacted in September 2003 and requires regulations to achieve “the maximum feasible reduction of greenhouse gases” emitted by vehicles used for personal transportation.

Executive Order S-3-05

On June 1, 2005, Governor Schwarzenegger issued Executive Order S-3-05, which set the following GHG emission reduction targets: 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 California Environmental Protection Agency formed a Climate Action Team that recommended strategies that can be implemented by State agencies to meet GHG emissions targets. The Team reported several recommendations and strategies for reducing GHG emissions and reaching the targets established in the Executive Order.¹¹ Furthermore, the report provided to Governor Schwarzenegger in 2006, referenced above, indicated that smart land use and increased transit availability should be a priority in the State of California.¹² According to the California Climate Action Team, smart land use is an umbrella term for strategies that integrate transportation and land-use decisions. Such strategies generally encourage jobs/housing proximity, promote transit-oriented development (TOD), and encourage high-density residential/commercial development along transit corridors. These strategies develop more efficient land-use patterns within each jurisdiction or region to match population increases, workforce, and socioeconomic needs for the full spectrum of the population.

Executive Order B-30-15

On April 29, 2015, Governor Brown issued an executive order setting a statewide GHG reduction target of 40 percent below 1990 levels by 2030. This action aligns the state’s GHG targets with those set in October 2014 by the European Union and is intended to help the state meet its target of reducing GHG emissions 80 percent below 1990 levels by 2050. The measure calls on state agencies to implement measures accordingly and directs ARB to update the Climate Change Scoping Plan.

A recent study shows that the state’s existing and proposed regulatory framework will allow the state to reduce its GHG emissions level to 40 percent below 1990 levels by 2030 (consistent with Executive

¹¹ *California Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006.*

¹² *California Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006, p. 57.*

Order B-30-15), and to 60 percent below 1990 levels by 2050. Even though this study did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, it demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the study could allow the state to meet the 2030 and 2050 targets.¹³

AB 32

In September 2006, AB 32 was signed into law by Governor Schwarzenegger, focusing on achieving GHG emissions equivalent to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. It mandates that ARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved.

AB 32 charges ARB with the responsibility to monitor and regulate sources of GHG emissions. On June 1, 2007, ARB adopted three early action measures: setting a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance, and increasing methane capture from landfills.¹⁴ On October 25, 2007, ARB approved measures improving truck efficiency (i.e., reducing aerodynamic drag), electrifying port equipment, reducing PFCs from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing sulfur hexafluoride emissions from the non-electricity sector. ARB also developed a mandatory reporting program on January 1, 2008 for large stationary combustion sources that emit more than 25,000 metric tons of CO₂ per year and make up 94 percent of the point source CO₂ emissions in California.

ARB developed an AB 32 Scoping Plan that contains strategies to achieve the 2020 emissions cap. This Scoping Plan, which was developed by ARB in coordination with the Climate Action Team, was first published in October 2008 (the “2008 Scoping Plan”). The 2008 Scoping Plan proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce the state’s dependence on oil, diversify the state’s energy sources, save energy, create new jobs, and enhance public health. It accommodated the State’s projected population growth. Moreover, it expressly encouraged called for coordinated planning of growth, including the location of dense residential projects near transportation infrastructure, including public transit.

An important component of the plan is a cap-and-trade program covering 85 percent of the state’s emissions. Additional key recommendations of the 2008 Scoping Plan include strategies to enhance and

¹³ Greenblatt, Jeffrey, *Energy Policy*, “Modeling California Impacts on Greenhouse Gas Emissions” (Vol. 78, pp. 158-172).

¹⁴ California Air Resources Board, *Proposed Early Action Measures to Mitigate Climate Change in California*, April 20, 2007.

expand proven cost-saving energy efficiency programs; implementation of California's clean cars standards and increasing the amount of clean and renewable energy used to power the state. Furthermore, the 2008 Scoping Plan proposes full deployment of the California Solar Initiative, high-speed rail, water-related energy efficiency measures, and a range of regulations to reduce emissions from trucks and from ships docked in California ports. As required by AB 32, ARB must update its Scoping Plan every five years to ensure that California remains on the path toward a low carbon future.

In order to assess the scope of reductions needed to return to 1990 emissions levels, ARB first estimated the 2020 business-as-usual (BAU) GHG emissions in the 2008 Scoping Plan. These are the GHG emissions that would be expected to result if there were no GHG emissions reduction measures, and as if the state were to proceed on its pre-AB 32 GHG emissions track. After estimating that statewide 2020 BAU GHG emissions would be 596 metric tons, the 2008 Scoping Plan then identified recommended GHG emissions reduction measures that would reduce BAU GHG emissions by approximately 174 metric tons (an approximately 28.4 percent reduction) by 2020.

On August 19, 2011, following legal action in opposition to the Scoping Plan, ARB updated the Scoping Plan through a Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (FED or 2011 Scoping Plan).¹⁵ CARB updated its 2020 BAU emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions achieved through implementation of regulations recently adopted for motor vehicles, building energy efficiency standards, and renewable energy.¹⁶ Under that scenario, the state would have had to reduce its BAU GHG emissions by approximately 21.7 percent by 2020 (down from 28.4 percent).

On May 22, 2014, ARB approved its first update to the AB 32 Scoping Plan, recalculating 1990 GHG emissions using Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report (AR4) released in 2007. It states that based on the AR4 global warming potentials, the 427 MMTCO₂e 1990 emissions level and 2020 GHG emissions limit would be slightly higher than identified in the Scoping Plan, at 431 MMTCO₂e. Based on the revised estimates of expected 2020 emissions identified in the 2011 supplement to the FED and updated 1990 emissions levels identified in the draft first update to the Scoping Plan, achieving the 1990 emission level would require a reduction of 76 MMTCO₂e (down from 507 MMTCO₂e) or a reduction by approximately 15.3 percent (down from 28.4 percent) to achieve in 2020 emissions levels in the BAU condition. The ARB's First Update "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by CARB

¹⁵ California Air Resources Board, *Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (FED)*, Attachment D, August 19, 2011.

¹⁶ California Air Resources Board, *Greenhouse Gas Inventory – 2020 Emissions Forecast*, <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>. Accessed June 2014.

would serve to reduce the Project's post-2020 emissions level to the extent applicable by law by focusing on reductions from several sectors.^{17,18}

As shown on Table IV.G-2, these reductions are to come from a variety of sectors, including energy, transportation, high-global warming potential sources, waste, and the state's cap-and-trade emissions program. Nearly all reductions are to come from sources that are controlled at the statewide level by state agencies, including the Air Resources Board, Public Utilities Commission, High Speed Rail Authority, and California Energy Commission. The few actions that are directly or indirectly associated with local government control are in the transportation sector, which is charged with reducing 4.5 percent of baseline 2020 emissions. Of these actions, only one (GHG reductions through coordinated planning) specifically identifies local governments as the responsible agency.

Cap and Trade

The ARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020. The statewide cap for GHG emissions from the capped sectors (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration.

Under the Cap-and-Trade Program, covered entities that emit more than 25,000 metric tons CO₂e per year must comply with Program requirements. Triggering of the 25,000 metric tons CO₂e per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (Mandatory Reporting Rule or "MRR"). The ARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits.

¹⁷ ARB, *First Update*, p. 4, May 2014. See also *id.* at pp. 32–33 [recent studies show that achieving the 2050 goal will require that the "electricity sector will have to be essentially zero carbon; and that electricity or hydrogen will have to power much of the transportation sector, including almost all passenger vehicles."]

¹⁸ ARB, *First Update*, Table 6: *Summary of Recommended Actions by Sector*, pp. 94-99, May 2014.

**Table IV.G-2
Emission Reductions Needed to Meet AB 32 Objectives in 2020**

Sector	Million Metric Tons of CO ₂ e Reduction	Percent of Statewide CO ₂ e Inventory	Summary of Recommended Actions
Energy	-25	-4.9%	Reduce state's electric and energy utility emissions, reduce emissions from large industrial facilities, control fugitive emissions from oil and gas production, reduce leaks from industrial facilities
Transportation	-23	-4.5%	Phase 2 heavy-duty truck GHG standards, ZEV action plan for trucks, construct High Speed rail system from SF to LA, coordinated land use planning, Sustainable Freight Strategy
High Global Warming Potential	-5	-1.0%	Reduce use of high-GWP compounds from refrigeration, air conditioning, aerosols
Waste	-2	-0.4%	Eliminate disposal of organic materials at landfills, in-state infrastructure development, address challenges with composting and anaerobic digestion, additional methane control and landfills
Cap and Trade Reductions	-23	-4.5%	Statewide program that reduces emissions from regulated entities through performance-based targets
Total	-78	-15.3%	

Source: California Environmental Protection Agency, "First Update to the Climate Change Scoping Plan." May 2014.

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

In sum, the Cap-and-Trade Program will achieve aggregate, rather than site-specific or project-level, GHG emissions reductions. Also, due to the regulatory framework adopted by ARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the state's emissions forecasts and the effectiveness of direct regulatory measures.

As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California's GHG emissions. The Cap-and-Trade Program covers the GHG emissions associated with electricity

consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with the electricity usage of most projects that are subject to CEQA are covered by the Cap-and-Trade Program.

