# 4.6 Energy

This section was prepared pursuant to CEQA Guidelines Section 15126 and Appendix F of the CEQA Guidelines, which require that EIRs include a discussion of the potential energy impacts of projects, with particular emphasis on considering if the proposed Plan would result in inefficient, wasteful, and unnecessary consumption of energy.

This section discusses the energy impacts of implementing transportation projects in the proposed Plan, as well as the energy-related consequences of land use decisions that are consistent with the proposed Plan. For an analysis of greenhouse gas (GHG) production and proposed Plan impacts on climate change, please see Section 4.9, *Greenhouse Gas Emissions/Climate Change*.

## 4.6.1 Setting

Energy relates directly to environmental quality. Energy use can adversely affect air quality and other natural resources. The vast majority of California's air pollution is caused by burning fossil fuels. Consumption of fossil fuels is linked to changes in global climate and depletion of stratospheric ozone. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes (auto, carpool, and public transit); vehicle speeds; and miles traveled by these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy. In addition, residential, commercial, and industrial land uses consume energy, typically through the usage of natural gas and electricity.

### a. Energy Supply and Infrastructure

California's major sources of energy production mix in 2015 included 48.9 percent crude oil, 31.6 percent renewable sources, 11.3 percent natural gas, and 8.2 percent nuclear (U.S. Energy Information Administration [EIA] 2017e). Other sources of energy produced in California include nuclear electric power, natural gas, and biofuel (EIA 2015). As shown in Table 15, natural gas production in 2015 was 41,349,378 thousand cubic feet (Mcf) in San Joaquin County (California Department of Conservation, Division of Oil, Gas, and Geothermal Resources [DOGGR] 2017a) from the region's 167 active wells (DOGGR 2017b), constituting approximately 18 percent of statewide natural gas production. 2015 is used as the year to cross examine energy production and consumption across the SJCOG region and the state of California as it is the most recent year for available information for all areas and resources and 2015 represents the baseline year for this EIR.

**Table 15 2015 SJCOG Oil and Natural Gas Production**

| Natural Resource | California | San Joaquin County | SJCOG Proportion of Statewide Production |
|---|---|---|---|
| Crude Oil (bbl) | 201,284,000 | 0 | 0% |
| Natural Gas (Mcf) | 231,060,000 | 41,349,378 | 17.8% |

Sources: California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) Well Search. 2017a; United States Energy Information Administration (EIA). 2015a.

Natural gas services within the Plan Area are provided entirely by Pacific Gas & Electric (PG&E). However, electricity providers in the Plan Area include PG&E, Modesto Irrigation District (MID), Lodi Electric Utility, and the Port of Stockton. The California Public Utilities Commission (CPUC) regulates privately owned electric and natural gas companies. The CPUC has developed energy efficiency programs such as smart meters, low income programs, distribution generation programs, self-

generation incentive programs, and a California solar initiative (CPUC 2017). Additionally, the CEC maintains a power plant data base that describes all of the operating power plants in the State by county. San Joaquin County contains 22 power plants generating electricity, of which nine are natural gas-fired, six are solar-powered, four are biomass-powered, two are wind-powered, and one is hydro-powered (CEC 2017e).

## Existing Transmission and Distribution Facilities

The components of transmission and distribution systems include the generating facility, switching yards and stations, primary substation, distribution substations, distribution transformers, various sized transmission lines, and the customers. The United States contains over a quarter million miles of transmission lines, most of them capable of handling voltages between 115 kilovolts (kv) and 345 kv, and a handful of systems of up to 500 kv and 765 kv capacity. Transmission lines are rated according to the amount of power they can carry, the product of the current (rate of flow), and the voltage (electrical pressure). Generally, transmission is more efficient at higher voltages.

Generating facilities, hydro-electric dams, and power plants usually produce electrical energy at fairly low voltages, which is increased by transformers in substations. From there, the energy proceeds through switching facilities to the transmission lines. At various points in the system, the energy is "stepped down" to lower voltages for distribution to customers. Power lines are either high voltage (115, 230, 500, and 765 kv) transmission lines or low voltage (12, 24, and 60 kv) distribution lines.

Overhead transmission lines consist of the wires carrying the electrical energy (conductors), insulators, support towers, and grounded wires to protect the lines from lightening (called shield wires). Towers must meet the structural requirements of the system in several ways. They must be able to support both the electrical wires, the conductors, and the shield wires under varying weather conditions, including wind and ice loading, as well as a possible unbalanced pull caused by one or two wires breaking on one side of a tower. Every mile or so, a "dead-end" tower must be able to take the strain resulting if all the wires on one side of a tower break. Every change in direction requires a special tower design. In addition, the number of towers required per mile varies depending on the electrical standards, weather conditions, and the terrain. All towers must have appropriate foundations and be available at a fairly regular spacing along a continuous route accessible for both construction and maintenance.

A right-of-way is a fundamental requirement for all transmission lines. A right-of-way must be kept clear of vegetation that could obstruct the lines or towers by falling limbs or interfering with the sag or wind sway of the overhead lines. If necessary, land acquisition and maintenance requirements can be substantial. The dimensions of a right-of-way depends on the voltage and number of circuits carried and the tower design. Typically, transmission line rights-of-way range from 100 to 300 feet in width.

The electric power supply grid within San Joaquin County is part of a larger supply network operated and maintained by PG&E that encompasses the entire northern California region. This system ties into yet a larger grid known as the California Power Pool that connects with the San Diego Gas and Electric and Southern California Edison Companies. These companies coordinate the development and operation, as well as purchase, sale, and exchange of power throughout the State of California.

Within San Joaquin County, PG&E owns most of the transmission and distribution facilities, except for those owned and maintained by Lodi Electric, MID, and the Port of Stockton. Two major 500

megawatt (MW) transmission lines pass through the county, connecting San Joaquin County to the national power grid, allowing the wheeling of power to locations where power is in demand.

