4.5 ENERGY CONSERVATION

INTRODUCTION

This section of the Draft EIR provides the content and analysis required by Public Resources Code, Section 21100(b)(3) and described in Appendix F to the Guidelines for the Implementation of the California Environmental Quality Act (14 California Code of Regulations §§ 15000 et seq.). This section analyzes the Plan's potential impacts on energy resources, focusing on the following three resources: electricity, natural gas, and transportation-related energy (petroleum-based fuels). This section also evaluates the demand for energy resources attributable to the Plan during construction and operation and makes a determination regarding the Plan's use and conservation of energy resources. This section demonstrates whether the planned electrical, natural gas, and petroleum-based fuel supplies and distribution systems are adequate to meet the Plan's forecasted energy consumption. The information presented herein is based, in part, on supporting calculations for the Plan's energy use included in **Appendix F**, which were based on the California Emissions Estimator Model (CalEEMod) outputs as calculated for **Section 4.2: Air Quality** and **Section 4.7: Greenhouse Gases**, included as **Appendix C**.

ENVIRONMENTAL SETTING

Regulatory Framework

a. Federal

Corporate Average Fuel Economy Standards

First established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.[1]

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:[2]

1 For more information on the CAFE Standards, refer to https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy.

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

- 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 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."[3]

b. State

Senate Bill 1389

Senate Bill (SB) 1389 (Public Resources Code Sections 25300–25323; SB 1389) requires the development of an integrated plan for electricity, natural gas, and transportation fuels. The California Energy Commission (CEC) must adopt and transmit to the Governor and Legislature an Integrated Energy Policy Report every two years. The most recently approved report, the 2019 Integrated Energy Policy Report, addresses the State's implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, electricity system resilience and efficiency, barriers faced by disadvantaged communities, demand response, renewable energy, natural gas supplies, preliminary transportation energy demand forecast, and climate adaptation and resiliency.[4]

Renewable Portfolio Standard

As amended by SB 350 (De León, 2015), California's Renewables Portfolio Standard requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent of

3 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.

4 California Energy Commission, *2017 Integrated Energy Policy Report* (Publication Number: CEC-100-2017-001-CMF), April 16, 2018.

total retail sales by 2020, 40 percent of total retail sales by 2024, 45 percent of total retail sales by 2027, and 50 percent of total retail sales by 2030.

Building Energy Efficiency Standards

Title 24, Part 6 of the California Code of Regulations (CCR) regulates the design of building shells and building components. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. The CEC adopted the 2016 Building Energy Efficiency Standards (2016 Building Standards), effective January 1, 2017.

In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24), commonly referred to as CALGreen, establish voluntary and mandatory standards pertaining to the planning and design of sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality.[5] CALGreen is periodically amended; the most recent 2016 standards became effective on January 1, 2017. It should be noted that the CEC recently proposed 2019 standards that will go into effect on January 1, 2020, which would be the most recently foreseeable adopted standards before buildout of the Plan.[6]

The CEC periodically amends and enforces Appliance Efficiency Regulations contained in Title 20 of the CCR. The regulations establish water and energy efficiency standards for both federally regulated appliances and non–federally regulated appliances. The most current Appliance Efficiency Regulations, dated July 2015, cover 23 categories of appliances (e.g., refrigerators; plumbing fixtures; dishwashers; clothes washer and dryers; televisions) and apply to appliances offered for sale in California.

Assembly Bill 32

As discussed in **Section 4.7: Greenhouse Gas Emissions** of this Draft EIR, Assembly Bill (AB) 32 (Health and Safety Code Sections 38500–38599), also known as the California Global Warming Solutions Act of 2006, commits the State to achieving year 2000 greenhouse gas (GHG) emission levels by 2010 and year 1990 levels by 2020. To achieve these goals, AB 32 tasked the CPUC and the CEC 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.

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5 California Building Standards Commission, Guide to the 2016 California Green Building Standards Code, Nonresidential, January 2017, accessed March 2019, https://www.documents.dgs.ca.gov/bsc/CALGreen/CALGreen-Guide-2016-FINAL.pdf.

6 California Energy Commission, 2019 Building Energy Efficiency Standards, accessed March 2019, https://www.energy.ca.gov/title24/2019standards/.

Assembly Bill 1493/Pavley Regulations

AB 1493 (Pavley, 2002) required CARB to adopt regulations to reduce GHG emissions from noncommercial passenger vehicles and light-duty trucks for model years 2009–2016. In September 2004, and pursuant to AB 1493, CARB approved regulations (which are often referred to as the Pavley standards) to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. CARB obtained a waiver from the USEPA that allows for implementation of these regulations notwithstanding possible federal preemption concerns.[7]

Low Carbon Fuel Standard

EO S-1-07, as issued by Governor Schwarzenegger, called for a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California regulated by CARB by 2020.[8] In response, CARB approved the Low Carbon Fuel Standard (LCFS) regulations in 2009, which became fully effective in April 2010. Thereafter, a lawsuit was filed challenging CARB's adoption of the regulations; in 2013, a court order was issued compelling CARB to remedy substantive and procedural defects of the LCFS adoption process under CEQA.[9] However, the court allowed implementation of the LCFS to continue pending correction of the identified defects. In July 2017, CARB readopted the LCFS regulations.[10]

California Air Resources Board

In 2012, CARB approved the Advanced Clean Cars (ACC) program, an emissions-control program for passenger vehicles and light-duty trucks for model years 2017–2025, thereby continuing the regulatory framework established under the Pavley standards beyond model year 2016. The program combines the control of smog, soot, and GHG emissions with requirements for greater numbers of zero-emission vehicles. The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.[11] By 2025, when

7 California Air Resources Board (CARB), Clean Car Standards – Pavley, Assembly Bill 1943, last reviewed January 11, 2017, www.arb.ca.gov/cc/ccms/ccms.htm.

