

## 4.16 ENERGY

### 4.16.1 Introduction

This section was prepared in accordance with Section 15126 and Appendix F of the State CEQA Guidelines, which requires that EIRs include a discussion of the potential energy impacts of projects, with emphasis on considering whether implementing a project would result in inefficient, wasteful, and unnecessary consumption of energy. This section discusses the energy impacts of implementing the project. The capacity of existing and proposed infrastructure to serve the project is evaluated in Section 4.15, “Utilities.”

Energy related to the project would include energy directly consumed for space heating and cooling, electricity- and gas-powered equipment (including industrial equipment), and interior and exterior lighting of all buildings (residential and commercial) in the project area. Indirect energy consumption includes the energy used (by consuming other fuel types) for generation of electricity at power plants and the energy used for the treatment of water and the transportation of water to and from the project area. Transportation-related energy consumption includes the use of fuels and electricity to power cars, trucks, and public transportation. Energy would also be consumed by equipment and vehicles used during construction and routine maintenance activities.

Important terms for specific parts of the project are discussed in detail in Section 4.0, “Approach to the Environmental Analysis.” The following brief discussion is intended to remind the reader how those terms are defined and used in the EIR analysis, including this section. “SAP area” refers to the entire SAP area, which includes the PRSP area. “Net SAP area” refers to the portion of the SAP area outside the PRSP area. The “project” encompasses the entirety of the SAP, including the PRSP and all associated off-site improvements. “Project area” refers to the entire area covered by the project. Because the project area is composed of three pieces (the net SAP area, the PRSP area, and areas where other off-site infrastructure would support the project), the impact analysis typically is divided into three subsections: “Net SAP Area,” “PRSP Area,” and “Other Supporting Infrastructure.” (“Other Supporting Infrastructure” refers to improvements outside the SAP area and is divided into “Pleasant Grove Retention Facility” and “Off-Site Transportation and Utility Improvements.”) Some required infrastructure improvements are planned outside the PRSP area but still in the SAP area; those improvements are addressed in the “PRSP Area” sections.

As discussed in Chapter 1, “Introduction,” the PRSP land use plan has been slightly revised since circulation of the NOP. Changes primarily relate to increasing the distance between the landfill property and land designated for residential uses, modifying the density of proposed residential areas, reducing the proposed commercial intensity, slightly decreasing the acreage of open space, and increasing the acreage of parks to meet County parkland provision standards. The size of the PRSP area (2,213 acres) has not changed since release of the NOP, and the overall area of development would be nearly identical. Energy consumption associated with operation of PRSP buildings and structures has been updated to reflect the changes in the land use plan. However, because construction-related energy consumption of the revised land use plan would be almost the same as the original plan because of the similarity in overall development area, these estimates were not revisited. The estimate of mobile-source energy consumption relies on the results of the traffic study conducted for the previous, more intensive, land use plan. The amount of energy consumption quantified for the PRSP in the following analysis is conservative because it does not fully reflect the decreased land use intensities and resulting reduced energy use for construction and operation under the revised land use plan.

## 4.16.2 Environmental Setting

### PHYSICAL SETTING

#### Energy Service in the SAP Area

Electric and natural gas services in Placer County are provided by Pacific Gas and Electric Company (PG&E). PG&E would provide the project area, with electric and natural gas service. Information regarding existing electric and natural gas facilities in the project area is provided in Section 4.15, "Utilities."

#### Energy Types and Sources

California relies on a regional power system composed of a diverse mix of natural gas, petroleum, renewable, hydroelectric, and nuclear generation resources. One-third of energy commodities consumed in California is natural gas. In 2014, approximately 35 percent of natural gas consumed in the state was used to generate electricity. Residential land uses represented approximately 17 percent of California's natural gas consumption with the balance consumed by the industrial, resource extraction, and commercial sectors (EIA 2014).

Power plants in California meet approximately 68 percent of the in-state electricity demand, hydroelectric power from the Pacific Northwest provides another 12 percent, and power plants in the southwestern U. S. provide another 20 percent (EIA 2014). The contribution of in- and out-of-state power plants depends on the precipitation that occurred in the previous year, the corresponding amount of hydroelectric power that is available, and other factors. PG&E is the primary electricity supplier in Placer County. As of 2015, PG&E was powered by 29.5 percent renewables, including biomass, geothermal, small hydroelectric, solar, and wind (CPUC 2017).

#### Alternative Fuels

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

- ▲ biodiesel,
- ▲ electricity,
- ▲ ethanol (E-10 and E-85),
- ▲ hydrogen,
- ▲ natural gas (methane in the form of compressed and liquefied natural gas),
- ▲ propane,
- ▲ renewable diesel (including biomass-to-liquid),
- ▲ synthetic fuels, and
- ▲ gas-to-liquid and coal-to-liquid fuels.

California has a growing number of alternative fuel vehicles through the joint efforts of the California Energy Commission (CEC), California Air Resources Board (CARB), local air districts, federal government, transit agencies, utilities, and other public and private entities. As of November 2017, Placer County contained more than 44 alternative fueling stations (AFDC 2017).

### COMMERCIAL AND RESIDENTIAL ENERGY USE

Homes built between 2000 and 2015 used 14 percent less energy per square foot than homes built in the 1980s, and 40 percent less energy per square foot than homes built before 1950. However, the increased size of newer homes has offset these efficiency improvements. Primary energy consumption in the residential sector totaled 21 quadrillion British thermal units (Btus) in 2009 (the latest year the U.S. Energy Information Administration's [EIA's] *Residential Energy Consumption Survey* was completed), equal to 54 percent of consumption in the buildings sector and 22 percent of total primary energy consumption in the

U.S. Overall residential energy consumption increased by 24 percent from 1990 to 2009. However, because of projected improvements in building and appliance efficiency, the EIA 2017 Annual Energy Outlook forecasts a 5-percent increase in energy consumption from 2016 to 2040 (EIA 2017).

Energy consumption in commercial buildings represents just under one-fifth of U.S. energy consumption with office space, retail, and educational facilities representing about half of commercial sector energy consumption. In aggregate, commercial buildings consumed 46 percent of building energy consumption and approximately 19 percent of U.S. energy consumption. In comparison, the residential sector consumed approximately 22 percent of U.S. energy consumption (U.S. Department of Energy 2012).

## **ENERGY USE FOR TRANSPORTATION**

On-road vehicles use about 90 percent of the petroleum consumed in California. Caltrans projected that 237 million gallons of gasoline and diesel were consumed in Placer County in 2015, which represents an increase of approximately 26 million gallons of fuel from 2010 levels, following a general trend of approximately a 2 percent increase in fuel consumption per year (Caltrans 2008).

## **ENERGY USE AND CLIMATE CHANGE**

Scientists and climatologists have produced evidence that the burning of fossil fuels by vehicles, power plants, industrial facilities, residences, and commercial facilities has led to an increase of the earth's temperature. For an analysis of greenhouse gas (GHG) production and the impacts on climate change associated with implementing the project, refer to Section 4.7, "Greenhouse Gas Emissions."

### **4.16.3 Regulatory Setting**

Federal and state agencies regulate energy consumption through various policies, standards, and programs. At the local level, individual cities and counties establish policies in their general plans and climate action plans related to the energy efficiency of new development and land use planning and to the use of renewable energy sources.