While the 2020 cap would remain in effect post-2020,¹⁹ the Cap-and-Trade Program is not currently scheduled to extend beyond 2020 in terms of additional GHG emissions reductions.²⁰ However, ARB has expressed its intention to extend the Cap-and-Trade Program beyond 2020 in conjunction with setting a mid-term target. The “recommended action” in the First Update for the Cap-and-Trade Program is: “Develop a plan for a post-2020 Cap-and-Trade Program, including cost containment, to provide market certainty and address a mid-term emissions target.”²¹ The “expected completion date” for this recommended action is 2017.²² It is therefore reasonable to assume that the Cap-and-Trade Program will extend beyond 2020.

Senate Bill 1368

Senate Bill (SB) 1368, requires the California Public Utilities Commission and the California Energy Commission to establish GHG emissions performance standards for the generation of electricity. These standards also apply to power that is generated outside of California and imported into the state.

SB 97 & CEQA Guidelines

In August 2007, the California State Legislature adopted Senate Bill 97 (SB 97), requiring the Governor’s Office of Planning and Research (OPR) to prepare and transmit new CEQA guidelines for the mitigation of GHG emissions or the effects of GHG emissions to the Resources Agency by July 1, 2009. In response to SB 97, the OPR adopted CEQA guidelines that became effective on March 18, 2010. The amendments provide guidance to public agencies on analysis and mitigation of the effects of GHG emissions in CEQA documents, including the following:

- Lead agencies should quantify all relevant GHG emissions and consider the full range of project features that may increase or decrease GHG emissions as compared to the existing setting;

¹⁹ *California Health & Safety Code § 38551(a)* (“The statewide greenhouse gas emissions limit shall remain in effect unless otherwise amended or repealed.”)

²⁰ *See AB 1288 (Atkins, introduced 2015) that would eliminate the December 31, 2020, limit on the Cap-and-Trade Program.*

²¹ *ARB, First Update to the Climate Change Scoping Plan: Building on the Framework, at 98 (May 2014).*

²² *Id.*

- Consistency with the ARB Scoping Plan is not a sufficient basis to determine that a project's GHG emissions would not be cumulatively considerable;
- A lead agency may appropriately look to thresholds developed by other public agencies, including the ARB's recommended CEQA thresholds;
- To qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project. General compliance with a plan, by itself, is not mitigation;
- The effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis; and
- Given that impacts resulting from GHG emissions are cumulative, significant advantages may result from analyzing such impacts on a programmatic level. If analyzed properly, later projects may tier, incorporate by reference, or otherwise rely on the programmatic analysis.

SB 375

On September 30, 2008, SB 375 was instituted to help achieve AB 32 goals through regulation of cars and light trucks. SB 375 aligns three policy areas of importance to local government: (1) regional long-range transportation plans and investments; (2) regional allocation of the obligation for cities and counties to zone for housing; and (3) a process to achieve GHG emissions reductions targets for the transportation sector. It establishes a process for ARB to develop GHG emissions reductions targets for each region (as opposed to individual local governments or households). SB 375 also requires Metropolitan Planning Organizations (MPOs) to prepare a Sustainable Communities Strategy (SCS) within the Regional Transportation Plan (RTP) that guides growth while taking into account the transportation, housing, environmental, and economic needs of the region. SB 375 uses CEQA streamlining as an incentive to encourage residential projects, which help achieve AB 32 goals to reduce GHG emissions. Although SB 375 does not prevent ARB from adopting additional regulations, such actions are not anticipated in the foreseeable future.

On October 24, 2008, ARB published draft guidance for setting interim GHG emissions significance thresholds. This was the first step toward developing the recommended statewide interim thresholds of significance for GHG emissions that may be adopted by local agencies for their own use. The guidance does not attempt to address every type of project that may be subject to CEQA, but instead focuses on common project types that are responsible for substantial GHG emissions (i.e., industrial, residential, and commercial projects). ARB's preliminary proposal consisted of a quantitative threshold of 7,000 metric tons (MT) of CO₂e per year for operational emissions (excluding transportation), and performance standards for construction and transportation emissions. Further, ARB's proposal sets forth draft thresholds for industrial projects that have high operational stationary GHG emissions, such as

manufacturing plants, or uses that utilize combustion engines.²³ There is currently no timetable for finalized thresholds.

On September 23, 2010, ARB adopted regional targets for the reduction of GHG emissions applying to the years 2020 and 2035.²⁴ For the area under the Southern California Association of Governments' (SCAG) jurisdiction - including the Project area - ARB adopted Regional Targets for reduction of GHG emissions by 8 percent for 2020 and by 13 percent for 2035. On February 15, 2011, the ARB's Executive Officer approved the final targets.²⁵

Senate Bill 32

In August 2016, Governor Brown signaled his intent to sign into law a measure that extends AB 32 another ten years to 2030 and increases the State's objectives. Senate Bill 32 (SB 32) calls on Statewide reductions in GHG 40 percent below 1990 levels by 2030. Further regulatory actions by the State are forthcoming that will further challenge communities to reduce GHG emissions in the future.

Title 24 Energy Efficiency Standards

California's Energy Efficiency Standards for Residential and Nonresidential Buildings, located at Title 24, Part 6 of the California Code of Regulations and commonly referred to as "Title 24," were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

California Green Building Standards

The California Green Building Standards Code, which is Part 11 of the California Code of Regulations (the "CCR"), is commonly referred to as the CALGreen Code. CALGreen was added to Title 24 to represent base standards for reducing water use, recycling construction waste, and reducing polluting materials in new buildings. In contrast, Title 24 focuses on promoting more energy-efficient buildings and considers the building envelope, heating and cooling, water heating, and lighting restrictions. The first edition of the CALGreen Code in 2008 contained only voluntary standards. The 2010 edition

²³ California Air Resources Board.
<http://www.arb.ca.gov/cc/localgov/ceqa/meetings/102708/prelimdraftproposal102408.pdf>

²⁴ California Air Resources Board. *Notice of Decision: Regional Greenhouse Gas Emissions Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375.*
<http://www.arb.ca.gov/cc/sb375/notice%20of%20decision.pdf>

²⁵ ARB. 2011. *Executive Order No. G-11-024: Relating to Adoption of Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375.*

included mandatory requirements for state-regulated buildings and structures throughout California, including requirements for construction site selection, storm water control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation and more. The CALGreen Code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The CALGreen Code also requires building commissioning which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems are functioning at their maximum efficiency. The updated 2013 CALGreen Code became effective January 1, 2014 and includes new requirements for additions to existing residential and non-residential development.

Regional

South Coast Air Quality Management District Recommendations for Significance Thresholds

The South Coast Air Quality Management District (SCAQMD) convened a GHG CEQA Significance Threshold Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members included government agencies implementing CEQA and representatives from stakeholder groups that will provide input to the SCAQMD staff on developing GHG CEQA significance thresholds. On December 5, 2008, the SCAQMD Governing Board adopted interim GHG significance threshold for projects where the SCAQMD is lead agency. This threshold uses a tiered approach to determine a project's significance, with 10,000 metric tons of CO₂ equivalent (MTCO_{2e}) as a screening numerical threshold for stationary sources.

The SCAQMD has not adopted guidance for CEQA projects under other lead agencies. In September 2010, the Working Group released additional revisions which recommended a project-level efficiency target of 4.8 MTCO_{2e} per service population as a 2020 target and 3.0 MTCO_{2e} per service population as a 2035 target. The recommended area wide or plan-level target for 2020 was 6.6 MTCO_{2e} and the plan-level target for 2035 was 4.1 MTCO_{2e}. The SCAQMD has not established a timeline for formal consideration of these thresholds.²⁶ In the meantime, the project level thresholds are used as a non-binding guide; GHG emissions would be considered potentially significant in the absence of mitigation measures.

The SCAQMD has also adopted Rules 2700, 2701, and 2702 that address GHG emissions reductions. However, these rules address boilers and process heaters, forestry, and manure management projects, none of which are proposed or required by the Project.

²⁶ SCAG, *Final PEIR for the 2012-2035 RTP/SCS, Appendix G*. Accessible at http://rtpscs.scag.ca.gov/Documents/peir/2012fPEIR_AppendixG_ExampleMeasures.pdf

SCAG Regional Transportation Plan/Sustainable Communities Strategy

On April 6, 2016, SCAG adopted its 2016-2040 RTP/SCS update, calling for a continuation of integrated planning for land use and transportation that will help achieve the State’s goal of reducing per capita GHG emissions by eight percent by 2020 compared to 2005 levels, by 18 percent by 2035, and 21 percent by 2040. The Plan calls for public transportation improvements that will reduce GHG emissions per household by up to 30 percent, one percent reduction in GHG from having zero emission vehicles, neighborhood vehicles, and carsharing/ridesourcing make up two percent of the vehicle fleet by 2040.

Local

The City’s Air Quality Element includes three goals and several objectives and policies that set forth the City’s climate change vision. These include the following:

GOAL 4: Reduce GHG emissions from all activities within the City boundaries to support the State’s efforts under AB 32 and to mitigate the impact of climate change.

Objective 4.1: By 2020, reduce GHG emissions from within the City’s boundaries to a level 15 percent less than the level that would otherwise occur if all activities continued under a “business as usual” scenario.

Policy 4.1.1: Prepare a Community Climate Action Plan (CCAP), in collaboration with the stakeholders from the community at large, which will include measures to incentivize and support reductions in GHG emissions from community activities, and which will seek to reduce emissions by at least 15 percent by 2020 compared to the 2007 baseline community emissions inventory (including any reductions required by the ARB under AB 32).

Policy 4.1.2: Establish a Municipal Climate Action Plan (MCAP), which will include measures to reduce GHG emissions from municipal activities by at least 15 percent by 2020 compared to the 2007 baseline municipal emissions inventory (including any reductions required by the ARB under AB 32).