8 Carbon intensity is a measure of the GHG emissions associated with the various production, distribution and use steps in the "lifecycle" of a transportation fuel.

9 *POET, LLC v. CARB* (2013) 217 Cal.App.4th 1214.

10 CEC, Low Carbon Fuel Standard: Fuels and Transportation Division Emerging Fuels and Technologies Office, www.energy.ca.gov/low_carbon_fuel_standard.

11 CARB, *California's Advanced Clean Cars Program*, last reviewed January 18, 2017, www.arb.ca.gov/msprog/acc/acc.htm.

the rules will be fully implemented, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.

The Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Title 13, California Code of Regulations, Division 3, Chapter 10, Section 2435) was adopted to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles. This section applies to diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. Reducing idling of diesel-fueled commercial motor vehicles reduces the amount of petroleum-based fuel used by the vehicle.

The Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles (Title 13, California Code of Regulations, Division 3, Chapter 1, Section 2025) was adopted to reduce emissions of diesel particulate matter, oxides of nitrogen (NOx) and other criteria pollutants from in-use diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. The newer emission-controlled models would use petroleum-based fuel in a more efficient manner.

Sustainable Communities Strategy

SB 375 (Steinberg, 2008), the Sustainable Communities and Climate Protection Act, coordinates land use planning, regional transportation plans, and funding priorities to reduce GHG emissions from passenger vehicles through better-integrated regional transportation, land use, and housing planning that provides easier access to jobs, services, public transit, and active transportation options. SB 375 specifically requires the Southern California Association of Governments (SCAG) to include a Sustainable Communities Strategy (SCS) in its Regional Transportation Plan (RTP) that will achieve GHG emission reduction targets set by CARB by reducing vehicle miles traveled (VMT) from light-duty vehicles through the development of more compact, complete, and efficient communities.

For the area under SCAG's jurisdiction, including the Plan Area, CARB adopted regional targets for the reduction of mobile-source-related GHG emissions by 8 percent for 2020 and by 13 percent for 2035.[12]

12 SCAG, 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, April 2016, scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf.

California Environmental Quality Act

In accordance with CEQA, Appendix F, Energy Conservation, and Appendix G, of the CEQA Guidelines, in order to assure that energy implications are considered in project decisions, EIRs are required to include a discussion of the potential significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (Public Resources Code Section 21100(b)(3)). The 2019 update to Appendix G of the CEQA Guidelines now provides that if a project would result in significant environmental effects due to wasteful, inefficient, or unnecessary consumption of energy resources, or conflict with or obstruct a state or local plan for renewable energy or energy efficiency, then an EIR shall be prepared for the project that includes mitigation measures for that energy use. The EIR's analysis should include the project's energy use for all project phases and components, including transportation-related energy, during construction and operation. In addition to building code compliance, other relevant considerations may include, among others, the project's size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project as further described below under Appendix F of the CEQA Guidelines.

Appendix F of the CEQA Guidelines provides a list of energy-related topics that may be discussed in an EIR. In addition, while not described or required as significance thresholds for determining the significance of impacts related to energy, Appendix F provides the following topics that the lead agency may consider in the discussion of energy use in an EIR, where topics are applicable or relevant to the project:

1. 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;
2. The effects of the project on local and regional energy supplies and on requirements for additional capacity;
3. The effects of the project on peak and base period demands for electricity and other forms of energy;
4. The degree to which the project complies with existing energy standards;
5. The effects of the project on energy resources;
6. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

c. Regional

Southern California Association of Governments

As discussed in **Section 4.10: Land Use** of this Draft EIR, SCAG's 2016 RTP/SCS presents a long-term transportation vision through the year 2040 for the six-county region of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. On April 7, 2016, the SCAG Regional Council adopted the 2016 RTP/SCS, the mission of which is "leadership, vision and progress which promote economic growth, personal wellbeing, and livable communities for all Southern Californians."[13] The 2016 RTP/SCS includes land use strategies that focus on urban infill growth and walkable, mixed-use communities in existing urbanized and opportunity areas. More mixed-use, walkable, and urban infill development would be expected to accommodate a higher proportion of growth in more energy-efficient housing types like townhomes, apartments, and smaller single-family homes, as well as more compact commercial building types. Furthermore, the 2016 RTP/SCS includes transportation investments and land use strategies that encourage carpooling, increase transit use, active transportation opportunities, and promoting more walkable and mixed-use communities, which would potentially help to reduce VMT.

d. Local

City of Rancho Cucamonga

General Plan

The City's existing General Plan was adopted in 2010. The 2010 General Plan includes a Resource Conservation Element and Public Health and Safety Element, which addressed energy conservation. Some of the related policies that are applicable to the Plan are the following:[14]

Policy RC-4.1:	Pursue efforts to reduce energy consumption through appropriate energy conservation and efficiency measures throughout all segments of the community
Policy PS-10.1:	Pursue efforts to reduce air pollution and greenhouse gas emissions by implementing effective energy conservation and efficiency measures and promoting the use of renewable energy (e.g., solar, wind, biomass, cogeneration, and hydroelectric power).

13 SCAG, 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, April 2016.
14 City of Rancho Cucamonga, General Plan (2010).

Policy PS-10.6: Implement the policies in the Resource Conservation Chapter that are related to energy resources, energy conservation, and green buildings.

Sustainable Community Action Plan

In April 2017, the City developed a Sustainable Community Action Plan to identify and enhance opportunities for a cleaner and greener Rancho Cucamonga. The Sustainable Community Action Plan serves as a long-term vision for how Rancho Cucamonga can be more environmentally friendly and provide guidance for residents, City staff, and decision makers in the community on how to achieve these sustainability goals. For purposes of energy, the following policies, and actions from the City's goal of being energy efficient are applicable to the Plan:[15]

Policy 1: Reduce energy demand by improved efficiency and building design.