Energy conservation is embodied in many federal, state, and local statutes and policies. At the federal level, energy standards apply to numerous products (e.g., EPA's EnergyStar™ program) and transportation (e.g., fuel efficiency standards). At the state level, Title 24 of the CCR sets forth energy standards for buildings. Further, the state provides rebates/tax credits for installation of renewable energy systems and offers the Flex Your Power program, which promotes conservation in multiple areas.

## **FEDERAL**

### **Energy Policy and Conservation Act and CAFE Standards**

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Under this act, the National Highway Traffic and Safety Administration, part of the U.S. Department of Transportation (DOT), is responsible for revising existing fuel economy standards and establishing new vehicle 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 U.S. A CAFE value for each manufacturer is calculated by EPA based on the city and highway fuel economy test results and vehicle sales. The CAFE values are a weighted harmonic average of EPA city and highway fuel economy test results. Based on information generated under the CAFE program, DOT is

authorized to assess penalties for noncompliance. Under the Energy Independence and Security Act of 2007 (described below), the CAFE standards were revised for the first time in 30 years.

### **Energy Policy Act (1992 and 2005) and Energy Independence and Security Act of 2007**

The Energy Policy Act of 1992 (EPAAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAAct includes several parts intended to build an inventory of alternative fuel vehicles in large, centrally fueled fleets in metropolitan areas. 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.

The Energy Independence and Security Act of 2007 is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It increased the supply of alternative fuel sources by setting a mandatory renewable fuel standard that requires fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly fivefold 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. By addressing renewable fuels and CAFE standards, the Energy Independence and Security Act will build on progress made by the Energy Policy Act of 2005 in setting out a comprehensive national energy strategy for the 21st century.

## **STATE**

### **State of California Energy Plan**

CEC is responsible for preparing the State 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 plan is the 1997 California Energy Plan. 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 strategies such as aiding public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs, and encouraging urban design that reduces vehicle miles traveled (VMT) and accommodates pedestrian and bicycle access.

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

Senate Bill (SB) 1078 (Chapter 516, Statutes of 2002) establishes a renewable portfolio standard (RPS) for electricity supply. The RPS originally required retail sellers of electricity, including investor-owned utilities and community choice aggregators to provide 20 percent of their supply from renewable sources by 2017, but SB 1078 moved that date forward to require compliance by 2010, although the state did not meet the target. In addition, electricity providers subject to the RPS must increase their renewable share by at least 1 percent each year. As of 2016, the state sourced 27.6 percent of its electricity from certified renewable sources (CPUC 2017). The outcome of this legislation will affect regional transportation powered by electricity.

SB X1-2 of 2011 set a three-stage compliance period requiring all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2015; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. The state met the 2016 target and is on track to meet the 2020 target.

### **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 to 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 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 CARB and in consultation with other federal, state, and local agencies. The SAF Plan presents strategies and actions California must take to increase the use of alternative nonpetroleum fuels in a manner that minimizes the 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 fuel use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

## Executive Order S-06-06

Executive Order (EO) S-06-06, signed on 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 targets 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 in California by 2010, 40 percent by 2020, and 75 percent by 2050. The EO 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.

As of 2015, 3.2 percent of the total electricity system power in California was derived from biomass.

## California's Building Energy Efficiency Standards

CCR, Title 24, Part 6, is California's Energy Efficiency Standards for Residential and Non-Residential Buildings. Title 24 Part 6 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. In 2013, CEC updated Title 24 standards with more stringent requirements, effective July 1, 2014. All buildings for which an application for a building permit is submitted on or after July 1, 2014, must follow the 2013 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 2013 Building Energy Efficiency Standards* estimates that the 2013 standards are 23.3 percent more efficient than the previous 2008 standards for residential construction and 21.8 percent more efficient for nonresidential construction. In 2016, CEC updated Title 24 standards again, effective January 1, 2017. CEC estimates that the 2016 standards are 28 percent more efficient than 2013 standards for residential construction (CEC n.d.) and are approximately 5 percent more efficient for nonresidential construction (CEC 2015).

The 2019 Title 24 Part 6 Building Energy Efficiency Standards were adopted by the CEC on May 9, 2018 and will take effect on January 1, 2020. The standards are designed to move to the State closer to its zero net energy goals for new residential development. It does so by requiring all new residences to install enough renewable energy to offset all the site electricity needs of each residential unit (CCR, Title 24, Part 6, Section 150.1(c)14). CEC estimates that the combination of mandatory on-site renewable energy and prescriptively-required energy efficiency features will result in new residential construction that uses 53 percent less

energy than the 2016 standards. Nonresidential buildings are anticipated to reduce energy consumption by 30 percent compared to the 2016 standards primarily through prescriptive requirements for high-efficacy lighting (CEC 2018). 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 in response to local climatologic, geologic, or topographic conditions, provided that these standards are demonstrated to be cost effective and exceed the energy performance required by Title 24 Part 6.

### **Assembly Bill 32, Climate Change Scoping Plan and Update**

In December 2008, CARB adopted its Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT) of CO<sub>2</sub>-equivalent (CO<sub>2</sub>e) emissions, or approximately 21.7 percent from the state's projected 2020 emission level of 545 MMT of CO<sub>2</sub>e under a business-as-usual scenario (this is a reduction of 47 MMT CO<sub>2</sub>e, or almost 10 percent, from 2008 emissions). In May 2014, CARB released and has since adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals and evaluate progress that has been made between 2000 and 2012 (CARB 2014:4–5). According to the update, California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020 (CARB 2014:ES-2). The update also reports the trends in GHG emissions from various emissions sectors (e.g., transportation, building energy, agriculture).

After releasing multiple versions of proposed updates in 2017, CARB adopted the final version titled *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan), which lays out the framework for achieving the 2030 reductions as established in more recent legislation (discussed below) (CARB 2017). The 2017 Scoping Plan identifies the GHG reductions needed by each emissions sector to achieve a statewide emissions level that is 40 percent below 1990 levels before 2030.

The measures identified in the 2017 Scoping Plan will have the co-benefit of reducing California's dependency of fossil fuels and making land use development and transportation systems more energy efficient. More details about the statewide GHG reduction goals and scoping plan measures are provided in the regulatory setting of Section 4.7, "Greenhouse Gas Emissions."

### **Executive Order B-30-15**

On April 20, 2015, Governor Edmund G. Brown Jr. signed EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The governor's EO aligns California's GHG reduction targets with those of leading international governments, such as the 28-nation European Union, which adopted the same target in October 2014. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, discussed above). California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2°Celsius, the warming threshold at which major climate disruptions are projected, such as super droughts and rising sea levels.

### **Senate Bill 32 and Assembly Bill 197 of 2016**

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the state's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050. Achievement of these goals will have the co-benefit of reducing California's dependency of fossil fuels and making land use development and transportation systems more energy efficient.

## Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles, into a single package of standards for vehicle model years 2017–2025. The new rules strengthen the GHG standard for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines. The program’s zero-emission vehicle regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California’s new vehicle sales by 2025. The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the state. The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. By 2025, when the rules will be fully implemented, the statewide fleet of new cars and light trucks will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions than the statewide fleet in 2016 (CARB 2016).

