4.6 ENERGY

This chapter describes the regulatory framework and existing conditions of the City of Santa Rosa Environmental Impact Report (EIR) Study Area and evaluates the potential energy impacts from adopting and implementing the proposed project and from future development and activities that could occur under the proposed project. Section 21100(b)(3) of California Environmental Quality Act (CEQA) requires that an EIR include a detailed statement with mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy. Appendix F, *Energy Conservation*, of State CEQA Guidelines states that, to ensure that energy implications are considered in project decisions, the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the project description, environmental setting, and impact analysis portions of technical sections, as well as through feasible mitigation measures and alternatives.

In accordance with Appendices F, *Energy Conservation*, and G, *Environmental Checklist,* of the State CEQA Guidelines, this Draft EIR includes relevant information and analyses that address the energy implications of the proposed project. This chapter summarizes the proposed anticipated energy needs, impacts, and conservation measures associated with future development and activities under the proposed project. Other aspects of the proposed project's energy implications are also discussed in Chapter 3, *Project Description*, Chapter 4.3, *Air Quality*, Chapter 4.8, *Greenhouse Gas Emissions*, and Chapter 4.15*, Transportation*, of this Draft EIR.

4.6.1 ENVIRONMENTAL SETTING

4.6.1.1 REGULATORY FRAMEWORK

Federal Regulations

Federal Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 was established in response to the 1973 oil crisis. The act created the Strategic Petroleum Reserve, established vehicle fuel economy standards, and prohibited the export of United States crude oil (with a few limited exceptions). It also created Corporate Average Fuel Economy (CAFE) standards for passenger cars starting in model year 1978. The CAFE standards are updated periodically to account for changes in vehicle technologies, driver behavior, and/or driving conditions.

The federal government issued new CAFE standards in 2012 for model years 2017 to 2025 that required a fleet average of 54.5 miles per gallon (MPG) for model year 2025. However, on March 30, 2020, the United States Environmental Protection Agency (USEPA) finalized an updated CAFE and greenhouse gas (GHG) emissions standards for passenger cars and light trucks and established new standards, covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 through 2026. Under SAFE, the fuel economy standards will increase 1.5 percent per

year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 MPG for model year 2026 vehicles. On March 31, 2022, the National Highway Traffic Safety Administration finalized new fuel standards, which will increase fuel efficiency 8 percent annually for model years 2024 to 2025 and 10 percent annually for model year 2026. Overall, the new CAFE standards require a fleet average of 49 MPG for passenger vehicles and light trucks for model year 2026, which will be a 10 MPG increase relative to model year 2021.[1]

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The act sets increased CAFE Standards; the Renewable Fuel Standard; appliance energy-efficiency standards; building energy-efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration.[2]

Energy Policy Act of 2005

Passed by Congress in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. This Act includes tax incentives for energy conservation improvements in commercial and residential buildings, fossil fuel production and clean coal facilities, and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

National Energy Policy

Established in 2001 by the National Energy Policy Development Group, the National Energy Policy is designed to help the private sector and State and local governments promote dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the energy policy are energy conservation, repair and expansion of energy infrastructure, and ways of increasing energy supplies while protecting the environment.

Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the United States Department of Transportation to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and Hazardous Materials Safety Administration within the United States Department of Transportation develops and enforces regulations

[1] National Highway Traffic Safety Administration, April 1, 2022, USDOT Announces New Vehicle Fuel Economy Standards for Model year 2024-2026, https://www.nhtsa.gov/press-releases/usdot-announces-new-vehicle-fuel-economy-standards-model-year-2024-2026, accessed July 24, 2023.

[2] United States Environmental Protection Agency, updated May 12, 2022, Summary of the Energy Independence and Security Act, https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act, accessed July 24, 2023.

for the safe, reliable, and environmentally sound operation of the nation's 2.6-million-mile pipeline transportation system.

State Regulations

Warren-Alquist Act

Established in 1974, the Warren-Alquist State Energy Resources Conservation and Development Act created the California Energy Commission (CEC) in response to the energy crisis of the early 1970s and the state's unsustainable growing demand for energy resources. The CEC's core responsibilities include advancing State energy policy, encouraging energy-efficiency, certifying thermal power plants, investing in energy innovation, developing renewable energy, transforming transportation, and preparing for energy emergencies. The Warren-Alquist Act is updated annually to address current energy needs and issues, and its latest edition was in January 2023.

California Energy Commission

The CEC was created in 1974 under the Warren-Alquist Act as the State's principal energy planning organization to meet the energy challenges facing the state in response to the 1973 oil embargo. The CEC is charged with six basic responsibilities when designing state energy policy:

- Forecast statewide electricity needs
- License power plants to meet those needs
- Promote energy conservation and efficiency measures
- Develop renewable energy resources and alternative energy technologies
- Promote research, development, and demonstration
- Plan for and direct the State's response to energy emergencies

California Public Utilities Commission

In September 2008, the California Public Utilities Commission (CPUC) adopted the Long-Term Energy Efficiency Strategic Plan, which provides a framework for energy efficiency in California through the year 2020 and beyond. It articulates a long-term vision, as well as goals for each economic sector, identifying specific near-term, mid-term, and long-term strategies to assist in achieving these goals. This Plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020;[3]
- All new commercial construction in California will be zero net energy by 2030;
- Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate; and
- All eligible low-income customers will be given the opportunity to participate in the low-income energy-efficiency program by 2020.

[3] Zero net energy buildings are buildings that the total amount of energy used by the building on an annual basis is equal to or less than the amount of renewable energy created on the site.

With respect to the commercial sector, the Long-Term Energy Efficiency Strategic Plan notes that commercial buildings, which include schools, hospitals, and public buildings, consume more electricity than any other end-use sector in California. The commercial sector's five-billion-plus square feet of space accounts for 38 percent of the state's power use and over 25 percent of natural gas consumption. Lighting, cooling, refrigeration, and ventilation account for 75 percent of all commercial electric use, while space heating, water heating, and cooking account for over 90 percent of gas use. In 2006, schools and colleges were in the top five facility types for electricity and gas consumption, accounting for approximately 10 percent of the state's electricity and gas use.[4]

The CPUC and CEC have adopted the following goals to achieve zero net energy levels by 2030 in the commercial sector:

- Goal 1: New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.
- Goal 2: 50 percent of existing buildings will be retrofitted to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.
- Goal 3: Transform the commercial lighting market through technological advancement and innovative utility initiatives.

Renewable Portfolio: Carbon Neutrality Regulations

Senate Bills 1078, 107, X1-2, and Executive Order S-14-08

The California Renewables Portfolio Standard (RPS) was established in 2002 under Senate Bill (SB) 1078 and was amended in 2006, 2011, and 2018. The RPS program requires investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. Initially under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent to reach at least 20 percent by December 30, 2010. Executive Order (EO) S 14 08 was signed in November 2008, which expanded the state's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the California legislature in 2011 (SB X1-2). The CPUC is required to provide quarterly progress reports on progress toward RPS goals. This has accelerated the development of renewable energy projects throughout the state.

Clean Energy and Pollution Reduction Act

The Clean Energy and Pollution Reduction Act, commonly known by its legislative bill number SB 350 was enacted on October 7, 2015, which expands the RPS by establishing a goal of 50 percent of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, this Act includes the goal to double the energy-efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses upon which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. This Act also requires the CPUC, in

[4] California Public Utilities Commission, January 2011, CA Energy Efficiency Strategic Plan, https://www.cpuc.ca.gov/-/media/cpuc-website/files/legacyfiles/c/5303-caenergyefficiencystrategicplan-jan2011.pdf, accessed July 25, 2023.

consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. This Act also provides for the transformation of the California Independent System Operator into a regional organization to promote the development of regional electricity transmission markets in the western states and to improve the access of consumers served by the California Independent System Operator to those markets, pursuant to a specified process.

