4.5 ENERGY

This section discusses energy use resulting from implementation of the Cypress City Center Project (proposed project) and evaluates whether the proposed project would result in the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with any applicable plans for renewable energy and energy efficiency. The energy use analysis in this section is based on information from the California Emissions Estimator Model (CalEEMod) version 2016.3.2 modeling results in Appendix B of this Environmental Impact Report (EIR).

4.5.1 Methodology

The analysis of electricity/natural gas usage is based on the CalEEMod modeling conducted by LSA (LSA 2019), which quantifies energy use for project operations. Fuel consumption (diesel fuel and gasoline) from vehicle trips during operation was estimated for the opening year (2022) of the proposed project based on trip estimates from the CalEEMod model and fuel efficiencies from the California Air Resources Board's (CARB) EMission FACtor Model (EMFAC2017) model. Estimates of fuel consumption (diesel fuel and gasoline) from construction trucks and construction worker vehicles were based on trip estimates from the CalEEMod model and fuel efficiencies from the CARB EMFAC2017 model.

The analysis focuses on the four sources of energy that are relevant to the proposed project: electricity, natural gas, the equipment fuel necessary for project construction, and vehicle fuel necessary for project operations. For the purposes of this analysis, the amount of electricity, natural gas, construction fuel, and fuel use from operations are quantified and compared to that consumed in Orange County. The electricity/natural gas use of the proposed project is analyzed as a whole on an annual basis.

4.5.2 Existing Environmental Setting

4.5.2.1 Electricity

Electricity is a manmade 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. Electricity is used for a variety of purposes (e.g., lighting, heating, cooling, and refrigeration, and for operating appliances, computers, electronics, machinery, and public transportation systems).[1]

In 2017, California's electricity was generated primarily by natural gas (33.67 percent), coal (4.13 percent), large hydroelectric (14.72 percent), nuclear (9.08 percent), and renewable sources (29 percent). Total electric generation in California in 2017 was 292,039 gigawatt-hours (GWh), up 0.5 percent from the 2016 total generation of 290,567 GWh. In 2017, California produced approximately 70.7 percent and imported 29.3 percent of the electricity it used.[2]

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1 United States Energy Information Administration (EIA). 2019b. Electricity Explained. Website: https://www.eia.gov/energyexplained/electricity/ (accessed December 9, 2019).

2 California Energy Commission (CEC). 2019c. Notice of Request for Public Comments on the Draft Scoping Order for the 2019 Integrated Energy Policy Report. Docket No. 19-IEPR-01.

The project site is within the service territory of Southern California Edison (SCE). SCE provides electricity to more than 15 million people in a 50,000-square-mile (sq mi) area of Central, Coastal, and Southern California.[1] According to the California Energy Commission (CEC), total electricity consumption in the SCE service area in 2018 was 84,000 GWh. (28,617 GWh for the residential sector and 54,783 GWh for the non-residential sector). Total electricity consumption in Orange County in 2018 was 19,858 GWh (6,814 GWh for the residential sector and 13,044 GWh for the non-residential sector).[2]

Although electricity is used to power the parking lot lights on the project site, the amount of electricity that is used on an annual basis is unknown.

4.5.2.2 Natural Gas

Natural gas is a non-renewable fossil fuel. Fossil fuels are formed when layers of decomposing plant and animal matter are exposed to intense heat and pressure under the surface of the Earth over millions of years. Natural gas is a combustible mixture of hydrocarbon compounds (primarily methane) that is used as a fuel source. Natural gas is found in naturally occurring reservoirs in deep underground rock formations. Natural gas is used for a variety of uses (e.g., heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills).[3]

Natural gas consumed in California is used for electricity generation (45 percent), residential uses (21 percent), industrial uses (25 percent), and commercial uses (9 percent). California continues to depend upon out-of-state imports for nearly 90 percent of its natural gas supply.[4]

The Southern California Gas Company (SoCalGas) is the natural gas service provider for the project site. SoCalGas provides natural gas to approximately 21.8 million people in a 24,000 sq mi service area throughout Central and Southern California, from Visalia to the Mexican border.[5] According to the California Energy Commission (CEC), total natural gas consumption in the SoCalGas service area in 2018 was 5,156.1 million therms (2,147.4 million therms for the residential sector and 987.5 million therms for the commercial sector). Total natural gas consumption in Orange County in 2018 was 575.1 million therms (339.0 million therms for the residential sector and 236.1 therms for the non-residential sector).[6]

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1 Southern California Edison (SCE). 2019. About Us. Website: https://www.sce.com/about-us/who-we-are (accessed December 12, 2019).