EE 1.1 Continue to promote programs that encourage users to reduce energy use and increase efficiency.

EE 1.4 Promote City-approved third-party programs and financing sources, such as the Property Accessed Clean Energy (PACE) program, to improve energy efficiency of existing buildings and homes.

EE 1.8 Support efforts regarding energy disclosure, audits, and/or upgrades at time of sale for residential and commercial properties.

EE 1.14 Promote programs and conservation efforts that encourage a reduction in energy and greenhouse gas emissions of homes and businesses.

Policy 2: Increase the amount of renewable energy use in Rancho Cucamonga

EE 2.1 Offer a citywide resource that compiles with all state, local, and third-party incentives, programs, and

15 City of Rancho Cucamonga, Rancho Cucamonga Sustainable Community Action Plan (April 2017), accessed March 2019, https://www.cityofrc.us/civicax/filebank/blobdload.aspx?BlobID=30273.

information regarding renewable energy for residents and businesses to access.

EE 2.2 Continue to support and expand the use of renewable energy.

Existing Conditions

The 4,393-acre Plan Area is located in the northeast corner of Rancho Cucamonga's planning area and is currently almost entirely within the City's sphere of influence (SOI) in unincorporated San Bernardino County. The Plan Area is located south of the 800,000-acre San Bernardino National Forest. The Plan Area is bounded in the west by rural development in the City's SOI, on the north by the San Bernardino National Forest, on the east by the city of Fontana, and to the south by Rancho Cucamonga's foothill neighborhoods. Just to the west side of the Area and south of Wilson Ave is Chaffey College. Los Osos High School is surrounded on three sides by the Plan Area, and on the south by Banyan Street. The Plan Area itself is currently vacant and undeveloped.

a. Electricity

Electric power service to the City is provided by the Southern California Edison Company (SCE). SCE's facilities include high-voltage transmission lines, which range up to 115 kilovolts (kv) in Rancho Cucamonga, and lower voltage distribution lines, typically gauged at about 12 kv in the City and SOI, which provide electricity to individual residences and other users. Power lines consist of high-voltage transmission lines along the easterly boundary of the annexation area and lower distribution lines along the Plan perimeter along Wilson Avenue, Milliken Ave, and Banyan Street, as shown in **Figure 2.0-13** in **Section 2.0: Project Description**. SCE will service and maintain the plan area's electrical facilities.[16]

b. Natural Gas

Gas service to the City and the annexation area is provided by the Southern California Gas Company (SoCalGas). Existing 6-inch gas mains are available along the Plan perimeter along Wilson Avenue, Milliken Avenue, and Banyan Street, as shown in **Figure 2.0-16** in **Section 2.0: Project Description**. Multiple points of connection may be required by SoCal Gas to ensure system service redundancy. SoCal Gas will service and maintain the plan area's gas facilities.[17]

16 Sargent Town Planning, Etiwanda Heights Neighborhood & Conservation Plan, *Chapter 6: Infrastructure* (April 2019).
17 Sargent Town Planning, Etiwanda Heights Neighborhood & Conservation Plan, *Chapter 6: Infrastructure* (April 2019).

ENVIRONMENTAL IMPACTS

Methodology

Construction

Electricity usage associated with the supply and conveyance of water used for dust control during construction was calculated using the CalEEMod. Electricity used to power lighting, electronic equipment, and other construction activities necessitating electrical power would be temporary, limited, and would cease upon the completion of construction. Accordingly, electricity usage associated with construction activities was assumed to be negligible. In terms of natural gas, construction activities typically do not involve the consumption of natural gas.

Fuel consumption from on-site heavy-duty construction equipment was calculated based on the equipment mix and usage factors provided in the CalEEMod construction output files included in **Appendix C** of this Draft EIR. The total horsepower was then multiplied by fuel usage estimates per horsepower-hour included in Table A9-3-E of the South Coast Air Quality Management District's (SCAQMD) CEQA Air Quality Handbook. Fuel consumption from construction worker, vendor, and delivery/haul trucks was calculated using the trip rates and distances provided in the CalEEMod construction output files. Total VMT was then calculated for each type of construction-related trip and divided by the corresponding county-specific miles per gallon factor using CARB's EMFAC 2014 model, which provides the total annual VMT and fuel consumed for each vehicle type. Consistent with CalEEMod, construction worker trips were assumed to include 50 percent light duty gasoline automobiles and 50 percent light duty gasoline trucks. Construction vendor and delivery/haul trucks were assumed to be heavy-duty diesel trucks. Refer to **Appendix F** of this Draft EIR for detailed calculations.

Operation

The Plan's potential energy consumption analyzed the anticipated future demand of the Plan. The SCAQMD has developed electricity and natural gas energy demand factors for the various land uses, including those proposed under the Plan.[18] These energy demand factors were used to determine the Plan's potential demand for electricity and natural gas. The energy calculations also factored in the California 2020 Building Standard that would be in effect by the time of building of the Plan.

18 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.

The Plan'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 CalEEMod output data found in **Appendix C**. Developed by the California Air Pollution Control Officers Association (CAPCOA), CalEEMod is a Statewide land use emissions computer model that estimates construction and operational emissions from a variety of land use projects.[19] 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.

These above calculations were used to determine if the Plan would cause the wasteful, inefficient and/or unnecessary consumption of energy as required by Appendix F guidelines.

Thresholds of Significance

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

Threshold ENG-1: **Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

Threshold ENG-2: **Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

19 California Air Pollution Control Officers Association, *CalEEMod* (2017), accessed March 2019, http://www.caleemod.com.

Project Impact Analysis

Threshold ENERGY-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Construction

During construction, energy would be consumed in the form of electricity associated with the conveyance of water used for dust control, and on a limited basis, powering lights, electronic equipment, or other construction activities necessitating electrical power. As discussed below, construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Construction would also consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment on the Plan Area, construction worker travel to and from the Plan Area, and delivery and haul truck trips (e.g, hauling of demolition material to off-site reuse and disposal facilities).