Policy 4.1.3: Update the City’s GHG emissions inventories, which include emissions from all sectors within the City, as necessary to incorporate improved methods, better data, and more accurate tools and methods, and to assess progress.

GOAL 5: Reduce GHG emissions from municipal (City-owned) facilities and operations, and by purchasing goods and services that embody or create fewer GHG emissions.

Objective 5.1: Enhance the energy efficiency of City facilities.

Policy 5.1.1: Prepare and implement a comprehensive plan to improve energy efficiency of municipal facilities, including:

- a. conducting energy audits for all municipal facilities;
- b. retrofitting facilities for energy efficiency where feasible and when remodeling or replacing components, including increasing insulation, and installing green or reflective roofs and low-emissive window glass;
- c. implementing an energy tracking and management system;
- d. installing energy-efficient exit signs, street signs, and traffic lighting;
- e. installing energy-efficient lighting retrofits and occupancy sensors, and instituting a “lights out at night” policy;
- f. retrofitting heating and cooling systems to optimize efficiency (e.g., replace chillers, boilers, fans, pumps, belts, etc.); installing Energy Star appliances and energy-efficient vending machines;
- g. improving efficiency of water pumping and use at municipal facilities, including a schedule to replace or retrofit system components with high-efficiency units (i.e., ultra-low-flow toilets, fixtures, etc.);
- h. providing chilled, filtered water at water fountains and taps in lieu of bottled water;
- i. installing a central irrigation control system and time its operation for off-peak use; and
- j. adopting an accelerated replacement schedule for energy inefficient systems and components.

Policy 5.1.2: Require that any newly constructed, purchased, or leased municipal space meet one or more of the following minimum standards as appropriate, including:

- a. requiring buildings to meet LEED criteria established by the U.S. Green Building Council;
- b. incorporating passive solar design features in new buildings, including daylighting and passive solar heating;
- c. retrofitting existing buildings to meet standards under Title 24 of the California Building Energy Code, or to achieve a higher performance standard as established by the City/County; and
- d. retrofitting existing buildings to decrease heat gain from non-roof impervious surfaces with cool paving, landscaping, and other techniques.

Policy 5.1.3: Ensure that staff receives appropriate training and support to implement objectives and policies to reduce GHG emissions, including:

- a. providing energy efficiency training to design, engineering, building operations, and maintenance staff; and
- b. providing information on energy use and management, including data from the tracking and management system, to managers and others making decisions that influence energy use.

Policy 5.1.4: Create a Capital Reinvestment Fund to provide capital for future energy efficiency improvements from ongoing energy efficiency savings.

Objective 5.3: Manage the City's stock of vegetation to reduce GHG emissions.

Policy 5.3.1: Conduct a comprehensive inventory and analysis of the urban forest, and conduct tree maintenance consistent with best management practices.

Policy 5.3.2: Evaluate existing landscaping and options to convert reflective and impervious surfaces to landscaping, and install or replace vegetation with drought-tolerant, low-maintenance native species or edible landscaping that can also provide shade and reduce heat-island effects.

Objective 5.4: Use the City's purchasing power to promote reductions in GHG emissions by the suppliers of its goods and services.

Policy 5.4.1: Adopt purchasing practices and standards to support reductions in GHG emissions, including preferences for energy-efficient office equipment and the use of recycled materials and manufacturers that have implemented green management practices.

Policy 5.4.2: Establish bidding standards and contracting practices that encourage GHG emissions reductions, including preferences or points for the use of low or zero emission vehicles and equipment, recycled materials, and provider implementation of other green management practices.

Objective 5.5: Implement measures to reduce municipal waste generation.

Policy 5.5.1: Audit facilities to identify opportunities to reduce waste generation, increase material recovery, and increase beneficial use of organic material. Where practical, implement the recommendations of the audits.

GOAL 6: Improve air quality and reduce GHG emissions and the health risks associated with air pollution through regional coordination, cooperation, advocacy, public education, and monitoring of air quality conditions, legislation, and policies.

Objective 6.1: Work with local, regional, and State agencies to reduce vehicular and GHG emissions from freeways.

Policy 6.1.1: Continue to oppose the extension of the I-710 Freeway due to the increase in automobile and truck traffic on the I-210 Freeway that would result from the proposed extension, and the negative health risks the extension poses for La Cañada Flintridge and surrounding communities due to higher vehicular pollutant levels.

Policy 6.1.2: Continue to monitor air quality impacts on the health of the City from vehicular emissions associated with freeway traffic.

Policy 6.1.3: Work with regional agencies to develop or expand ridesharing programs, facilities, various modes of public transit, and Park-and-Ride facilities.

Policy 6.1.4: Coordinate with local and regional transportation agencies and cities to plan and construct new multi-modal transportation facilities on the basis of this General Plan that are consistent throughout the neighboring jurisdictions.

Objective 6.2: Stay current regarding research and regulations related to air quality and GHG emissions reductions.

Policy 6.2.1: Monitor changes in State regulations related to air quality and climate change, including implementation of AB 32 and SB 375, and develop policies and programs and update local regulations as appropriate.

Policy 6.2.2: Evaluate and disclose in CEQA documents the contribution new projects could have on climate change and require mitigation measures as appropriate.

Objective 6.3: Coordinate with local, regional, and State agencies to develop and/or implement effective mitigation measures to improve air quality and reduce GHG emissions to implement State and federal laws.

Policy 6.3.1: Continue to participate in the Arroyo-Verdugo Subregional Council of Governments to coordinate infrastructure policies and programs with adjacent and nearby cities to develop a needed area-wide transportation infrastructure.

Policy 6.3.2: Utilize Proposition A (1/2-cent sales tax) funds in concert with other cities to maximize air quality goals for developing local transportation programs that may include bicycle facilities, a school bus program, and/or shuttle service or community bus program.

Policy 6.3.3: Ensure that new and innovative air quality and GHG emissions reduction policies established by any jurisdiction are communicated to other jurisdictions through the Arroyo-Verdugo

Subregional Council of Governments, San Gabriel Valley Council of Governments (SGVCOG), and other area-wide task forces.

Policy 6.3.4: Cooperate with other jurisdictions in the Arroyo-Verdugo Subregion and SGVCOG to further the strategies outlined in the SGVCOG Air Quality Plan and/or in the development of a regional or subregional sustainable communities strategy (SCS) for the RTP.

Policy 6.3.5: Encourage the County of Los Angeles to establish programs that support the Arroyo-Verdugo Subregion and SGVCOG air quality policies and apply such policies to the unincorporated pockets within the Arroyo-Verdugo Subregion and the SGVCOG for consistency with local programs.

Policy 6.3.6: Monitor the SCAQMD and the ARB in their development of improved ambient air quality and GHG monitoring capabilities and establishment of standards, thresholds, and rules to address, and where necessary mitigate, the air quality impacts of new development.

Policy 6.3.7: Identify and pursue funding opportunities to develop and implement mitigation activities.

Objective 6.4: Increase public awareness of air quality and climate change issues through public outreach and education, including publicizing the importance of reducing GHG emissions and steps community members can take to reduce their individual impacts.

Policy 6.4.1: Promote programs that educate the public about regional and local air quality issues, opportunities, and solutions.

Policy 6.4.2: Facilitate public compliance with regional air quality regulation through improved public education programs and curricula.

Policy 6.4.3: Encourage greater public participation in voluntary efforts to reduce air pollution and GHG emissions through local public education programs, speaker's bureaus, and other measures.

Existing Emissions

The Project site includes a college preparatory high school that accommodates up to 425 students. As shown on Table IV.G-3, the existing development site generates about 1,653 metric tons of CO₂e annually, with the majority of emissions generated by mobile sources traveling to and from the Project site.

**Table IV.G-3
Existing Annual CO₂e GHG Emissions (Metric Tons per Year)**

Scenario and Source	CO ₂	CH ₄	N ₂ O	CO ₂ e
Area Sources	<1	<1	0	<1
Energy Sources	542	<1	<1	544
Mobile Sources	1,047	<1	0	1,049
Waste Sources	14	1	0	35
Water Sources	22	<1	<1	25
Total Emissions	1,625	1	<1	1,653
<i>Note: Numbers on the table are rounded to the nearest whole number.</i>				
<i>Source: DKA Planning, 2017.</i>				

ENVIRONMENTAL IMPACTS

Methodology

The methodology utilized for this analysis is based on a Technical Advisory released by the Governor's Office of Planning and Research (OPR) on June 19, 2008 titled *CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review*. Both one-time emissions and indirect emissions are expected to occur each year after build-out of the Project. One-time emissions from construction and vegetation removal were amortized over a 30-year period because no significance threshold has been adopted for such emissions. The Project emission reductions are results of Project's commitments and regulatory changes, which include the implementation of the Renewables Portfolio Standard (RPS) of 33 percent, the Pavley regulation and Advanced Clean Cars program mandating higher fuel efficiency standards for light-duty vehicles, and the Low Carbon Fuel Standard (LCFS).

The California Climate Action Registry (the "Climate Registry") General Reporting Protocol provides basic procedures and guidelines for calculating and reporting GHG emissions from a number of general and industry-specific activities.²⁷ The General Reporting Protocol is based on the "Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard" developed by the World Business Council for Sustainable Development and the World Resources Institute through "a multi-stakeholder effort to develop a standardized approach to the voluntary reporting of GHG emissions."²⁸ Although no numerical thresholds of significance have been developed, and no specific protocols are available for land use

²⁷ California Climate Action Registry, *General Reporting Protocol Version 3.1, January 2009*, www.sfenvironment.org/sites/default/files/fliers/files/ccar_grp_3-1_january2009_sfe-web.pdf, accessed March 2, 2015.

