4.5 ENERGY CONSERVATION

INTRODUCTION

This section of the Draft EIR analyzes the proposed Project's potential impacts on energy resources, focusing on three in particular: electricity, natural gas, and transportation-related energy (petroleum-based fuels). This analysis addresses both construction and operational impacts associated with the consumption of energy resources. This analysis was prepared pursuant to Appendix F of the California Environmental Quality Act (CEQA) Guidelines, which provides guidance on discussing energy implications in an EIR, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. This section evaluates the demand for energy resources attributable to the proposed Project and determines whether the current and planned electrical, natural gas, and petroleum-based fuel supplies and distribution systems are adequate to meet the Project's forecasted energy consumption. The information presented herein is based, in part, on the California Emissions Estimator Model (CalEEMod) outputs as calculated for **Section 4.2: Air Quality** and **Section 4.7: Greenhouse Gases.**

ENVIRONMENTAL SETTING

Regulatory Framework

a. Federal

Corporate Average Fuel Economy Standards

In response to the *Massachusetts v. Environmental Protection Agency* ruling,[1] the George W. Bush administration issued Executive Order 13432 in 2007, directing the US Environmental Protection Agency (USEPA), the United States Department of Transportation (USDOT), and the United States Department of Energy (USDOE) to establish regulations that reduce greenhouse gas (GHG) emissions from motor vehicles, nonroad vehicles, and nonroad engines by 2008.[2] In 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency for and GHG emissions from cars and light-duty trucks for model year 2011; in 2010, the USEPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016.[3]

1 Massachusetts v. Environmental Protection Agency, 127 S.Ct. 1438 (2007).

2 US Government Publishing Office, Administration of George W. Bush (May 14, 2007), 631, https://www.gpo.gov/fdsys/pkg/WCPD-2007-05-21/pdf/WCPD-2007-05-21-Pg631.pdf.

3 US Environmental Protection Agency (USEPA), "Regulations for Greenhouse Gas Emissions from Commercial Trucks & Buses" (December 27, 2017), https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-commercial-trucks.

In 2010, President Obama issued a memorandum directing the USEPA, USDOT, USDOE, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles.[4] The proposed standards projected to achieve 163 grams per mile of CO2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon (mpg) if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021, and in 2017, the USEPA recommended no change to the greenhouse gas standards for light duty vehicles for model years 2022–2025.[5] The USEPA intends to reconsider the final determination by April 1, 2018.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2016, the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2018–2027 (for certain trailers) and 2021–2027 (for semitrucks, large pickup trucks, vans, and all types and sizes of buses and work trucks). The final standards are expected to low CO2 emissions by approximately 1.1 billion metric tons, save vehicle owners fuels costs of about $170 billion, and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.[6,7]

Energy Independence and Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:[8]

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of renewable fuel in 2022, with at least 16 billion gallons from cellulosic biofuels and a cap of 15 billion gallons for corn-starch ethanol;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for

4 USEPA, "Presidential Announcements and Letters of Support related to Greenhouse Gas Emissions" (August 28, 2017), https://www.epa.gov/regulations-emissions-vehicles-and-engines/presidential-announcements-and-letters-support-related.

5 USEPA, "Final Rule for Model Year 2017 and Later Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards" (August 16, 2017), https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-model-year-2017-and-later-light-duty-vehicle.

6 The emission reductions attributable to the regulations for medium- and heavy-duty trucks were not included in the Project's emissions inventory due to the difficulty in quantifying the reductions. Excluding these reductions results in a more conservative (i.e., higher) estimate of emissions for the Project.

7 USEPA, "Final Rule for Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles – Phase 2," accessed July 12, 2016, https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-greenhouse-gas-emissions-and-fuel-efficiency.

8 Energy Independence and Security Act of 2007, Public Law 110–140 (December 19, 2007).

consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;

- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."[9]

b. State

Assembly Bill 32

Assembly Bill (AB) 32 (Health and Safety Code Sections 38500–38599), also known as the California Global Warming Solutions Act of 2006, committed the State to achieving year 2000 GHG emission levels by 2010 and year 1990 levels by 2020.[10] To achieve these goals, AB 32 tasked the California Public Utilities Commission (CPUC) and California Energy Commission (CEC)[11] with providing information, analysis, and recommendations to the California Air Resources Board (CARB) regarding ways to reduce GHG emissions in the electricity and natural gas utility sectors.

Complete Streets Act

In 2008, Governor Arnold Schwarzenegger approved AB 1358, which required a legislative body of a city or county upon any substantive revision of the circulation element of the general plan to include users of public transportation in a manner suitable to the rural, suburban, or urban context.[12]

Advanced Clean Cars Regulations

In 2012, CARB approved the Advanced Clean Cars (ACC) program, a new emissions-control program for vehicle model years 2017–2025. The program combines the control of smog, soot, and GHGs with

9 A green job, as defined by the United States Department of Labor, is a job in business that produce goods or provide services that benefit the environment or conserve natural resources.

10 CARB, "Assembly Bill 32 Overview" (last reviewed August 5, 2014), https://www.arb.ca.gov/cc/ab32/ab32.htm.

11 The CEC was created as the State's principal energy planning organization in 1974.

12 California Legislative Information, Assembly Bill No. 1358 (September 2008), http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200720080AB1358.

requirements for greater number of zero-emission vehicles (ZEVs). By 2025, when the rules will be fully implemented, automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.[13]

Senate Bills

Senate Bill 375

Senate Bill (SB) 375, signed into law in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocations.[14] The act requires metropolitan planning organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) that prescribes land use allocation in that MPO's regional transportation plan (RTP). CARB, in consultation with MPOs, provided regional reduction targets for GHGs for the years 2020 and 2035.