## b. Energy Consumption and Sources

Total energy consumption in the U.S. in 2015 was estimated at approximately 97,251 trillion Btu (EIA 2015b). In 2015, petroleum provided approximately 36.7 percent of the energy used in in the U.S. (EIA 2015c). In the same year, coal provided approximately 15.98 percent of energy consumed, natural gas provided approximately 28.9 percent, nuclear energy provided approximately 8.5 percent, and total renewable sources supplied the rest at approximately 9.5 percent (EIA 2015c). On a per capita basis, California is ranked third lowest of the states in terms of energy use (197 million Btu per person), or about 43.5 percent less than the U.S.'s average per capita consumption of 348.7 million Btu per person (EIA 2017a).

### Electricity and Natural Gas

In 2015, California produced 69 percent of the electricity it used. The remainder was imported from outside the state. In that year, California used 282,896.3 gigawatt hours (GWh) of electricity (California Energy Commission [CEC] 2017a), or approximately 965 trillion Btu, while a total of 196,194 GWh was produced in-state (CEC 2017b). Additionally, Californians consumed an estimated 24,505.5 million U.S. Therms, or approximately 2,278 trillion Btu of natural gas in 2015 (CEC 2017c). Table 16 illustrates the electricity and natural gas consumption in 2015 for the Plan Area.

**Table 16 2015 SJCOG Electricity and Natural Gas Consumption**

| | Annual Consumption[1] | Proportion of Statewide Consumption | Annual Btu Equivalent (millions of Btu) | Per Capita Annual Consumption (millions of Btu) |
|---|---|---|---|---|
| Electricity | 5,166.7 | 1.8% | 965,242,175.6 | 1,334.1 |
| Natural Gas | 192.9 | 0.8% | 17,934,684.6 | 24.7 |
| Total | n/a | n/a | 983,176,860.2 | 1,358.8 |

[1] Electricity consumption is quantified in Millions of Kilowatt-Hours (GWh), whereas natural gas is quantified in Millions of Btu.

Note: The per capita consumption for natural gas and electricity are determined by using 2015 data from the CEC for overall county-wide consumption and divided by the 2015 county population retrieved from the United States Census Bureau database.

Sources: CEC 2017b; CEC 2017c; U.S. Census Bureau 2017; Schremp 2017

As shown in Table 16, the Plan Area accounted for approximately 1.8 percent of the State's electricity consumption and 0.8 percent of the State's natural gas consumption in 2015 (CEC 2017b; CEC 2017c; U.S. Census Bureau 2016). With a 2015 population of 723,496 (U.S. Census Bureau 2016), the Plan Area consumed approximately 7,140 kilowatt-hours (kWh) of electricity and 265 therms (thm) of natural gas per capita, or approximately 1,358.8 million Btu per capita.

### Petroleum

Petroleum fuels in the Plan Area are generally purchased by individual users such as residents and employees. While no petroleum refineries are located within the Plan Area, a local network of gas transmission and hazardous liquid pipelines exists in the Plan Area. According to the United States Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA), San Joaquin County contains approximately 325 miles of natural gas transmission pipelines and 140 miles of hazardous liquid pipelines (PHMSA 2017).

Energy consumed by the transportation sector accounts for roughly 39.3 percent of California's energy demand, amounting to approximately 3,017 trillion Btu in 2015 (EIA 2017g). California's transportation sector, including on-road and rail transportation, consumed roughly 558,115,000 bbl of petroleum fuels in 2015 (EIA 2017h). Furthermore, petroleum-based fuels are used for approximately 98.5 percent of the State's transportation activity (EIA 2017h). Most gasoline and diesel fuel sold in California for motor vehicles is refined in California to meet state-specific formulations required by the California Air Resources Board (CARB). Major petroleum refineries in California are concentrated in three counties: Contra Costa, Kern, and Los Angeles (CEC 2016).

As stated in Section 4.14, *Transportation and Circulation*, approximately 6.5 billion vehicle miles were traveled within the SJCOG region in 2015. This equates to approximately 17.9 million VMT per day. Table 17 illustrates the daily and annual VMT for the SJCOG region in 2015.

**Table 17 2015 Daily and Annual VMT for the SJCOG Region**

| Full Fleet | Daily VMT | Annual VMT |
|---|---|---|
| SJCOG Total | 17,868,785 | 6,522,106,729 |

Source: SJCOG 2018

As illustrated in Table 17, daily vehicle miles travelled (VMT) within the SJCOG region were estimated at approximately 17.9 million in 2015. Based on estimated gasoline and diesel consumption derived from fuel sales in the region for 2015, approximately 163 billion Btu were consumed per day in 2015, as shown in Table 18.

**Table 18 2015 Fuel Consumption in the SJCOG region**

| | 2015 Fuel Consumption (millions of gallons) | 2015 Annual Fuel Use (billion Btu) | 2015 Daily Energy Use (billion Btu) | 2015 Daily Per Capita Energy Use (thousand Btu) |
|---|---|---|---|---|
| Gasoline | 276.36 | 30,340.45 | 83.12 | 114.88 |
| Diesel | 235.00 | 29,953.10 | 80.06 | 100.65 |
| Total | 511.36 | 60,293.55 | 163.18 | 215.53 |

Note: Total fuel consumption was determined from data provided by CEC technical staff (Schremp 2017). Fuel use in terms of Btu was determined by applying the appropriate energy consumption factors, as provided by CEC technical staff (Schremp 2017). The per capita consumption for fuel was determined by the applying the 2015 San Joaquin County population retrieved from the United States Census Bureau database.

Note: Totals may not add up due to rounding.

Sources: Schremp 2017; United States Census Bureau 2016

## Alternative Fuels

A variety of alternative fuels are used to reduce petroleum-based fuel demand. The use of these fuels is encouraged through various statewide regulations and plans (e.g. Low Carbon Fuel Standard and SB 32). Conventional gasoline and diesel may be replaced, depending on the capability of the vehicle, with many transportation fuels including the following:

### *Hydrogen*

Hydrogen is being explored for use in combustion engines and fuel cell electric vehicles. The interest in hydrogen as an alternative transportation fuel stems from its clean-burning qualities, its potential for domestic production, and the fuel cell vehicle's potential for high efficiency (two to three times

more efficient than gasoline vehicles). Currently, 34 hydrogen refueling stations are located in California; however, none are located in the SJCOG region (U.S. Department of Energy [DOE] 2017).