²⁸ *Ibid.*

projects, the General Reporting Protocol provides a basic framework for calculating and reporting GHG emissions from the project. The information provided in this analysis is consistent with the General Reporting Protocol's reporting requirements.

The General Reporting Protocol recommends the separation of GHG emissions into three categories that reflect different aspects of ownership or control over emissions. They include the following:

- Scope 1: Direct, on-site combustion of fossil fuels (e.g., natural gas, propane, gasoline, and diesel).
- Scope 2: Indirect, off-site emissions associated with purchased electricity or purchased steam.
- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy (e.g., energy used to convey, treat, and distribute water and wastewater).²⁹

The General Reporting Protocol provides a range of basic calculations methods. However, the General Reporting Protocol calculations are typically designed for existing buildings or facilities. These retrospective calculation methods are not directly applicable to planning and development situations where buildings do not yet exist.

ARB recommends consideration of indirect emissions to provide a more complete picture of the GHG footprint of a facility. Annually reported indirect energy usage aids the conservation awareness of a facility and provides information to ARB to be considered for future strategies.³⁰ For example, ARB has proposed requiring the calculation of direct and indirect GHG emissions as part of the AB 32 reporting requirements. Additionally, the Office of Planning and Research has noted that lead agencies "should make a good-faith effort, based on available information, to calculate, model, or estimate... GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities."³¹ Therefore, direct and indirect emissions have been calculated for the Project.

²⁹ *Embodied energy is a scientific term that refers to the quantity of energy required to manufacture and supply to the point of use a product, material, or service.*

³⁰ *California Air Resources Board, Initial Statement of Reasons for Rulemaking, Proposed Regulation for Mandatory Reporting of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (AB 32), Planning and Technical Support Division Emission Inventory Branch, October 19, 2007, www.arb.ca.gov/regact/2007/ghg2007/isor.pdf, accessed March 2, 2015.*

³¹ *OPR Technical Advisory, p. 5.*

GHG emissions were quantified from construction and operation of the Project using SCAQMD's California Emissions Estimator Model (CalEEMod). Operational emissions include both direct and indirect sources including water use, solid waste, area sources, natural gas, and electricity use emissions. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. The model is considered by the SCAQMD to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.³²

Threshold of Significance

As discussed below, there are no adopted federal, State, or local thresholds of significance for judging a Project's impact on GHG emissions and climate change applicable to this Project. As a result, this analysis relies on primary direction from the CEQA Guidelines. OPR's amendments to the CEQA Guidelines for GHGs were adopted by the Resources Agency on December 30, 2009, indicating that a project could have a significant impact if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Section 15064.4 of the CEQA Guidelines was adopted to assist lead agencies in determining the significance of the impacts of GHGs. It urges the quantification of GHG emissions where possible and includes language necessary to avoid an implication that a "life-cycle" analysis is required. It also recommends considering other qualitative factors that may be used in the determination of significance (i.e., extent to which the project may increase or reduce GHG emissions; whether the project exceeds an applicable significance threshold; and extent to which the project complies with regulations or requirements adopted to implement a reduction or mitigation of GHGs). Further, it states that:

1. A lead agency should consider the following factors, among others, when assessing the significance of greenhouse gas emissions on the environment:
 - a. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

³² See www.caleemod.com.

- b. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
- c. The extent to which the project complies with regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The current CEQA Guidelines do not establish a threshold of significance. Lead agencies are to establish thresholds in which a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, such as CAPCOA, so long as any threshold chosen is supported by substantial evidence (see CEQA Guidelines Section 15064.7(c)). The CEQA Guidelines amendments also clarify that the effects of GHG emissions are cumulative. The CEQA Guidelines were amended in response to Senate Bill 97 to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency.³³ Examples of such programs include a “water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions.”³⁴ Put another way, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of non-significance for GHG emissions if a project complies with the California Cap-and-Trade Program and/or other regulatory schemes to reduce GHG emissions.³⁵

³³ *Id.*

³⁴ *Id.* (emphasis added).

³⁵ See, for example, San Joaquin Valley Air Pollution Control District, *CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation, APR—2030 (June 25, 2014)*, in which the SJVAPCD “determined that GHG emissions increases that are covered under ARB's Cap-and-Trade regulation cannot constitute significant increases under CEQA...” Further, the South Coast Air Quality Management District (SCAQMD) has taken this position in CEQA documents it produced as a lead agency. The SCAQMD has prepared three Negative Declarations and one Draft Environmental Impact Report that demonstrate the SCAQMD has applied its 10,000 MTCO₂e/yr. significance threshold in such a way that GHG emissions covered by the Cap-and-Trade Program do not constitute emissions that must be measured against the threshold. See: SCAQMD, *Final Negative Declaration for: Ultramar Inc. Wilmington Refinery Cogeneration*

Although GHG emissions can be quantified, ARB, SCAQMD and the City of La Cañada Flintridge, have yet to adopt project-level significance thresholds for GHG emissions that would be applicable to the Project.³⁶ Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project.³⁷

Executive Orders S-3-05 and B-30-15, SB 375, SCAG's Sustainable Communities Strategy, and the City of La Cañada Flintridge General Plan Air Quality Element all apply to the Project and are all intended to reduce GHG emissions to meet the statewide targets set in AB 32.

Thus, in the absence of any adopted, quantitative threshold, the Project would not have a significant effect on the environment if it is found to be consistent with the applicable regulatory plans and policies to reduce GHG emissions:

- Executive Orders S-3-05 and B-30-15;
- AB 32 Scoping Plan
- SCAG's Sustainable Communities Strategy; and
- Appropriate transportation and air quality plans from the City of La Cañada Flintridge, including the General Plan Air Quality Element.

Project, SCH No. 2012041014 (October 2014) (www.aqmd.gov/docs/default-source/ceqa/documents/permit-projects/2014/ultramar_neg_dec.pdf?sfvrsn=2); SCAQMD, Final Negative Declaration tor Phillips 66 Los Angeles Refinery Carson Plant—Crude Oil Storage Capacity Project, SCH No. 2013091029 (December 2014) (www.aqmd.gov/docs/default-source/ceqa/documents/permit-projects/2014/phillips-66-fnd.pdf?sfvrsn=2); Final Mitigated Negative Declaration for Toxic Air Contaminant Reduction for Compliance with SCAQMD Rules 1420.1 and 1402 at the Exide Technologies Facility in Vernon, CA, SCH No. 2014101040 (December 2014) (www.aqmd.gov/docs/default-source/ceqa/documents/permit-projects/2014/exide-mnd_final.pdf?sfvrsn=2); and Draft Environmental Impact Report for the Breitburn Santa Fe Springs Blocks 400/700 Upgrade Project, SCH No. 2014121014 (April 2014) (www.aqmd.gov/docs/default-source/ceqa/documents/permit-projects/2015/deir-breitburn-chapters-1-3.pdf?sfvrsn=2).

³⁶ The South Coast Air Quality Management District formed a GHG Significance Threshold Working Group. Information on this Working Group is available at www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds/page/2.

³⁷ 14 CCR § 15064(h)(3).

Project Impacts

Generation of GHG Emissions

Construction GHG Emissions

As discussed in Section III, Project Description, implementation of the Specific Plan would occur over a 15-year period, with major individual improvement projects staged so that one is underway at any one time. However, to provide for a conservative assessment of the Project's GHG emissions, this analysis assumes that all of the major individual improvement projects would occur sequentially and non-overlapping. The Project's conservative construction schedule is shown on Table IV.G-4.

Construction of the Project would emit GHG emissions through the combustion of fossil fuels by heavy-duty construction equipment and through vehicle trips generated by construction workers and vendors traveling to and from the Project site. These impacts would vary day to day over the duration of construction activities. Table IV.G-5 includes an estimation of the GHG emissions associated with the construction activities shown on Table IV.G-4. As illustrated on Table IV.G-5, construction emissions of CO₂ would peak in 2018, when up to 813.6 tons of CO₂e per year are anticipated following implementation of Mitigation Measures C-1 through C-3 outlined in Section IV.C, Air Quality. (These emissions are further incorporated in the assessment of long-term operational impacts by amortizing them over a 30-year period, pursuant to guidance from the State and SCAQMD. Refer to Table IV.G-6, later in this section.)

Operational GHG Emissions

GHG emissions were calculated for long-term operations. Both one-time emissions and indirect emissions are expected to occur each year after build-out of the Project. One-time emissions from construction and vegetation removal were amortized over a 30-year period because no significance threshold has been adopted for such emissions. The Project emission reductions are results of Project's commitments and regulatory changes, which include the implementation of the technology that reduces energy production emissions from the State's renewables portfolio and natural gas transmission and distribution efficiency measures.

This analysis compares the Project's GHG emissions to the emissions that would be generated by the Project in the absence of any GHG reduction measures (i.e., the No Action Taken ("NAT") Scenario). This approach is consistent with the concepts used in the CARB's *Climate Change Scoping Plan* for the implementation of AB 32. This methodology is used to analyze consistency with applicable GHG reduction plans and policies and demonstrate the efficacy of the measures contained therein, but it is not a threshold of significance.