Senate Bill X1-2: 2020 Renewable Portfolio Standard

On April 12, 2011, California governor Jerry Brown signed SB X1-2.[15] This bill codifies the 33 percent by 2020 Renewable Portfolio Standard (RPS) created by Executive Order S-14-08, previously signed by Governor Schwarzenegger. The RPS required that all retail suppliers of electricity in California serve 33 percent of their load with renewable energy by 2020. A number of significant changes are made in SB X1-2. It extends application of the RPS to all electric retailers in the State, including municipal and public utilities, as well as community choice aggregators.

SB X1-2 creates a three-stage compliance period for electricity providers to meet renewable energy goals: 20 percent of retail sales must be renewable energy products by 2013, 25 percent of retail sales must be renewable energy products by 2016, and 33 percent of retail sales must be renewable energy products by 2020. The 33 percent level must be maintained in the years that follow. This three-stage compliance period requires the RPS to be met increasingly with renewable energy that is supplied to the California grid and is located within or directly proximate to California. SB X1-2 mandates that renewables from this category make up:

- At least 50 percent for the 2011–2013 compliance period;
- At least 65 percent for the 2014–2016 compliance period; and
- At least 75 percent for 2016 and beyond.

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13 CARB, "Advanced Clean Cars Program," accessed January 18, 2017, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program.

14 California Legislative Information, Senate Bill No. 375 (September 30, 2008), https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200720080SB375.

15 California Energy Commission, Renewable Portfolio, http://www.energy.ca.gov/portfolio/.

SB X1-2 sets rules for the use of Renewable Energy Credits as follows:

- Establishes a cap of no more than 25 percent unbundled RECs going toward the RPS from 2011 to 2013, 15 percent from 2014 to 2016, and 10 percent thereafter;
- Does not allow for the grandfathering of tradable REC contracts executed before 2010, unless the contract was (or is) approved by the CPUC;
- Allows banking of RECs for 3 years only; and
- Allows energy service providers, community choice aggregators, and investor-owned utilities with 60,000 or fewer customers to use 100 percent RECs to meet the RPS.

SB X1-2 also eliminates the Market Price Referent, which was a benchmark to assess the above-market costs of RPS contracts based on the long-term ownership, operating, and fixed-price fuel costs for a new 500-megawatt (mW) natural-gas-fired, combined-cycle gas turbine.

Senate Bill 350: Clean Energy and Pollution Reduction Act

SB 350, singed October 7, 2015 is the Clean Energy and Pollution Reduction Act of 2015.[16] SB 350 implements some of the goals of Executive Order B-30-15 described above. The objectives of SB 350 are (1) to increase the procurement of electricity from renewable sources from 33 percent to 50 percent; and (2) to double the energy efficiency savings in electricity and natural gas end uses of retail customers through energy efficiency and conservation.[17]

Senate Bill 32: Statewide Reductions in GHG Emissions

On September 8, 2016, Governor Brown signed SB 32, which extends AB 32 another 10 years to 2030 and updates the State's objectives. SB 32 calls for Statewide reductions in GHG emissions to 40 percent below 1990 levels by 2030. The bill became effective on January 1, 2017.[18]

Senate Bill 97

SB 97 requires the Office of Planning and Research (OPR) to prepare and develop guidelines for the mitigation of GHG emissions or the effects thereof, including but not limited to effects associated with transportation and energy consumption.[19] These guidelines were required to be transmitted to the Natural Resources Agency by July 1, 2009, to be certified and adopted by January 1, 2010. OPR submitted

16 California Legislative Information, Senate Bill No. 350 (October 7, 2015), https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350.
17 Senate Bill 350 (2015-2016 Reg, Session) Stats 2015, ch. 547.
18 California Legislative Information, Senate Bill No. 32 (September 8, 2016), https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB32.
19 California Legislative Information, Senate Bill No. 97 (August 24, 2007), https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200720080SB97.

the Proposed Draft Guideline Amendments for Greenhouse Gas Emissions to the Secretary for Natural Resources on April 13, 2009. The California Natural Resources Agency conducted formal rulemaking in 2009 on December 30 of that year and adopted the Guideline Amendments, which address the specific obligations of public agencies when analyzing GHG emissions under CEQA to determine a project's effects on the environment.

However, neither a threshold of significance nor any specific mitigation measures is included or provided in these CEQA Guideline Amendments. The Guideline Amendments require a Lead Agency to make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The Guideline Amendments give discretion to the Lead Agency whether to (1) use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use; and/or (2) rely on a qualitative analysis or performance-based standards. Further, the Guideline Amendments identify three factors that should be considered in the evaluation of the significance of GHG emissions:

1. The extent to which a project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the Lead Agency determines applies to the project; and
3. The extent to which the project complies with regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

The administrative records of the promulgation of the Guidelines Amendments also clarify "that the effects of greenhouse gas emissions are cumulative and should be analyzed in the context of California Environmental Quality Act's requirements for cumulative impact analysis."[20]

The Natural Resources Agency is required to periodically update the guidelines to incorporate new information or criteria established by CARB pursuant to AB 32. SB 97 applies retroactively to any environmental impact report, negative declaration, mitigated negative declaration, or other document required by CEQA that has not yet been certified.

20 Cynthia Bryant, Director of the Office of Planning and Research, letter to Mike Chrisman, Secretary for Natural Resources, April 13, 2009.

Senate Bill 1389

SB 1389 (Public Resources Code Sections 25300–25323; SB 1389) requires the development of an integrated plan for electricity, natural gas, and transportation fuels. Pursuant to SB 1389, the CEC must adopt and transmit to the Governor and Legislature an Integrated Energy Policy Report every 2 years.[21] The most recent version, the *2016 Integrated Energy Policy Report,* addresses the State's "loading order," reduction of demand response, renewable energy, electricity system, progress toward its 2050 GHG reduction goals, natural gas supplies, and the transportation sector's contribution to the State's GHG emissions.[22]

California Codes and Regulations

California Building Energy Efficiency Standards (Title 24, Part 6)

California's Energy Efficiency Standards for Residential and Nonresidential Buildings, found in Title 24, Part 6 of the California Code of Regulations (CCR) and commonly referred to as "Title 24," were established in 1978 in response to a legislative mandate to reduce California's energy consumption.[23] Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.[24] These standards apply to new construction of both residential and nonresidential buildings, and regulate energy use for heating, cooling, ventilation, water heating, and lighting. These standards are enforced through the local building permit process. Local government agencies may adopt and enforce energy standards for new buildings provided these standards meet or exceed those provided in Title 24 guidelines. The Compton Municipal Code (CMC) incorporates these State requirements.