#### *Biodiesel*

Biodiesel is a renewable alternative fuel that can be manufactured from vegetable oils, animal fats, or recycled restaurant greases. Biodiesel is biodegradable and cleaner-burning than petroleum-based diesel fuel. Biodiesel can run in any diesel engine generally without alterations, but fueling stations have been slow to make it available. There are currently 10 biodiesel refueling stations in California, one of which is located in Lodi at 1126 East Pine Street (DOE 2017).

#### *Electricity*

Electricity can be used to power electric and plug-in hybrid electric vehicles directly from the power grid. Electricity used to power vehicles is generally provided by the electricity grid and stored in the vehicle's batteries. Fuel cells are being explored as a way to use electricity generated on board the vehicle to power electric motors. There are currently 32 located in San Joaquin County (DOE 2017).

## c. Regulatory Setting

Programs and policies at the State and national levels have emerged to bolster the previous trend towards energy efficiency, as discussed below.

### Federal

#### *Energy Policy Conservation Act (EPCA) and CAFE Standards*

The EPCA of 1975 established nationwide fuel economy standards in order to conserve oil. Pursuant to this Act, the National Highway Traffic and Safety Administration, part of the U.S. Department of Transportation, is responsible for revising existing fuel economy standards and establishing new vehicle fuel economy standards.

The Corporate Average Fuel Economy (CAFE) program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Compliance with CAFE standards is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States.

#### *National Energy Policy Act of 1992 (EPACT92)*

EPACT92 calls for programs that promote efficiency and the use of alternative fuels. EPACT92 requires certain federal, state, and local government and private fleets to purchase a percentage of light duty alternative fuel vehicles (AFVs) capable of running on alternative fuels each year. In addition, EPACT92 has financial incentives. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

#### *Energy Policy Act of 2005*

The Energy Policy Act of 2005 provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

### *Energy Independence and Security Act of 2007 (EISA)*

EISA is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It expands the production of renewable fuels, reducing dependence on oil, and confronting global climate change. Specifically, it:

- Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels; and
- Reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020 – an increase in fuel economy standards of 40 percent.

### *Clean Cities Program*

The U.S. Department of Energy's (DOE) Clean Cities Program promotes voluntary, locally based government/industry partnerships for the purpose of expanding the use of alternatives to gasoline and diesel fuel by accelerating the deployment of AFVs and building local AFV refueling infrastructure. The mission of the Clean Cities Program is to advance the nation's economic, environmental and energy security by supporting local decisions to adopt practices that contribute to the reduction of petroleum consumption. The Clean Cities Program carries out this mission through a network of more than 80 volunteer coalitions, which develop public/private partnerships to promote alternative fuels and vehicles, fuel blends, fuel economy, hybrid vehicles, and idle reduction.

## State

### *Warren-Alquist Act*

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as CEC. The Act established a State policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The CPUC regulates privately-owned utilities in the energy, rail, telecommunications, and water fields.

### *California Energy Plan*

CEC is responsible for preparing the California Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The current (2008) California Energy 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 and addressing their infrastructure needs; and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

### *Assembly Bill 2076: Reducing Dependence on Petroleum*

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), CEC and CARB prepared and adopted in 2003 a joint agency report, *Reducing California's Petroleum Dependence*. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of

motor vehicles, and reduce per capita VMT. Further, in response to the CEC's 2003 and 2005 *Integrated Energy Policy Reports*, the governor directed CEC to take the lead in developing a long-term plan to increase alternative fuel use.

A performance-based goal of AB 2076 was to reduce petroleum demand to 15 percent below 2003 demand.

### *Integrated Energy Policy Report (IEPR)*

Senate Bill (SB) 1389 (Chapter 568, Statutes of 2002) required CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The CEC shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety.

CEC adopts an IEPR every two years and an update every other year. The 2017 IEPR provides a summary of priority energy issues currently facing the State, outlining strategies and recommendations to further the State's goal of ensuring reliable, affordable, and environmentally responsible energy sources. Energy topics covered in the report include electricity resource and supply plans; electricity and natural gas demand forecasts; natural gas outlooks; transportation energy demand forecasts; energy efficiency savings; integrated resource planning; a barriers study; climate adaptation and resilience; renewable gas; southern California energy reliability; distributed energy resources; strategic transmission investment plans; and existing power plan reliability issues.

### *Senate Bill 1078: California Renewables Portfolio Standard Program.*

SB 1078 (Chapter 516, Statutes of 2002), as expanded under SB 2, establishes a renewable portfolio standard (RPS) for electricity supply. The RPS requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 20 percent of their supply from renewable sources by 2017. SB 2 expanded this law and required procurement from eligible renewable energy resources to 33 percent by 2020. In addition, electricity providers subject to the RPS must increase their renewable share by at least one percent each year. The outcomes of this legislation will impact regional transportation powered by electricity.

### *Senate Bill X1-2: California Renewable Energy Portfolio Standard*

In 2011, Governor Brown signed SB X1-2, which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 33 percent of their electricity supply (portfolio) from renewable sources by 2020. CPUC and CEC jointly implement the Statewide RPS program through rulemakings and monitoring the activities of electric energy utilities in the state.

### *Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015*

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030. This act also requires doubling of the energy efficiency savings in electricity and natural gas for retail customers, through energy efficiency and conservation by December 31, 2030.

### *Assembly Bill 1493: Reduction of Greenhouse Gas Emissions*

AB 1493 (Chapter 200, Statutes of 2002), known as the "Pavley bill," amended Health and Safety Code sections 42823 and 43018.5 requiring CARB to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles, light-duty trucks, and other vehicles used for noncommercial personal transportation in California.