## LOCAL

### Placer County General Plan

The “Transportation,” “Natural Resources,” and “Housing” sections of the *Placer County General Plan* include goals and policies related to energy.

#### Transportation

**GOAL 3.C:** To maximize the efficient use of transportation facilities so as to: 1) reduce travel demand on the County’s roadway system; 2) reduce the amount of investment required in new or expanded facilities; 3) reduce the quantity of emissions of pollutants from automobiles; and 4) increase the energy-efficiency of the transportation system.

#### Natural Resources

- ▲ **Policy 6.F.5:** The County shall encourage project proponents to consult early in the planning process with the County regarding the applicability of Countywide indirect and areawide source programs and transportation control measures (TCM) programs. Project review shall also address energy-efficient building and site designs and proper storage, use, and disposal of hazardous materials.

#### Housing

**Energy Conservation GOAL:** To increase the efficiency of energy use in new and existing homes with a concurrent reduction in housing costs for Placer County residents.

- ▲ **Policy G-1:** The County shall require that all new dwelling units meet current State requirements for energy efficiency, and encourage developers to exceed Title 24 requirements. Retrofitting of existing units shall be encouraged.
- ▲ **Policy G-2:** The County shall promote land use patterns that encourage energy efficiency, to the extent feasible, and encourage efficient energy use in new development, including but not limited to access to non-auto transit, use of traffic demand management, and water-efficient landscaping.
- ▲ **Policy G-3:** The County shall continue to implement provisions of the Subdivision Map Act that require subdivisions to be oriented for solar access, to the extent practical.
- ▲ **Policy G-4:** The County shall encourage participation in weatherization and energy efficiency programs sponsored by utility companies.
- ▲ **Policy G-5:** The County shall continue to encourage investments in energy efficiency in multifamily properties through the mPower Placer program and seek mechanisms to expand the program to include single-family residences.

## Placer County Code

### Section 10.20. Trip Reduction Program

The primary purposes of this article include the following:

- A. Reduce total vehicle emissions in Placer County and South Placer region by reducing the number of vehicular trips that might otherwise be generated by home-to-work commuting.
- B. Reduce traffic congestion in Placer County by reducing both the number of vehicular trips and the vehicular miles traveled that might otherwise be generated by home-to-work commuting.
- C. Reduce or delay the need for major transportation facility improvements and reduce congestion by making efficient use of existing facilities.
- D. Reduce present and future motor vehicle emissions as a contribution for complying with federal and state ambient air quality standards.
- E. Implement measures that will work towards attainment of ambient air quality standards and compliance with congestion management program (CMP) requirements.
- F. Increase the average vehicle ridership (AVR) during the weekday commute period (“peak period”) to work towards goals set forth in the California Clean Air Act.

Specifically, Section 10.20.060 includes the detailed provisions for Trip Reduction Programs, including requiring employers to encourage use of alternative commute modes, and for employers of over 100 employees, identification of a transportation coordinator and preparation of a transportation plan designed to reduce vehicle trips. Section 10.20.070 outlines the requirements for transportation control measures (TCMs), such as designation of an employee transportation coordinator, posting ridesharing information and information about alternate transportation modes, bicycle parking facilities, and preferential carpool/vanpool parking. Several optional TCMs are also identified.

## 4.16.4 Analysis, Impacts, and Mitigation

### STANDARDS OF SIGNIFICANCE

Based on Appendix F (energy) of the State CEQA Guidelines, implementing the project would have a potentially significant impact on energy if it would:

- ▲ result in wasteful, inefficient, or unnecessary consumption of energy, during project construction or operation, as evidenced by a failure to decrease overall per capita energy consumption or decrease reliance on fossil fuels such as coal, natural gas, and oil;
- ▲ fail to incorporate feasible renewable energy or energy efficiency measures into building design, equipment use, transportation, or other project features, or otherwise fail to increase reliance on renewable energy sources; or
- ▲ exceed the available capacities of energy supplies that require the construction of facilities.

### METHODS AND APPROACH

Levels of construction- and operation-related energy consumption by land uses developed under the project were estimated, including the number of megawatt-hours of electricity, therms of natural gas, gallons of gasoline, and gallons of diesel fuel. Energy consumption estimates were calculated using the California



Emissions Estimator Model (CalEEMod) version 2016.3.1 computer program (CAPCOA 2016). Where specific information about the land uses that would be developed under the project was not known, CalEEMod default values based on the location of the project area were used. The following discussion summarizes the levels of energy consumption for each year of construction and for the first year of operation at full buildout. It also summarizes the gasoline and diesel consumption estimated for the SAP area at full buildout for the PRSP area in 2041.

## PROPOSED SUNSET AREA PLAN GOALS, OBJECTIVES, AND POLICIES

The SAP includes the following goals and policies related to energy consumption:

**GOAL LU/ED-2: Healthy Communities.** To promote a positive physical, social, and economic environment that supports a sense of community and promotes a sustainable future where residents can enjoy a high quality of life.

- ▲ **Policy LU/ED-2.11: Bike- and Pedestrian-Supportive Design.** Encourage development of local mixed-use centers that provide goods and services that meet the daily needs of the community and surrounding neighborhoods to encourage walking and bicycling, and to reduce vehicle trips outside of the plan area.

**GOAL LU/ED-3: Design and Land Development Practices.** To promote high-quality design and land development practices in the Sunset Area.

- ▲ **Policy LU/ED-3.5: Parking.** The County shall require site planning that minimizes the visibility of parking areas as much as possible through their configuration and the use of landscaping and grading. This can be achieved by locating parking to the rear of buildings and in areas that can be appropriately screened from the adjacent street and surrounding land uses. Parking supply design should adhere to the following principles:
  - a) Parking areas should be organized into small units separated by landscaping and pedestrian facilities to provide safe, attractive pedestrian environments and visual enhancement.
  - b) Shade trees shall be provided on parking islands, along street edges, and at other locations wherever feasible, and shall be consistent with the shading provisions of the Placer County Landscape Guidelines.
  - c) Where shade structures are provided, encourage the installation of solar panels.
  - d) Convenient surface parking shall be provided for commercial areas without affecting the character of major streetscapes. Parking areas should be located whenever possible at the rear or side and connected to the streetscape through pedestrian links.
  - e) Access points to parking areas shall be minimized to reduce their potential impact on the surrounding streetscapes and to minimize potential vehicular conflict.
  - f) Bike parking areas shall be provided as required by the Zoning Ordinance.
- ▲ **Policy LU/ED-3.9: Lighting.** The County shall balance the need for lighting in new developments with concern for the environment and existing uses by encouraging the use of efficient, strategic, and aesthetic lighting methods that address public safety and reduce light pollution. Lighting design should adhere to the following principles:
  - a) Lighting on site should be designed to promote pedestrian comfort and safety and to enliven public gathering places.
  - b) Lighting for individual buildings should be integrated into the architecture.

- c) Lighting shall be designed to minimize projection into adjacent properties and onto adjacent roads and not provide a source of glare.
- d) The height of light standards in parking areas shall not exceed eighteen (18) feet.
- e) Energy-efficient technology should be used wherever possible.

**GOAL LU/ED-5: Innovation Center.** To leverage the Sunset Area's regionally unique supply of large footprint development sites to promote opportunities for innovation economy business.