As shown in **Table 4.5-1: Summary of Energy Use During Construction**, a total of 147,979 thousand kilowatt-hours (kWh) of electricity, 149,578,324 gallons of diesel fuel, and 543,211,581 gallons of gasoline are estimated to be consumed during the entire construction period. The Plan construction schedule would depend on market conditions and the business needs of future developer(s) and is expected to be completed by 2040.

Table 4.5-1
Summary of Energy Use During Construction

Fuel Type	Quantity
Electricity	**147,979 kWh**
Diesel	
Off-Road Construction Equipment[a]	148,689,887 gallons
On-Road Construction Equipment[b]	888,437 gallons
Total	**149,578,324 gallons**
Gasoline	
On-Site Construction Equipment[a]	0 gallons
Off-site Motor Vehicles[b]	543,211,581 gallons
Total	**543,211,581 gallons**

*Source: Refer to **Appendix F,** Summary Construction, for detailed calculations.*
[a] Off-road construction equipment encompasses construction equipment on the Plan Area (e.g., excavators, cranes, forklifts, etc.)
[b] On-road construction equipment encompasses construction worker trips, vendor trips, and haul trips.

Electricity

During construction, electricity would be consumed to supply and convey water for dust control and, on a limited basis, may be used to power lighting, electronic equipment, and other construction activities necessitating electrical power. Electricity would be supplied to the Plan Area by SCE and would be obtained from existing substations and electrical lines in and around the Plan Area as well as new utility service systems shown, as described in **Section 4.16: Utilities and Service Systems**. As shown in **Table 4.5-1**, a total of approximately 147,979 kWh of electricity is anticipated to be consumed during construction. The electricity demand at any given time would vary throughout the construction period based on the construction activities being performed and would cease upon completion of construction. When not in use, electric equipment would be powered off so as to avoid unnecessary energy consumption. The estimated construction electricity usage represents approximately 0.9 percent[20] of the Plan's estimated annual operational demand, which, as discussed below, would be within the supply and infrastructure service capabilities of SCE. Therefore, the use of electricity during construction would not be wasteful, inefficient, or unnecessary.

Natural Gas

Construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Accordingly, natural gas would likely not be needed to support construction activities; thus, there would be little to no demand generated by construction. Therefore, the use of natural gas during construction would not be wasteful, inefficient, or unnecessary.

Transportation Energy

The petroleum-based fuel use summary provided in **Table 4.5-1** represents the amount of transportation energy that could potentially be consumed during construction based on a conservative set of assumptions. As shown, on- and off-road vehicles would consume an estimated 543,211,581 gallons of gasoline and approximately 149,578,324 gallons of diesel fuel throughout the Plan's construction. As construction would take place intermittently through 2040, the totals above would be bifurcated throughout the construction timeline and would fluctuate based on each specific construction phase. The Plan would comply with federal, State, and local energy efficiency standards and regulations. Therefore, the use of petroleum-based fuel during the Plan construction activities would not be wasteful, inefficient, or unnecessary.

20 The percentage is derived by taking the total amount of electricity usage during construction (147,979 kWh) and dividing that number by the total amount of net electricity during operation (17,331,150 kWh) to obtain 0.9 percent.

Operation

During Plan operation, energy would be consumed for multiple purposes principally associated with expanded residential development, including, but not limited to, heating/ventilating/air conditioning (HVAC); refrigeration; lighting; and the use of electronics, equipment, and machinery. Energy would also be consumed during the Plan operations including, but not limited to water usage, solid waste disposal, and vehicle trips. As shown in **Table 4.5-2: Summary of Annual Energy Use During Operation**, the Plan's new energy demand would be approximately 17,331,150 kWh of electricity per year, 99,911,504 thousand British thermal units (kBTU) of natural gas per year, 2,174,947 gallons of gasoline per year, and 2,181,370 gallons of diesel fuel per year. These calculations do not include the following measures for water and energy conservation, water quality, green building practices, urban agriculture or community gardens integrated into neighborhood and building design which would further reduce the total energy consumption for the Plan Area:

- Promote development that is sustainable in its use of land and that limits impacts to natural resources, energy, and air and water quality;
- Continue to require implementation of the City's Water Efficient Landscape Ordinance, which should be reviewed and updated periodically;
- Encourage the planting of edible landscapes, using citrus trees, box gardens, vineyards, and other edible plant materials whenever possible;
- Promote low water usage, and emphasize fire-safe defensible space;
- Encourage all feasible measures to reduce total vehicle miles traveled by automobiles, including enhanced transit access and land use approaches that provide compact and focused development along major transit corridors;
- Require new developments of more than 100 employees (per building or per tenant/company) to develop Transportation Demand Management programs to minimize automobile trips and to encourage use of transit, ridesharing, bicycling, and walking;
- Make green building and green business a priority;
- Continue to build, renovate, and maintain parks in a manner that is environmentally sustainable;
- In consultation with the Cucamonga Valley Water District and other agencies, designate appropriate land use patterns and take other suitable actions to protect major areas within the Planning Area that are critical to replenishment of groundwater supplies and local surface waters;
- Continue to consult with the Cucamonga Valley Water District and support programs that protect water quality, conserve water usage, and promote re-use of water in accordance with State guidelines;