An update to Title 24 was adopted by the CEC on April 23, 2008. The 2008 Title 24 standards applied to building permits for which an application was submitted on or after January 1, 2010. The CEC adopted the changes made in 2008 to the Building Energy Efficiency Standards to respond to the mandates of AB 32 and to pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs. The CEC adopted to 13 Title 24 standards as well as the 2016 Title 24 standards, which became effective on January 1, 2017, and are applicable to the Project.[25] The 2016 standards will

21 California Legislative Information, Senate Bill No. 1389 (September 15, 2002), http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200120020SB1389.
22 California Energy Commission, *2016 Integrated Energy Policy Report* (2016).
23 California Energy Commission, *2016 Building Energy Efficiency Standards for Residential and Nonresidential Buildings* (June 2015), http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf
24 California Energy Commission, "2016 Building Energy Efficiency Standards," accessed January 2018, http://www.energy.ca.gov/title24/2016standards/index.html.
25 See California Energy Commission, "2016 Building Energy Efficiency Standards," for additional information.

continue to improve upon prior Title 24 standards for new construction of, and additions and alterations to, residential and nonresidential buildings.[26]

California Green Building Standards (Title 24, Part 11)

The California Green Building Standards Code, which is Part 11 of the CCR, is commonly referred to as the CALGreen Code.[27] The purpose of CALGreen is to reduce GHG emissions by promoting environmentally responsible, energy-efficient, cost-effective, healthier places to live and work. CALGreen identifies certain residential and nonresidential buildings that are required to incorporate mandatory green building measures outlined in CALGreen. In addition, CALGreen includes voluntary measures that may be incorporated into the building design.

The 2008 edition, the first edition of the CALGreen Code, contained only voluntary standards. The 2010 CALGreen Code contained mandatory requirements for State-regulated buildings and structures throughout California beginning on January 1, 2011. The 2010 CALGreen Code contained 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 2010 CALGreen Code also provided design options, allowing the designer to determine how best to achieve compliance for a given site or building condition. In addition, the 2010 CALGreen Code required building commissioning, which is a process for verification that all building systems, such as heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

The 2016 CALGreen Code went into effect on January 1, 2017. It provides a number of important updates to the 2010 CALGreen Code, such as (1) increased requirements for electrical vehicle charging infrastructure and (2) a new universal waste code section.

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

The 2016 Appliance Efficiency Regulations, adopted by the CEC, include standards for new appliances, equipment, and lighting, if they are sold or offered for sale in California. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy and water efficient appliances.[28]

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26 See California Energy Commission, "2016 Building Energy Efficiency Standards."

27 California Buildings Standards Commission, California Green Building Standards Code (January 1, 2017), http://www.bsc.ca.gov/Home/CALGreen.aspx.

28 California Energy Commission, 2*016 Appliance Efficiency Regulations* (January 2017), http://www.energy.ca.gov/2017publications/CEC-400-2017-002/CEC-400-2017-002.pdf.

California Plumbing Code

The California Plumbing Code is codified in Part 5 of Title 24. Chapter 4 contains provisions requiring the installation of low-flow fixtures and toilets. Existing development is also required to reduce its wastewater generation and water use by retrofitting existing structures with water-efficient fixtures.[29] Additionally, Sections 5.303.2 and 5.303.4 provide for a minimum 20 percent reduction in water demand and wastewater discharges. This would result in a concurrent reduction in energy demand to supply, treat, and convey water and wastewater.

California Energy Action Plan

The California Energy Action Plan, most recently updated in 2008, was developed jointly by the California Public Utilities Commission and the California Energy Commission with active participation from other State agencies with energy-related responsibilities.[30] The plan establishes energy efficiency as the resource of first choice for meeting California's energy needs (i.e., energy efficiency is at the "top of the loading order"). These standards have been adopted and incorporated into the California Energy Code.[31]

c. Regional

Southern California Association of Governments

Sustainable Communities Strategy

The City is a member agency of the Southern California Association of Governments (SCAG). To fulfill its commitments as an MPO under the Sustainable Communities and Climate Protection Act, SCAG adopted the *2016–2040 Regional Transportation Plan/Sustain Communities Strategy* (2016–2040 RTP/SCS).[32] The 2016–2040 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. It is designed to reduce GHG emissions from passenger vehicles by 8 percent per capita by 2020, 18 percent by 2035, and 21 percent by 2040. The 18 percent reduction by 2035 over 2005 levels represents a 2 percent greater reduction compared to the RTP/SCS projection contained in the 2012–2035 RTP/SCS. The 2016–2040 RTP/SCS reaffirms the land use policies that were incorporated into the 2012–2035 RTP/SCS. The SCS focuses the majority of new regional housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs/housing balance and more

29 California Civil Code, Section 1101.1 et seq., SB 407 (2009).
30 California Energy Commission, "State of California Energy Action Plan," http://www.energy.ca.gov/energy_action_plan/.
31 California Energy Commission, *2016 Building Energy Efficiency Standards for Residential and Nonresidential Buildings.*
32 Southern California Association of Governments (SCAG), *Final 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy [Final 2016 RTP/SCS]* (April 2016), http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf.

opportunity for transit-oriented development (TOD). Many of Los Angeles's transportation corridors are SCS high-quality transit areas.