- ▲ **LU/ED-5.5: Innovative Residential Uses.** The County shall support integration of innovative residential land uses that are close to workplaces to attract and accommodate creative and knowledge-based economy workers and minimize commute times and vehicle trips.

**GOAL NR-5: Air Quality.** To protect and improve air quality in the Sunset Area.

- ▲ **Policy NR-5.5: Construction Exhaust Emissions.** The County shall require new development to incorporate the use of Best Available Control Technologies (BACT) for the control of construction exhaust emissions. The PCAPCD shall be consulted to determine the appropriate BACT measures available (e.g., regular tune-ups, cleaner burning conventional fuels, alternative fueled vehicles and equipment).
- ▲ **Policy NR-5.6: Emission Reduction Compliance.** The County shall require new development to demonstrate to the County and the PCAPCD compliance with California State Air Resources Board (CARB) and PCAPCD Rules and Regulations to reduce emissions from fuel consumption, energy consumption, surface coating operations, and solvent usage.
- ▲ **Policy NR-5.9: Cool Community Strategies.** The County shall promote Cool Community strategies to cool the urban heat island, reduce energy use and ozone formation, and maximize air quality benefits by requiring new development to implement four key strategies: plant trees, selective use of vegetation for landscaping, install cool roofing, and install cool pavements. This may include the following:
  - a) Use of roofing materials with a high solar reflectance index (SRI), to reduce heat island effect and manage stormwater.
  - b) Incorporation of high-albedo materials such as concrete for pathways and parking areas, or use coatings and integral colorants for asphalt to achieve light colored surfaces instead of blacktop, where feasible.
  - c) Shading of hardscapes (such as sidewalks, roadways, and parking lots) with trees, vegetated trellises, or structures covered with solar panels or materials with high solar reflectance.
  - d) Preservation of existing trees, wherever feasible, and addition of trees in the public right-of-way, where appropriate.
  - e) Construction of hard surfaces such as roads and sidewalks with partially vegetated systems such as open grid vegetated paving.

**GOAL NR-6: Energy Efficiency and Conservation.** To encourage design and construction practices that result in greater energy efficiency and energy conservation.

- ▲ **Policy NR-6.2: Energy Efficient Construction.** The County shall encourage new construction to achieve third-party green building certification, such as the GreenPoint Rated program and the LEED [Leadership in Energy and Environmental Design] rating system. This will include building and capital improvement design practices that reduce energy consumption, maximize energy conservation, promote passive solar energy generation or other on-site electricity generation, and incorporate natural ventilation.

- ▲ **Policy NR-6.3: CALGreen.** The County shall require that all new buildings shall comply with CALGreen building codes, including diversion and recycle construction and demolition waste; use of locally-sourced building materials and recycled content building materials, including mulch/compost; heating and air conditioning standards, VOC limits, and recycled content value.
- ▲ **Policy NR-6.4: Energy-Efficient Retrofits.** The County shall encourage energy conservation retrofits for existing buildings in the Sunset Area.
- ▲ **Policy NR-6.6: Efficient Landscape Maintenance Equipment.** The County shall encourage installation of electric outlets in parks and public/quasi-public lands to promote the use of electric landscape maintenance equipment.
- ▲ **Policy NR-6.7: Residential Energy Efficiency.** The County shall encourage residential units to be designed to maximize energy efficiency. This should include consideration of the following design features:
  - a) Pre-plumbing and structural design to accommodate solar energy systems.
  - b) Installation of energy conservation appliances such as tankless water heaters and whole house fans in all residential units.
  - c) Installation of energy efficient AC units and heating system with programmable thermostat timers, to the extent feasible.
  - d) Use of low flow water fixtures such as low flow toilets and faucets, to the extent feasible.
- ▲ **Policy NR-6.8: Energy Efficient Lighting.** Require the use of energy efficient lighting for all street, parking, and area lighting, to the extent feasible.

**GOAL NR-7: Air Quality and Transportation/Land Use Planning.** To integrate air quality improvement with the land use and transportation planning process.

- ▲ **Policy NR-7.1: Vehicle Emission Reduction Through Project Design.** The County shall evaluate new development projects which have the potential to generate a significant amount of vehicle emissions due to high employment levels or due to a high level of patronage, and shall require that effective mitigation strategies be incorporated into the project design.
- ▲ **Policy NR-7.2: Alternative Transportation.** The County shall require that new development projects be designed to promote pedestrian/bicycle access and circulation to encourage residents and employees to use alternative transportation modes to reduce air contaminant emissions. This includes providing secure bicycle parking and storage.
- ▲ **Policy NR-7.3: Regional Connectivity.** The County shall connect bike lanes in the Sunset Area to existing and future bike lanes within the unincorporated county and neighboring cities to create a regional bicycle network, wherever feasible.
- ▲ **Policy NR-7.4: Transit Funding.** The County shall support the Placer County Transportation Planning Agency's efforts to secure adequate transit funding to increase the effectiveness and viability of transit. The County shall require new development to pay its fair share of the cost of transit facilities required to serve the new development.
- ▲ **Policy NR-7.5: Transportation Control Measures.** The County shall require project proponents to consult with the County early in the planning process regarding the applicability of countywide indirect and area wide source-reduction programs and transportation control measure (TCM) programs. County review of new development projects also address energy-efficient building and site designs and proper storage, use, and disposal of hazardous materials.

- ▲ **Policy NR-7.6: Mixed-Use, Increased Intensity Development.** The County shall promote mixed-use development and increased development intensity along existing and proposed transit corridors to reduce the length and frequency of vehicle trips.
- ▲ **Policy NR-7.7: Efficient Traffic Control.** The County shall implement high-efficiency traffic control strategies such as synchronized signals and roundabouts to reduce vehicle emissions.
- ▲ **Policy NR-7.8: Roadway Infrastructure Demand Reduction.** The County shall encourage vehicle trip reduction and improved air quality by requiring new development projects that exceed the PCAPCD's significance thresholds for operational emissions to provide on-going, cost-effective mechanisms for transportation services that help reduce the demand for existing roadway infrastructure.
- ▲ **Policy NR-7.9: Dedicated Land for Park-and-Ride Lots.** The County shall require large new developments to dedicate land for and construct appropriate improvements for park-and-ride lots.
- ▲ **Policy NR-7.10: Construction Worker Vehicle Trip Reduction.** The County shall require project proponents to consult the County and the PCAPCD concerning feasible transportation alternatives to reduce construction worker vehicle trips and associated vehicle exhaust emissions.
- ▲ **Policy NR-7.11: County Facilities and Operations.** The County shall comply with CARB and PCAPCD Rules and Regulations for Placer County facilities and operations to reduce emissions from fuel consumption, energy consumption, surface coating operations, and solvent usage.
- ▲ **Policy NR-7.14: Vehicle Idling Restriction.** The County shall prohibit the idling of on- and off-road engines when the vehicle is not moving or when the off-road equipment is not performing work for a period greater than five minutes in any one-hour period.
- ▲ **Policy NR-7.15: Alternative Fuel Vehicle Infrastructure.** The County shall require the incorporation of alternative vehicle charging and fuel stations, such as electric vehicle charging stations, bio-diesel fueling stations, and hydrogen fueling stations, that are accessible to the public to reduce use of fossil fuel and other nonrenewable resources. This includes the design of an electric box in all residential unit garages to promote electric vehicle usage and the provision of charging stations for electric vehicles at multi-family residences and retail, light industrial, office, hotel, entertainment, and mixed-use buildings.
- ▲ **Policy NR-7.16: Low-Emission Vehicle Fleet.** The County shall encourage businesses to purchase low-emission, fuel-efficient vehicles and phase out use of diesel-fuel vehicles wherever feasible.