2 CEC. 2019a. Electricity Consumption by County. Website: http://www.ecdms.energy.ca.gov/elecbycounty.aspx (accessed December 12, 2019).

3 EIA. 2019c. Natural Gas Explained- Use of Natural Gas. Website: https://www.eia.gov/energyexplained/index.php?page=natural_gas_use (accessed December 9, 2019).

4 CEC. 2019d. Supply and Demand of Natural Gas in California. Website: https:// ww2.energy.ca.gov/almanac/naturalgas_data/overview.html (accessed December 9, 2019).

5 Southern California Gas Company (SoCalGas). 2019. About SoCalGas. Website: https://www3.socalgas.com/about-us/company-profile (accessed December 9, 2019).

6 CEC. 2019b. Gas Consumption by County. Website: http://www.ecdms.energy.ca.gov/gasbycounty.aspx (accessed December 12, 2019).

In its existing condition, no natural gas is currently used on the project site.

4.5.2.3 Petroleum/Transportation Energy

Petroleum is also a non-renewable fossil fuel. Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the earth's surface. Petroleum is primarily recovered by oil drilling. It is refined into a large number of consumer products, primarily fuel oil, gasoline, and diesel.

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. In 2017, total gasoline consumption in California was 366,820 thousand barrels (15.4 billion gallons) or 1,853.5 trillion British Thermal Units (BTU).[1] Of the total gasoline consumption, 350,604 thousand barrels (14.7 billion gallons) or 1,771.6 trillion BTU were consumed for transportation.[2] Based on fuel consumption obtained from EMFAC2017, 160.5 million gallons of diesel and 1.3 billion gallons of gasoline were consumed from vehicle trips in Orange County in 2018.

4.5.3 Regulatory Setting

4.5.3.1 Federal Regulations

Corporate Average Fuel Economy (CAFE). Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light-duty trucks. CAFE standards are federal regulations that are set to reduce energy consumed by on-road motor vehicles. The National Highway Traffic Safety Administration (NHTSA) regulates the standards and the United States Environmental Protection Agency (USEPA) measures vehicle fuel efficiency. The standards specify minimum fuel consumption efficiency standards for new automobiles sold in the United States. The law has become more stringent over time. The current standard is 27.5 miles per gallon (mpg) for passenger cars and 20.7 mpg for light-duty trucks.

On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the USEPA and the United States Department of Transportation's (USDOT) NHTSA announced a joint final rule establishing a national program that would reduce greenhouse gas (GHG) emissions and improve fuel economy for new cars and trucks sold in the United States. The first phase of the national program applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2012 through 2016. This phase required these vehicles to meet a fuel economy standard of 35.5 mpg. The second phase applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles for

1 A British Thermal Unit (BTU) is defined as the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

2 EIA. 2019a. California State Profile and Energy Estimates. Table F3: Motor gasoline consumption, price, and expenditure estimates, 2017. Website: https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_mg.html&sid=CA (accessed December 12, 2019).

model years 2017 through 2025. This phase required these vehicles to meet an estimated fuel economy standard of 54.5 mpg.[1]

On September 15, 2011, the USEPA and USDOT issued a final rule for the first national standards to improve fuel efficiency of medium- and heavy-duty trucks and buses, model years 2014 through 2018. For combination tractors, the agencies proposed engine and vehicle standards that would achieve up to a 20 percent reduction in fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies proposed separate gasoline and diesel truck standards, which would achieve up to a 10 percent reduction for gasoline vehicles and a 15 percent reduction for diesel vehicles (12 and 17 percent, respectively, if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption (USEPA 2019a). On October 25, 2016, the USEPA and USDOT issued Phase 2 of the national standards to improve fuel efficiency standards for medium- and heavy-duty trucks and buses for model years 2021 through 2027 to achieve vehicle fuel savings as high as 25 percent, depending on the vehicle category (USEPA 2019a).