The SCS identifies several GHG emission reduction actions and strategies for the State, SCAG, and local jurisdictions. The SCS recommends that local jurisdictions (1) update zoning codes to accelerate adoption of SCS land use strategies; (2) prioritize transportation investments to support compact infill development that includes a mix of land uses and housing options; (3) develop infrastructure plans and educational programs that promote active transportation options; (4) emphasize active transportation projects as part of complying with the Complete Streets Act (AB 1358);[33] and (5) increase the efficiency of existing transportation systems.

d. Local

City of Compton

General Plan

The City's existing General Plan was adopted in 1991, with its 2030 Comprehensive General Plan Update currently in the working draft stages. The 1991 General Plan includes an Conservation/Open Space/Park and Recreation Element (Conservation Element).[34] The Conservation Element addresses issues for improving air quality and for the conservation of energy resources to reduce GHG emissions, and includes goals and policies to help achieve this goal through available technology and conservation practices.

The City's adopted General Plan Conservation/Open Space/Park and Recreation Element identifies the following goals and policies related to the conservation of energy resources:

- Goal 3.0(S): Conserve energy resources through the use of available technology and conservation practices.
- Policy 3.1(S): Encourage innovative site planning and building designs which minimize energy consumption by taking advantage of sun/shade patterns, prevailing winds, landscaping, and building materials.
- Policy 3.2(S): Maintain local legislation to establish, update, and implement energy performance building code requirements in accordance with State Title 24 energy regulations.

33 California Legislative Information, Assembly Bill No. 1358 (September 2008), http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200720080AB1358.

34 City of Compton, Conservation/Open Space/Parks and Recreation Element (December 3, 1991)

The City of Compton's working Draft General Plan Air Quality Element identifies the City's goals for 2010 through 2030 related to improving local air quality and sets the policies and programs for achieving them.[35] These goals include local initiatives such as environmentally sensitive land use planning, transportation planning, trip reduction strategies, and the control of stationary emissions that will address localized emissions sources. Applicable goals include emissions related to energy and stationary sources. Energy conservation programs reduce current and future consumption that can offset future usage and maximize the benefits of furnace and water heater controls.

The proposed Air Quality Element under the 2030 Comprehensive General Plan Update focuses on local initiatives to improve air quality, including the identification of issues regarding future energy supplies and strategies for the efficient use of energy.[36] The following goals are proposed by the City to reduce current and future energy consumption:

- Air Quality Goal 4: Reduce emissions associated with energy consumption; and
- Policy 4.1: The City of Compton will support the use of energy-efficient equipment and design in City facilities and infrastructure.
- Policy 4.2: The City of Compton will encourage energy features, including passive solar, in the construction and rehabilitation of new and existing structures.

Existing Conditions

The Project Site includes the existing CHS campus, totaling approximately 40 acres in size. The CHS campus includes eight primary buildings, numerous portable classrooms, and other outdoor multipurpose fields.

The Project Site also includes the additional 10 parcels of land along the southeast, totaling approximately 2 acres in size, as well the vacation of portions of Cocoa Street west of Acacia Avenue and Oleander Avenue north of Alondra Boulevard. The 10 parcels include one single-family residence, six multifamily residential buildings, a church, and a commercial car wash. The total combined Project Site is approximately 42 acres.

a. Electricity

Electricity, a consumptive utility, is a man-made resource. The production of electricity requires the consumption or conversion of energy resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate

35 City of Compton, Draft 2030 Comprehensive General Plan Update, Air Quality Element, November 6, 2014.
36 City of Compton, Draft 2030 Comprehensive General Plan Update, Air Quality Element, November 6, 2014.

for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

Energy capacity generally is measured in watts (W), while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility scale, a generator's capacity is typically rated in megawatts (MW), which is 1 million watts; energy usage is measured in megawatt-hours (MWh), or in gigawatt-hours (GWh), which is 1 billion watt-hours.

Southern California Edison (SCE) provides electrical service throughout the City of Compton, including the Project Site. SCE serves over 14 million people within a service area of approximately 50,000 square miles.[37] SCE supplies over 87 billion kWh of electricity a year to 15 million customers. Overall demand is expected to grow very slowly over the next several years as regional growth is offset by improvements in efficiency and more interest in renewable energy.[38]

SCE generates power from a variety of energy sources, including hydropower, coal, gas, nuclear sources, and renewable resources, such as wind, solar, and geothermal sources. As of 2015, SCE renewable energy accounted for approximately 24.3 percent of SCE's electricity demand.[39] As shown in **Table 4.5-1: Existing Electrical Demand**, the existing uses on the Project Site are estimated to currently demand approximately 3.7 million kWh per year.

37 Southern California Edison, "Who We Are," accessed January 2018, https://www.sce.com/wps/portal/home/about-us/who-we-are.

38 Southern California Edison, "Who We Are."

39 Southern California Edison, "Green Rate and Community Renewables Programs," fact sheet (2017), accessed January 2018, https://www.sce.com/wps/wcm/connect/28d57219-fbba-4823-b347-ce5b5d09fd0d/G16-048_Green+Rate_Residential_Fact_sheet_v9_AA.pdf?MOD=AJPERES.

Table 4.5-1

Existing Electrical Demand

Use Type	Quantity	Consumption Rate	Demand (kWh/year)
High School	333,390 sf	10.50 kWh/sf/year	3,500,595
Car Wash[a]	1,056 sf	13.55 kWh/sf/year	14,309
Residential[b]	26 units	5,626.50 kWh/unit/year	146,289
Church[a]	2,752 sf	10.50 kWh/sf/year	28,896
Total			**3,690,170**

Source: SCAQMD, CEQA Air Quality Handbook, 1993, Table A9-11-A, Electricity Usage Rate.
Notes: sf = square feet; kWh = kilowatt hours.
[a] Usage rate based on the Miscellaneous land use type because there is no direct equivalent land use type.
[b] Based on information provided by the Los Angeles County Office of the Assessor Property Assessment Information System for the seven existing residential buildings within the acquisition area.

b. Natural Gas

Natural gas is a combustible mixture of simple hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas consumed in California is obtained from natural occurring reservoirs, mainly located outside the State, and delivered through high-pressure transmission pipelines. The natural gas transportation system is a nationwide network and, therefore, resource availability is typically not an issue. Natural gas satisfies almost one-third of the State's total energy requirements and is used in electricity generation, space heating, cooking, water heating, and industrial processes, and as a transportation fuel. Natural gas is measured in terms of cubic feet (cf).