**Table IV.C-4
Proposed Construction Schedule**

Phase	Subphase	Duration	Notes
Phase One A	Demolition of fire pump	1/1/18-1/8/18	360 cubic yards of debris from fire pump enclosure
	Site preparation for fire protection plan	1/9/18-1/23/18	
	Grading for fire protection plan	1/24/18-2/9/18	1,644 net cubic yards of export
	Paving of fire truck access road	2/10/18-3/10/18	
	Site preparation for SCE	3/11/18-5/11/18	Replacing/installing up to 13 66-kV sub-transmission poles by truck and by helicopter; removing 3 4-kV distribution poles; installing 4 new 16-kV distribution poles; blading approximately 0.7 acre access road
Phase One B	Demolition of Cottages 1 and 2	7/2/18-7/9/18	1,200 cubic yards of debris export
	Grading for Art Center and Dominican Garden	7/10/18-8/10/18	790 cubic yards of cut and 1,500 cubic yards of fill
	Building construction for Art Center	8/11/18-2/11/19	
	Architectural coatings for Art Center	2/12/19-4/12/19	
Phase Two	Demolition of parking lot	4/13/19-4/20/19	690 cubic yards of parking lot asphalt hauled away
	Grading of parking structure site	4/21/19-5/21/19	13,436 cubic yards of soil excavated, with 12,890 cubic yards exported to Lot A Palmerstone property for athletic concourse and parking
	Building Construction of parking structure	5/22/19-1/15/20	239-space garage produces
Phase Three	Site Preparation for high school expansion	1/16/20-1/23/20	
	Grading of high school expansion	1/24/20-2/24/20	5,589 cubic yards of cut
	Building construction of high school expansion	2/25/20-10/25/20	
	Paving of parking lot D with courtyard and surface parking	10/26/20-11/26/20	
	Architectural coatings for high school expansion	11/27/20-1/20/21	
Phase Four	Site preparation of athletic concourse at Palmerstone property	1/21/21-2/21/21	
	Grading of athletic concourse	2/22/21-8/22/21	No net export or import

Source: DKA Planning, 2017

**Table IV.G-5
Estimated Project Construction GHG Emissions (Tons per Year)**

Construction Year	CO₂	CH₄	N₂O	CO₂e
2018	809	<1	0	814
2019	613	<1	0	615
2020	621	<1	0	624
2021	222	<1	0	224

Source: DKA Planning 2017, based on CalEEMod 2016.3.1. This results in 2,276 metric tons of CO₂e that are amortized over a 30-year period and included in the calculation of operational emissions in Table IV.G-6.

The analysis in this section includes potential emissions under NAT scenarios and from the Project at build-out based on actions and mandates expected to be in force in 2021. Early-action measures identified in the *Climate Change Scoping Plan* that have not been approved were not credited in this analysis. By not speculating on potential regulatory conditions, the analysis takes a conservative approach that likely overestimates the Project's GHG emissions at build-out.

The NAT scenario is used to establish a comparison with project-generated GHG emissions. The NAT scenario does not consider site-specific conditions, project design features, or prescribed mitigation measures. The analysis below establishes NAT as complying with the minimum performance level required under Title 24. The NAT scenario also considers State mandates that were already in place when CARB prepared the *Supplemental FED* (e.g., full implementation of California's Statewide Renewables Portfolio Standard beyond current levels of renewable energy).

Emissions calculations for the Project include credits or reductions for the regulatory compliance measures and project design features set forth throughout this analysis, such as reductions in energy or water demand.

As shown on Table IV.G-6, the emissions for the Project and its associated CARB 2021 NAT scenario are estimated to be 125 and 156 MTCO₂e per year, respectively, which shows the Project would reduce emissions by 20 percent from the CARB 2020 NAT scenario. Based on these results, the Project is consistent with the goals and policies for GHG emission reductions set forth in the 2014 Revised AB 32 Scoping Plan.

The GHG emission methodology is to compare the Project's emissions as proposed to the Project's emissions if the Project were built using a NAT approach in terms of design, methodology, and technology. This means the Project's emissions were calculated as if it was constructed with project design features to reduce GHG and with several regulatory measures adopted in furtherance of AB 32.

**Table IV.G-6
Estimated Annual CO₂e GHG Emissions (Metric Tons Per Year)**

Scenario and Source	NAT Scenario*	As Proposed Scenario	Reduction from NAT Scenario	Change from NAT Scenario
Area Sources	<1	<1	-	0%
Energy Sources	74	43	-31	-42%
Mobile Sources	0	0	0	0%
Waste Sources	4	4	-	0%
Water Sources	3	3	-	0%
Construction	76	76	-	0%
Total Emissions	156	125	31	20%

Daily construction emissions amortized over 30-year period pursuant to SCAQMD guidance (total of 2,276 metric tons over the course of construction). Annual construction emissions derived by taking total emissions over duration of activities and dividing by construction period.

** NAT scenario does not assume 42% reduction in energy production emissions from the State's renewables portfolio standard (33%), natural gas extraction efficiency measures (1.6%), and natural gas transmission and distribution efficiency measures (7.4%).*

Note: The numbers on this table are rounded to the nearest whole number.

Source: DKA Planning, 2017.

While the AB 32 Scoping Plan's cumulative statewide objectives were not intended to serve as the basis for project-level assessments, this analysis finds that its NAT comparison based on the Scoping Plan is appropriate because the Project would contribute to statewide GHG reduction goals. It should be noted that each source category of GHG emissions from the Project is subject to a number of regulations that directly or indirectly reduce climate change-related emissions:

- Stationary and area sources. Emissions from small on-site sources are subject to specific emission reduction mandates and/or are included in the State's Cap and Trade program.
- Energy Use. Both construction and operational activities from the Project Site would generate energy-related emissions that are covered by the State's renewable portfolio mandates, including SB 350, which requires that at least 50 percent of electricity generated and sold to retail customers from renewable energy sources by December 31, 2030.
- Building structures. Operational efficiencies would be built into the project that reduce energy use and waste, as mandated by CALGreen building codes.
- Water and wastewater use. The Project would be subject to drought-related water conservation emergency orders and related State Water Quality Control Board restrictions.

- Major appliances. The Project would include major appliances that are regulated by California Energy Commission requirements for energy efficiency.
- Solid waste management. The Project would be subject to solid waste diversion policies administered by CalRecycle that reduce GHG emissions.

As described throughout this analysis, the Project contains numerous regulatory compliance measures and project design features that would reduce the Project's GHG emissions profile and would represent improvements vis-à-vis the NAT scenario. As a result of this and the analysis of net emissions, the Project's contribution to global climate change is not "cumulatively considerable" and is less than significant.

GHG Policy Consistency

The Project would contribute to cumulative increases in GHG emissions over time in the absence of policy intervention. As noted earlier, the Project would be consistent with a number of relevant plans and policies that govern climate change.

- Executive Orders S-3-05 and B-30-15;
- AB 32 Scoping Plan;
- SCAG's 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy;
- City of La Cañada Flintridge General Plan Air Quality Element

Consistency with Executive Orders S-03-05 and B-30-15.

The Project is consistent with the State's Executive Orders S-3-05 and B-30-15, which are orders from the State's Executive Branch for the purpose of reducing GHG emissions. These strategies call for developing more efficient land-use patterns to match population increases, workforce, and socioeconomic needs for the full spectrum of the population.

Although the Project's emissions level in 2050 cannot be reliably quantified, statewide efforts are underway to facilitate the State's achievement of that goal and it is reasonable to expect the Project's emissions profile to decline as the regulatory initiatives identified by CARB in the First Update are implemented, and other technological innovations occur. Stated differently, the Project's emissions total at build-out presented in this analysis represents the maximum emissions inventory for the Project as California's emissions sources are being regulated (and foreseeably expected to continue to be regulated in the future) in furtherance of the State's environmental policy objectives. As such, given the reasonably anticipated decline in Project emissions once fully constructed and operational, the Project is consistent with the Executive Order's horizon-year goal.

Many of the emission reduction strategies recommended by CARB would serve to reduce the Project's post-2020 emissions level to the extent applicable by law and help lay the foundation "...for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," as called for in CARB's First Update to the AB 32 Scoping Plan.^{38,39}

As such, the Project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets and Executive Order S-3-05 and B-30-15.

Consistency with the AB 32 Scoping Plan

The AB 32 Scoping Plan provides the basis for policies that will reduce cumulative GHG emissions within California to 1990 levels by 2020. Table IV.G-7 discusses the Project's consistency with the AB 32 Scoping Plan to determine whether the Project would result in adverse cumulative impacts to global climate change.

The Project is consistent with the AB 32 Scoping Plan's focus on emission reductions from key sectors, including the following:

Energy Sector: Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the Project's emissions level.⁴⁰ Additionally, further additions to California's renewable resource portfolio would favorably influence the Project's emissions level.⁴¹

Water Sector: The Project's emissions level would be reduced as a result of further desired enhancements to water conservation technologies.⁴²

Waste Management Sector: Plans to further improve recycling, reuse and reduction of solid waste would beneficially reduce the Project's emissions level.⁴³

³⁸ CARB, *First Update*, p. 4, May 2014. See also *id.* at pp. 32–33 [recent studies show that achieving the 2050 goal will require that the "electricity sector will have to be essentially zero carbon; and that electricity or hydrogen will have to power much of the transportation sector, including almost all passenger vehicles."]

³⁹ CARB, *First Update*, Table 6: Summary of Recommended Actions by Sector, pp. 94-99, May 2014.

⁴⁰ CARB, *First Update*, pp. 37-39, 85, May 2014.

⁴¹ CARB, *First Update*, pp. 40-41, May 2014.

⁴² CARB, *First Update*, p. 65, May 2014.

⁴³ CARB, *First Update*, p. 69, May 2014.