Safer Affordable Fuel-Efficient Vehicles Rule. On August 2, 2018, the current Administration released a notice of proposed rulemaking, *The Safer Affordable Fuel-Efficient* (SAFE) *Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks* (SAFE Vehicles Rule) to amend the CAFE and GHG emission standards established in 2012 for model years 2021 through 2026. The SAFE Vehicles Rule would decrease fuel economy and would withdraw the California Waiver for the California Advanced Clean Car program, Zero Emissions Vehicle mandate, and GHG emission standards for model years 2021 through 2026. Final rulemaking on the SAFE Vehicles Rule is pending.[2]

4.5.3.2 State Regulations

Assembly Bill 1575, Warren-Alquist Act. In 1975, largely in response to the oil crisis of the 1970s, the State Legislature adopted Assembly Bill (AB) 1575 (also known as the Warren-Alquist Act), which created the CEC. The statutory mission of the CEC is to forecast future energy needs; license power plants of 50 megawatts (MW) or larger; develop energy technologies and renewable energy resources; plan for and direct State responses to energy emergencies; and, perhaps most importantly, promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code (PRC) Section 21100(b)(3) and *State CEQA Guidelines* Section 15126.4 to require EIRs to include, where relevant, mitigation measures proposed to minimize the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F to the *State CEQA Guidelines*. Appendix F assists EIR preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the *State CEQA Guidelines* also states that the goal of conserving energy implies the wise and

[1] National Highway Traffic Safety Administration (NHTSA). 2019a. Corporate Average Fuel Economy. Website: https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy (accessed December 9, 2019).

[2] NHTSA. 2019b. The Safer Affordable Fuel-Efficient 'SAFE' Vehicles Rule. Website: https://www.nhtsa.gov/corporate-average-fuel-economy/safe (accessed December 9, 2019).

efficient use of energy and the means of achieving this goal, including (1) decreasing overall per capita energy consumption; (2) decreasing reliance on fossil fuels such as coal, natural gas, and oil; and (3) increasing reliance on renewable energy sources.

Senate Bill 1389, Energy: Planning and Forecasting. In 2002, the State Legislature passed Senate Bill (SB) 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles (ZEVs) and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

In compliance with the requirements of SB 1389, the CEC adopts an *Integrated Energy Policy Report* every 2 years and an update every other year. The most recently adopted reports include the *2017 Integrated Energy Policy Report* (CEC 2018a) and the *2018 Integrated Energy Policy Report Update* (CEC 2018b). The *2017 Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The *2017 Integrated Energy Policy Report* covers a broad range of topics, including implementation of SB 350, integrated resource planning, distributed energy resources, transportation electrification, solutions to increase resiliency in the electricity sector, energy efficiency, transportation electrification, barriers faced by disadvantaged communities, demand response, transmission and landscape-scale planning, the California Energy Demand Preliminary Forecast, the preliminary transportation energy demand forecast, renewable gas, updates on Southern California electricity reliability, natural gas outlook, and climate adaptation and resiliency. The *2018 Integrated Energy Policy Report Update* included a review of the implementation of California's energy policies and updated the 2017 California energy demand forecasts that were adopted as part of the *2017 Integrated Energy Policy Report* proceedings.

The CEC circulated the 2019 Integrated Energy Policy Report for public review in February 2019 and is anticipated to approve the report in February 2020.[1]

Renewable Portfolio Standards. SB 1078 established the California Renewable Portfolio Standards program in 2002. SB 1078 initially required that 20 percent of electricity retail sales be served by renewable resources by 2017; however, this standard has become more stringent over time. In 2006, SB 107 accelerated the standard by requiring that the 20 percent mandate be met by 2010. In April 2011, SB 2 required that 33 percent of electricity retail sales be served by renewable resources by 2020. In 2015, SB 350 established tiered increases to the Renewable Portfolio Standards of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. In 2018, SB 100 increased the

[1] CEC. 2019c. Notice of Request for Public Comments on the Draft Scoping Order for the 2019 Integrated Energy Policy Report. Docket No. 19-IEPR-01.

requirement to 60 percent by 2030 and required that all State's electricity to come from carbon-free resources by 2045. SB 100 took effect on January 1, 2019.[1]

Title 24, California Building Code. Energy consumption by new buildings in California is regulated by the Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations (CCR), known as the California Building Code (CBC). The CEC first adopted the Building Energy Efficiency Standards for Residential and Nonresidential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. The CBC is updated every 3 years, and the current 2019 CBC went into effect on January 1, 2020. The efficiency standards apply to both new construction and rehabilitation of both residential and non-residential buildings, and regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The building efficiency 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 CCR Title 24.