**GOAL TM-1: Roadways and Traffic.** To develop a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel.

- ▲ **Policy TM-1.1: Complete Streets Design.** The County shall require the design of all arterial, collector, and local streets in the Sunset Area to address the needs of all potential users and all modes of travel within the street right-of-way. This will include the following:
  - a) Sidewalks and curbs to ensure pedestrian convenience, comfort, and safety.
  - b) Off-street, separated Class I Bike Trails and on-street Class II Bike Lanes to accommodate the needs of both commuter and recreational cyclists.
  - c) Transit accessibility and transit priority to enhance the convenience and efficiency of transit services.
  - d) Shade trees and planting strips to add to the comfort of users and to enhance the aesthetic appeal of streets.

- ▲ **Policy TM-1.10: Transportation Systems Management Programs.** The County shall promote the use of transportation systems management programs directed at increasing the efficiency of the transportation system. This includes the requirement that proposed development projects meet the County's trip reduction ordinance, which is aimed at increasing average vehicle occupancy and promoting use of transit and active transportation.

**GOAL TM-2: Active Transportation.** To support bicycling and walking in the Sunset Area by providing safe and convenient routes and facilities.

- ▲ **Policy TM-2.1: Transportation Facility Design.** With the exception of limited access expressways (e.g., Placer Parkway), the County shall require the design of all future roads, bridges, and facilities to accommodate bicycle and pedestrian travel, with a preference for shared use paths.
- ▲ **Policy TM-2.2: New Development Connectivity.** The County shall require new development to include a system of sidewalks, trails, and bikeways that link all land uses, provide accessibility to parks and schools, and connect to all existing and planned external street and trail facilities.
- ▲ **Policy TM-2.3: Pedestrian and Bicycle Safety.** The County shall require safe street and intersection crossings for bicyclists and pedestrians that include traffic signals, signal timing to enable safe crossings, enhanced crosswalk facilities with painted and textured and/or raised surfaces, pedestrian and bike activated signals, pedestrian refuge islands and medians, and intersection crossing guidelines consistent with the Americans with Disabilities Act.
- ▲ **Policy TM-2.4: Supportive Land Uses.** The County shall encourage land use types and forms that facilitate the use of alternate modes of transportation, multi-modal facilities, and the development of complete streets.
- ▲ **Policy TM-2.5: Bicycle Parking.** The County shall require safe and convenient bicycle parking for all new or modified public and private developments and businesses.
- ▲ **Policy TM-2.6: End-of-Trip Facilities.** The County shall encourage incorporation of cycling-friendly facilities such as showers, secure weather-protected bicycle lockers, storage lockers for other gear, and changing spaces for all new or modified public and private developments and businesses.
- ▲ **Policy TM-2.7: Regional Connectivity.** The County shall work to promote and facilitate bicycle and pedestrian connections between the Sunset Area networks and the active transportation networks of nearby communities. This will include connecting existing facilities in adjacent areas with new facilities in the Sunset Area.
- ▲ **Policy TM-2.8: Grant Funding.** The County shall identify regional, State, and Federal funding programs and secure funding for pedestrian and bicycle facilities and programs, if possible.
- ▲ **Policy TM-2.9: Placer Parkway Grade Separations.** With implementation of Placer Parkway, the County shall pursue funding opportunities to ensure provision of grade separations across Placer Parkway to accommodate bicycle and pedestrian facilities.

**GOAL TM-3: Transit and Shared Mobility.** To plan for efficient and convenient local and regional transportation services that meet the unique needs of the Sunset Area while minimizing reliance on personal automobiles

- ▲ **Policy TM-3.1: Transit Service Planning.** The County shall collaborate with the Placer County Transportation Planning Agency to update its Long-Range Transit Master Plan to include transit service to the Sunset Area. This update would include a funding mechanism for the establishment and operation costs of transit service to the Sunset Area.

- ▲ **Policy TM-3.2: Public and Private Transportation.** The County shall encourage publicly- and privately-owned transit systems, such as taxicabs, ridesharing companies, employer shuttles, and other micro-transit, and private bus companies, to provide additional transit services, particularly to serve special needs populations, including senior citizens and the mobility impaired.
- ▲ **Policy TM-3.3: Employer Shuttles.** The County shall encourage major employers to establish shuttle services, van pools, and other forms of micro-transit to connect with major destinations and transit hubs within the Sunset Area.

**GOAL TM-4: Parking.** To ensure the provision of adequate, well-located, and efficient parking for employees and customers of Sunset Area businesses, residents, and visitors.

- ▲ **Policy TM-4.1: Shared-Use Parking.** The County shall encourage shared-use parking facilities to more efficiently use parking lots.
- ▲ **Policy TM-4.2: Consolidation of Off-Street Parking.** The County shall encourage consolidation of off-street parking within mixed-use areas in the Plan area.
- ▲ **Policy TM-4.3: Credit for Off-Site Parking Requirements.** The County shall allow properties that contribute to off-site community parking facilities or transit service to be given credit for satisfying their individual parking requirements.
- ▲ **Policy TM-4.4: Preferred Parking for Alternately-Powered Vehicles.** The County shall require the provision of preferred parking for alternately-powered vehicles, including electric cars, natural gas vehicles, and hydrogen fuel cell vehicles.

## PROPOSED PLACER RANCH SPECIFIC PLAN DEVELOPMENT STANDARDS AND DESIGN GUIDELINES

The following objective in the PRSP pertains to energy consumption:

- ▲ **Foster Sustainable Community Design:** Aid the County in achieving its objectives for long-term sustainability through project design and building practices that incorporate measures to reduce energy usage, conserve water, incorporate water efficient landscaping, treat stormwater, and reduce reliance on the automobile.

## IMPACTS AND MITIGATION MEASURES

### Impact 4.16-1: Wasteful, inefficient, or unnecessary consumption of energy, during construction or operation

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Land uses developed and operated under the project would increase electricity and natural gas consumption. Buildings developed under the project would comply with CCR Title 24 standards for building energy efficiency that are in effect at the time of construction. The project would include bicycle and pedestrian infrastructure that would promote reductions to VMT and associated consumption of automotive fuel. Implementation of mitigation measures addressing GHG and transit needs would further improve the energy efficiency of these land uses. Construction-related energy consumption would be temporary and would not require additional capacity or increased peak or base period demands for electricity or other forms of energy. Thus, energy consumption associated with development under the project would not result in wasteful, inefficient, or unnecessary consumption of energy; this impact would be **less than significant**.