Senate Bill 100

On September 10, 2018, SB 100 was signed into law to replace the Clean Energy and Pollution Reduction Act (SB 350) requirements. Under SB 100, the RPS for public-owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. Additionally, SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill also establishes an overall State policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all State agencies by December 31, 2045. Under SB 100, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

The Clean Energy, Jobs, and Affordability Act of 2022

The Clean Energy, Jobs, and Affordability Act of 2022, commonly known as its legislative bill number SB 1020 was signed into law on September 16, 2022. This Act requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent by 2040. Additionally, this Act requires all State agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.

Energy-Efficiency Regulations

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California (California Code of Regulations [CCR] Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy-efficiency technologies and methods.[5]

California Building Energy Code: Title 24, Part 6, Energy-Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2022 (CCR Title 24, Part 6). Title 24 requires the design of building shells and

[5] California Energy Commission, 2017, *2016 Appliance Efficiency Regulations*, https://pdf4pro.com/cdn/2016-appliance-efficiency-regulations-5104f7.pdf, accessed July 25, 2023.

building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy-efficiency technologies and methods.

On August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2021. The 2022 standards became effective and replaced the 2019 standards on January 1, 2023. The 2022 standards require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers.[6]

California Building Code: Title 24, Part 11, Green Building Standards

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code (CBSC). It includes mandatory requirements for new residential and nonresidential buildings throughout California. CALGreen is intended to (1) reduce GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2022. The 2022 CALGreen update, which was approved as part of the 2022 Energy Code, became effective on January 1, 2023, and provides updates to the residential and nonresidential voluntary measures.

Overall, the code is established to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impact during and after construction. CALGreen contains requirements for construction site selection, stormwater control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for verifying that all building systems (e.g., heating and cooling equipment and lighting systems) are functioning at their maximum efficiency.[7]

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR Sections 1601 through 1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. They contain energy performance, energy design, water performance, and water design

[6] California Energy Commission, 2021, Amendments to the Building Energy Efficiency Standards (2022 Energy Code), Draft Environmental Report. CEC-400-2021-077-D.

[7] California Building Standards Commission, July 2022, *2022 California Green Building Standards Code, California Code of Regulations, Title 24, Part 11*, https://codes.iccsafe.org/content/CAGBC2022P1/copyright, accessed July 25, 2023.

standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California (CCR Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy-efficiency technologies and methods.

Off-road Equipment and Transportation-Related Regulations

Assembly Bill 1493 (Pavley Law)

California vehicle GHG emission standards were enacted under Assembly Bill (AB) 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and was anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the USEPA. In 2012, the USEPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under *Federal*, above). In January 2012, the California Air Resources Board (CARB) approved the Pavley Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions.[8]

Title 13, Chapter 9, Article 4.8, Section 2449

Section 2449 of the CCR, Title 13, Chapter 9, Article 4.8 was adopted on May 2, 2008, that limits non-essential idling of fleets to no more than five consecutive minutes at any location. This idling restriction applies to all vehicles in California with a diesel-fueled or alternative diesel-fueled off-road engine, unless a waiver provides sufficient justification that such idling is necessary.

Sustainable Communities and Climate Protection Act

In 2008, the Sustainable Communities and Climate Protection Act, commonly known as its legislative bill number, SB 375, was adopted to connect the GHG emissions-reductions targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle-miles traveled (VMT) and vehicle trips. Specifically, this act required CARB to establish GHG emissions-reduction targets for each of the 18 metropolitan planning organizations (MPOs). The Sonoma County Transportation Authority (SCTA) is the MPO for the cities of Sonoma County, which includes the City of Santa Rosa. Pursuant to the recommendations of the

[8] California Air Resources Board, January 18, 2017, California's Advanced Clean Cars Midterm Review, https://ww2.arb.ca.gov/sites/default/files/2020-01/ACC%20MTR%20Summary_Ac.pdf, accessed July 25, 2023.

Regional Transportation Advisory Committee (RTAC), CARB adopted per-capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

Executive Order N-79-20

On September 23, 2020, EO N-79-20 was issued, which sets a time frame for the transition to zero-emissions (ZE) passenger vehicles and trucks in addition to off-road equipment. It directs CARB to develop and propose the following:

- Passenger vehicle and truck regulations requiring increasing volumes of new zero-emission vehicles (ZEVs) sold in California toward the target of 100 percent of in-state sales by 2035.
- Medium- and heavy-duty vehicle regulations requiring increasing volumes of new ZE trucks and buses sold and operated in California toward the target of 100 percent of the fleet transitioning to ZEVs by 2045 everywhere feasible, and for all drayage[9] trucks to be ZE by 2035.
- Strategies to achieve 100 percent zero emissions from all off-road vehicles and equipment operations in California by 2035, in cooperation with other State agencies, the USEPA, and local air districts.

On August 25, 2022, CARB adopted the Advanced Clean Cars II regulations that codify the EO goal of 100 percent of in-state sales of new passenger vehicles and trucks be ZE by 2035. Starting in year 2026, Advanced Clean Cars II requires that 35 percent of new vehicles sold be ZE or plug-in hybrids.

Advanced Clean Fleets Regulation

In April 2023, CARB released the Advanced Clean Fleets (ACF) regulation to accelerate the transition to zero-emission medium- and heavy-duty vehicles.[10] In conjunction with the Advanced Clean Trucks regulation, the ACF regulations helps to ensure that medium- and heavy-duty ZEVs are brought to the market, by requiring certain fleets to purchase ZEVs. The ACF ZEV phase-in approach, which provides initial focus where the best fleet electrification opportunities exist, sets clear targets for regulated fleets to make a full conversion to ZEVs, and creates a catalyst to accelerate development of a heavy-duty public infrastructure network.

The ACF regulations covers four main elements:

- Manufacturer sales mandate. Manufacturers may sell only zero-emission medium- and heavy-duty vehicles starting in 2036.
- Drayage fleets. Beginning January 1, 2024, trucks must be registered in the CARB Online System to conduct drayage activities in California. Non-zero-emission "legacy" drayage trucks may register in the CARB Online System through December 31, 2023. Legacy drayage trucks can continue to operate through their minimum useful life. Beginning January 1, 2024, only zero-emission drayage trucks may

[9] Drayage refers to short-distance transportation of goods between various transportation hugs, including ports, rail yards and warehouses, contributing to the smooth flow of goods.

[10] California Air Resources Board, April 14, 2023, Advanced Clean Fleets Regulation. https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets/about, accessed July 25, 2023.

register in the CARB Online System. All drayage trucks entering seaports and intermodal railyards would be required to be zero-emission by 2035.

- High priority and federal fleets. High priority and federal fleets must comply with the Model Year Schedule or may elect to use the optional ZEV Milestones Option to phase-in ZEVs into their fleets:
  - Model Year Schedule: Fleets must purchase only ZEVs beginning 2024 and, starting January 1, 2025, must remove internal combustion engine vehicles at the end of their useful life, as specified in the regulation.
  - ZEV Milestones Option (Optional): Instead of the Model Year Schedule, fleets may elect to meet ZEV targets as a percentage of the total fleet starting with vehicle types that are most suitable for electrification.
- State and local agencies. State and local government fleets, including city, county, special district, and State agency fleets, would be required to ensure 50 percent of vehicle purchases are zero-emission beginning in 2024 and 100 percent of vehicle purchases are zero-emission by 2027. Small government fleets (those with 10 or fewer vehicles) and those in designated counties would start their ZEV purchases beginning in 2027. Alternately, State and local government fleet owners may elect to meet ZEV targets using the ZEV Milestones Option. State and local government fleets may purchase either ZEVs or near-ZEVs, or a combination of ZEVs and near-ZEVs, until 2035. Starting in 2035, only ZEVs will meet the requirements.