California Green Building Standards Code (CALGreen Code). In 2010, the California Building Standards Commission (CBSC) adopted Part 11 of the Title 24 Building Energy Efficiency Standards, referred to as the California Green Building Standards Code (CALGreen Code). The CALGreen Code took effect on January 1, 2011. The CALGreen Code is updated on a regular basis, with the most recent update consisting of the 2019 CALGreen Code standards that became effective January 1, 2020. The CALGreen Code established mandatory measures for residential and non-residential building construction and encouraged sustainable construction practices in the following five categories: (1) planning and design, (2) energy efficiency, (3) water efficiency and conservation, (4) material conservation and resource efficiency, and (5) indoor environmental quality. Although the CALGreen Code was adopted as part of the State's efforts to reduce GHG emissions, the CALGreen Code standards have co-benefits of reducing energy consumption from residential and non-residential buildings subject to the standard.

California Energy Efficiency Strategic Plan. On September 18, 2008, the California Public Utilities Commission (CPUC) adopted California's first Long-Term Energy Efficiency Strategic Plan, presenting a roadmap for energy efficiency in California (CPUC 2008). The Plan articulates a long-term vision and goals for each economic sector and identifies specific near-term, mid-term, and long-term strategies to assist in achieving those goals. The Plan also reiterates the following four specific programmatic goals known as the "Big Bold Energy Efficiency Strategies" that were established by the CPUC in Decisions D.07-10-032 and D.07-12-051:

- All new residential construction will be zero net energy (ZNE) by 2020.
- All new commercial construction will be ZNE by 2030.
- 50 percent of commercial buildings will be retrofitted to ZNE by 2030.
- 50 percent of new major renovations of State buildings will be ZNE by 2025.

[1] California Public Utilities Commission (CPUC). 2019. Renewables Portfolio Standard (RPS) Program. Website: https://www.cpuc.ca.gov/rps/ (accessed December 9, 2019).

4.5.3.3 Regional Regulations

There are no regional energy regulations that apply to the proposed project.

4.5.3.4 Local Regulations

Cypress Municipal Code. The City of Cypress (City) has adopted the 2019 California Green Building Standards Code (CALGreen Code) and incorporated the CALGreen Code by reference into the City Municipal Code (Chapter 5, Buildings, Article 1, Building Code, Section 5-1 California Building Codes – Adopted).

Cypress General Plan Conservation/Open Space/Recreation Element. The following goals and policies are applicable to the proposed project:

COSR-3: Conserve energy resources through the use of available technology and conservation practices.

COSR-3.1: Encourage innovative site planning and building designs that minimize energy consumption by taking advantage of sun/shade patterns, prevailing winds, landscaping, and building materials.

COSR-3.2: Encourage new development and existing structures to install energy saving features.

4.5.4 Thresholds of Significance

The thresholds for energy impacts used in this analysis are consistent with Appendix G of the *State CEQA Guidelines* and the City's *Initial Study/Environmental Checklist*. The proposed project may be deemed to have a significant impact with respect to energy if it would:

Threshold 4.5.1: Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Threshold 4.5.2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

4.5.5 Project Impacts

Threshold 4.5.1: Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact.

Construction. Construction of the proposed project is anticipated to last 20 months, and would require energy for activities such as the manufacture and transportation of building materials, demolition and grading activities, and building construction. Construction of the proposed project

would require electricity to power construction-related equipment. Construction of the proposed project would not involve the consumption of natural gas. The construction-related equipment would not be powered by natural gas, and no natural gas demand is anticipated during construction.

Transportation energy represents the largest energy use during construction and would occur from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction worker vehicles that would use petroleum fuels (e.g., diesel fuel and/or gasoline). Therefore, the analysis of energy use during construction focuses on fuel consumption. Construction trucks and vendor trucks hauling materials to and from the project site would be anticipated to use diesel fuel, whereas construction workers traveling to and from the project site would be anticipated to use gasoline-powered vehicles. Fuel consumption from transportation uses depends on the type and number of trips, VMT, the fuel efficiency of the vehicles, and travel mode.

As indicated in Table 4.5.A, the project would consume approximately 72,347 gallons of diesel fuel and approximately 162,160 gallons of gasoline during construction, which would increase the annual construction generated fuel use in Orange County by approximately 0.05 percent for diesel fuel usage and approximately 0.01 percent for gasoline fuel usage. As such, project construction would have a negligible effect on local and regional energy supplies. Furthermore, impacts related to energy use during construction would be temporary and relatively small in comparison to Orange County's overall use of the State's available energy sources. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the State.