- Explore sustainable methods to increase water production and distribution capabilities to meet future City demand;
- Promote the protection of natural stream courses from erosion and from polluted urban runoff;
- Protect the watershed by achieving mandates imposed by regulations;
- Require the use of cost-effective methods to conserve water in new developments, and promote appropriate water conservation and efficiency measures for existing businesses and residences;
- Support efforts to expand the recycled water distribution system and actively promote the widespread use of recycled water in Rancho Cucamonga;
- Pursue efforts to reduce energy consumption through appropriate energy conservation and efficiency measures throughout all segments of the community;
- Promote the use of renewable energy and alternative energy technology and support efforts to develop small-scale distributed energy generation (e.g. solar, wind, cogeneration, and biomass) to reduce the amount of electricity drawn from the regional power grid and reduce the use of natural gas, while providing Rancho Cucamonga with a greater degree of energy and economic self-sufficiency;
- Encourage the use of solar energy systems in homes and commercial businesses;
- Encourage green practices for new and existing buildings throughout the community;
- Promote energy-efficient design features, including but not limited to, appropriate site orientation, use of light-colored roofing and building materials, and use of deciduous trees and wind-break trees to reduce fuel consumption for heating and cooling beyond the minimum requirements of Title 24 State Energy Codes;
- Consult with the Inland Empire Utilities Agency and the Cucamonga Valley Water District to ensure that the treatment facility has sufficient capacity to meet future wastewater treatment needs;
- Minimize vehicle emissions by encouraging alternative land use patterns that reduce the need for automobile trips;
- Provide green building incentives, assess green building techniques as a formal stage of project review, and develop a green building ordinance or program that addresses both new and existing buildings. Adaptation strategies will also include increased water efficiency in buildings; and
- Support tree planting, planting more vegetation (including native and drought-resistant planting), and preservation of open space.

Table 4.5-2
Summary of Annual Energy Use During Operation

Source	Units	Total Plan Energy Use
Electricity		
School[a]	kWh/yr	2,267,950
Shopping Center[b]	kWh/yr	2,781,860
Residential	kWh/yr	11,615,900
Building Subtotal	*kWh/yr*	*16,665,710*
Indoor Water Use	kWh/yr	436,940
Outdoor Water Use	kWh/yr	228,499
Water Subtotal	*kWh/yr*	665,440
Electricity Total	**kWh/yr**	**17,331,150**
Natural Gas		
School[a]	kBTU/yr	6,865,854
Shopping Center[b]	kBTU/yr	1,257,150
Residential	kBTU/yr	91,788,500
Natural Gas Total	**kBTU/yr**	**99,911,504**
Mobile		
Diesel	Gallons	2,181,370
Gasoline	Gallons	2,174,947

*Source: Refer to **Appendix F,** Summary Operation**.***
Notes: kWh/yr = thousand kilowatt-hours per year; kBtu/yr = thousand British Thermal Units per year.
*There is no energy usage directly from parks. The total VMT fuel usage from the Plan is captured in CalEEMod. See **Appendix C** for more details.*
[a] The Plan would include a K-8 School site.
[b] Shopping Center includes the community facility.
*Electricity and Natural Gas for the Project is total operational usage. Mobile gasoline and diesel usage were calculated using VMT, which was provided by the Transportation Impact Study, attached as **Appendix O**.*

Electricity

As shown in **Table 4.5-2**, with compliance with 2016 Title 24 standards (and future California Buildings Standards) and applicable CALGreen requirements, such as requirements for rooftop solar in new residential developments, buildout of the Plan would result in a projected increase in the on-site demand for electricity totaling approximately 17,331,150 kWh per year. In addition to complying with Title 24 and CALGreen, the Plan would implement a broad range of energy conservation activities that would reduce the electrical demand associated with the design and operations of the Plan as listed above into both the commercial and residential developments.

Furthermore, SCE is required to procure at least 33 percent of its energy portfolio from renewable sources by 2020, 50 percent by 2030, and by 80 percent by 2050 per EO-S-3-05. The current sources procured by SCE include wind, solar, and geothermal sources. These sources accounted for 25 percent of SCE's overall energy mix in 2016, the most recent year for which data are available.[21] This represents the available off-site renewable sources of energy that would meet the Plan's energy demand. As development of the Plan proceeds, above-ground power lines along the access road east of Rochester Avenue north and south of Banyan Street and along Rochester Avenue will be undergrounded, as depicted in **Figure 2.0-13** in **Section 2.0: Project Description**. Therefore, the Plan would not cause wasteful, inefficient, and unnecessary consumption of electricity during operation.

Natural Gas

As shown in **Table 4.5-2,** with compliance with 2016 Title 24 standards and applicable 2016 CALGreen requirements (and future California Building Standards), buildout of the Plan is projected to generate a net increase in the on-site demand for natural gas totaling approximately 99,911,504 kBTU/year or 263,963 cf/day.[22] Based on the 2018 California Gas Report, the California Energy and Electric Utilities estimates natural gas consumption within SoCalGas' planning area will be approximately 2,316 million cf per day in 2040.[23] The Plan would account for approximately 0.01 percent of the 2040 forecasted consumption in SoCalGas' planning area and would use existing infrastructure, as depicted in **Figure 2.0-13** in **Section 2.0: Project Description**. In addition, and as previously described, the Plan would incorporate a variety of energy conservation measures to reduce energy usage.

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21 California Energy Commission, *2016 Power Content Label, Southern California Edison*, September 2017, accessed March 2019, https://www.energy.ca.gov/pcl/labels/2016_labels/Southern_California_Edison-Default.pdf.

22 The conversion of kBTU to cubic feet uses the factor of 1 cf to 1.037 kBTU. Based on 260 operational days per year.

23 California Public Utilities Commission, 2018 California Gas Report, pg. 103, accessed March 2019, https://www.sdge.com/sites/default/files/regulatory/2018%20California%20Gas%20Report.pdf. 2038 value was interpolated from 2030 and 2035 values.