The ACF regulations would also establish requirements that transform the medium- and heavy-duty vehicle sector and demonstrate independent utility through achievement of the following objectives:

- Achieve criteria and GHG emissions reductions consistent with the goals identified in the State Implementation Plan Strategy and Scoping Plan.
- Provide emissions reductions in disadvantaged communities, thereby supporting the implementation of AB 617 (Garcia, C., Chapter 136, Statutes of 2017).
- Support the goals of EO N-79-20, which calls for accelerated ZEV deployment with these targets:
  - 100 percent ZE drayage by 2035
  - 100 percent ZE trucks and buses where feasible by 2045
- Ensure requirements, such as ZEV deployment schedules and related infrastructure build-out, are technologically feasible, cost-effective, and support market conditions.
- Lead the transition away from petroleum fuels and towards electric drivetrains.
- Contribute towards achieving carbon neutrality in California pursuant to SB 100, and in accordance with EO B-55-18.
- Mindfully set requirements to allow time for public ZE infrastructure buildout for smaller fleets or for regional haul applications who would be reliant on a regional network of public chargers.
- Ensure manufacturers and fleets work together to place ZEVs in service suitably and successfully as market expands.
- Establish a fair and level playing field among fleet owners.
- Craft the proposed project in a way that ensures institutional capacity for CARB to manage, implement, and enforce requirements.

Energy Storage

California has set ambitious long-term goals for energy storage beyond 2026 to support its clean energy and climate goals. The State aims to reach 100 percent carbon-free electricity by 2045, which will require significant investment in renewable energy sources like wind and solar, as well as energy storage technologies to balance the variability of these sources.

The California Independent System Operator (CAISO) has a total energy storage capacity of more than 3,160 megawatts (MW) as of June 2022.[11] This includes both large-scale and distributed energy storage systems, such as batteries, pumped hydroelectric storage, and thermal storage. CAISO is responsible for managing the electricity grid for much of California, and it has set a target of adding 3,300 MW of additional energy storage capacity by 2024 to support the integration of more renewable energy sources like wind and solar. As part of SB 100, load-serving entities (LSEs) were required to procure no less than 1.3 gigawatts (GW) of energy storage capacity by 2020, and 3 GW by 2030. Additionally, the CPUC has established a target of 15 GW of energy storage capacity by 2030.[12]

The Integrated Resource Plan

CAISO develops a coordinated grid management plan to integrate the generation and storage capacities of LSEs, called the Integrated Resource Plan (IRP). The IRP is a comprehensive planning document that outlines CAISO's forecasts for electricity demand, supply, and transmission needs over a 20-year planning horizon, as well as its strategies for integrating renewable energy resources and other grid services to meet those needs. The plan is developed in collaboration with LSEs, regulators, and other stakeholders, and is updated periodically to reflect changes in the energy landscape and evolving policy goals. Overall, the IRP plays a critical role in ensuring the reliability and resilience of California's electricity grid as the state continues to transition to a cleaner and more sustainable energy system.

When an individual Battery Energy Storage (BES) facility or generation infrastructure (i.e., solar panels) comes online in California, it is typically included in the IRP through a process known as the Interconnection Queue. The Interconnection Queue is managed by the CAISO, which oversees the operation of the State's electricity grid.

The Interconnection Queue

The Interconnection Queue is an application process that functions as a waiting list of proposed electricity generation and storage projects that are seeking to connect to the grid. When a new BES facility or generation infrastructure is proposed, the developer submits an application to CAISO to request an interconnection to the grid. CAISO evaluates the application to ensure that the facility meets technical and

[11] California Independent System Operator, June 14, 2022, "A golden age of energy storage," http://www.caiso.com/about/Pages/Blog/Posts/A-golden-age-of-energy-storage.aspx, accessed July 25, 2023.

[12] California Public Utilities Commission, December 1, 2022, CPUC Creates New Framework to Advance California's Transition Away From Natural Gas, https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report, accessed July 25, 2023.

operational requirements, such as voltage regulation and frequency response, and that it can be integrated effectively into the grid.

Once the BES facility or generation infrastructure is approved by CAISO, it is assigned a point of interconnection on the grid, and its output is added to the IRP as a resource that can provide electricity and other grid services, such as frequency regulation or ramping support. The facility is then dispatched by CAISO based on its bids into the day-ahead and real-time electricity markets, and its output is used to help balance supply and demand on the grid in real-time.

Overall, the Interconnection Queue is an important mechanism for integrating new BES facilities and other electricity resources into the California grid, and for ensuring that the grid remains reliable and resilient as the state continues to transition to a cleaner and more sustainable energy system.

Regional Regulations

Sonoma County Transportation Authority

The SCTA is the congestion management agency for Sonoma County. SCTA is tasked with developing a comprehensive transportation improvement program among local jurisdictions that will reduce traffic congestion and improve land use decision-making and air quality. SCTA's latest congestion management program is the 2016 Comprehensive Transportation Plan. SCTA's countywide transportation model must be consistent with the regional transportation model developed by the Metropolitan Transportation Commission (MTC) with Association of Bay Area Governments (ABAG) data. The countywide transportation model is used to help evaluate cumulative transportation impacts of local land use decisions on the congestion management program system. In addition, SCTA's updated Comprehensive Transportation Plan includes multi-modal performance standards and trip reduction and transportation demand management strategies consistent with the goals of reducing regional VMT in accordance with Sustainable Communities and Climate Protection Act (SB 375).

As part of the implementing framework for the Comprehensive Transportation Plan, communities in Sonoma County have identified Priority Development Areas (PDAs) to focus future population and employment growth. Increased density in PDAs is intended to locate more people near jobs and services in an effort to reduce travel and transportation-related energy impacts.[13]

Plan Bay Area

As described in Chapter 4.0, *Environmental Analysis*, of this Draft EIR, MTC and ABAG adopted *Plan Bay Area* 2050 on October 21, 2021.[14] *Plan Bay Area* provides transportation and environmental strategies to continue to meet the regional transportation-related GHG reduction goals of Sustainable Communities and Climate Protection Act (SB 375). Under the *Plan Bay Area* strategies, just under half of all Bay Area

[13] Sonoma County Transportation Authority, September 2016, *Moving Forward 2040: Sonoma County's Comprehensive Transportation Plan*, https://scta.ca.gov/wp-content/uploads/2016/09/CTP16_090616.pdf.

[14] Association of Bay Area Governments and Metropolitan Transportation Commission, October 2021, *Plan Bay Area 2050*, https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf, accessed July 21, 2023.

households would live within 0.5 miles of frequent transit by 2050. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecasted to lower the share of Bay Area residents that drive to work alone from over 50 percent in 2015 to 36 percent in 2050. As described in Chapter 4.0 of this Draft EIR, to achieve *Plan Bay Area*'s sustainable vision for the Bay Area, the *Plan Bay Area* land use concept plan for the region concentrates the majority of new population and employment growth in the region in PDAs[15] and Transit Priority Areas (TPAs).[16] As shown on Figure 4-1, *Priority Development Areas and Transit Priority Areas*, in Chapter 4.0 of this Draft EIR, the EIR Study Area has six PDAs and three TPAs, including the Mendocino Avenue/Santa Rosa Avenue Corridor PDA, North Santa Rosa Station PDA and TPA, Downtown Station Area PDA and TPA, Sebastopol Road Corridor PDA, Roseland PDA, Santa Rosa Avenue PDA, and Santa Rosa Transit Mall TPA. Development in PDAs and TPAs leverage existing infrastructure and therefore can minimize development in greenfield (undeveloped) areas and maximize growth in transit-rich communities to help lower VMT and consequently reduce GHG emissions, air quality pollutants, and noise from vehicles with internal combustion engines dependent on fossil fuels and reduce wasteful, inefficient, or unnecessary consumption of energy resources.