Table 4.5.A: Proposed Project Energy Consumption Estimates

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Project Construction		
Diesel Fuel (total gallons)	72,347 gallons	0.05%
Gasoline (total gallons)	162,160 gallons	0.01%
Project Operation		
Electricity Consumption (kWh/year)	4,094,453 kWh	0.02%
Natural Gas Consumption (therms/year)	94,546 therms	0.04%
Automotive Fuel Consumption		
Gasoline (gallons/year)	407,128 gallons	0.03%
Diesel Fuel (gallons/year)	26,198 gallons	0.02%

Source: Compiled by LSA (December 2019).
kWh = kilowatt-hours

For these reasons, fuel consumption during construction would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature, and impacts would be less than significant. No mitigation is required.

Operation. Energy use consumed by the proposed project would be associated with natural gas use, electricity consumption, and fuel used for vehicle trips associated with the project. As shown in Table 4.5.A, the estimated potential increase in electricity demand associated with the operation of the proposed project is 4,094,543 kWh per year. Total electricity demand in Orange County in 2018

was approximately 19,858,000,000 kWh. Therefore, operation of the proposed project would increase the annual electricity consumption in Orange County by approximately 0.02 percent.

As shown in Table 4.5.A, the estimated potential increase in natural gas demand associated with the proposed project is 94,546 therms per year. Total natural gas consumption in Orange County in 2018 was 236,102,647 therms. Therefore, operation of the proposed project would negligibly increase the annual natural gas consumption in Orange County by approximately 0.04 percent.

Electrical and natural gas demand associated with project operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Furthermore, the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. The project would be required to adhere to all federal, State, and local requirements for energy efficiency, including the Title 24 standards. Title 24 building energy efficiency standards establish minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Compliance with Title 24 standards is required as identified in Regulatory Compliance Measure E-1, which would significantly reduce energy usage. Impacts are considered less than significant, and no mitigation is required.

The proposed project would also result in energy usage associated with gasoline and diesel fuel consumed by project-related vehicle trips. As shown in Table 4.5.A, fuel use associated with the vehicle trips generated by the proposed project is estimated at 407,128 gallons of gasoline and 26,198 gallons of diesel fuel per year. The amount of operational fuel use was estimated using CARB's EMFAC2017 model, which provided projections for typical daily fuel usage in Orange County. This analysis conservatively assumes that all vehicle trips generated as a result of project operation would be new to Orange County. Based on fuel consumption obtained from EMFAC2017, 160.5 million gallons of diesel and 1.3 billion gallons of gasoline were consumed from vehicle trips in Orange County in 2018. Therefore, operation of the proposed project would increase the annual gasoline and diesel fuel consumption in Orange County by approximately 0.03 percent and 0.2 percent, respectively. Fuel consumption associated with vehicle trips generated by project operations would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. The proposed project would increase internal trip capture between residential and retail segments through its mixed-use design. Additionally, the proposed project would facilitate transit use by providing a new dense, mixed-use development on an underutilized property along a major arterial street (Katella Avenue), which is already served by existing transit service. Furthermore, the project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Impacts are considered less than significant, and no mitigation is required.

Threshold 4.5.2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. In 2002, the Legislature passed SB 1389, which required the CEC to develop an integrated energy plan every two years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase

the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for ZEVs and their infrastructure needs, and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

The CEC recently adopted the *2017 Integrated Energy Policy Report*[1] and the *2018 Integrated Energy Policy Report Update.*[2] The Integrated Energy Policy Report provides the results of the CEC's assessments of a variety of energy issues facing California. The City of Cypress relies on the State integrated energy plan and does not have its own local plan to address renewable energy or energy efficiency.

As indicated above, energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the overall use in the County. In addition, energy usage associated with operation of the proposed project would be relatively small in comparison to the overall use in Orange County, and the State's available energy source. Therefore, energy impacts at the regional level would be negligible. Because California's energy conservation planning actions are conducted at a regional level, and because the proposed project's total impact on regional energy supplies would be minor, the proposed project would not conflict with or obstruct California's energy conservation plans as described in the CEC's Integrated Energy Policy Report. Additionally, as demonstrated above under Threshold 4.5.1, the proposed project would not result in the inefficient, wasteful, and unnecessary consumption of energy. Potential impacts related to conflict with or obstruction of a State or local plan for renewable energy or energy efficiency would be less than significant, and no mitigation is required.