**Table IV.G-7
Project Consistency with AB 32 Scoping Plan GHG Emission Reduction Strategies**

Strategy	Project Consistency
California Cap-and-Trade Program. Implement a broad-based California cap-and-trade program to provide a firm limit on emissions.	Not Applicable. The statewide program is not relevant to the Project.
California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted Pavley standards and planned second phase of the system. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	Not Applicable. The development of standards is not relevant to the Project.
Energy Efficiency. Maximize energy efficiency building and appliance standards and pursue additional efficiency efforts including new technologies, and new policy and mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	<p>Consistent. The Project is designed to meet Cal Green building standards by including several measures designed to reduce energy consumption, including:</p> <ul style="list-style-type: none"> • Light-colored or porous paving materials would be used in parking areas and walkways to reduce heat-island effects and thus minimize the demand for energy for cooling. • Trees and other shading vegetation would be used around and within parking lots and buildings to reduce the amount of energy needed for cooling. • Landscape areas would be incorporated to serve as carbon sinks and minimize heat-island effects, thus minimizing the demand for energy for cooling. • New and rehabilitated buildings would be constructed to current building codes and standards and would meet minimum heating, ventilation, and air conditioning (HVAC) requirements. • All new building construction would meet current energy conservation standards required by the City and state.
Renewables Portfolio Standard. Achieve 33 percent renewable energy mix statewide.	Consistent. The Project would utilize energy from Southern California Edison, which has goals to diversify its portfolio of energy sources to increase the use of renewable energy.
Low-Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard.	Not Applicable. The statewide program is not relevant to the Project.
Regional Transportation-Related Greenhouse Gases. Develop regional greenhouse gas emissions reduction targets for passenger vehicles.	Not Applicable. The development of regional planning goals is not relevant to the Project.
Vehicle Efficiency Measures. Implement light-duty vehicle efficiency measures.	Not Applicable. State agencies are responsible for implementing efficiency measures.

**Table IV.G-7
Project Consistency with AB 32 Scoping Plan GHG Emission Reduction Strategies**

Strategy	Project Consistency
Goods Movement. Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	Not Applicable. State agencies are responsible for implementing regulations and promoting efficiency in goods movement.
Million Solar Roofs Program. Install 3,000 MW of solar-electric capacity under California’s existing solar programs.	Neutral. The Project does not include solar roofs and is not part of the proposed Statewide initiative nor does the Project hinder achievement of the Statewide initiative.
Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	Not Applicable. State agencies are responsible for implementing efficiency measures.
Industrial Emissions. Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission.	Not Applicable. This measure addresses industrial facilities.
High Speed Rail. Support implementation of a high speed rail system.	Not Applicable. This calls for the California High Speed Rail Authority and stakeholders to develop a statewide rail transportation system.
Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California’s new and existing inventory of buildings.	<p>Consistent. The Project is designed to meet Cal Green building standards and would include several measures designed to reduce energy consumption, including:</p> <ul style="list-style-type: none"> • Light-colored or porous paving materials would be used in parking areas and walkways to reduce heat-island effects and thus minimize the demand for energy for cooling. • Trees and other shading vegetation would be used around and within parking lots and buildings to reduce the amount of energy needed for cooling. • Landscape areas would be incorporated to serve as carbon sinks and minimize heat-island effects, thus minimizing the demand for energy for cooling. • New and rehabilitated buildings would be constructed to current building codes and standards and would meet minimum HVAC requirements. • All new building construction would meet current energy conservation standards required by the City and state.
High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	Not Applicable. State agencies are responsible for implementing these measures.
Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting and other beneficial uses of	Consistent. The Construction Management Plan would require that a minimum of 50

**Table IV.G-7
Project Consistency with AB 32 Scoping Plan GHG Emission Reduction Strategies**

Strategy	Project Consistency
organic materials and mandate commercial recycling. Move toward zero waste.	percent of the debris or material generated during demolition and/or construction would be diverted from a landfill. FSHA Campus construction management program(s) would include measures for alternative non-landfill disposal, reuse, or recycling of generated construction waste in order to minimize the volume of disposal of solid waste into landfills and to reduce the amount of greenhouse gas emissions associated with the transportation and disposal of solid waste into landfills. Also, as discussed in Section IV.N (Utilities and Service Systems – Solid Waste), Project impacts related to solid waste would be less than significant.
Sustainable Forests. Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	Not Applicable. Resource Agency departments are responsible for implementing this measure.
Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. The Project would use water-efficient landscaping.
Agriculture. In the near-term, encourage investment in manure digester and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.	Not Applicable. The Project does not include agricultural facilities.
<i>Source: DKA Planning, 2017.</i>	

Based on this evaluation, this analysis finds the Project would be consistent with all feasible and applicable strategies recommended in the AB 32 Scoping Plan.

Consistency with SCAG’s 2016-2040 RTP/SCS

At the regional level, the 2016-2040 RTP and Sustainable Communities Strategy represent the region’s Climate Action Plan that defines strategies for reducing GHGs. In order to assess the Project’s potential to conflict with the RTP/SCS, this section analyzes the Project’s land use profile for consistency with those in the Sustainable Communities Strategy. Generally, projects are considered consistent with the provisions and general policies of applicable City and regional land use plans and regulations, such as SCAG’s Sustainable Communities Strategy, if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals.

The Project includes expansion of existing, operating school land uses that is generally consistent with the 2016 RTP/SCS and its focus on integrated land use planning. Table IV.G-8 demonstrates the Project’s consistency with the Actions and Strategies set forth in the 2016-2040 RTP/SCS. The Project would also be consistent with the applicable goals and principles set forth in the 2016-2040 RTP/SCS and the

Compass Growth Vision Report. Therefore, the Project would be consistent with the GHG reduction related actions and strategies contained in the 2016-2040 RTP/SCS.

**Table IV.G-8
Project Consistency With SCAG 2016-2040 RTP/SCS**

Actions and Strategies	Responsible Party(ies)	Consistency Analysis ^a
<i>Land Use Strategies</i>		
Reflect the changing population and demands, including combating gentrification and displacement, by increasing housing supply at a variety of affordability levels.	Local jurisdictions	Not Applicable. The Project would not include residences that would add to the supply of housing in metropolitan Los Angeles County.
Focus new growth around transit.	Local Jurisdictions	Not Applicable. The Project includes expansion of existing school uses that have been in operation for over 75 years. Although the Project includes development of additional square footage at the FSHA Campus, the Project would not include an increase in student enrollment or the number of faculty at the school. For these reasons, the Project is not considered “new growth.”
Plan for growth around livable corridors, including growth on the Livable Corridors network.	SCAG, Local Jurisdictions	Not Applicable. The Project includes expansion of existing school uses that have been in operation for over 75 years. Although the Project includes development of additional square footage at the FSHA Campus, the Project would not include an increase in student enrollment or the number of faculty at the school. The Project would continue to operate under the existing trip-cap, which is part of FSHA’s Transportation Demand Management Program.
Provide more options for short trips through Neighborhood Mobility Areas and Complete Communities.	SCAG, Local Jurisdictions	Not Applicable. The Project includes expansion of existing school uses that have been in operation for over 75 years. Although the Project includes development of additional square footage at the FSHA Campus, the Project would not include an increase in student enrollment or the number of faculty at the school. The Project would continue to operate under the existing trip-cap, which is part of FSHA’s Transportation Demand Management Program.
Support local sustainability planning, including developing sustainable planning and design policies, sustainable zoning codes, and Climate Action Plans.	Local Jurisdictions	Not Applicable. While this strategy calls on local governments to adopt General Plan updates, zoning codes, and Climate Action Plans to further sustainable communities, the Project would not interfere with such policymaking and would be consistent with those policy objectives.
Protect natural and farm lands, including developing conservation strategies.	SCAG Local Jurisdictions	Consistent. The Project includes expansion of existing school uses that have been in operation for over 75 years. Twenty-four acres of natural open space area is provided in the Conceptual Land Use Plan. Natural open space is comprised of natural hillside and slope areas, including the entirety of the 20-acre south slope and other perimeter slopes

**Table IV.G-8
Project Consistency With SCAG 2016-2040 RTP/SCS**

Actions and Strategies	Responsible Party(ies)	Consistency Analysis ^a
		northerly of the existing campus. Natural open space area would be retained in its natural state to the extent feasible, but portions would be periodically maintained for brush clearance necessary to minimize wildfire hazards, as currently occurs and is required by the Los Angeles County Fire Department based on the Very High Fire Severity Zone that the Project site is located within. When disturbed due to construction for adjacent development or infrastructure, natural open space areas would be revegetated with native plant species compatible and/or appropriate with the adjacent natural plant communities and consistent with the fuel modification zone planting guidelines.
Transportation Strategies		
Preserve our existing transportation system.	SCAG County Transportation Commissions Local Jurisdictions	Not Applicable. While this strategy calls on investing in the maintenance of our existing transportation system, the Project would not interfere with such policymaking.
Manage congestion through programs like the Congestion Management Program, Transportation Demand Management, and Transportation Systems Management strategies.	County Transportation Commissions Local Jurisdictions	Consistent. The Project includes expansion of existing school uses that have been in operation for over 75 years. Although the Project includes development of additional square footage at the FSHA Campus, the Project would not include an increase in student enrollment or the number of faculty at the school. The Project would continue to operate under the existing trip-cap, which is part of FSHA’s Transportation Demand Management Program.
Promote safety and security in the transportation system.	SCAG County Transportation Commissions Local Jurisdictions	Not Applicable. While this strategy aims to improve the safety of the transportation system and protect users from security threats, the Project would not interfere with such policymaking.
Complete our transit, passenger rail, active transportation, highways and arterials, regional express lanes, goods movement, and airport ground transportation systems.	SCAG County Transportation Commissions Local Jurisdictions	Not Applicable. This strategy calls for transportation planning partners to implement major capital and operational projects that are designed to address regional growth. The Project would not interfere with this larger goal of investing in the transportation system.
Technological Innovation and 21st Century Transportation		
Promote zero-emissions vehicles.	SCAG Local Jurisdictions	Consistent. While this action/strategy is not necessarily applicable on a project-specific basis, the Project would include pre-wiring for electric vehicle charging infrastructure in the Parking Facility.
Promote neighborhood electric vehicles.	SCAG Local	Not Applicable. This action/strategy is not applicable on a project-specific basis. However, the Project would include