Natural gas is provided to the City of Compton by the Southern California Gas Company (SoCalGas). In 2016, approximately 2,681 million cubic feet (MMcf) of natural gas per day (978,565 MMcf annually) were consumed in Southern California.[40] SoCalGas projects total natural gas demand to decline due to modest economic growth; CPUC-mandated energy efficiency standards and programs; renewable electricity goals, declining commercial and industrial demand; and conservation savings linked to advanced metering infrastructure. Projected demand for natural gas in Southern California in 2023, the buildout date for the proposed Project, is anticipated to be 2,581 MMcf per day (942,065 MMcf annually). SoCalGas obtains the majority of its natural gas from out-of-State sources, mostly in the western United States and Canada.

40 California Gas and Electric Utilities, *2016 California Gas Report* (2016), accessed January 2018, https://www.socalgas.com/regulatory/documents/cgr/2016-cgr.pdf.

Future supplies of natural gas are anticipated to be adequate to meet projected Southern California demand through 2035.[41]

The Project Site is currently served by 3-inch gas lines that run parallel to W. Myrrh Street, S. Acacia Avenue, W. Laurel Street, S. Oleander Avenue, and W. Alondra Boulevard, with lateral 0.5- and 1-inch connection lines to the site. Natural gas is predominantly used for water heating. As shown in **Table 4.5-2: Existing Natural Gas Demand**, the existing uses on the Project Site currently demand approximately 9.4 MMcf per year.

Table 4.5-2
Existing Natural Gas Demand

Use Type	Size	Usage Factor	Demand(cf/year)
High School[a]	333,390 sf	2.0 (cf/ sf/month)	8,001,360
Car Wash[b]	1,056 sf	2.9 (cf/ sf/ month)	36,749
Residential[c]	26 units	4,011.5 (cf/unit/ month)	1,251,588
Church[a]	2,752 sf	2.0 (cf/ sf/ month)	66,048
Total			**9,355,745**

Source: SCAQMD, CEQA Air Quality Handbook *(1993), Table A9-12-A: Natural Gas Usage Rate.*
Notes: sf = square feet; cf = cubic feet; MMcf = million cubic feet.
[a] *Usage rate based on the Office land use type because there is no direct equivalent land use type.*
[b] *Usage rate based on the Retail/Shopping Centers land use type because there is no direct equivalent land use type.*
[c] *Based on information provided by the Los Angeles County Office of the Assessor Property Assessment Information System for the seven existing multifamily residential units within the acquisition area.*

c. Transportation Energy

Petroleum is a worldwide commodity. The Organization of the Petroleum Exporting Countries (OPEC) forecasts the worldwide supply and demand in its *2016 World Oil Outlook* publication. The OPEC forecast for 2025, the projected buildout year for the proposed Project, projects a worldwide oil demand of 102.3 million barrels per day (mb/d) and a worldwide oil supply of 102.5 mb/d. OPEC's long-term projections show a similar trend: in 2040, worldwide oil demand is projected to be 109.4 mb/d; and worldwide oil supply is projected to be 109.6 mb/d.[42,43]

41 California Gas and Electric Utilities, *2016 California Gas Report.*
42 Organization of the Petroleum Exporting Countries (OPEC), *2016 World Oil Outlook* (October 2016), http://www.opec.org/opec_web/static_files_project/media/downloads/publications/WOO%202016.pdf.
43 Because the 2016 California Gas Report does not contain specific information for the Project buildout year of 2023, the following year listed, 2025, was used as a conservative analysis.

According to the CEC, transportation accounts for nearly 40 percent of California's total energy consumption and approximately 37 percent of the State's GHG emissions. In 2015, California consumed 651,133,000 barrels (27,347,586,000 gallons, or 42 gallons per barrel) of petroleum for transportation.[44] Incentive programs, such as the CEC's Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP), are helping the State to reduce its dependency on gasoline. For example, the ARFVTP is predicted to displace approximately 313.5 million gallons of gasoline and diesel by year 2025.[45] Several regulations adopted by California to reduce GHG emissions, such as SB 375, have the added benefit of reducing the State's demand on petroleum-based fuels by requiring reductions in vehicle miles traveled (VMT) and by reducing the carbon intensity of transportation fuels.

The existing high school, car wash, church, and residential units generate a demand for transportation-related fuel use as a result of vehicle trips to and from the Project Site. Based on 2016 fuel consumption averages calculated using CARB's EMFAC2014 v.1.0.7 data,[46] it is assumed that on-road transportation sources in the subarea of Los Angeles County within the South Coast Air Quality Management District (SCAQMD) used approximately 19.6 mpg of gasoline and 7.5 mpg of diesel fuel. The estimate of annual VMT associated with the existing Project Site uses is 2,956,702 VMT per year. This translates to 141,801 gallons of gasoline and 23,654 gallons of diesel per year, as shown in **Table 4.5-3: Existing Transportation Energy Demand** (see detailed calculations provided in **Appendix I**).

Table 4.5-3
Existing Transportation Energy Demand

Use Type	Fuel Efficiency (mpg)	Fleet[a] (Percent)	Fuel Consumption with VMT (gallons)
Gasoline	19.6	94	141,801.8
Diesel	7.5	6	23,654
Total			**165,455**

*Source: Annual VMT based on CalEEMod Estimates in **Appendix D.***
Notes: mpg = miles per gallon; VMT = vehicle miles traveled.
[a] Percent Fleet based on VMT from EMFAC2014.