Local Regulations

Santa Rosa City Code

The Santa Rosa City Code (SRCC) includes various directives pertaining to energy. The SRCC is organized by title, chapter, and section, and in some cases, articles. Most provisions related to energy conservation and use are in Title 3, *Revenue and Finance;* Title 18, *Buildings and Construction*; and Chapter 19, *Subdivisions*, as follows:

- Chapter 3-32, ***Utility Users Tax.*** This chapter is also known as the utility users tax ordinance. Section 3-32.060, *Electricity Users Tax*, outlines the tax that electric energy users in the city must pay. This code also defines what a charge and what using electric energy use means in this context. Section 3-32.070, *Gas Users Tax*, outlines the tax imposed on every person in the city that uses gas through a main or pipes. Some exclusions from the tax are applicable and described in this code as well.
- Title 18, ***Buildings and Construction.*** This title adopts by reference, with the additions, insertions, deletions, and changes listed throughout, the California Energy Code in Chapter 18-33, *California Energy Code*, and the California Green Building Standards Code in Chapter 18-42, *California Green Building Standards Code*. This title also includes Chapter 18-68, *Expedited Permit Process for Small Residential Rooftop Solar Energy Systems,* which provides for an expedited, streamlined solar permitting process that complies with the Solar Rights Act and AB 2188 to achieve timely and cost-effective installations of small residential rooftop solar energy systems.
- Chapter 19-04, ***Energy Conservation.*** This chapter provides for subdivisions to be designed to include passive or natural heating or cooling opportunities. Some examples of these opportunities include having the alignment of the subdivision be in the east-west direction and taking advantage of the available shade and prevailing breezes on the site.

[15] Priority development areas (PDAs) are transit-oriented, infill development opportunity areas in existing communities.
[16] Transit priority areas (TPAs) are half-mile buffers surrounding major transit stops or terminals.

4.6.1.2 EXISTING CONDITIONS

Electricity and Natural Gas

Electricity is quantified using kilowatts (kW) and kilowatt-hours (kWh), and natural gas is measured in therms. A therm is a measurement of the amount of heat energy in natural gas, equal to 100,000 British thermal units (BTUs). The volumetric billing unit used for natural gas delivered to customers is typically expressed in hundreds of cubic feet (Ccf)—approximately 0.01 therm per Ccf—or thousands of cubic feet (Mcf)—approximately 10.37 therms per Mcf.[17] A kW is a measure of 1,000 watts of electrical power and a kWh is a measure of electrical energy equivalent to a power consumption of 1,000 watts for one hour. The kWh is commonly used as a billing unit for energy delivered to consumers by electric utilities. According to the CEC's "Tracking Progress" regarding statewide energy demand, total electric energy usage in California was 280,738 gigawatt hours in 2021.[18] A gigawatt is equal to one million kW.

Energy Providers

Two energy providers, Sonoma Clean Power (SCP) and Pacific Gas and Electric Company (PG&E), serve the EIR Study Area, as described herein.

Sonoma Clean Power

SCP is the public electricity provider for Sonoma and Mendocino Counties.[19] As a not-for-profit public agency, SCP is independently run by Sonoma County and the participating cities of Coverdale, Cotati, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, Sonoma, unincorporated Sonoma County, and the Town of Windsor. SCP provides electricity generated from renewable sources such as solar, wind, geothermal, and hydropower. Individuals residing or working in the SCP service area are automatically enrolled in SCP.

SCP offers three program options: the CleanStart program, which provides 42 percent renewable power service; the EverGreen program, which provides 100 percent local renewable power service; or the OptOut program, which allows individuals to continue to receive PG&E's basic service.[20] The electric energy provided by SCP is conveyed to customers through PG&E's existing infrastructure. PG&E continues to maintain the grid, repair lines, and provide customer billing services in the SCP service area.

[17] United States Energy Information Administration, June 1, 2021, Frequently Asked Questions (FAQs), https://www.eia.gov/tools/faqs/faq.php?id=45&t=7, accessed July 25, 2023.

[18] California Energy Commission, Electricity Consumption by Planning Area, http://www.ecdms.energy.ca.gov/elecbyplan.aspx, accessed July 25, 2023.

[19] Sonoma Clean Power, 2023, Who We Are, https://sonomacleanpower.org/whoweare, accessed July 25, 2023.

[20] Sonoma Clean Power, 2023, You have the Power, https://sonomacleanpower.org/cleanstart-evergreen, accessed July 25, 2023.

Pacific Gas and Electric Company

Electricity

PG&E is a publicly traded utility company that generates, purchases, and transmits energy and natural gas under contract with the CPUC. PG&E's service territory is 70,000 square miles, roughly extending north to Eureka, south to Bakersfield, west to the Pacific Ocean, and east to the Sierra Nevada. PG&E's electricity distribution system consists of 106,681 circuit-miles of electric distribution lines and 18,466 circuit-miles of interconnected transmission lines.[21] PG&E owns and maintains above-ground networks of electric transmission and distribution facilities throughout the EIR Study Area.

PG&E electricity is generated by a combination of sources such as coal-fired power plants, nuclear power plants, and hydro-electric dams, as well as newer sources of energy, such as wind turbines and photovoltaic plants, also known as solar farms. The bulk electric grid (collectively referred to as "The Grid") is a network of high-voltage transmission lines, linked to power plants in the PG&E system. The distribution system, made up of lower-voltage secondary lines, is at the street and neighborhood level, and consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to the individual customer.

Natural Gas

PG&E gas transmission pipeline systems serve approximately 4.5 million gas customers in northern and central California.[22] The system is operated under an inspection and monitoring program. The system operates in real time on a 24-hour basis, and includes leak inspections, surveys, and patrols of the pipelines. PG&E also adopted the Pipeline 2020 program, which aims to modernize critical pipeline infrastructure, expand the use of automatic or remotely operated shut-off valves, catalyze development of next-generation inspection technologies, develop industry-leading best practices, and enhance public safety partnerships with local communities, public officials, and first responders. Total natural gas consumption in PG&E's service area was 449,302,071,200 kilo-BTU for 2021.[23]

In 2021, roughly half of PG&E's energy generated came from renewable resources, including biopower, geothermal, small hydroelectric, solar, and wind power. PG&E's portfolio consists of 7 percent natural gas, 39 percent non-emitting nuclear generation, 4 percent large hydroelectric facilities, and 50 percent eligible renewable energies, which includes small hydroelectric and wind.[24]

[21] Pacific Gas and Electric Company, 2023, Company profile, https://www.pge.com/en_US/about-pge/company-information/profile/profile.page, accessed July 25, 2023.

[22] Pacific Gas and Electric Company, 2023, Company profile, https://www.pge.com/en_US/about-pge/company-information/profile/profile.page, accessed July 25, 2023.

[23] California Energy Commission, 2021, Gas Consumption by Planning Area, http://www.ecdms.energy.ca.gov/gasbyplan.aspx, July 25, 2023.

[24] Pacific Gas and Electric Company, 2023, Exploring clean energy solutions, https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page#:~:text=In%202021%2C%20roughly%20half%20of,nuclear%20and%20large%20hydroelectric%20power, accessed July 25, 2023.