Implementation of new regulations prescribed by AB 1493 required that the State of California apply for a waiver under the federal Clean Air Act. Although EPA initially denied the waiver in 2008, EPA approved a waiver in June 2009, and in September 2009, CARB approved amendments to its initially adopted regulations to apply the Pavley standards that reduce GHG emissions to new passenger vehicles in model years 2009 through 2016. According to CARB, implementation of the Pavley regulations is expected to reduce fuel consumption while also reducing GHG emissions (CARB 2017a).

### *Energy Action Plan*

The first Energy Action Plan (EAP) emerged in 2003 from a crisis atmosphere in California's energy markets. The state's three major energy policy agencies (CPUC, CEC, and the Consumer Power and Conservation Financing Authority [established under deregulation and now defunct]) came together to develop one high-level, coherent approach to meeting California's electricity and natural gas needs. It was the first time that energy policy agencies formally collaborated to define a common vision and set of strategies to address California's future energy needs and emphasize the importance of the impacts of energy policy on the California environment.

In the October 2005 *Energy Action Plan II*, CEC and CPUC updated their energy policy vision by adding some important dimensions to the policy areas included in the original EAP, such as the emerging importance of climate change, transportation-related energy issues and research and development activities. CEC adopted an update to the EAP II in February 2008 that supplements the earlier EAPs and examines the State's ongoing actions in the context of global climate change.

### *Assembly Bill 1007: State Alternative Fuels Plan*

AB 1007 (Chapter 371, Statutes of 2005) required CEC to prepare a State plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan (SAF Plan) in partnership with the ARB and in consultation with other State, federal, and local agencies. The SAF Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The SAF Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

### *Bioenergy Action Plan, Executive Order #S-06-06*

Executive Order (EO) S-06-06, April 25, 2006, establishes targets for the use and production of biofuels and biopower, and directs State agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. EO S-06-06 also calls for the State

to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies those barriers and recommends actions to address them so that the State can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 Plan and provides a more detailed action plan to achieve the following goals:

- Increase environmentally and economically sustainable energy production from organic waste;
- Encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications;
- Create jobs and stimulate economic development, especially in rural regions of the state; and
- Reduce fire danger, improve air and water quality, and reduce waste.

### *Title 24, California Code of Regulations*

California Code of Regulations, Title 24, Part 6, is California's Energy Efficiency Standards for Residential and Non-residential Buildings. Title 24 was established by CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, and provide energy efficiency standards for residential and nonresidential buildings. The standards are updated on an approximately three-year cycle to allow consideration and possible incorporation of new efficient technologies and methods. In 2016, CEC updated Title 24 standards with more stringent requirements effective January 1, 2017. All buildings for which an application for a building permit is submitted on or after January 1, 2017 must follow the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The CEC Impact Analysis for California's 2016 Building Energy Efficiency Standards estimates that the 2016 Standards are 28 percent more efficient than the previous 2013 standards for residential buildings and 5 percent more efficient for non-residential buildings. The building efficiency standards are enforced through the local plan check and building permit process. Local government agencies may adopt and enforce additional energy standards for new buildings as reasonably necessary due to local climatologic, geologic, or topographic conditions, provided that these standards exceed those provided in Title 24.

### *California Green Building Standards Code (2016), California Code of Regulations Title 24, Part 11*

California's green building code, referred to as CalGreen, was developed to provide a consistent approach to green building within the State. Having taken effect in January 2016, the most recent version of the Code lays out the minimum requirements for newly constructed residential and nonresidential buildings to reduce GHG emissions through improved efficiency and process improvements. It also includes voluntary tiers to further encourage building practices that improve public health, safety and general welfare by promoting a more sustainable design.

### *Western Electricity Coordinating Council and the North American Electric Reliability Council*

The Western Electricity Coordinating Council (WECC) is a voluntary consortium of electrical power providers that is responsible for coordinating and promoting electricity reliability from the Canadian provinces of Alberta and British Columbia in the north of its jurisdiction to the northern Mexican State of Baja California in the south of its jurisdiction, and the 14 western states of the Unites States

(WECC 2015). Both the Modesto Irrigation District (MID) and Pacific Gas & Electric (PG&E) are member organizations of the WECC. The WECC has implemented Standard BAL-STD-002-0 to require reliable operation of the power system while ensuring adequate generating capacity at all times. The WECC Standard BAL-STD-002-0 requires its providers to:

- Supply requirements for load variations;
- Replace generating capacity and energy lost due to forced outages of generation or transmission equipment;
- Meet on-demand obligations; and
- Replace energy lost due to curtailment of interruptible imports.

### *2016 California Gas Report*

The 2016 California Gas Report presents a comprehensive outlook for natural gas requirements and supplies for California through the year 2035. This report is prepared in even-numbered years, followed by a supplemental report in odd-numbered years, in compliance with California PUC Decision D.95-01-039. The below projections in the California Gas Report are for long-term planning and do not necessarily reflect the day-to-day operational plans of the utilities.

California natural gas demand, including volumes not served by utility systems, is expected to decrease at a rate of 1.4 percent per year from 2016 to 2035. The forecast decline is due to a combination of moderate growth in the Natural Gas Vehicle (NGV) market and across-the-board declines in all other market segments: residential, commercial, electric generation, and industrial markets.

Residential gas demand is expected to decrease at an annual average rate of 0.5 percent. Demand in the commercial market is expected to decline at an annual rate of 1.0 percent, and demand in the industrial market (non-refinery) is expected to decrease at an annual rate of 1.7 percent. Aggressive energy efficiency programs make a significant impact in managing growth in the residential, commercial, and industrial markets. Gas demand in the refinery industrial market sector is forecast to decline approximately 0.34 percent per year.