4.5.6 Level of Significance Prior to Mitigation

Energy impacts related to the inefficient, wasteful, and unnecessary consumption of energy are considered less than significant, and no mitigation is required.

4.5.7 Regulatory Compliance Measures and Mitigation Measures

4.5.7.1 Regulatory Compliance Measures

The proposed project would comply with the following regulatory standard.

Regulatory Compliance Measure E-1 **California Code of Regulations (CCR), Title 24.** Prior to the issuance of building permits, the City of Cypress (City) Chief Building Official, or designee, shall confirm that the project design complies with the 2019 Building Energy Efficiency Standards (CCR Title 24) energy conservation and green building standards, as well as those listed in Part 11 (California Green Building Standards [CALGreen Code]). The City's Chief Building Official shall confirm that the project complies with the mandatory measures listed in the

1 CEC. 2017. *2017 Integrated Energy Policy Report.* Publication Number: CEC-100-2017-001-CMF.
2 CEC. 2018a. *2018 Integrated Energy Policy Report*. Publication Number: CEC-100-2018-001-V1.

CALGreen Code for residential and non-residential building construction.

4.5.7.2 Mitigation Measures

No mitigation is required for the proposed project.

4.5.8 Level of Significance after Mitigation

Construction and operational impacts related to energy use would be less than significant. No mitigation is required.

4.5.9 Cumulative Impacts

The geographic area for cumulative analysis of electricity is that of the SCE service area, while the geographic area for cumulative analysis of natural gas service is that of the SoCalGas service area. The proposed project would result in an increased services demand in electricity and natural gas. Although the proposed project would result in a net increase in demand for electricity, this increase would not require SCE to expand or construct infrastructure that could cause substantial environmental impacts. As discussed previously, the total annual electricity consumption in the SCE service area in 2017 was 84,291.6 GWh. By 2030, consumption is anticipated to increase by approximately 12,000 GWh for the low-demand scenario and by 22,000 GWh for the high-demand scenario.[1] While this forecast represents a large increase in electricity consumption, the proposed project's share of cumulative consumption would negligible. The proposed project, in combination with cumulative development, is well within SCE's system-wide net annual increase in electricity supplies over the 2018 to 2030 period, and there are sufficient planned electricity supplies in the region for estimated net increases in energy demands.

Similarly, additional natural gas infrastructure is not anticipated due to cumulative development. Total natural gas consumption in the SoCalGas service area in 2018 was 5,156.1 million therms. Between 2018 and 2035, total natural gas consumption in the SoCalGas service area is forecast to remain steady for the low- and mid-demand scenarios and to increase by approximately 650 million therms in the high-demand scenario due to intense energy efficiency efforts.[2] The proposed project's share of cumulative consumption of natural gas in the SoCalGas service area would be negligible. It is anticipated that SoCalGas would be able to meet the natural gas demand of the related projects without additional facilities. In addition, both SCE and SoCalGas demand forecasts include the growth contemplated by the proposed project and the related projects. Increased energy efficiency to comply with building energy efficiency standards will reduce energy consumption on a per-square-foot basis. Furthermore, utility companies are required to increase their renewable energy sources to meet the Renewable Portfolio Standards mandate of 60 percent renewable supplies by 2030. SCE and SoCalGas plan to continue to provide reliable service to their customers and upgrade their distribution systems as necessary to meet future demand.

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1 CEC. 2018b. California Energy Demand, 2018–2030 Revised Forecast. Publication Number: CEC-200-2018-002-CMF. February. Website: https://efiling.energy.ca.gov/getdocument.aspx?tn=223244 (accessed December 12, 2019).

2 Ibid.

Transportation energy use would also increase; however, this transportation energy use would not represent a major amount of energy use when compared to the amount of existing development and to the total number of vehicle trips and VMT throughout Orange County and the region. The proposed project and related projects are required to comply with various federal and State government legislation to improve energy efficiency in buildings, equipment, and appliances, and reduce VMT.

Compliance with Regulatory Compliance Measure E-1 would ensure that the proposed project does not result in an inefficient, wasteful, and unnecessary consumption of energy. Therefore, the proposed project's contribution to impacts related to the inefficient, wasteful, and unnecessary consumption of energy would not be cumulatively considerable, and no mitigation is required.