The existing electricity and natural gas consumption attributable to nonresidential and residential land uses in the EIR Study Area is shown in Table 4.6-1, *Estimated Existing Electricity and Natural Gas Demand.*

TABLE 4.6-1 ESTIMATED EXISTING ELECTRICITY AND NATURAL GAS DEMAND

Parameter	Electricity Usage (kWh/year) [a]	Natural Gas Usage (Therms/year) [a]
Residential	367,395,591	28,371,401
Nonresidential	525,542,438	15,954,672
Total	**892,938,028**	**44,326,074**
2019 Service Population [b]	275,569	
Per Service Population Consumption	**3,240**	**161**

Notes:
a. Based on electricity and natural gas usage inventory as part of the development of the GHG Reduction Strategy.
b. Service population = residents + jobs.
Source: See Appendix B, *Air Quality and Greenhouse Gas Emissions Data,* of this Draft EIR and Appendix A, *Greenhouse Gas Reduction Strategy*, of the proposed General Plan 2050.

Fuel Consumption

California is among the top producers of petroleum in the country, with crude oil pipelines throughout the state connecting to oil refineries in the Los Angeles, San Francisco Bay, and Central Valley regions. In addition to producing petroleum, California is also one of the top consumers of fuel for transportation. With this sector accounting for approximately 35 percent of California's total energy demand in 2020, amounting to approximately 2,355.5 trillion BTUs.[25] In addition, in 2020, California's transportation sector consumed approximately 433 million barrels of petroleum fuels.[26]

Furthermore, according to the CEC, California's 2019 fuel sales were approximately 15,365 million gallons of gasoline and 1,756 million gallons of diesel.[27] In Sonoma County, approximately 204 million gallons of gasoline and 32 million gallons of diesel fuel were sold in 2019.[28]

Table 4.6-2*, Existing Operation-Related Annual VMT,* shows the estimated annual VMT currently generated under existing baseline conditions. VMT is based on vehicle trips beginning and ending in the EIR Study Area and from external/internal trips (i.e., trips that either begin or end in the EIR Study Area).

[25] United States Energy Information Administration, 2020, *Table F33: Total Energy Consumption, Price, and Expenditure Estimates*, https://www.eia.gov/state/seds/sep_fuel/html/pdf/fuel_te.pdf, accessed July 25, 2023.

[26] United States Energy Information Administration, 2020, T*able F16: Total Petroleum Consumption Estimates*, https://www.eia.gov/state/seds/sep_fuel/html/pdf/fuel_te.pdf, accessed July 25, 2023.

[27] California Energy Commission, 2023, *California Retail Fuel Outlet Annual Reporting (CEC-A15) Results*, https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting, accessed July 25, 2023.

[28] California Energy Commission, 2023, *California Annual Retail Fuel Outlet Report Results (CEC-A15),* https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting, accessed July 25, 2023.

TABLE 4.6-2 EXISTING OPERATION-RELATED ANNUAL VMT

Gas VMT	Diesel VMT	Compressed Natural Gas VMT	Electricity VMT
1,093,443,760	111,134,150	1,713,800	12,792,080

Source: See Appendix B, *Air Quality and Greenhouse Gas Emissions Data*, of this Draft EIR.

4.6.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant energy impact if it would:

1. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
2. Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.
3. In combination with past, present, and reasonably foreseeable projects, result in a cumulative impact with respect to energy.

To determine whether the proposed project would result in wasteful, inefficient, or unnecessary consumption of energy resources, this analysis uses the guidance provided in Appendix F, *Energy Conservation*, of the CEQA Guidelines as well as the analytical precedent set by *League to Save Lake Tahoe Mountain etc. v. County of Placer* (2022) (75 Cal.App.5th 63, 164-168).

According to Appendix F of the CEQA Guidelines, the goal of conserving energy is translated to include decreasing overall per-capita energy consumption; decreasing reliance on fossil fuels such as coal, natural gas, and oil; and increasing reliance on renewable energy sources. In *League to Save Lake Tahoe Mountain etc. v. County of Placer* (2022) (75 Cal.App.5th 63, 164-168), the Appellate Court concluded that the analysis of wasteful, inefficient, and unnecessary energy consumption was not adequate because it did not consider whether additional renewable energy features could be added to the project.

The proposed project would be considered to result in a potentially significant impact if it would result in wasteful, inefficient, or unnecessary consumption of energy resources. Considering the guidance provided by Appendix F of the CEQA Guidelines and the Appellate Court decision in *League to Save Lake Tahoe Mountain etc. v. County of Placer* (2022) (75 Cal.App.5th 63, 164-168), the proposed project would be considered to result in wasteful, inefficient, or unnecessary consumption of energy resources if it would conflict with the following energy conservation goals:

- Decreasing overall per-capita energy consumption;
- Decreasing reliance on fossil fuels, such as coal, natural gas, or oil; and
- Increasing reliance on renewable energy sources.

4.6.2.1 METHODOLOGY

The following is a summary of the assumptions used for the City's energy analysis:

- Energy (Natural Gas and Electricity): Energy use for residential and nonresidential land uses in the city were modeled using electricity and natural gas data provided by PG&E and SCP. Residential energy and nonresidential energy forecasts are adjusted for increases in housing units and employment, respectively.
- On-Road Fuel Use: Daily VMT was used as an indicator of fuel use and was based on Origin-Destination Method VMT provided by W-Trans (see Chapter 4.15, *Transportation*, of this Draft EIR). The VMT provided includes the full trip length for land uses in the EIR Study Area (origin-destination approach) and a 50 percent reduction in the trip length for external-internal/internal-external trips, consistent with the recommendations of CARB's RTAC. Accounting of VMT is based on the recommendations of CARB's RTAC created under Sustainable Communities and Climate Protection Act (SB 375).

  Due to varying conditions that influence fuel consumption, such as vehicle fuel type and fuel economy, VMT generation is used herein as a performance metric to measure anticipated fuel consumption during baseline (2019) and future (2050) conditions. At the programmatic level, it is speculative to discuss the specific types of vehicles and fuels that would be used and consumed during operation of future development and activities under the proposed project.

4.6.3 IMPACT DISCUSSION

ENE-1	**Implementation of the proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.**

Short-Term Construction Impacts

Potential future development projects from implementation of the proposed project would create temporary demands for electricity. Natural gas is not generally required to power construction equipment, and therefore is not anticipated during construction phases. Electricity use would fluctuate according to the phase of construction. Additionally, it is anticipated that most electric-powered construction equipment would be hand tools (e.g., power drills, table saws, compressors) and lighting, which would result in minimal electricity usage during construction activities.

Construction of potential future development projects over the buildout horizon of the proposed project would also temporarily increase demands for energy associated with transportation. Transportation energy use depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. Energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel or gasoline. The use of energy resources by these vehicles would fluctuate according to the phase of

construction and would be temporary. It is anticipated that most off-road construction equipment, such as those used during demolition and grading, would be gas or diesel powered. In addition, all operation of construction equipment would cease upon completion of project construction. Furthermore, the construction contractors would be required to minimize nonessential idling of construction equipment during construction, in accordance with CCR Title 13, Chapter 9, Article 4.8, Section 2449. Such required practices would limit wasteful and unnecessary energy consumption.

Also, potential future projects in the EIR Study Area would be similar to projects currently in the EIR Study Area. Overall, there would be no unusual project characteristics anticipated that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in other parts of California. Therefore, short-term construction activities that occur as a result of implementation of the proposed project would not result in inefficient, wasteful, or unnecessary fuel consumption.

Long-Term Impacts During Operation

Decreasing Overall Per-Capita Energy Consumption

Operation of potential future development over the buildout horizon of the proposed project would create additional demands for electricity and natural gas compared to existing conditions. Operational use of electricity and natural gas would include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems; use of on-site equipment and appliances; lighting; and charging electric vehicles. Land uses under the proposed General Plan 2050 would also result in additional demands for transportation fuels (e.g., gasoline, diesel, compressed natural gas, and electricity) associated with on-road vehicles.