## Local

### *County Energy Conservation Strategies*

The following County energy conservation strategies have been described and incorporated in the Gap Analysis of the County's 2035 General Plan:

- **Energy Strategy 1: Renewable Energy/PACE Program.** The County shall develop and implement an incentive program to encourage the installation of solar hot water heaters and solar PV on existing and new developments. The County shall establish a Property Assessed Clean Energy (PACE) (AB 811) program and for residential and commercial energy efficiency retrofit projects.
- **Energy Strategy 2: Participation in PG&E Renewable Energy**. The County shall participate in PG&E's Renewable Energy programs.
- **Transportation Strategy 1: Complete Streets**. The County shall encourage the development of complete streets.
- **Water and Wastewater Strategy 1: Water Conservation**. The County shall achieve a 20 percent reduction in water and wastewater in 2020.

- **Agriculture Strategy 1: Agricultural Equipment and Emissions**. The County shall implement the following measures pertaining to agricultural equipment and fuel efficiency:
  - Support SJVAPCD programs to fund equipment upgrades, retrofits, and replacement through the Carl Moyer heavy-duty vehicle and equipment program or other funding mechanisms (e.g., Rule 9510).
  - Work with SJVAPCD and stakeholders to identify practical and feasible options for fuel-efficient agricultural equipment.
  - Work with agricultural organizations and stakeholders to provide workshops and presentations and outreach materials focused on promoting fuel efficient farm equipment and operations and encourage participation in the Carl Moyer incentive program.
- **Agriculture Strategy 4: Agricultural Energy Use**. The County shall work with agricultural organizations, irrigation districts, and stakeholders to develop an outreach and incentives program (e.g., rebate opportunities, waive permit fees, registration amnesty program) to encourage farmers to improve the efficiency of irrigation pumps.

## 4.6.2 Impact Analysis

### a. Methodology and Significance Thresholds

The following thresholds of significance were developed in accordance with Appendix F of the *CEQA Guidelines*, as well as based on the proposed 2018 RTP/SCS. The following Standards were used to evaluate the potential for energy impacts that may result from implementation of the 2018 RTP/SCS:

1. Result in an increase in overall per capita energy consumption relative to baseline conditions, or otherwise use energy in an inefficient, wasteful, or unnecessary manner;
2. Result in an increased reliance on fossil fuels and decreased reliance on renewable energy sources; and/or
3. Require or result in the construction of new energy facilities or the expansion of such facilities to adequately meet projected demands, the construction of which could cause a significant environmental effect.

### Direct and Indirect Energy Consumption

For this analysis, the calculation of total energy consumption follows the Input-Output methodology suggested by Caltrans (Caltrans Division of Engineering Services, Office of Transportation Laboratory, Energy and Transportation Systems, July 1983). It should be noted that the Caltrans methodology provides for the calculation of the cumulative energy consumption. Not only does the methodology include energy consumption that would be due solely to the construction of 2018 RTP/SCS projects, it also includes energy consumption that is not due to the 2018 RTP/SCS, but rather is due to socioeconomic growth (e.g., population and employment), land use policies, and the existing transportation infrastructure.

Energy consumption from transportation projects is categorized in terms of “direct” and “indirect” energy. Direct energy is the fuel that propels vehicles – it is consumed directly by the automobile, bus, or transit vehicle. Indirect energy is the energy needed to construct, operate, and maintain the roadway and rail system and manufacture and maintain the vehicles using the roadway and rail system (Caltrans 1983). Indirect energy accounts for construction-related energy (e.g., the energy

required to construct transportation improvements), which is anticipated to be consumed through the life of the plan as several transportation improvement projects may be undertaken concurrently, and is therefore characterized as a long-term, operational energy use. Indirect energy also accounts for the maintenance of a roadway over the life of a project, which is also considered a long-term, operational energy use.

### *Direct Energy Consumption*

Direct energy is that energy used in the daily operation of the transportation system, including the propulsion of passenger vehicles (automobiles, vans and trucks) and transit vehicles, including buses and trains. The direct energy analysis for the project is based on baseline (2015) and 2042 VMT with and without the 2018 RTP/SCS (as analyzed in Section 4.14, *Transportation and Circulation*).

The 2015 gasoline and diesel fuel consumption data for San Joaquin County was converted to Btu (refer to Table 18) and divided by region-wide daily VMT (refer to Table 17) to derive a regional Btu/VMT conversion factor of 9,132 Btu per VMT.

It should be noted that the Btu/VMT factor is forecast to continue to decrease into the future as a result of improved fuel economy, particularly if the fleet-wide goal of 35 mpg by year 2020 proposed under the Energy Independence and Security Act is met. Applying the 2015-based factor to 2018 RTP/SCS horizon year (2042) VMT therefore provides a conservative evaluation of energy consumption, as the energy efficiency of vehicles in 2042 is likely to be higher than the current fuel efficiency of vehicles.

### *Indirect Energy Consumption*

Indirect energy is the energy required to construct, operate, and maintain the transportation network, as well as to manufacture and maintain on-road vehicles and transit vehicles. Therefore, construction-related impacts associated with the 2018 RTP/SCS are included in the indirect energy analysis. The indirect energy analysis was conducted using the Input-Output methodology developed by Caltrans (1983). This method converts VMT, lanes miles, or construction dollars into energy consumption based on data from other transportation projects in the United States. Table 19 shows the indirect energy consumption factors used in this analysis. It should be noted that indirect energy consumption due to production of fuel and transportation/transmission to the end users is not included in this analysis, as any such analysis would be speculative.