44 Independent Statistics & Analysis, US Energy Information Administration, "Table F15: Total Petroleum Consumption Estimates, 2015," https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_use_pa.html&sid=US.
45 California Energy Commission, *2016–2017 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program,* draft staff report, CEC-600-2014-014-SD (October 2015), http://www.energy.ca.gov/2015publications/CEC-600-2015-014/CEC-600-2015-014-SD.pdf.
46 CARB, *EMFAC2014 Web Database,* https://www.arb.ca.gov/emfac/2014/.

ENVIRONMENTAL IMPACTS

Methodology

The SCAQMD has developed electricity and natural gas energy demand factors for various land uses, including those proposed under the Project.[47] These energy demand factors were used to determine the proposed Project's potential demand for electricity and natural gas.

The proposed Project's potential petroleum impacts are based on an analysis of estimated net petroleum demand. Potential petroleum impacts are associated with construction and operational vehicle trips. Daily trip generation used in this analysis was based on the air quality worksheets and California Emissions Estimator Model (CalEEMod) output data found in **Appendix D**. Developed by the California Air Pollution Control Officers Association, CalEEMod is a Statewide land use emissions computer model that estimates construction and operational emissions from a variety of land use projects.[48] Because CalEEMod does not directly estimate fuel consumption, fuel rate and VMT data from CARB's EMFAC2014 model were used to develop fuel-efficiency factors for gasoline and diesel fuel, in units of miles per gallon. Trip rate and trip length data from CalEEMod were used to estimate the total VMT of on-road motor vehicles that would occur from construction activities and operational uses. The fuel-efficiency factors were applied to the estimated VMT to determine the quantity of gasoline and diesel that would be used. Consistent with CalEEMod, construction worker vehicles were assumed to consist of 50 percent gasoline-fueled light-duty automobiles (LDA) and 50 percent gasoline-fueled light-duty trucks (LDT1 and LDT2). Additionally, all vendor truck and haul trucks were assumed to be heavy heavy-duty diesel-fueled trucks (HHDT). To assess operational impacts, the percent fleet (percent of gasoline vehicles vs diesel vehicles) was calculated using EMFAC2014**.**

Thresholds of Significance

Appendix F of the State CEQA Guidelines[49] provides the following list of potential energy impacts that may be considered:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.

47 South Coast Air Quality Management District, *California Environmental Quality Act Air Quality Handbook* (1993), Appendix 9, Table A9-11-A. SCAQMD is currently developing the Air Quality Analysis Guidance Handbook to replace the Air Quality Handbook, but no publication date has been set.

48 California Air Pollution Control Officers Association, *CalEEMod* (2017), http://www.caleemod.com/

49 California Natural Resources Agency, *The California Environmental Quality Act,* Appendix F: Energy Conservation, http://resources.ca.gov/ceqa/guidelines/Appendix_F.html.

- The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- The effects of the project on peak and base period demands for electricity and other forms of energy.
- The degree to which the project complies with existing energy standards.
- The effects of the project on energy resources; and/or
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

To assist in determining whether the proposed Project would have a significant effect on the environment, the District finds the proposed Project may be deemed to have a significant impact related to energy if it would:

Threshold ENERGY-1: Conflict with adopted energy conservation plans.

Threshold ENERGY-2: Use non-renewable resources in a wasteful and inefficient manner.

Project Impact Analysis

Threshold ENERGY-1: Conflict with adopted energy conservation plans.

Reconstruction of CHS Campus

Construction of the proposed Project would consume energy from off-road construction equipment and on-road vehicular travel from vendor trucks, haul trucks, and construction employee commuting. Additionally, electricity would be required to deliver water to the Project Site for water for dust control. During operation, energy would be consumed by vehicles arriving at and departing from the apartments. Natural gas would be used for space heating and for other equipment, such as dryers and ovens. Electricity would be used to power the building, including heating, ventilating, and air conditioning (HVAC) equipment, lights, and appliances; to supply water to the Project Site; and to deliver wastewater for treatment.

Construction

Construction of the proposed Project would require the use of various forms of energy as shown on **Table 4.5-4: Summary of Energy Use during Construction,** which presents a summary of the quantity of petroleum fuels and electricity that would be consumed during construction. As shown, a total of 30,745,488 gallons of diesel fuel, 112,072,912 gallons of gasoline fuel, and 1,234 kWh of electricity would be consumed during construction. When compared to the worldwide oil supply in 2023 (buildout) and the SCE's 2023 estimated power demand, the oil and electricity usage during construction would be minimal.

Table 4.5-4
Summary of Energy Use during Construction

Fuel Type		Quantity
Diesel		
On-site construction equipment		72,025 gallons
Off-site motor vehicles		30,673,463 gallons
	Total	**30,745,488 gallons**
Gasoline		
On-site construction equipment		0 gallons
Off-site motor vehicles		112,072,912 gallons
	Total	**112,072,912 gallons**
Electricity		
		1,234 kWh

Source: Refer to **Appendix I,** Summary Construction.

Operation

During operation of the proposed Project, energy would be consumed for a variety of purposes, including electricity consumption for lighting, appliances, HVAC equipment, water supply and delivery, and other commercial operations; natural gas consumption for cooking, and science classes; and transportation fuel consumption from motor vehicles driving to and from the site.

Various sustainable building design and energy conservation components would be considered in the design, construction, and operation of the proposed CHS facilities to meet or exceed the 2016 Title 24 requirements.[50] Specific measures that would be implemented to achieve the CALGreen standards would be identified during the Project's design. Typical methods that could be incorporated into the Project's design to improve energy efficiency and meet CALGreen standards include use of efficient building techniques.

The proposed Project provides for high-performance building design, as well as added energy conservation measures and alternates, to meet a higher goal to enhance students' experiences and reduce the annual utility costs for the reconstructed CHS campus.