Building Electricity

Electrical service to the EIR Study Area is provided by PG&E and SCP through connections to existing off-site electrical lines and new on-site infrastructure. As shown in Table 4.6-3, *Year 2050 Forecast Electricity Consumption*, by horizon year 2050, electricity use in the EIR Study Area would increase by 63,691,182 kWh/year, or approximately 7 percent, from existing conditions.

TABLE 4.6-3 YEAR 2050 FORECAST ELECTRICITY CONSUMPTION

	Electricity Usage (kWh/year)		
Land Use	Existing Conditions	Proposed General Plan 2050 [a]	Net Change
EIR Study Area			
Residential	367,395,591	415,787,730	48,392,139
Nonresidential	525,542,438	540,841,480	15,299,042
Total	**892,938,028**	**956,629,210**	**63,691,182**
Service Population	275,569	355,425	79,856
Per Service Population Annual Consumption	**3,240**	**2,692**	**-548**

Note:
a. Modified with State Actions.
Source: See Appendix B, *Air Quality and Greenhouse Gas Emissions Data,* of this Draft EIR and Appendix A, *Greenhouse Gas Reduction Strategy*, of the proposed General Plan 2050.

As a result, the per-service population electricity consumption was estimated to decrease from 3,240 kWh per person per year in 2019 to 2,692 kWh per person per year in 2050, or a reduction of approximately 548 kWh annually. The 2050 electricity consumption estimates reflect the electricity consumption rates of the existing community, which is made up of a building stock that consists of varying ages and energy-efficiency performances. As described in Chapter 3, *Project Description*, of this Draft EIR, potential future development from implementation of the proposed project is expected to occur in the proposed General Plan 2050 Areas of Change and would be concentrated in the form of infill/intensification on sites already developed and/or underutilized or in close proximity to existing development and infrastructure. Further, the majority of the projected growth would occur in PDAs and TPAs.

All potential future development over the buildout horizon of the proposed General Plan 2050 would be required to demonstrate compliance with the California Building Energy Efficiency Standards and CALGreen standards in effect at the time the individual development applications are submitted and can therefore be expected to be more energy-efficient than the use being replaced, resulting in reductions in electricity consumption on a per-dwelling-unit and per-square-foot basis when compared to existing development. It should be noted that it is unknown how much more energy-efficient future iterations of the California Building Energy Efficiency Standards and CALGreen would be in 2050 compared to existing conditions as those code updates are released on a three-year cycle.

Chapter 3, *Circulation, Open Space, Conservation, and Greenhouse Gas Reduction,* and Chapter 5, *Safety, Climate Resilience, Noise, and Public Services and Facilities,* of the proposed General Plan 2050 contain goals, policies, and actions that require local planning and development decisions to consider energy efficiency and impacts. The following goals, policies, and actions would serve to improve energy efficiency and reduce energy use:

- Goal 3-7: Strive to achieve net carbon neutrality no later than 2045.
  - Policy 3-5.3: Increase the use of renewable, carbon free, and distributed energy resources throughout the city.

- Action 3-7.5: Require regular energy audits of existing City-owned and operated structures, identifying levels of existing energy use and potential conservation and efficiency measures.
- Action 3-7.6: Develop a capital project list and funding strategy to complete energy-efficiency projects for City-owned and operated structures and adjust the list annually to add new projects as needed.
- Action 3-7.7: Provide information on the cost-savings potential and other benefits of energy audits and energy-efficient retrofits to encourage their preparation for buildings throughout the city.
- Action 3-7.9: Identify incentives to encourage new buildings to exceed State energy efficiency requirements and/or meet or exceed the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) Program or equivalent standards.
- Action 3-7.11: Use education and incentives to promote and sustain energy-conserving design and practices.

- Policy 3-7.3: Increase the use of renewable, carbon-free, and distributed energy resources throughout the city.
  - Action 3-7.12: Revise any existing codes and policies that constrain or prohibit the installation of environmentally acceptable forms of distributed energy generation.
  - Action 3-7.13: Identify incentives and other means to encourage new and existing buildings to include battery energy storage systems, especially buildings with solar energy installations and municipal buildings that provide essential community services.
  - Action 3-7.14: Participate in State and local efforts to develop appropriate policies and review procedures for the installation of photovoltaic solar and other forms of distributed energy generation.
  - Action 3-7.15: Continue to participate in utility-sponsored renewable energy programs that allow the city to receive a significant portion of energy from renewable sources.
  - Action 3-7.16: Seek and identify resources to assist low-income homeowners and small business owners with identifying financing options for installation of rooftop solar energy systems, energy storage, and electrification of existing buildings.
  - Action 3-7.17: Support the development of local-serving renewable energy projects that expand the availability of local renewable energy, provide sustainable local jobs, and support local and regional housing, economic development, and sustainability goals and initiatives.
  - Action 3-7.18: Encourage the establishment of neighborhood renewable energy microgrids to support resilience.
  - Action 3-7.19: Support State and utility efforts to improve grid resilience and capacity.

- Goal 5-6: Santa Rosa is a resilient city able to adapt to, recover from, and thrive under changing climate conditions.
  - Policy 5-6.4: Encourage collaboration among City departments and with nonprofit organizations to create a network of equitably located resilience centers throughout the city.
    - Action 5-6.10: Seek funding to upgrade existing warming and cooling centers to offer refuge from extreme heat events and poor air quality due to regional wildfire smoke and be equipped with renewable energy generation and backup power supplies.
  - Policy 5-6.7: Strengthen the community's ability to respond to the risks and negative effects of power outages, including public safety power shutoffs (PSPS) and other climate-related threats.
    - Action 5-6.27: Collaborate with PG&E, Sonoma Clean Power, and nonprofit organizations to ensure that those who depend on electricity supply for medical devices and refrigerated medication have backup energy supplies during outages, including extreme heat and wind events.
  - Policy 5-6.8: Increase the resiliency of City-owned buildings and structures to severe weather events and support home and business owners to increase the resilience of their buildings and properties.
    - Action 5-6.29: Seek funding for backup power, preferably from renewable energy sources, and water resources at emergency shelters, resilience centers, and cooling centers.

As a result of compliance with Title 24 energy-efficiency standards and implementation of these proposed General Plan 2050 goals, policies, and actions, per service population building electricity consumption is expected to decrease in 2050 compared to existing conditions.

Building Natural Gas

As shown in Table 4.6-4, *Year 2050 Forecast Natural Gas Consumption*, natural gas use under the proposed project is estimated to total 48,851,700 therms annually. To provide a conservative assessment of what energy consumption may be in 2050 resulting from implementation of the proposed project, the new growth in building space anticipated through 2050 was assumed to include natural gas for space and water heating. With this assumption, by 2050, natural gas use in the EIR Study Area would increase by 4,525,626 therms annually, or approximately 10 percent, from existing conditions. Service population would also increase by 79,856 people under the proposed project. Thus, the per service population natural gas consumption is estimated to decrease from 161 therms per person per year in 2019 to 137 therms per person per year in 2050 for natural gas. As described above, this number can be considered to represent a conservative (i.e., "worst-case" scenario) as some residential projects in the EIR Study Area may opt for voluntary all-electric features.

TABLE 4.6-4 YEAR 2050 FORECAST NATURAL GAS CONSUMPTION

Land Use	Natural Gas Usage (Therms per year)		
	Existing Conditions	Proposed General Plan 2050 [a]	Net Change
EIR Study Area			
Residential	28,371,401	31,665,210	3,293,809
Nonresidential	15,954,672	17,186,490	1,231,818
Total	**44,326,074**	**48,851,700**	**4,525,626**
Service Population	275,569	355,425	79,856
Per Service Population Annual Consumption	**161**	**137**	**-24**

Note:
a. Modified with State Actions.
Source: See Appendix B, *Air Quality and Greenhouse Gas Emissions Data,* of this Draft EIR.