**Table 19 Indirect Energy Consumption Factors**

| Mode | Factor (Btu/VMT) |
|---|---|
| **Manufacturing** | |
| Passenger Vehicles | 1,410 |
| Transit Buses | 3,470 |
| Roadway (Construction) | 27,300 |
| Rail (Construction) | 2,108 |
| **Maintenance** | |
| Passenger Vehicles | 1,400 |
| Transit Buses | 13,142 |
| Rail | 7,060 |

Source: Caltrans 1983

## b. Project Impacts and Mitigation Measures

This section describes generalized impacts associated with the 2018 RTP/SCS. Due to the programmatic nature of the 2018 RTP/SCS, a precise, project-level analysis of the specific impacts associated with individual transportation and land use projects is not possible at this time. In general, implementation of proposed transportation improvements and future projects under the land use scenario envisioned by the 2018 RTP/SCS could result in impacts as described in the following sections.

| | |
|---|---|
| **Threshold 1:** | Result in an increase in overall per capita energy consumption relative to baseline conditions, or otherwise use energy in an inefficient, wasteful, or unnecessary manner |
| **Threshold 2:** | Result in an increased reliance on fossil fuels and decreased reliance on renewable energy sources |

**IMPACT E-1 FUTURE TRANSPORTATION IMPROVEMENT PROJECTS AND IMPLEMENTATION OF THE LAND USE SCENARIO ENVISIONED BY THE 2018 RTP/SCS WOULD INCREASE DEMAND FOR ENERGY BEYOND EXISTING CONDITIONS. HOWEVER, THE 2018 RTP/SCS WOULD NOT RESULT IN INEFFICIENT, UNNECESSARY, OR WASTEFUL DIRECT OR INDIRECT CONSUMPTION OF ENERGY, AND WOULD BE CONSISTENT WITH APPLICABLE FEDERAL, STATE, AND LOCAL ENERGY CONSERVATION POLICIES. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

Daily operation of the regional transportation system uses energy in the form of fuel consumed by propulsion of passenger vehicles (automobiles, vans, and trucks) and transit vehicles (buses and trains). Some highway and roadway improvements included in the 2018 RTP/SCS would increase vehicle capacity, allowing a greater number of vehicles to use facilities in the region. Other improvement projects involve the increase in amount of rail cars in the region. However, increasing capacity and improving roadways and intersections does not necessarily result in an increase in motor vehicle trips. Increases in motor vehicle trips are primarily a combined function of population and employment growth. It should be noted that population growth and growth in VMT would occur within the region regardless of whether the 2018 RTP/SCS is implemented. As a result, energy consumption as it relates to vehicles would increase beyond the 2015 baseline in any scenario. However, many 2018 RTP/SCS projects (e.g., bikeway and pedestrian projects, rail projects, transit projects, active transportation projects, transportation control improvements, etc.) would improve the availability of alternative transportation modes, and help reduce congestion and resultant air pollutants in the SJCOG region.

Construction and maintenance of the proposed 2018 RTP/SCS projects would result in short-term consumption of energy resulting from the use of construction equipment and processes. In addition, roadway and transit construction materials, such as asphalt, concrete, surface treatments, steel, rail ballast, as well as building materials, require energy to be produced, and would likely be used in projects that involve new construction or replacement of older materials, as well as construction of future infill and transit oriented development (TOD) projects envisioned by the 2018 RTP/SCS. The California Green Building Standards Code (CalGreen) includes specific requirements related to recycling, diversion rates, construction materials, and energy efficiency standards, which would apply to construction of roadway and transit improvement projects, as well as future infill and TOD envisioned by the 2018 RTP/SCS and would help to minimize waste and energy consumption. All construction and maintenance conducted pursuant to the 2018 RTP/SCS, or as a result of operational improvements made by the 2018 RTP/SCS, would be required to comply with CalGreen.

Table 20 shows the VMT and estimated fuel consumption translated into energy use (Btu) in the SJCOG region under existing (2015) conditions and the 2018 RTP/SCS, as well as the "no build" scenario.

**Table 20 Direct and Indirect Transportation Energy Use**

| Year | Daily VMT | Direct Daily Energy Use (Billion Btu) | Indirect Energy Use (Daily Billion Btu) | Total Energy Use (Daily Billion Btu) | Per Capita Energy Use (Daily Thousand Btu) |
|---|---|---|---|---|---|
| Baseline (2015) | 17,868,785 | 163.18 | 53.66 | 216.84 | 299.71 |
| 2018 RTP/SCS | 23,276,601 | 212.56 | 69.90 | 282.46 | 268.95 |
| "No Build" 2042 Scenario | 22,886,360 | 209.00 | 68.73 | 277.73 | 264.45 |

Notes: Daily VMT and Btu/VMT used to identify direct daily energy use utilizes information found in Table 17 and Table 18. Indirect energy use utilizes Daily VMT data from Table 17 and applies the energy consumption rates found in Caltrans' *Energy and Transportation Systems* (1983). Per capita results are identified by adding the direct and indirect energy use for each scenario and dividing by the 2015 population (723,496) (U.S. Census Bureau 2017) and the forecasted 2042 population (1,050,218) (SJCOG 2018).

Sources: California Department of Transportation (Caltrans). July 1983. *Energy and Transportation Systems*. http://www.oregon.gov/ODOT/GeoEnvironmental/Docs_Environmental/Energy_Trans_Systems.pdf.

As shown in Table 20, region-wide VMT and total energy use would increase over time as the result of regional socioeconomic (population and employment) growth. However, the 2018 RTP/SCS would result in an approximately 10 percent decrease in per capita energy usage when compared to baseline conditions.

## Transportation Improvement Projects

The transportation improvements proposed under the 2018 RTP/SCS would result in a more efficient transit system. The 2018 RTP/SCS would result in greater availability of public transit and other alternative modes of transportation, such as Complete Streets and active transportation. For instance, the widening of Airport Way from four to six lanes between State Route 120 and Lathrop Road would help reduce idle time and provide congestion relief for traffic along this corridor. The reduction in overall congestion resulting from these service level improvements would reduce fuel consumption and promote fuel efficiency beyond what can be quantified in the above analysis.

New transportation facilities that require energy for operation, such as signal lighting; roadway, pedestrian, or parking lot lighting; and electronic equipment, would contribute to an increase in energy demand. New landscaping irrigation also increases energy demand through water pumping and treatment. However, energy consumption is not anticipated to be unnecessary or wasteful, as all lighting, signage, and irrigation systems would comply with applicable energy efficiency requirements within the California Building Code.