- The design and placement of the proposed CHS facilities would be optimized for a north–south orientation to maximize the use of natural daylight. External shading would be provided along the

50 California Building Standards Code, 24 California Code of Regulations.

south-, east-, and west-oriented windows to allow glare-free daylighting in spaces and reduce cooling loads. The strategic use of daylighting and shading would provide high clerestory for a balance of natural daylight.

- At least two electric vehicle (EV) parking locations will be provided.
- Natural bioswales will be provided on the west side of the Project Site, and drought-tolerant planting and high-efficiency irrigation will be utilized throughout the Project Site.
- Additional sustainable building design features may also include HVAC systems that would consider capital costs, operational costs, and efficiencies to achieve energy efficiency, improved indoor environmental quality, and maximized building life.
- The reconstructed CHS campus would be designed to be solar ready. To meet the Title 24 requirements for solar readiness, at least 15 percent of the available rooftop square footage would be set aside for "solar zones." Solar zones would be at least 10 feet away from a building edge; distanced away from all mechanical equipment screens or other shading features; and be no smaller than 25 square feet in area. The structural design of the proposed Project would take these solar zones into consideration to ensure that the extra load of photovoltaic panels is accounted for. The new gymnasium, academic buildings, and performing arts center are currently proposed to include solar zones for the potential installation of rooftop solar panels.

Renewable, salvaged, and recycled materials would be given preference for construction of new buildings and structures on the Project Site.

As discussed above, CalEEMod was run for the proposed Project utilizing the baseline conditions and for the proposed Project to produce a net difference. The output for CalEEMod considers that the Project would meet Title 24 energy requirements, including installation of high-efficiency lighting and the use of low-flow appliances for water conservation.

Table 4.5-5: Summary of Annual Energy Use during Operation, summarizes the estimated annual energy consumption from operations for the proposed Project with incorporation of the energy conservation and efficiency measures that were previously described. Operation of the proposed Project would result in a permanent decrease in electricity and natural gas consumption, 1,044,821 kWh per year and 1,174,859 thousand British Thermal Units (kBTU) per year respectively. The buildings would be built in compliance with the CALGreen ordinance, and they would include the sustainability components for building design and energy conservation mentioned above. By meeting these requirements, the proposed Project would not conflict with an adopted energy conservation plan.

Impacts would be less than significant.

Table 4.5-5
Summary of Annual Energy Use during Operation

Source	Units	Existing Energy Use	Proposed Project Energy Use	Difference
Electricity				
High School	kWh/yr	3,500,595	2,812,950	-687,645
Car Wash[a]	kWh/yr	14,309	0	-14,309
Residential	kWh/yr	146,289	0	-146,289
Church	kWh/yr	28,896	0	-28,896
Building Subtotal	kWh/yr	3,690,170	2,812,950	-877,220
Indoor Water Use	kWh/yr	168,620	92,663	-75,957
Outdoor Water Use	kWh/yr	330,274	238,631	-91,644
Water Subtotal	kWh/yr	498,895	331,293	-167,601
Electricity Total	**kWh/yr**	**4,189,065**	**3,144,243**	**-1,044,821**
Natural Gas				
High School	kBTU/yr	3,467,260	2,786,160	-681,100
Car Wash[a]	kBTU/yr	19,114	0	-19,114
Residential	kBTU/yr	424,834	0	-424,834
Church	kBTU/yr	49,811	0	-49,811
Natural Gas Total	**kBTU/yr**	**3,961,019**	**2,786,160**	**-1,174,859**
Mobile				
Diesel	Gallons	23,654	15,244	-8,410
Gasoline	Gallons	141,802	78,675	-63,127

*Source: Refer to **Appendix I,** Summary Operation.*
Notes: kWh/yr = thousand kilowatt-hours per year; kBtu/yr = thousand British Thermal Units per year.
Electricity and Natural Gas for the Project is total operational usage. Net difference = total Project usage – existing uses. Mobile gasoline and diesel usage was calculated using VMT, which was provided by CalEEMod. The VMT already assumes a net difference.
[a] *Because there is no Car Wash category, the energy rate was taken from Retail.*

Relocation of District Uses

As part of the Project, the District's Facilities Department and the Pupil Services, Enrollment Center, and Special Education offices would be demolished and relocated to existing District facilities with available capacities at Caldwell Elementary School and Cesar Chavez Continuation High School. These existing uses would be demolished as part of the Project, and their demolition is incorporated into the construction emissions above.

Because the relocated uses would be contained within already existing buildings, construction of new buildings is not warranted. These relocated uses would maintain the same operational uses as the existing uses and, therefore, would result in minimal change from existing operational uses.

Impacts would be less than significant.

Threshold ENERGY-2: Use non-renewable resources in a wasteful and inefficient manner.

Reconstruction of CHS Campus

Electricity

The availability of electricity depends on adequate general capacity of the grid and sufficient fuel supplies. The SCE estimates that electricity consumption within SCE's planning area will be approximately 124,287 GWh per year by 2027, when the Project would already be fully operational.[51,52] SCE expects to have adequate electricity supply and transmission capability to meet the needs of its customers well beyond 2027.

As shown in **Table 4.5-5,** the proposed Project would use a net decrease of 1,044,821 kWh per year of electricity, which is approximately 0.001 percent of the 2027 forecasted demand. Because the proposed Project would result in a lower percentage of electricity compared to existing conditions, an approximate 25 percent decrease construction and operation of the proposed Project would not require the expansion of existing facilities or the construction of new electricity-generating or transmission facilities.

Impacts would be less than significant.

Natural Gas

The 2016 California Gas Report indicates that sufficient capacity exists in the utility network to meet future demand in Southern California. The total gas supply available in 2025 is estimated to be 2,456 MMcf per day; SoCalGas anticipates it will have sufficient capability to meet future needs.[53]

Natural gas consumption would decrease during Project operations from existing conditions. As shown in **Table 4.5-5**, the proposed Project would use approximately a net decrease of 1,151,823 cf per year of natural gas, which is approximately 0.001 percent of the 2025 forecasted demand.[54] Given that the

51 California Energy Commission, Demand Analysis Office, "California Energy Demand Updated Forecast, 2017–2027, available at http://www.energy.ca.gov/ (January 2017).