Similar to electricity consumption, all potential future development over the buildout horizon of the proposed General Plan 2050 would be required to demonstrate compliance with the current California Building Energy Efficiency Standards and CALGreen and would result in reductions in heating fuel (i.e., natural gas or propane) consumption on a per-dwelling-unit and per-square-foot basis when compared to existing development in the city.

Moreover, Chapter 3, *Circulation, Open Space, Conservation, and Greenhouse Gas Reduction,* of the proposed General Plan 2050 contains goals, policies, and actions that require local planning and development decisions to consider energy efficiency and impacts. In addition to the proposed General Plan 2050 goals, policies, and actions listed previously, the following goals, policies, and actions would serve to improve energy efficiency and reduce energy consumption in potential future development in the EIR Study Area:

- Goal 3-6: Use nature- and science-based strategies to preserve and create environments that provide ecosystem benefits.
  - Policy 3-6.9: Achieve and maintain ambient air quality standards.
    - Action 3-6.33: Require all new development to be electric vehicle charging ready at a minimum. Explore opportunities to amend the City's municipal codes to require new development to install electric vehicle charging infrastructure beyond the minimum State requirements.
    - Action 3-6.35: Review and amend the City's Building Code and Zoning Code to facilitate the installation of electric vehicle charging infrastructure.
    - Action 3-6.36: Explore efforts to require charging or clean fuel stations on private property, including hydrogen and sustainably sourced biofuels.
    - Action 3-6.37: Expand installation and operation of electric vehicle charging stations on City properties, including curbside in areas of the community where other options are limited.

    - Action 3-6.38: Budget for clean fuel and zero-emission vehicles in the City's long-range capital expenditure plans to transition the existing fleet of gasoline- and diesel- powered vehicles, and work to make the City's fleet among the cleanest in the North Bay by:
        - Purchasing zero-emission vehicles whenever possible that meet or exceed requirements under the California Advanced Clean Fleets Regulation. If zero- emission vehicles are not available, purchase plug-in hybrids, or other vehicle types to minimize emissions.
        - Using biodiesel and pollution- reducing fuel additives in the City's diesel fuel vehicles.
- Goal 3-7: Strive to achieve net carbon neutrality no later than 2045.
    - Policy 3-5.3: Increase the use of renewable, carbon free, and distributed energy resources throughout the city.
        - Action 3-7.10: Assess the effectiveness of the City's environmentally sensitive preferred purchasing and green fleet conversion programs and update the programs, as needed, to support the City's GHG reduction goals.
    - Policy 3-7.3: Increase the use of renewable, carbon-free, and distributed energy resources throughout the city.
        - Action 3-7.20: Require all new electric vehicle (EV) chargers installed by the City to have bi-directional charging capabilities. Encourage private property owners to select EV chargers with bi-directional charging capabilities when installing EV chargers on their properties.
    - Policy 3-7.4: Reduce the use of fossil fuels as an energy source in new and existing buildings.
        - Action 3-7.21: Evaluate and adopt changes to the building code or other municipal codes and policies to decarbonize the building stock while also maximizing energy efficiency.
        - Action 3-7.22: Amend the building or energy code to incentivize building owners to upgrade residential appliances, including water and space heaters, to increase energy efficiency and reduce GHG emissions.
        - Action 3-7.23: Develop new and retrofit existing City facilities to be zero net energy.
        - Action 3-7.24: Continue to update the Building Code, consistent with State law, to increase the use of low-carbon construction materials.

As a result of implementation of these General Plan 2050 goals, policies, and actions, the per-service population heating fuel consumption is expected to decrease in 2050 compared to existing conditions.

Transportation Energy

The potential growth that is projected to occur over the buildout horizon of the proposed project would consume transportation energy from the use of motor vehicles (e.g., gasoline, diesel, compressed natural gas, electricity). Table 4.6-5, *Operation-Related Annual Fuel Usage: Net Change from Existing,* shows the net change in VMT, fuel usage, and fuel efficiency under forecast year 2050 conditions from existing baseline year conditions.

TABLE 4.6-5 OPERATION-RELATED ANNUAL FUEL USAGE: NET CHANGE FROM EXISTING

Land Use	Existing Conditions	Proposed General Plan 2050	Net Change
Gasoline			
VMT [a]	1,093,443,760	78,870,070	-1,014,573,690
Gallons	50,236,587	2,419,159	-47,817,428
Miles Per Gallon	21.77	32.6	10.84
Diesel			
VMT [a]	111,134,150	4,557,910	-106,576,240
Gallons	11,490,536	493,229	-10,997,307
Miles Per Gallon	9.67	9.24	-0.43
Compressed Natural Gas			
VMT [a]	1,713,800	39,610	-1,674,190
Gallons	326,690	6,623	-320,067
Miles Per Gallon	5.25	5.98	0.73
Electricity			
VMT [a]	12,792,080	931,669,180	918,877,100
Gallons	4,674,096	528,941,104	524,267,008
Miles Per kWh	2.74	1.76	-0.98
Hydrogen			
VMT [a]	0	75,221,400	75,221,400
Gallons	-	857,847	857,847
Miles Per kg	0	87.69	87.69
Total VMT	**1,219,083,790**	**1,090,358,170**	**-128,725,620**
Daily VMT	2,229,977	2,745,678	515,701
Service Population (SP)	275,569	355,425	79,856
VMT/SP	8.1	7.7	-0.4

Note:
[a] Daily VMT is provided by W-Trans, 2023. VMT modeled by W-Trans is conservative because it assumed slightly higher population and employees. VMT identified in this table is consistent with the accounting recommendations of CARB's RTAC created under Sustainable Communities and Climate Protection Act (SB 375) (see Methodology above) and is not the same as accounting for VMT under SB 74.
Source: Based as part of the City's GHG Reduction Strategy, see Appendix B, *Air Quality and Greenhouse Gas Emissions Data,* of this Draft EIR and Appendix A, *Greenhouse Gas Reduction Strategy*, of the proposed General Plan 2050.

As shown in Table 4.6-5, implementation of the proposed project would increase daily VMT from 2,229,977 in 2019 to 2,745,678 vehicle miles per day in 2050 in the EIR Study Area, or an increase of approximately 23 percent. Service population would also increase more under the proposed project, from approximately 275,569 to 355,425 people, or an increase of approximately 29 percent. As a result, per-person daily VMT would decrease from approximately 8.1 miles traveled to approximately 7.7 miles traveled daily.

The overall VMT as shown in the table would be primarily attributable to the overall growth associated with the proposed project compared to existing conditions. As discussed in Chapter 4.13, *Population and Housing*, of this Draft EIR, buildout of the proposed project would serve to accommodate expected population, housing, and job growth in the city for the next three Regional Housing Needs Allocation

(RHNA) cycles. Thus, this growth would not represent unplanned population growth for which inadequate planning has occurred.

As described in Chapter 4.15, *Transportation*, of this Draft EIR, the proposed General Plan 2050 includes land use designations, goals, policies, and actions that will help reduce VMT and therefore reduce emissions from automobiles. Please see Chapter 4.15 of this Draft EIR for a complete list of these goals, policies, and actions.

Furthermore, the average vehicle fuel economy would improve between 2019 and 2050 as vehicle manufacturers comply with CAFE standards and other fuel economy standards, resulting in lower transportation energy consumption per mile traveled. The CAFE standards are not directly applicable to residents or land use development projects, but to car manufacturers. Thus, the City of Santa Rosa and its residents do not have direct control in determining the fuel efficiency of vehicles manufactured and that are made available. However, compliance with the CAFE standards by car manufacturers would ensure that vehicles produced in future years have greater fuel efficiency and would generally result in an overall benefit of reducing fuel usage by providing the population of the county more fuel-efficient vehicle options.