**Table IV.G-8
Project Consistency With SCAG 2016-2040 RTP/SCS**

Actions and Strategies	Responsible Party(ies)	Consistency Analysis ^a
	Jurisdictions	pre-wiring for electric vehicle charging infrastructure in the Parking Facility.
Implement shared mobility programs.	SCAG Local Jurisdictions	Not Applicable. While this strategy is designed to integrate new technologies for last-mile and alternative transportation programs, the Project would not interfere with these emerging programs.
<i>Source: Southern California Association of Governments; 2016–2040 RTP/SCS, Chapter 5: The Road to Greater Mobility and Sustainable Growth; April 2016.</i>		

Consistency with the City of La Cañada Flintridge General Plan Air Quality Element

The Project would generally be consistent with the City’s Air Quality Element, which includes a number of policies intended to support cumulative reductions in GHG emissions that are consistent with State and regional mandates. As shown on Table IV.G-9, most of the policies in the Air Quality Element are focused on programs that would establish a Citywide strategy for addressing global climate change and are generally not applicable to individual development projects.

As discussed on Tables IV.G-7 through IV.G-9, the Project would be consistent with applicable State, regional and local GHG reduction strategies. Given that the Project would generate GHG emissions that are less than significant, and given that GHG emission impacts are cumulative in nature, the Project’s incremental contribution to cumulatively significant GHG emissions would be less than cumulatively considerable, and impacts would be less than significant.

CUMULATIVE IMPACTS

The emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. The consequences of that climate change can cause adverse environmental effects. A project’s GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change. The State has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce is predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. At a minimum, most project-related emissions, such as energy, mobile, and construction, would be covered by the Cap-and-Trade Program.

**Table IV.G-9
Project Consistency With City Of La Cañada Flintridge General Plan Air Quality Element**

Strategy	Project Consistency
<p>Policy 4.1.1. Prepare a Community Climate Action Plan (CCAP), in collaboration with the stakeholders from the community at large, which will include measures to incentivize and support reductions in GHG emissions from community activities, and which will seek to reduce emissions by at least 15 percent by 2020 compared to the 2007 baseline community emissions inventory (including any reductions required by the ARB under AB 32).</p>	<p>Not Applicable. This policy calls on the City to prepare a CCAP that would represent a local climate action plan. The Project would not inhibit the implementation of this policy.</p>
<p>Policy 4.1.2. Establish a Municipal Climate Action Plan (MCAP), which will include measures to reduce GHG emissions from municipal activities by at least 15 percent by 2020 compared to the 2007 baseline municipal emissions inventory (including any reductions required by the ARB under AB 32).</p>	<p>Not Applicable. This policy calls on the City to prepare an MCAP that would represent a local climate action plan targeting municipal actions. The Project would not inhibit the implementation of this policy.</p>
<p>Policy 4.1.3. Update the City’s GHG emissions inventories, which include emissions from all sectors within the City, as necessary to incorporate improved methods, better data, and more accurate tools and methods, and to assess progress.</p>	<p>Not Applicable. This policy calls on the City to prepare a GHG emissions inventory. The Project would not inhibit the implementation of this policy.</p>
<p>Policy 5.1.1. Policy 5.1.1: Prepare and implement a comprehensive plan to improve energy efficiency of municipal facilities, including:</p> <p>conducting energy audits for all municipal facilities;</p> <p>retrofitting facilities for energy efficiency where feasible and when remodeling or replacing components, including increasing insulation, and installing green or reflective roofs and low-emissive window glass;</p> <p>implementing an energy tracking and management system;</p> <p>installing energy-efficient exit signs, street signs, and traffic lighting;</p> <p>installing energy-efficient lighting retrofits and occupancy sensors, and instituting a “lights out at night” policy;</p> <p>retrofitting heating and cooling systems to optimize efficiency (e.g., replace chillers, boilers, fans, pumps, belts, etc.); installing Energy Star appliances and energy-efficient vending machines;</p> <p>improving efficiency of water pumping and use at municipal facilities, including a schedule to replace or retrofit system components with high-efficiency units (i.e., ultra-low-flow toilets, fixtures, etc.);</p> <p>providing chilled, filtered water at water fountains and taps in lieu of bottled water;</p> <p>installing a central irrigation control system and time its</p>	<p>Not Applicable. This strategy calls on the City to promote solid waste programs. The Construction Management Plan would require that a minimum of 50 percent of the debris or material generated during demolition and/or construction would be diverted from a landfill. FSHA Campus construction management program(s) would include measures for alternative non-landfill disposal, reuse, or recycling of generated construction waste in order to minimize the volume of disposal of solid waste into landfills and to reduce the amount of greenhouse gas emissions associated with the transportation and disposal of solid waste into landfills. As discussed in Section IV.N (Utilities and Service Systems – Solid Waste), Project impacts related to solid waste would be less than significant. The Project would not inhibit the implementation of this policy.</p>

**Table IV.G-9
Project Consistency With City Of La Cañada Flintridge General Plan Air Quality Element**

Strategy	Project Consistency
<p>operation for off-peak use; and</p> <p>adopting an accelerated replacement schedule for energy inefficient systems and components.</p>	
<p>Policy 5.1.2. Require that any newly constructed, purchased, or leased municipal space meet one or more of the following minimum standards as appropriate, including:</p> <p>requiring buildings to meet LEED criteria established by the U.S. Green Building Council;</p> <p>incorporating passive solar design features in new buildings, including daylighting and passive solar heating;</p> <p>retrofitting existing buildings to meet standards under Title 24 of the California Building Energy Code, or to achieve a higher performance standard as established by the City/County; and</p> <p>d. retrofitting existing buildings to decrease heat gain from non-roof impervious surfaces with cool paving, landscaping, and other techniques.</p>	<p>Not Applicable. This strategy calls on the City to promote solid waste programs. The Project would not inhibit the implementation of this policy.</p>
<p>Policy 5.1.3. Ensure that staff receives appropriate training and support to implement objectives and policies to reduce GHG emissions, including:</p> <p>providing energy efficiency training to design, engineering, building operations, and maintenance staff; and</p> <p>providing information on energy use and management, including data from the tracking and management system, to managers and others making decisions that influence energy use.</p>	<p>Not Applicable. This strategy calls on the City to promote energy efficiency. The Project would not inhibit the implementation of this policy.</p>
<p>Policy 5.1.4. Create a Capital Reinvestment Fund to provide capital for future energy efficiency improvements from ongoing energy efficiency savings.</p>	<p>Not Applicable. This strategy calls on the City to promote energy efficiency programs. The Project would not inhibit the implementation of this policy.</p>
<p>Policy 5.2.1. Implement a program to reduce vehicle trips by City employees, including:</p> <p>providing incentives and infrastructure for vanpooling and carpooling, such as pool vehicles, preferred parking, and a website or bulletin board to facilitate ride-sharing;</p> <p>providing subsidized passes for mass transit;</p> <p>offering compressed work hours, off-peak work hours, and telecommuting, where appropriate; and</p>	<p>Consistent. The Project includes expansion of existing school uses that have been in operation for over 75 years. Although the Project includes development of additional square footage at the FSHA Campus, the Project would not include an increase in student enrollment or the number of faculty at the school. The Project would continue to operate under the existing trip-cap, which is part of FSHA’s Transportation Demand Management Program.</p>

**Table IV.G-9
Project Consistency With City Of La Cañada Flintridge General Plan Air Quality Element**

Strategy	Project Consistency
offering a guaranteed ride home for employees who use alternative modes of transportation to commute.	
Policy 5.3.1. Conduct a comprehensive inventory and analysis of the urban forest, and conduct tree maintenance consistent with best management practices.	Not Applicable. This strategy calls on the City to promote open space forestry programs. The Project would not inhibit the implementation of this policy.
Policy 5.3.2. Evaluate existing landscaping and options to convert reflective and impervious surfaces to landscaping, and install or replace vegetation with drought-tolerant, low-maintenance native species or edible landscaping that can also provide shade and reduce heat-island effects.	Consistent. Incorporated into the Specific Plan’s Land Use Plan Concept and Site Plan approach are provisions for open space and recreational areas. The land use and open space plans establish four categories of open space or recreation areas, providing a combined total of approximately 36.5 acres, including Natural Open Space, Landscaped Areas, Passive Outdoor Recreation, and Active Outdoor Recreation. The Specific Plan’s Conceptual Landscape Plan incorporates a plant palette of drought-tolerant and native species that serve to reduce water use and serve as a sufficient buffer between campus development areas and surrounding native vegetation and brush. The final Landscape Plan employs water conservation techniques to reduce water use. Newly installed irrigation would utilize water-efficient systems and devices, including advanced technology such smart irrigation controls that sense weather conditions and evapotranspiration rates to minimize irrigation water use and avoid excessive or over watering. Other best management practices, such as use of drought-tolerant landscaping and xeriscaping, mulch to retain soil moisture, would be incorporated and demonstrated in the final Landscape Plan.
Policy 5.4.1. Adopt purchasing practices and standards to support reductions in GHG emissions, including preferences for energy-efficient office equipment and the use of recycled materials and manufacturers that have implemented green management practices.	Not Applicable. This strategy calls on the City to amend its internal policies to promote sustainability. The Project would not inhibit the implementation of this policy.
Policy 5.4.2. Establish bidding standards and contracting practices that encourage GHG emissions reductions, including preferences or points for the use of low or zero emission vehicles and equipment, recycled materials, and provider implementation of other green management practices.	Not Applicable. This strategy calls on the City to amend its internal policies to promote sustainability. The Project would not inhibit the implementation of this policy.
Policy 5.5.1. Audit facilities to identify opportunities to reduce waste generation, increase material recovery, and increase beneficial use of organic material. Where practical, implement the recommendations of the audits.	Not Applicable. This strategy calls on the City to amend its internal policies to promote sustainability. The Project would not inhibit the implementation of this policy.
Policy 6.1.1. Continue to oppose the extension of the I-710	Not Applicable. This strategy calls on the City