## Land Use Changes

The 2018 RTP/SCS envisions a regional land use scenario that promotes mixed-use and infill development in existing commercial corridors in combination with high-quality transit service and improved bicycle and pedestrian infrastructure. Mixed-use and infill projects would help reduce VMT and energy use because they would locate people closer to existing goods and services, thereby resulting in shorter vehicle trips and/or promoting walking or biking, and they would locate people closer to existing transportation hubs, thereby encouraging the use of alternative modes of

transit (e.g., buses) and resulting in fewer vehicle trips. Operation of future infill projects would increase overall demand for energy beyond existing demand; however, such development would not require unusual, unnecessary, or wasteful amounts of energy. Future mixed-use and infill projects are anticipated to be constructed using standard building practices. These projects would also be subject to CalGreen and Title 24 of the California Energy Code, which set forth specific energy efficiency requirements related to design, construction methods and materials.

## Consistency with Energy Conservation Policies

As previously discussed, the 2018 RTP/SCS would result in an approximately 10 percent decrease in per capita energy use in the region and would not result in energy used in an unnecessary or wasteful manner. Although implementation of the 2018 RTP/SCS would result in greater net energy consumption than 2015 baseline conditions, the 2018 RTP/SCS would not result in the inefficient, wasteful, or unnecessary consumption of energy if it is consistent with existing relevant energy conservation policies. Accordingly, inconsistencies between the 2018 RTP/SCS and adopted plans and policies related to energy conservation have not been identified. The discussion below further examines consistency with adopted plans and policies related to energy conservation.

SJCOG monitors regulations related to fuel efficiency standards and alternative fuel vehicles. The 2018 RTP/SCS would not conflict with such regulations (e.g., *Energy Policy and Conservation Act* and *CAFE Standards*, *EPAct*, *Energy Independence and Security Act of 2007*, *AB 1493: Reduction of Greenhouse Gas Emissions*, *AB 1007: State Alternative Fuels Plan*).

The 1975 *Warren-Alquist Act* established the California Energy Resource Conservation and Development Commission, now known as the California Energy Commission (CEC), and established a State policy to reduce wasteful, uneconomical, and unnecessary uses of energy. Based on the data above, and explained in the conclusion below, the 2018 RTP/SCS would not result in wasteful, inefficient, or unnecessary use of energy. Therefore, the 2018 RTP/SCS is consistent with the *Warren-Alquist Act*.

Senate Bill (SB) 1078, as accelerated by Executive Order S014-08, establishes a renewable portfolio standard for electricity supply, and requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 33 percent of their supply from renewable sources by 2020. In addition, the California Energy Action Plan (most recently updated in February 2008) includes a set of strategies to address California's future energy needs, including policy areas such as climate change, transportation-related energy issues, and research and development activities. The proposed 2018 RTP/SCS would not conflict with these policies. Refer to Section 4.8, *Greenhouse Gas Emissions/Climate Change,* for a discussion of greenhouse gas emissions reductions related to the proposed 2018 RTP/SCS.

As discussed in Section 2.0, *Project Description*, and consistent with the requirements of SB 375, SJCOG has the responsibility to prepare a Sustainable Communities Strategy (SCS) as part of the RTP. SB 375 requires each MPO to demonstrate, through the development of an SCS, how its region will integrate transportation, housing, and land use planning to meet the GHG reduction targets set by the State. In addition to creating requirements for MPOs, it also creates requirements for the California Transportation Commission (CTC) and the California Air Resources Board (CARB). Some of the requirements include the following:

- The California Transportation Commission (CTC) must maintain guidelines for the travel demand models Metropolitan Planning Organizations (MPO) develop for use in the preparation of their MTPs.

- California Air Resources Board (CARB) must develop regional GHG emission reduction targets for automobiles and light trucks for 2020 and 2035.
- Each MPO must prepare an SCS as part of its MTP to demonstrate how it will meet the regional GHG targets.
- Each MPO must adopt a public participation plan for development of the SCS that includes informational meetings, workshops, public hearings, consultation, and other outreach efforts.
- If an SCS cannot achieve the regional GHG target, the MPO must prepare an Alternative Planning Strategy (APS) showing how it would achieve the targets with alternative development patterns, infrastructure, or transportation measures and policies.
- Each MPO must prepare and circulate a draft SCS at least 55 days before it adopts a final MTP.
- After adoption, each MPO must submit its SCS to the CARB for review.
- CARB must review each SCS to determine whether or not, if implemented, it would meet the GHG targets. CARB must complete its review within 60 days.

The proposed 2018 RTP/SCS complies with these requirements and would not conflict with the *CTC Guidelines*.

SB 375 directed CARB to establish regional on-road GHG per capita emissions reduction targets from light-duty trucks and passenger vehicles for 2020 and 2035. For the SJCOG region, the targets set by CARB are "not to exceed 2005 emissions levels" by 2020 and a ten percent reduction by 2035. Implementation of the 2018 RTP/SCS will help the region achieve its SB 375 and AB 32 GHG emissions reduction targets; thus, the 2018 RTP/SCS is consistent with the requirements of SB 375, as well as AB 32.

In addition, many 2018 RTP/SCS projects promote energy efficiency as they support implementation of the San Joaquin Valley Air Pollution Control District's (SJVAPCD) 2016 Ozone Plan and 2016 PM2.5 Plan transportation control measures including transportation demand management, transportation system management, commuter and public transit; rail, bike, and pedestrian programs, among others (refer to Section 4.2, *Air Quality*).

Locally, the proposed 2018 RTP/SCS would be consistent with the 2035 San Joaquin County General Plan. The County's General Plan encourages the use of renewable energy, energy conservation, and energy efficiency techniques in all new building design, orientation, and construction, and support of alternative transportation and fuels. As described above, the 2018 RTP/SCS includes TDM and TSM intended to improve the efficiency and effectiveness of the transportation system, reducing fuel consumption, transit and other alternative modes of transportation, such as new pedestrian and bicycle facilities, and promotes mixed-use and infill development.