Building efficiency and the energy reduction measures would also help alleviate natural gas demand. As the Plan would account for 0.01 percent of the 2040 forecasted consumption in SoCalGas' planning area, it is anticipated that SoCalGas' planned natural gas supplies would be sufficient to support the Plan's increase in demand for natural gas. As previously discussed, additional underground natural gas supply and service lines would be constructed within the Plan Area to service new buildings. SCE and SoCalGas undertake system expansions and secure the capacity to serve their service areas and take into consideration general growth and development, including the added residential development to address the State's housing crisis. Therefore, the Plan impacts related to natural gas would not be wasteful, inefficient, or unnecessary.

Transportation Energy

During operation, Plan-related traffic would result in the consumption of petroleum-based fuels related vehicular travel to and from the Plan Area. As discussed in **Section 4.15: Transportation and Traffic**, the Plan would have a gross generation of 35,446 trips; however, with the proposed measures in that section, this would yield an annual VMT of 91,924,780, based on 373,060 daily trips. Assuming a fleet mix of 78.8 percent auto and 21.2 percent other types of vehicles with lower miles per gallon [mpg]), the Plan would consume approximately 4,356,317 gallons of petroleum (gas and diesel) per year for vehicular trips to and from the Plan Area without implementation of the mitigation measures that would reduce the Plan's VMT (**MM TRAF-1** through **MM TRAF-3**). This is a very conservative estimate as this does not account for more fuel-efficient vehicles and future regulations, such as California's goal of 5 million zero energy vehicles by 2030,[24] which the EMFAC model has not since been updated to consider. By comparison, the South Coast Air Basin would consume approximately 54,687,604 gallons of total petroleum fuel usage for 2040. Furthermore, California consumes approximately 26 billion gallons of petroleum per year, thus the anticipated increase in consumption associated with one year of the Plan operation is approximately 0.003 percent of the Statewide use, a negligible amount in comparison.

The Plan's location also takes advantage of existing transportation alternatives in the vicinity that could reduce energy consumption (gasoline, electric, or natural gas, depending on the mode of travel) for transportation needs. A number of public transit options are within reasonable walking distance (less than one-quarter mile) of the Plan Area. As such, the Plan Area provides access for employees, residents, and visitors. While the Plan does not include new technology systems and infrastructure, the Plan's proposed mitigation measures, described further in detail in **Section 4.15: Transportation and Traffic** of this Draft EIR, includes physical and programmatic changes which leverage the use of new technology throughout

24 California Public Utilities Commission, Zero-Emission Vehicles, accessed April 2019, http://www.cpuc.ca.gov/General.aspx?id=5597.

the life of the Plan. The Plan would reduce vehicle trips and VMT by implementing these measures, which would result in corresponding reductions in energy demand. Transportation fuels, primarily gasoline and diesel, would be provided by local or regional suppliers and vendors. Plan-related vehicles would require a negligible fraction of the total State's transportation fuel consumption. Alternative-fueled, electric, and hybrid vehicles, to the extent these types of vehicles would be utilized, would also help reduce the Plan's consumption of gasoline and diesel. Due to these mitigation measures and alternative transportation options, the Plan operations would not result in wasteful, inefficient, and unnecessary consumption of energy and would be consistent with the CAPCOA guidance document, Quantifying Greenhouse Gas Mitigation Measures,[25] which provides emission reduction values for recommended mitigation measures and would reduce VMT and vehicle trips to the Plan Area. It should also be noted that vehicle fuel efficiencies will increase as a result of existing and future regulations as shown in new and continued local and State policies as well as the EMFAC model. In addition, the Plan would incorporate a variety of energy conservation measures to reduce energy usage as noted previously. Therefore, the Plan would not cause wasteful, inefficient, and unnecessary consumption of transportation energy during operation.

Conclusion

The Plan would not cause wasteful, inefficient, and unnecessary consumption of energy during construction or operation. The Plan's energy requirements would not significantly affect local and regional supplies or capacity. The Plan's energy usage during peak and base periods would also be consistent with electricity and natural gas future projections for the region. Electricity generation capacity and supplies of natural gas and transportation fuels would also be sufficient to meet the needs of Plan-related construction and operations. During operations, the Plan would comply and exceed existing energy efficiency requirements, such as CALGreen. In addition, the Plan would incorporate a variety of energy conservation measures to reduce energy usage which would incorporate energy-efficiency standards that are substantially more effective than the measures identified in all applicable regulations, plans, and policies into the development, including the residential units which address the State's housing crisis. In summary, the Plan's energy demands would not significantly affect available energy supplies and would comply with existing energy efficiency standards. Therefore, the Plan construction and operation impacts related to energy use would be less than significant.

25 CAPCOA, Quantifying Greenhouse Gas Mitigation Measures, August 2010, https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/capcoa_quantifying_ghg_measures.pdf. Accessed November 2018.

Threshold ENERGY-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Construction

Electricity

As discussed above, Construction activities associated with the Plan would require minor quantities of electricity for lighting, power tools and other support equipment. Heavy construction equipment would be powered with diesel fuel. Existing off-site infrastructure would not have to be expanded or newly developed to provide electrical service to the Plan during construction. Therefore, the Plan would not result in an increase in demand for electricity during construction that exceeds available supply or distribution infrastructure capabilities that could result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

As previously discussed, new on-site electrical infrastructure to serve each new Plan Area would connect to existing and planned Substations in and around the Plan Area. Relocation of existing infrastructure could occur if future development occurs at a location where there is existing electrical conduit or Substation(s) and the building requires excavation at a depth near or below the existing conduit(s). Construction impacts associated with electrical infrastructure would primarily be confined to trenching for miscellaneous utility lines and connections to the Substations within the Plan Area. Installation of electrical infrastructure would be limited to on-site electrical conduits and Substation(s) and minor off-site work associated with connections to electrical conduit in and around the Plan Area. As such, lane closures associated with the future off-site construction work would be expected. Overall, when considering impacts resulting from the installation of any required electrical infrastructure off-site, all impacts are of a relatively short-term duration (i.e., months) and would cease to occur once the installation is complete. Construction activities associated with the Plan would not impair or physically interfere with the vehicle access.