52 Given that the SCE Report does not contain specific information for the Project buildout year of 2023, the next following year, 2027, was used as a conservative analysis.

53 California Gas and Electric Utilities, *2016 California Gas Report*.

54 Based on a total of 978,565 MMcf annually for the City and that 1,174,859 kBTU is 1,151,823 cf.

Project would have less total natural gas demand for the Project than existing operations and SoCalGas anticipates it will have sufficient capability to meet future needs, construction and operation of the proposed Project would not require the expansion of existing facilities or the construction of new natural gas facilities.

Impacts would be less than significant.

Transportation

The Project would consume a total of 78,675 gallons of gasoline and 15,244 gallons of diesel per year, or a total of 93,919 gallons of petroleum-based fuels per year. As shown in **Table 4.5-5**, the proposed Project would result in a net decrease of 71,537 gallons per year of petroleum-based fuels per year, which is approximate decrease of 0.0003 percent of the 2015 demand.

Impacts would be less than significant.

Relocation of District Uses

As part of the Project, the District's Facilities Department and the Pupil Services, Enrollment Center, and Special Education offices would be demolished and relocated to existing District facilities with available capacities at Caldwell Elementary School and Cesar Chavez Continuation High School. These relocated uses would be demolished as part of the Project, and their demolition is incorporated into the construction emissions above.

Given that the relocated uses would be contained within already existing buildings at each of the new locations, construction is not warranted. These relocated uses would maintain the same operational uses as the existing uses and, therefore, would result in minimal change from their existing operational uses.

Impacts would be less than significant.

CUMULATIVE IMPACTS

The area of analysis for cumulative effects related to electricity is SCE's service area, and the area of analysis for cumulative effects related to natural gas is SoCalGas's service area. The area of analysis for transportation fuels considers cumulative projects and growth within the City of Compton. Expected growth in these areas would increase the demand for electricity, natural gas, and transportation fuels. As

identified in **Table 3.0-2: Related Projects** in **Section 3.0: Environmental Setting**, there are 15 known projects that could contribute to cumulative impacts in the City.

Electricity

Buildout of the proposed Project and additional forecasted growth in the City, including the 15 cumulative projects, would increase electricity consumption within the SCE service area. As such, there would be a cumulative increase in the demand for electricity. The SCE estimates that approximately 124,287 GWh per year of electricity would be consumed within the area by 2027. The proposed Project would account for less than 0.01 percent of the forecasted demand in SCE's planning area within this period. Although future development would result in the irreversible use of both renewable and nonrenewable electricity resources during Project construction and operation, the use of such resources would be consistent with growth expectations for SCE's service area. Furthermore, as with the proposed Project, all new projects would be required to comply with CALGreen building standards. As previously stated, SCE has adequate electricity supply capability to meet the needs of its future customers.

Electricity infrastructure is typically expanded in response to increasing demand, and system expansion and improvements by SCE are ongoing. As described above, SCE would continue to expand delivery capacity as needed to meet demand increases within its service area. Development projects within the SCE service area would also be anticipated to incorporate site-specific infrastructure improvements, as necessary.

Impacts with respect to electricity infrastructure would be not be cumulatively considerable.

Natural Gas

Buildout of the proposed Project and additional forecasted growth in the region, including the 15 related projects, would increase natural gas consumption within the SoCalGas service area. As such, there would be a cumulative increase in the demand for natural gas. SoCalGas estimates that 2,456 MMcf per day of natural gas would be consumed in Southern California in 2025.[55],[56] The proposed Project would account for less than 0.01 percent of the forecasted demand, which would result in less demand than with existing Project Site conditions and in SoCalGas's planning area within this period. Although a permanent increase in natural gas consumption would occur, all future projects would be built with energy conservation features, as required by the CALGreen building code. As such, there would be a net decrease in natural

55 California Gas and Electric Utilities, *2016 California Gas Report*.

56 Because the *2016 California Gas Report* does not contain specific information for the Project buildout year of 2023, the following year listed, 2025, was used as a conservative analysis.

gas consumption. As previously stated, future supplies of natural gas are anticipated to be adequate to meet projected future demand.

Natural gas infrastructure is typically expanded in response to increasing demand, and system expansion and improvements by SoCalGas occur as needed. It is expected that SoCalGas would continue to expand delivery capacity if necessary to meet demand increases within its service area. Development projects within its service area would also be anticipated to incorporate site-specific infrastructure improvement, as appropriate.

Impacts with respect to natural gas infrastructure would not cumulatively considerable.

Transportation

Buildout of the proposed Project and additional forecasted growth in the City, including the 15 cumulative projects, would increase demand for transportation fuels. As described above, California consumed 651,133,000 barrels (27,347,586,000 gallons, or 42 gallons per barrel) of petroleum for transportation in 2015.[57] As shown in **Table 4.5-4**, the incremental increase in the consumption of gasoline Citywide would be 37,523 gallons, which is less than 0.001 percent of existing Statewide consumption. Several regulatory measures in California are expected to decrease transportation fuel usage in the future, which would reduce future demand for gasoline. In the long term, adequate supplies are anticipated well beyond the Project buildout date. Although there would be a cumulative increase in the consumption of petroleum-based fuels, future supplies would be adequate to meet projected demand as noted above.

Impacts from mobile sources would not be cumulatively considerable.

MITIGATION MEASURES

No mitigation is required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Energy impacts would be less than significant.

57 Independent Statistics & Analysis, US Energy Information Administration, "Table F15: Total Petroleum Consumption Estimates, 2015," https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_use_pa.html&sid=US.