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Appendix F of the State CEQA Guidelines requires the consideration of the energy implications of a project. CEQA requires mitigation measures to reduce “wasteful, inefficient and unnecessary” energy usage (PRC Section 21100, subdivision [b][3]). Neither the law nor the State CEQA Guidelines establish criteria that

define wasteful, inefficient, or unnecessary use. Compliance with CCR Title 24 Energy Efficiency Standards would result in energy-efficient buildings. However, compliance with building codes does not adequately address all potential energy impacts during construction and operation. For example, energy would be required to transport people and goods to and from the project area.

### **Net SAP Area**

#### **Construction-Related Energy**

Energy would be required to operate and maintain construction equipment and to produce and transport materials associated with construction of the net SAP area, as shown in Table 4.16-1 below. An estimated 508,406,091 gallons of gasoline and 10,921,501 gallons of diesel would be consumed during construction of the net SAP area. The one-time energy expenditure required to construct the physical buildings and infrastructure associated with the net SAP area would be nonrecoverable. Most energy consumption would result from operation of construction equipment and vehicle trips associated with commutes by construction workers and haul trucks supplying materials.

**Table 4.16-1 Energy Consumption for Net SAP Area**

Energy Type	Energy Consumption		Units
<b>Construction</b>			
Construction Equipment	10,921,501		Diesel Gallons <sup>1</sup>
	508,406,091		Gasoline Gallons <sup>2</sup>
<b>Transportation</b>			
	Gasoline	Diesel	
Passenger Vehicles	8,639,977	93,425	gallons/year
Trucks	9,866,076	9,735,986	gallons/year
Buses	203,868	193,398	gallons/year
Other Vehicles	51,265	10,139	gallons/year
Total (All Vehicle Types)	18,761,186	10,032,948	gallons/year
<b>Building Energy</b>			
Electricity	264,593,018		kWh/year
Natural Gas	859,004,570		kBTU/year
Notes: gallons/year = gallons per year; kWh/year = kilowatt hours per year; kBTU/year = thousand British thermal units per year.			
1. Diesel gallons include off-road equipment and on-road gallons from worker and vendor trips.			
2. Gasoline gallons include on-road gallons from worker trips.			
Source: Calculations by Ascent Environmental in 2018			

The energy needs for project construction would be temporary and are not anticipated to require additional capacity or substantially increase peak or base period demands for electricity or other forms of energy. Use of equipment and associated energy consumption would be typical of that associated with construction of new residential and commercial projects in a suburban setting. Further, construction energy consumption would be reduced through implementation of PCAPCD's Recommended Construction Mitigation Measures such as idling limits and use of electric equipment. This is detailed in the description of Mitigation Measure 4.3-2a in Section 4.3, "Air Quality."

#### **Transportation Energy**

Fuel estimates were calculated from the combination of consumption rates and fuel mix by vehicle class from CARB's EMFAC2014 model with overall VMT and mode share by vehicle class modeled for the project in CalEEMod (see Section 4.3, "Air Quality," and Appendix K of this EIR). State and federal regulations

regarding standards for vehicles in California are designed to reduce wasteful, unnecessary, and inefficient use of energy for transportation.

Fuel consumption associated with vehicle trips generated by implementing the project would not be considered inefficient, wasteful, or unnecessary, when compared to other plans in the region and to the MTP/SCS projections for the region. The net SAP is consistent with the MTP/SCS because it was defined in the document as a “developing community” in the region. A “developing community” is defined by SACOG as one of “the next increment[s] of urban expansion” as identified in local plans, such as master plans (SACOG 2016:3-27). The estimated weekday VMT (74,519,700 miles) is based on the regional average for 2036 as reported in the Sacramento Area Council of Governments’ (SACOG) *Metropolitan Transportation Plan/Sustainable Communities Strategy 2036* (MTP/SCS 2036) (2016). Daily VMT associated with the net SAP area would be 2,313,608 and would consume 18,761,186 gallons of gasoline per year and 10,032,948 gallons of diesel per year (Table 4.16-1). To achieve the VMT levels reported above and maximize efficient use of transportation facilities and associated energy use, the project includes a circulation system of Class I, II, and III bike trails, and a bus transit system. SAP Policies NR-7.1 through NR-7.16 include policies to reduce vehicle emissions by encouraging efficient project design, promoting alternative transportation, and requiring alternative fuel vehicle infrastructure (such as electric vehicle charging stations). Section 4.14, “Transportation and Circulation,” includes Mitigation Measure 4.14-12a, which requires compliance with the County’s Trip Reduction Program, and Mitigation Measures 4.14-12b, which requires implementation of transportation demand management (TDM) measures.

### **Building Energy**

Operation of residential, commercial, educational, and industrial buildings in the net SAP area would require typical use of electricity and natural gas for lighting, space and water heating, appliances, and landscape maintenance activities. Indirect energy use would include wastewater treatment and solid waste removal. Implementing the project would increase electricity and natural gas consumption in the region relative to existing conditions and would require construction of new utility connections and the Sunset and Placer Ranch Substations.

Buildings constructed in the project area would meet the CCR Title 24 standards for energy efficiency that are in effect at the time of construction. As the net SAP builds out over 80 years, these standards likely would continue to be updated to require improved building energy efficiency.

The SAP includes many policies aimed at maximizing building energy efficiency, including LU/ED-3.9, and NR-6.2 through 6.8. Implementation of Mitigation Measure 4.7-2a, described in Section 4.7, “Greenhouse Gas Emissions,” would further improve the energy efficiency of buildings in the net SAP area through compliance with the 2016 California Green Building Standards Code (CALGreen) Tier 1 for multi-family residences and non-residential buildings. Further, Mitigation Measure 4.7-2a would reduce water consumption through compliance with CALGreen, as well as ensure all appliances are EnergyStar®-certified to further reduce building energy. The combination of these measures would reduce wasteful energy consumption for buildings and improve energy efficiency in buildings constructed in the net SAP area.

### **Conclusion**

Construction activities in the net SAP area would not result in the need for additional energy capacity or substantially increase peak or base period demands. Further, construction energy consumption would be reduced through implementation of PCAPCD’s Recommended Construction Mitigation Measures. The net SAP area is consistent with development projected for the area per the 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy. SAP Policies NR-7.1 through NR-7.16 include policies to reduce vehicle emissions by encouraging efficient project design, promoting alternative transportation, and requiring alternative fuel vehicle infrastructure (such as electric vehicle charging stations). Implementation of Mitigation Measures 4.14-12a and 4.14-12b would further reduce VMT and maximize efficient use of transportation facilities and associated energy use. The SAP includes many policies aimed at maximizing building energy efficiency, including LU/ED-3.9, and NR-6.2 through 6.8. Through implementation of Mitigation Measure 4.7-2a, project buildings would reduce energy consumption through compliance with



CALGreen. The net SAP area would not result in the wasteful, unnecessary, or inefficient use of energy and this impact would be less than significant.

### PRSP Area

#### **Construction-Related Energy**

Energy would be required to operate and maintain construction equipment and to produce and transport materials associated with construction of the PRSP area, as shown in Table 4.16-2 below. An estimated 133,788,640 gallons of gasoline and 6,568,021 gallons of diesel would be consumed during construction of the PRSP area. The one-time energy expenditure required to construct the physical buildings and infrastructure associated with the PRSP area would be nonrecoverable. Most energy consumption would result from operation of construction equipment and vehicle trips associated with commutes by construction workers and haul trucks supplying materials.