In summary, the 2018 RTP/SCS would not result in wasteful or inefficient energy consumption within the region, and is generally consistent with applicable policies regarding energy conservation. Therefore, the 2018 RTP/SCS would not have a significant impact on energy. Impacts would be less than significant.

## Mitigation Measures

No Mitigation Measures are required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

| | |
|---|---|
| **Threshold 3:** | Require or result in the construction of new energy facilities or the expansion of such facilities to adequately meet projected demands, the construction of which could cause a significant environmental effect |

### IMPACT E-2 IMPLEMENTATION OF THE 2018 MTP/SCS WOULD GENERATE ENERGY DEMAND THAT WOULD NOT REQUIRE THE CONSTRUCTION OF NEW ENERGY FACILITIES OR THE EXPANSION OF EXISTING FACILITIES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As shown in Table 20, implementation of the 2018 RTP/SCS would result in an approximately 10 percent increase in per capita energy consumption compared to 2015 baseline conditions. However, implementation of the 2018 RTP/SCS would not increase net energy demand that would require new or expanded energy facilities, including power plants, distributed generation, electrical transmission and distribution infrastructure, and natural gas facilities (e.g., storage, pipelines).

PG&E, which supplies the entire Plan Area with natural gas and much of the Plan Area with electricity, utilizes a long-term planning process to plan for increased energy demand in the future with its publication of ten-year Transmission Plans. The most recent, *2010 Electric Transmission Grid Expansion Plan*, details planned projects between 2010 and 2020 that aim to ensure compliance with North American Electric Reliability Corporation (NERC) standards, improve transmission system access for renewable generation to meet Renewable Portfolio Standard (RPS) goals and targets, improve service reliability for end users and coordinate long-term plans for PG&E's transmission system (PG&E 2010). Some projects encompassed within this Transmission Plan are located in San Joaquin County, including the addition of a line reconductor and circuit breaker, increased transmission capacity at a Tesla 115 kv plant, the addition of a second Valley Springs Transformer rated at 200 mega-volt ampere (MVA), and the replacement of limiting switches with larger ones (PG&E 2010). However, each of these projects are expected to be complete and in-service at this time as the most recent one, the replacement of limiting switches, had a targeted in-service date of 2015. Each Transmission Plan published by PG&E is a ten-year planning document, thus, PG&E will continue to assess the reliability and capacity of its energy facilities every ten years based on critical system conditions, growth assumptions and study years agreed upon by the California Independent System Operator Corporation (Cal-ISO) and participating stakeholders.

Additionally, Cal-ISO's *2016-2017 Transmission Plan* provides a comprehensive evaluation of the Cal-ISO transmission grid to identify upgrades needed to successfully meet California's policy goals, in addition to examining conventional grid reliability. The *2016-2017 Transmission Plan* identified two reliability-driven transmission goals to ensure compliance with North American Electric Reliability Corporation (NERC) requirements and Cal-ISO standards. However, these projects are located within Southern California Edison's (SCE) service area and the *2016-2017 Transmission Plan* further identified that no new transmission projects would be needed to meet California's 2020 renewables portfolio standard (RPS).

Implementation of the 2018 RTP/SCS would not result in energy demand that would require new or the expansion of existing energy facilities that could impose short-term construction-related impacts and long-term operational impacts, such as air quality, noise, traffic, and other resource areas. As stated above, no projects have been identified as needed to meet new policy-driven or economic-driven energy demands by PG&E, which owns and operates a majority of electricity and

natural gas infrastructure in the SJCOG region, or Cal-ISO, which assesses the reliability and capacity of California's independent electricity system operators' energy facilities . In conclusion, the 2018 RTP/SCS would not result in energy demands that exceed existing or planned capacity for the service area and would not result in the construction of new or expansion of existing energy facilities. This impact would be less than significant.

### Mitigation Measures

No Mitigation Measures are required.

### Significance After Mitigation

Impacts would be less than significant without mitigation.

## c. Specific MTP/SCS Projects that May Result in Impacts

As discussed above, the 2018 MTP/SCS would result in less than significant impacts related to energy consumption. No specific projects have been identified that would result in significant consumption of energy.

## d. Cumulative Impact Analysis

The 2018 RTP/SCS would increase demand for transportation energy resources by approximately 28 percent over the 25-year planning horizon. However, many of the transportation improvement projects under the 2018 RTP/SCS would conserve transportation energy by relieving congestion and contributing towards other transportation efficiencies, resulting in lower per capita transportation energy consumption in 2042 than in the 2015 baseline year by approximately 10 percent. In addition, renewable energy sources steadily constitute a larger proportion of California's energy supply makeup, resulting in a trend of decreased dependency on fossil fuels and increased dependency on renewable energy sources. As a result, the 2018 RTP/SCS would not contribute to significant impacts related to wasteful or inefficient use of energy resources and services because energy would be used more efficiently on a per capita basis with the 2018 RTP/SCS as compared to existing 2015 conditions.

In addition, adherence to existing applicable policies and regulations, such as CalGreen and the Low Carbon Fuel Standard, would ensure the incorporation of energy efficiency measures in the design and operation of future projects facilitated by the 2018 RTP/SCS. As such, the 2018 RTP/SCS would not contribute to a cumulative impact to the wasteful, unnecessary, or inefficient use of energy. Based on the analysis provided above, the 2018 RTP/SCS's contribution to cumulative impacts related to energy consumption would not result in the inefficient use of energy resources. As such, the 2018 RTP/SCS's impacts related to per capita energy consumption and reliance on fossil fuels would not be cumulatively considerable, and therefore, impacts would be less than significant.

Moreover, new or expanded facilities for generation, transmission, storage, and distribution of electricity, natural gas, diesel and alternative transportation fuels would not be needed to meet the increased demand associated with the 2018 RTP/SCS, the construction of which could cause potentially significant environmental effects. Combined with impacts from projected growth and development located throughout the region causing increased demand for electricity, natural gas, and diesel, the 2018 RTP/SCS's contribution to impacts resulting from the construction of new or expanded energy facilities would not be cumulatively considerable.