Furthermore, in accordance with SCE policies, the Applicant would consult with SCE to coordinate electrical infrastructure removals or relocations with site-specific requirements for each planned development. This would ensure that the SCE's specific design practices would be implemented as part of the development which would further reduce the Plan's demand on SCE's electrical infrastructure during construction as well as avoid any disruption of electric service to the Plan Area and other surrounding properties. As such, construction of the Plan is not anticipated to adversely affect the electrical infrastructure serving the surrounding uses or utility system capacity.

Natural Gas

Construction activities, including the construction of new buildings and facilities, typically do not involve the consumption of natural gas. Accordingly, natural gas would most likely not be needed to support construction activities; thus, there would be no demand generated by construction. However, the Plan would involve installation of new natural gas connections to serve the Plan Area. As the Plan Area is located in an area already served by existing natural gas infrastructure, it is anticipated that the Plan would not require extensive off-site infrastructure improvements to serve the Plan Area. Similar to electrical construction discussed above, minor off-site work associated with connections to SoCalGas mains within the public right-of-way would occur. As such, lane closures associated with the future off-site construction work would be expected. Overall, when considering impacts resulting from the installation of any required natural gas infrastructure off-site, all impacts are of a relatively short-term duration (i.e., months) and would cease to occur once the installation is complete. With regulatory compliance, impacts would be less than significant.

Furthermore, in accordance with SoCalGas policies, future developers would consult with SoCalGas to coordinate natural gas infrastructure removal or relocation with site-specific requirements for each planned development. This would ensure that the all existing gas lines would be maintained and secured and not impacted during Plan construction. This would avoid disruption of gas to the Plan Area or other properties as well as would further reduce the Plan's demand on SoCalGas' infrastructure during construction. As such, construction of the Plan is not anticipated to adversely affect the natural gas infrastructure serving the surrounding uses or utility system capacity. Therefore, construction of the Plan would not result in an increase in demand for natural gas to affect available supply or distribution infrastructure capabilities and would not result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Operation

Electricity

As shown in **Table 4.5-2**, the Plan's operational electricity usage would be approximately 17,331,150 kWh per year, which is approximately 0.04 percent of SCE's projected demand in 2030.[26] In addition, before implementation of the Plan, the Applicant would be in consultation with SCE to ensure that SCE would have adequate supplies during each planned development. If adequate supplies do not exist at the commencement of development, SCE would not provide service and therefore development would halt

26 California Energy Commission, California Energy Demand 2018-2030 Revised Forecast (February 2018), accessed March 2019, https://efiling.energy.ca.gov/getdocument.aspx?tn=223244. Projected forecasts show SCE electricity consumption to be about 4,000 GWh in 2030 for mid-demand cases, the latest available year.

until supplies are sufficient. In addition, new energy codes are being provided to allow potential for net zero, such as through solar for residences, and therefore it will be assumed that total electricity usage would be reduced as a result. Therefore, during the Plan operations, it is anticipated that SCE's existing and planned electricity capacity and electricity supplies would be sufficient to support the Plan's electricity demand.

Natural Gas

As shown in **Table 4.5-2**, the Plan would consume 99,911,504 kBTU/year or 263,963 cf/day, which represents approximately 0.01 percent of the 2040 forecasted consumption in SoCalGas' planning area. Before implementation of the Plan, the Applicant would be in consultation with SoCalGas to ensure SoCalGas would have adequate supplies during each planned development. If adequate supplies do not exist at the commencement of development, SoCalGas would not provide service and therefore, development would halt until supplies are sufficient. In addition, new energy codes are being provided to allow potential for net zero and therefore it will be assumed that natural gas usage would be reduced as a result. Therefore, it is anticipated that SoCalGas' existing and planned natural gas supplies would be sufficient to support the Plan's net increase in demand for natural gas.

Conclusion

Construction and operation of the Plan would not result in an increase in demand for electricity or natural gas that exceeds available supply or distribution infrastructure capabilities that could result in the construction of new energy facilities or expansion of existing facilities, for which could cause significant environmental effects. Therefore, the Plan construction- and operation-related impacts to energy infrastructure capacity would be less than significant.

CUMULATIVE IMPACTS

The geographic context for the cumulative analysis of electricity is SCE's service area and the geographic context for the cumulative analysis of natural gas is SoCalGas service area. While the geographic context for transportation-related energy use is more difficult to define, it is meaningful to consider the Plan in the context of the South Coast Air Basin consumption. Growth within these geographies, partially attributable to the State's emphasis on housing development, is anticipated to increase the demand for electricity, natural gas, and transportation energy, as well as the need for energy infrastructure, such as new or expanded energy facilities.

Wasteful, Inefficient and Unnecessary Use of Energy

Electricity

Buildout of the Plan, related projects, and additional forecasted growth in SCE's service area would cumulatively increase the demand for electricity supplies and infrastructure capacity. SCE forecasts that its electricity energy demand in 2030 (the latest forecasted year) will be approximately 4,500 GWh of electricity for mid-level demand. Based on the Plan's estimated new electrical consumption of 14,664,305 kWh per year, the Plan would account for approximately 0.04 percent of SCE's total demand. Although the Plan development would result in the use of renewable and non-renewable electricity resources during construction and operation, which could limit future availability, the use of such resources would be on a relatively small scale, would be reduced by measures making the Plan more energy efficient, and would be consistent with growth expectations for SCE's service area. As noted above, this is a conservative estimate as new energy codes for net zero residential development would reduce the overall electricity consumption, and therefore SCE's demand would be reduced by the time of full buildout of the Plan. Furthermore, as with the Plan, during construction and operation, other future development projects would be expected to incorporate energy conservation features, comply with applicable regulations including CALGreen and State energy standards under Title 24, and incorporate energy design features, as necessary. Therefore, the Plan's contribution to cumulative impacts related to wasteful, inefficient and unnecessary use of electricity would not be cumulatively considerable and, thus, would be less than significant.