The energy needs for project construction would be temporary and are not anticipated to require additional capacity or substantially increase peak or base period demands for electricity or other forms of energy. Use of equipment and associated energy consumption would be typical of that associated with construction of new residential and commercial projects in a suburban setting. Further, construction energy consumption would be reduced through implementation of PCAPCD's Recommended Construction Mitigation Measures such as idling limits and use of electric equipment. This is detailed in the description of Mitigation Measure 4.3-2a in Section 4.3, "Air Quality."

**Table 4.16-2 Energy Consumption for PRSP Area**

Energy Type	Energy Consumption		Units
<b>Construction</b>			
Construction Equipment	6,568,021		Diesel Gallons <sup>1</sup>
	133,788,640		Gasoline Gallons <sup>2</sup>
<b>Transportation</b>			
	Gasoline	Diesel	
Passenger Vehicles	4,933,751	52,992	gallons/year
Trucks	5,721,583	5,681,284	gallons/year
Buses	114,638	114,117	gallons/year
Other Vehicles	10,800,256	5,854,515	gallons/year
Total (All Vehicle Types)	21,570,228	11,702,908	gallons/year
<b>Building Energy</b>			
Electricity	133,400,350		kWh/year
Natural Gas	339,533,680		kBTU/year

Notes: gallons/year = gallons per year; kWh/year = kilowatt hours per year; kBTU/year = thousand British thermal units per year.

1. Diesel gallons include off-road equipment and on-road gallons from worker and vendor trips.

2. Gasoline gallons include on-road gallons from worker trips.

Source: Calculations by Ascent Environmental in 2018

#### **Transportation Energy**

Fuel use estimates were calculated from the combination of consumption rates and fuel mix by vehicle class from CARB's EMFAC2014 model with overall VMT and mode share by vehicle class modeled for the project in CalEEMod (see Section 4.3, "Air Quality," and Appendix K of this EIR). State and federal regulations regarding standards for vehicles in California are designed to reduce wasteful, unnecessary, and inefficient use of energy for transportation. Implementing the project involves the implementation of bicycle and

pedestrian facilities, traffic-calming measures, and a trip reduction program that would reduce annual VMT and encourages a mode shift.

Fuel consumption associated with vehicle trips generated by implementing the project would not be considered inefficient, wasteful, or unnecessary in comparison to that associated with other, similar developments in the region. The estimated weekday VMT (74,519,700 miles) is based on the regional average for 2036 as reported in SACOG's MTP/SCS 2036 (2016). Daily VMT associated with the PRSP area would be 1,310,912 and would consume 21,570,228 gallons of gasoline per year and 11,702,908 gallons of diesel per year at full buildout (Table 4.16-2). Because the level of development assumed was more intensive in the MTP/SCS 2036, development under the PRSP would be consistent with the MTP/SCS 2036.

PRSP design features aim to reduce the PRSP's VMT several ways through the implementation of bicycle and pedestrian facilities, as well as transit connections and trip reduction features. These features were included in the VMT estimate for the PRSP, per the traffic study conducted for the PRSP. VMT-reducing measures include the following:

- ▲ The PRSP includes a Bicycle and Pedestrian Mobility Plan that features a network of both Class I and Class II bikeways on streets throughout the PRSP area, as well as sidewalks and paths.
- ▲ PRSP roadways are planned to accommodate a future route for bus rapid transit that would include an east/west connection through the Sunset Plan area.
- ▲ A Transit Master Plan will be prepared in the future to determine where transit routes will be established and where bus pullouts and shelters will be located throughout the plan area.
- ▲ The PRSP identifies the potential location for a park-and-ride lot at the intersection of Placer Parkway and Foothills Boulevard.

SAP Policies NR-7.1 through NR-7.16 include policies to reduce vehicle emissions by encouraging efficient project design, promoting alternative transportation, and requiring alternative fuel vehicle infrastructure (such as electric vehicle charging stations). In addition, Section 4.14, "Transportation and Circulation," includes Mitigation Measure 4.14-12a, which requires compliance with the County's Trip Reduction Program, and Mitigation Measures 4.14-12b, which requires implementation of transportation demand management (TDM) measures. These measures would reduce VMT and would further maximize efficient use of transportation facilities and associated energy use.

### **Building Energy**

Operation of residential, commercial, educational, and industrial buildings in the PRSP area would require typical use of electricity and natural gas for lighting, space and water heating, appliances, and landscape maintenance activities. Indirect energy use would include wastewater treatment and solid waste removal. Implementing the project would increase electricity and natural gas consumption in the region relative to existing conditions and would require construction of new utility connections and the Sunset and Placer Ranch Substations.

As shown in Table 4.16-2, under the proposed PRSP land use plan, building energy demand would result in 133,400,350 kWh of electricity and 339,533,680 therms of natural gas. (The previous PRSP land use plan resulted in building energy demand of 140,238,920 kilowatt hours (kWh) of electricity and 350,393,940 therms of natural gas; therefore, the current PRSP land use plan would result in a reduction of 6,838,570 kWh and 10,860,260 therms of building energy demand, as compared to the previous PRSP land use plan.)

Buildings constructed in the PRSP area would meet Title 24 Part 6 standards for energy efficiency that are in effect at the time of construction. As the PRSP builds out over the next 20-plus years, individual buildings could be constructed to meet future Building Energy Efficiency Standards which are updated by the CEC on a triennial code cycle. The next scheduled update to the building energy code is the 2019 Title 24 Building Energy Efficiency Standards, which will apply to projects that obtain building permits on January 1, 2020, or

later. A notable requirement in the 2019 standards is that all low-rise residential construction three stories or fewer will be required to have solar photovoltaic systems. This requirement will apply to all low-rise residential building types in the PRSP area that obtain permits after January 1, 2020. Future iterations of Title 24 Part 6 standards may continue to require improved building energy efficiency standards that would apply to affected building types constructed in the PRSP area.

The SAP includes many policies aimed at maximizing building energy efficiency, including LU/ED-3.9, and NR-6.2 through 6.8. Implementation of Mitigation Measure 4.7-2a, described in Section 4.7, “Greenhouse Gas Emissions,” would further improve the energy efficiency of buildings in the project area through compliance with the California Green Building Standards Code (CALGreen) Tier 2 for single-family residences, and Tier 1 for multi-family residences and non-residential buildings. Further, Mitigation Measure 4.7-2a would reduce water consumption through compliance with CALGreen, as well as ensure all appliances are EnergyStar®-certified to further reduce building energy. The combination of these measures would reduce wasteful energy consumption for buildings and improve energy efficiency in buildings constructed in the project area.

### Conclusion

Construction activities in the PRSP area would not result in the need for additional energy capacity or substantially increase peak or base period demands. Further, construction energy consumption would be reduced through implementation of PCAPCD’s Recommended Construction Mitigation Measures. The PRSP area is consistent with development projected for the area per the 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy. PRSP design features would further reduce VMT through the addition of infrastructure to support alternative modes of transportation such as bicycling, walking, and rapid bus transit. Implementation of Mitigation Measures 4.14-12a and 4.14-12b would further reduce VMT and maximize efficient use of transportation facilities and associated energy use. Through implementation of Mitigation Measure 4.7-2a, project buildings would reduce energy consumption through compliance with CALGreen. The net SAP area would not result in the wasteful, unnecessary, or inefficient use of energy and this impact would be less than significant.