**Table IV.G-9
Project Consistency With City Of La Cañada Flintridge General Plan Air Quality Element**

Strategy	Project Consistency
Freeway due to the increase in automobile and truck traffic on the I-210 Freeway that would result from the proposed extension, and the negative health risks the extension poses for La Cañada Flintridge and surrounding communities due to higher vehicular pollutant levels.	to oppose a regional transportation program and is not applicable to a development proposal.
Policy 6.1.2. Continue to monitor air quality impacts on the health of the City from vehicular emissions associated with freeway traffic.	Not Applicable. This strategy calls on the City to work with the SCAQMD to address toxic air concentrations near the I-210 and other freeways. The Project would not inhibit the implementation of this policy.
Policy 6.1.3. Work with regional agencies to develop or expand ridesharing programs, facilities, various modes of public transit, and Park-and-Ride facilities.	Not Applicable. This policy calls for the City to promote transportation programs. The Project would not inhibit the implementation of this policy.
Policy 6.1.4. Coordinate with local and regional transportation agencies and cities to plan and construct new multi-modal transportation facilities on the basis of this General Plan that are consistent throughout the neighboring jurisdictions.	Not Applicable. This policy calls for the City to promote transportation programs. The Project would not inhibit the implementation of this policy.
Policy 6.2.1. Monitor changes in State regulations related to air quality and climate change, including implementation of AB 32 and SB 375, and develop policies and programs and update local regulations as appropriate.	Not Applicable. This policy calls for the City to advocate for progressive climate change policies. The Project would not inhibit the implementation of this policy.
Policy 6.2.2. Evaluate and disclose in CEQA documents the contribution new projects could have on climate change and require mitigation measures as appropriate.	Consistent. The Project is being evaluated and environmentally cleared through the CEQA process to ensure all environmental impacts are mitigated. This Draft EIR contains GHG emissions/climate change analysis
Policy 6.3.1. Continue to participate in the Arroyo-Verdugo Subregional Council of Governments to coordinate infrastructure policies and programs with adjacent and nearby cities to develop a needed area-wide transportation infrastructure.	Not Applicable. This policy calls for the City to work with the COG to coordinate transportation issues. The Project would not inhibit the implementation of this policy.
Policy 6.3.2. Utilize Proposition A (1/2-cent sales tax) funds in concert with other cities to maximize air quality goals for developing local transportation programs that may include bicycle facilities, a school bus program, and/or shuttle service or community bus program.	Not Applicable. This policy calls for the City to promote transportation programs. The Project would not inhibit the implementation of this policy.
Policy 6.3.3. Ensure that new and innovative air quality and GHG emissions reduction policies established by any jurisdiction are communicated to other jurisdictions through the Arroyo-Verdugo Subregional Council of Governments, San Gabriel Valley Council of Governments (SGVCOG), and other area-wide task forces.	Not Applicable. This policy calls for the City to work with the COG to coordinate transportation issues. The Project would not inhibit the implementation of this policy.
Policy 6.3.4. Cooperate with other jurisdictions in the Arroyo-Verdugo Subregion and SGVCOG to further the strategies outlined in the SGVCOG Air Quality Plan and/or in the development of a regional or subregional sustainable communities strategy (SCS) for the RTP.	Not Applicable. This policy calls for the City to work with the COG to coordinate transportation issues. The Project would not inhibit the implementation of this policy.

**Table IV.G-9
Project Consistency With City Of La Cañada Flintridge General Plan Air Quality Element**

Strategy	Project Consistency
Policy 6.3.5. Encourage the County of Los Angeles to establish programs that support the Arroyo-Verdugo Subregion and SGVCOG air quality policies and apply such policies to the unincorporated pockets within the Arroyo-Verdugo Subregion and the SGVCOG for consistency with local programs.	Not Applicable. This policy calls for the City to work with the County and COG to coordinate transportation issues. The Project would not inhibit the implementation of this policy.
Policy 6.3.6. Monitor the SCAQMD and the ARB in their development of improved ambient air quality and GHG monitoring capabilities and establishment of standards, thresholds, and rules to address, and where necessary mitigate, the air quality impacts of new development.	Not Applicable. This policy calls for the City to be active in air quality and climate change planning. The Project would not inhibit the implementation of this policy.
Policy 6.3.7. Identify and pursue funding opportunities to develop and implement mitigation activities.	Not Applicable. This policy calls for the City to pursue funding for environmental programs. The Project would not inhibit the implementation of this policy.
Policy 6.4.1. Promote programs that educate the public about regional and local air quality issues, opportunities, and solutions.	Not Applicable. This policy calls for the City to promote air quality education programs. The Project would not inhibit the implementation of this policy.
Policy 6.4.2. Facilitate public compliance with regional air quality regulation through improved public education programs and curricula.	Not Applicable. This policy calls for the City to promote air quality education programs. The Project would not inhibit the implementation of this policy.
Policy 6.4.3. Encourage greater public participation in voluntary efforts to reduce air pollution and GHG emissions through local public education programs, speaker’s bureaus, and other measures.	Not Applicable. This policy calls for the City to promote progressive climate change education programs. The Project would not inhibit the implementation of this policy.
<i>Source: DKA Planning, 2017.</i>	

Currently, there are no applicable CARB, SCAQMD, or City of La Cañada Flintridge significance thresholds or specific reduction targets, and no approved policy or guidance to assist in determining significance at the project or cumulative levels. Additionally, there is currently no generally accepted methodology to determine whether GHG emissions associated with a specific project represent new emissions or existing, displaced emissions. Therefore, consistent with CEQA Guideline Section 15064h(3), the City as Lead Agency has determined that the Project’s contribution to cumulative GHG emissions and global climate change would be less than significant if the Project is consistent with the applicable regulatory plans and policies to reduce Greenhouse Gas Emissions: Executive Orders S-3-05 and B-30-15; AB 32, the 2012-2035 RTP/SCS and the City of La Cañada Flintridge General Plan Air Quality Element.

Implementation of the Project’s regulatory compliance measures and project design features, including State mandates, would contribute to GHG reductions. These reductions represent a reduction from NAT and support State goals for GHG emissions reduction. The methods used to establish this relative

reduction are consistent with the approach used in the CARB's *Climate Change Scoping Plan* for the implementation of AB 32.

The Project is consistent with the approach outlined in CARB's *Climate Change Scoping Plan*, particularly its emphasis on the identification of emission reduction opportunities that promote economic growth while achieving greater energy efficiency and accelerating the transition to a low-carbon economy. In addition, as recommended by CARB's *Climate Change Scoping Plan*, the Project would use "green building" features as a framework for achieving cross-cutting emissions reductions as new buildings and infrastructure would be designed to achieve the standards of CALGreen.

As part of SCAG's SCS/RTP, a reduction in VMT within the region is a key component to achieve the GHG emission reduction targets established by CARB. The Project would not increase VMT compared to existing conditions and would be consistent with the SCS/RTP.

Additionally, the Project has incorporated sustainability design features in accordance with regulatory requirements as provided in the regulatory compliance measures throughout this analysis and project design features to reduce the Project's potential impact with respect to GHG emissions. With implementation of these features, the Project results in a 20 percent reduction in GHG emissions from NAT. The Project's GHG reduction measures make the Project consistent with AB 32.

As discussed above, the Project is consistent with the applicable GHG reduction plans and policies. The NAT comparison demonstrates the efficacy of the measures contained in these policies. Moreover, while the Project is not directly subject to the Cap and Program, that Program would indirectly reduce the Project's GHG emissions by regulating "covered entities" that affect the Project's GHG emissions, including energy, area, and construction emissions. More importantly, the Cap-and-Trade Program would backstop the GHG reduction plans and policies applicable to the Project in that the Cap-and-Trade Program would be responsible for relatively more emissions reductions should California's direct regulatory measures reduce GHG emissions less than expected. This would ensure that the GHG reduction targets of AB 32 are met.

Thus, given the Project's consistency with State, regional, and City of La Cañada Flintridge GHG emission reduction goals and objectives, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. In the absence of adopted standards and established significance thresholds, and given this consistency, it is concluded that the Project's impacts are cumulatively less than significant.

MITIGATION MEASURES

No significant impacts related to GHG emissions have been identified, and no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts related to GHG emissions would be less than significant.