Natural Gas

Buildout of the Plan, related projects, and additional forecasted growth in SoCalGas service area would cumulatively increase the demand for natural gas supplies and infrastructure capacity. Based on the 2018 California Gas Report, the California Energy and Electric Utilities estimates natural gas consumption within SoCalGas' planning area will be approximately 2,316 million cf per day in 2040.[27] The Plan would account for approximately 0.01 percent of the 2040 forecasted consumption in SoCalGas' planning area. SoCalGas forecasts take into account projected population growth and development based on local and regional plans. Although the Plan development would result in the use of natural gas resources, which could limit future availability, the use of such resources would be on a relatively small scale, would be reduced by

27 California Public Utilities Commission, 2018 California Gas Report, pg. 103, accessed March 2019, https://www.sdge.com/sites/default/files/regulatory/2018%20California%20Gas%20Report.pdf.

measures rendering the Plan more energy efficient, and would be consistent with regional and local growth expectations for SoCalGas service area.

Furthermore, future development projects would be expected to incorporate energy conservation features, comply with applicable regulations including CALGreen and State energy standards under Title 24, and incorporate mitigation measures, as necessary. Therefore, the Plan's contribution to cumulative impacts related to wasteful, inefficient and unnecessary use of natural gas would not be cumulatively considerable and, thus, would be less than significant.

Transportation Energy

Buildout of the Plan, related projects, and additional forecasted growth would cumulatively increase the demand for transportation-related fuel in the State and region. As summarized in **Table 4.5-2**, the Plan's estimated petroleum-based fuel usage would be approximately 2,174,947 gallons of gasoline per year, and 2,181,370 gallons of diesel fuel per year. By comparison, the South Coast Air Basin would consume approximately 54,687,604 of total petroleum fuel usage for 2040. Furthermore, California consumes approximately 26 billion gallons of petroleum per year. The anticipated increase in consumption associated with one year of the Plan operation is 0.003 percent of the Statewide use.

Additionally, as described above, petroleum currently accounts for 90 percent of California's transportation energy sources; however, over the last decade the State has implemented several policies, rules, and regulations to improve vehicle efficiency, increase the development and use of alternative fuels, reduce air pollutants and GHGs from the transportation sector, and reduce VMT, which would reduce reliance on petroleum fuels. According to the CEC, total gasoline consumption per capita has declined by 6 percent since 2008, and the CEC predicts that the demand for gasoline will continue to decline over the next 10 years and that there will be an increase in the use of alternative fuels, such as natural gas, biofuels, and electricity. As with the Plan, other future development projects would be expected to reduce VMT by encouraging the use of alternative modes of transportation and other design features that promote VMT reductions.

Furthermore, the Plan would be consistent with the energy efficiency policies emphasized by the 2016-2040 RTP/SCS. Specifically, the Plan would promote equitable land use decisions that result in fewer vehicle trips by providing increased employment opportunities in proximity to residential areas, destinations, and other neighborhood services. The Plan Area is also located in an area served by existing public transit provided by Metrolink and Omnitrans Transit Agency. The Plan would incorporate energy design features through measures listed above. These features would serve to reduce VMT and associated transportation fuel consumption. By its very nature, the 2016-2040 RTP/SCS is a regional planning tool that addresses cumulative growth and resulting environmental effects. Since the Plan is consistent with

the 2016- 2040 RTP/SCS as discussed in **Section 4.10: Land Use** of this Draft EIR, its contribution to cumulative impacts related to wasteful, inefficient and unnecessary use of transportation fuel would not be cumulatively considerable and, thus, would be less than significant.

Conclusion

Based on the analysis provided above, the Plan's contribution to cumulative impacts related to energy consumption (i.e., electricity, natural gas, and petroleum-based fuel) would not result in a cumulatively considerable effect related to the wasteful, inefficient, and unnecessary consumption of energy during construction or operation. As such, the Plan's impacts would not be cumulatively considerable; therefore, cumulative energy impacts are less than significant.

Infrastructure Capacity

Electricity

Electricity infrastructure is typically expanded in response to increasing demand, and system expansion and improvements by SCE are ongoing. SCE would continue to expand delivery capacity as needed to meet demand increases within its service area at the lowest cost and risk consistent with SCE's environmental priorities and reliability standards. The Renewables Portfolio Standard Procurement Plan takes into account future energy demand, advances in renewable energy resources and technology, energy efficiency, conservation, and forecast changes in regulatory requirements. Development projects within the SCE service area would also be anticipated to incorporate site-specific infrastructure improvements, as necessary. Each of the related projects would be reviewed by SCE to identify necessary power facilities and service connections to meet the needs of their respective projects. Project applicants would be required to provide for the needs of their individual projects, thereby contributing to the electrical infrastructure in the Plan Area. Therefore, the Plan's contribution to cumulative impacts with respect to electricity infrastructure would not be cumulatively considerable and, thus, would be less than significant.

Natural Gas

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, including the Plan and related projects also served by the existing SoCalGas infrastructure, would also be anticipated to incorporate site-specific infrastructure improvements, as appropriate. Therefore, the Plan's contribution to cumulative impacts with respect to natural gas infrastructure would not be cumulatively considerable and, thus, would be less than significant.

Conclusion

Based on the analysis provided above, the Plan's contribution to cumulative impacts related to energy consumption (i.e., electricity, natural gas) would not result in a cumulatively considerable effect related to available supply or distribution infrastructure capabilities that could result in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. As such, the Plan's impacts would not be cumulatively considerable; therefore, cumulative energy infrastructure impacts would be less than significant.

MITIGATION MEASURES

No mitigation measures are necessary.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Energy impacts would be less than significant.