### Other Supporting Infrastructure

#### Pleasant Grove Retention Facility

##### Construction-Related Energy

Energy would be required to operate and maintain equipment and to produce and transport materials associated with construction of the Pleasant Grove Retention Facility (Table 4.16-3). The one-time energy expenditure required to construct the infrastructure associated with the Pleasant Grove Retention Facility would be nonrecoverable. Most energy consumption would result from operation of equipment and vehicle trips associated with commutes by construction workers and haul trucks supplying materials.

**Table 4.16-3 Construction Energy Consumption from Other Supporting Infrastructure**

Project Component	Diesel (Gallons)	Gasoline (Gallons)
Pleasant Grove Retention Facility	1,569,627	9,220,516
Off-Site Transportation and Utility Improvements	382,943	36,935,966

Notes: Gasoline gallons include on-road gallons from worker trips. Diesel gallons include off-road equipment and on-road gallons from worker and vendor trips.

Source: Calculations by Ascent Environmental in 2018

An estimated 9,220,516 gallons of gasoline and 1,569,627 gallons of diesel would be consumed to construct the Pleasant Grove Retention Facility. The energy needs for Pleasant Grove construction would be temporary and would not require additional capacity or increase peak or base period demands for electricity or other forms of energy. Construction equipment use would require several pieces of large off-road equipment, such as scrapers, graders, dozers, and loaders, and associated energy consumption would be typical of worker commute behavior.

After construction, operation of Pleasant Grove would not involve the direct consumption of energy. Thus, there would be no increase in energy consumption associated with its operation. Therefore, this impact would be less than significant.

### Off-Site Transportation and Utility Improvements

#### Construction-Related Energy

Energy would be required to operate and maintain equipment and to produce and transport materials associated with construction of the off-site transportation and utility improvements (Table 4.16-3). The one-time energy expenditure required to construct the infrastructure associated with the off-site transportation and utility improvements would be nonrecoverable. Most energy consumption would result from operation of construction equipment and vehicle trips associated with commutes by construction workers and haul trucks supplying materials.

An estimated 36,935,966 gallons of gasoline and 382,943 gallons of diesel would be consumed to construct all off-site transportation and utility improvements. The energy needs for the off-site transportation and utility improvements would be temporary would not require additional capacity or increase peak- or base-period demands for electricity or other forms of energy. Use of equipment and associated energy consumption would be typical of those associated with roadway construction and other types of linear infrastructure projects.

After construction, operation of the off-site transportation and utility improvements would not involve the direct consumption of energy. Thus, there would be no increase in energy consumption associated with its operation. Therefore, this impact would be less than significant.

#### Conclusion

According to Appendix F of the State CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall per capita energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. Per Mitigation Measure 4.7-2a, project buildings would exceed the Title 24 building efficiency standards through compliance with CALGreen standards, as well as incentivize EV usage through providing EV charging stations, wiring new residences to accommodate charging, and preferential parking in non-residential developments. These actions would reduce building energy consumption and would reduce per capita energy use compared to other similar projects.

Through the PRSP's design to incorporate bicycle and pedestrian facilities and the implementation of increased transit availability and trip reduction features, implementing the project would not result in a wasteful or inefficient use of transportation-related energy. In addition, Section 4.14, "Transportation and Circulation," includes Mitigation Measure 4.14-12a, which requires compliance with the County's Trip Reduction Program, and Mitigation Measures 4.14-12b, which requires implementation of transportation demand management (TDM) measures. These measures would VMT and would further maximize efficient use of transportation facilities and associated energy use.

Energy consumption through construction, building operation, or transportation associated with the project, Pleasant Grove, and the off-site infrastructure improvements would not be considered wasteful, inefficient, or unnecessary. This impact would be **less than significant**.

### Mitigation Measures

No mitigation is required.

### Impact 4.16-2: Consistency with applicable general plan policies

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The project is consistent with the policies of the *Placer County General Plan* relating to energy efficiency. This impact would be **less than significant**.

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The relevant goals and policies of the Placer County General Plan (Placer County 2013) regarding energy efficiency are included in Section 4.16.3, “Regulatory Setting,” earlier in this section.

General Plan Goal 3.C relates to maximizing efficient use of transportation facilities, including increasing the energy efficiency of the transportation system. The project is consistent with this goal because it is designed to include multi-modal transportation facilities, including trails, sidewalks, bike lanes, and transit facilities. The SAP also includes several policies to encourage multi-modal transportation and vehicle trip reduction, including LU/ED-2.11, LU/ED-5.5, NR-7.1 through NR-7.16, TM-1.1, TM-1.2, TM-2.1 through TM-2.8, TM-3.1 through TM-3.3, and TM-4.1 through TM-4.4 (each described above). In addition, Section 4.14, “Transportation and Circulation,” includes Mitigation Measure 4.14-12a, which requires compliance with the County’s Trip Reduction Program, and Mitigation Measures 4.14-12b, which requires implementation of transportation demand management (TDM) measures. These measures would reduce VMT and would further maximize efficient use of transportation facilities and associated energy use.

General Plan Policies 6.F.6 and G-1 through G-5 relate to increasing energy efficiency of buildings. The SAP includes many policies aimed at maximizing building energy efficiency, including LU/ED-3.9, and NR-6.2 through 6.8. Implementation of Mitigation Measure 4.7-2a, described in Section 4.7, “Greenhouse Gas Emissions,” would further improve the energy efficiency of buildings in the project area through compliance with the California Green Building Standards Code (CALGreen) Tier 1 for multi-family residences and non-residential buildings. Further, Mitigation Measure 4.7-2a would reduce water consumption through compliance with CALGreen, as well as ensure all appliances are EnergyStar®-certified to further reduce building energy. The combination of these measures would reduce wasteful energy consumption for buildings and improve energy efficiency in buildings constructed in the project area.

Because the project is consistent with the applicable General Plan policies as discussed, impacts related to General Plan consistency would be **less than significant**.

## Mitigation Measures

No mitigation is required.

## CUMULATIVE IMPACTS

The geographic area considered for cumulative impacts related to energy use includes the PG&E and Pioneer Energy service areas. Both energy providers employ various programs and mechanisms to support provision of gas and electricity services to new development; to recoup costs of new infrastructure, connection fees are typically charged through standard billings for services.

### Cumulative Impact 4.16-3: Cumulative wasteful and inefficient consumption of energy

Several other currently planned and approved projects identified in Table 4.0-2 would also receive electricity and natural gas service provided by PG&E and Pioneer Energy. These projects would also consume energy related to transportation and construction. These projects would be required to implement energy-efficiency measures in accordance with Title 24 to reduce energy demand. Given the large amount of development identified in the region, it is possible that even with implementation of Title 24 measures, inefficient and wasteful energy consumption could occur.

As described above for Impact 4.16-1, according to Appendix F of the State CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall per capita energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. Impact 4.16-1 concludes that the project would not result in wasteful or inefficient use of energy. Because the project would not result in wasteful or inefficient use of energy and, therefore, not contribute to a significant cumulative impact, the project would not result in a substantial contribution to a significant cumulative impact. This impact would be **less than significant**.

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