While the demand in electricity would increase under the proposed project, in conjunction with the regulatory (i.e., Renewables Portfolio Standard, SB 100, and Clean Energy, Jobs, and Affordability Act of 2022 [SB 1020]) and general trend toward increasing the supply and production of energy from renewable sources, it is anticipated that a greater share of electricity used to power electric vehicles would be from renewable sources in future years (e.g., individual photovoltaic systems, purchased electricity from PG&E, and/or purchased electricity from SCP that is generated from renewable sources).

In addition to regulatory compliance that would contribute to more fuel-efficient vehicles and less demand in fuels, Chapter 3, *Circulation, Open Space, Conservation, and Greenhouse Gas Reduction,* of the proposed General Plan 2050 includes goals, policies, and actions that would contribute to minimizing overall VMT, and thus associated fuel usage. The following goal, policy, and actions would support environmental review process for VMT analysis and encourage work with the SCTA to support VMT reduction techniques to mitigate VMT impacts associated with future development projects:

- Goal 3-1: Provide an integrated land use and transportation system with safe and efficient movement of people and goods for all modes of travel that prioritizes reduction of VMT and transportation-related GHG emissions.
    - Policy 3-1.1: Work with partner agencies to reduce VMT using existing techniques and explore feasibility of new techniques as they arise.
        - Action 3-1.2: Work with SCTA and other local and regional partners to explore developing a VMT mitigation bank alternative for eligible projects to fund VMT reduction efforts.
        - Action 3-1.3: Continue to participate in discussions addressing regional through-traffic with SCTA, the County of Sonoma, MTC, and other municipalities, prioritizing investments that will reduce VMT and GHG emissions.

- Action 3-1.4: Coordinate transportation plans with those of Sonoma County, MTC, and the State of California, to support interregional travel improvements, particularly connections to public and active transportation modes.

Additionally, the goals, policies, and actions listed under impact discussion TRAN-2 in Chapter 4.15, *Transportation*, of this Draft EIR, would contribute to minimizing overall VMT, and thus associated fuel usage. In combination with improvements in fuel economy standards through 2050, the proposed project would result in a decrease in transportation energy consumption, and thus an overall decrease in energy consumption.

Decreasing Reliance on Fossil Fuels

The proposed project would be considered to conflict with this criterion if it did not take steps to decrease the reliance on fossil fuels. As discussed in Chapter 4.8, *Greenhouse Gas Emissions*, of this Draft EIR, future potential development projects over the buildout horizon of the proposed General Plan 2050 would be required to comply with the CBSC current at the time of their building application submittal, including the California Building Energy Efficiency Standards and CALGreen. As the current CBSC is the 2022 CBSC, individual development projects going through the application process today would result in greater energy efficiency than the current performance of existing structures in the city. In addition, the 2022 CBSC currently includes provisions for development projects to include rooftop photovoltaic systems and BES infrastructure or demonstrate energy-efficiency performance equivalent to including photovoltaic and BES features.

In addition to improvements in energy efficiency and on-site renewable energy generation and energy storage standards, SB 100 requires that LSEs incrementally increase their energy procurement sources to include eligible renewable and carbon-free sources. By January 1, 2046, all LSEs in California are required to source 100 percent of their in-state electricity sales from renewable and carbon-free sources. As a result, potential future development projects over the buildout horizon of the proposed General Plan 2050 would improve their energy efficiency through compliance with the CBSC current at the time of their building application submittal and LSEs would supply electricity that is increasingly sourced from carbon-free sources. Moreover, consistent with EO N-79-20 and CARB's Advanced Clean Cars II Regulation, which require that 100 percent of in-state vehicle sales starting in 2035 are electric or hybrid electric, vehicles utilized by future residents and employees accommodated by the proposed project are expected to consist more of EVs than what is experienced under existing conditions.

Chapter 3, *Circulation, Open Space, Conservation, and Greenhouse Gas Reduction,* of the proposed General Plan 2050 includes goals, policies, and actions that are intended to reduce the use of nonrenewable energy. The same proposed General Plan 2050 goals, policies, and actions listed above encourage the reduction of nonrenewable energy use and the use of new energy sources and building electrification. Furthermore, the following goals, policies, and actions would also support the decrease reliance on fossil fuels by reducing VMT through the promotion of active transportation:

- Goal 3-1: Provide an integrated land use and transportation system with safe and efficient movement of people and goods for all modes of travel that prioritizes reduction of VMT and transportation-related GHG emissions.
  - Policy 3-1.2: Promote a citywide mode shift away from single-occupancy vehicles to support ambitious VMT and GHG reduction goals.
    - Action 3-1.5: Develop a process that invests in and prioritizes non-automobile modes of transportation in capital improvement projects to reduce VMT and GHGs, prioritizing, in order:
      1. Active transportation modes, including walking, bicycling, and rolling.
      2. Public transportation, including inter-city and regional systems.
      3. Other shared vehicles such as carpool, vanpool, and rideshare/transportation network companies.
    - Action 3-1.7: Prioritize transportation alternatives such as active and public transportation, that reduce demand on existing facilities in lieu of widening roadways and further impacting the natural environment.
    - Action 3-1.8: Work with regional partners to develop mobility hubs as locations for multi-modal transportation, specifically accommodating active and public transportation modes.
    - Action 3-1.14: Provide information on funding opportunities and other incentives designed to encourage developers of sites in Transit Priority Areas and Priority Development Areas to integrate transit-supportive components, such as unlimited pass programs, transit-serving pedestrian infrastructure, and/or transit subsidies, as appropriate.
- Goal 3-2: Provide a safe and accessible active and public transportation network that emphasizes active transportation connections and service to Equity Priority Areas and Areas of Change.
  - Policy 3-2.1: Ensure that the active transportation network remains in good condition by maintaining facilities, tracking the state of infrastructure, and managing the network in a way that serves all users.
    - Action 3-2.2: Use mapping to identify gaps in the active transportation network, and complete those gaps, except where it may be infeasible due to lack of City right-of way.
    - Action 3-2.4: Improve connections in the active transportation network to ensure that all who choose to walk, roll, or ride have adequate access to public transportation amenities, especially in Equity Priority Areas and Areas of Change.
    - Action 3-2.6: Ensure that major arterials have active transportation infrastructure that accommodates all road users and does not present a barrier to regional travel for any mode.
    - Action 3-2.7: Improve active transportation crossings of major transportation barriers, such as the SMART rail lines, Highway 101, and Highway 12.
  - Policy 3-2.2: Continue to expand and improve the active transportation network toward completing a safe, continuous, convenient, and attractive network of designated routes that connect all neighborhoods and that is equitably accessible for all ages and abilities.

- Action 3-2.9: Implement and update the City's Active Transportation Plan, as appropriate, recognizing that:
  - The Active Transportation Plan will create a blueprint for the City to construct a low-stress active transportation network for all ages and abilities.
  - The Active Transportation Plan will prioritize separating network users in time and space to increase user safety and comfort.
  - Each update of the Active Transportation Plan will result in a General Plan Amendment and will therefore become policy and action incorporated into the General Plan.
- Action 3-2.10: Use the Urban Streets Design Guide and the Urban Bikeways Design Guide created by the National Association of City Transportation Officials (NACTO) as guides to update City Street Design and construction standards and implement a low-stress network for all ages and abilities, specifically through protected and separated bicycle lanes.
- Action 3-2.12: Identify and analyze arterial corridors and improve them by preparing and implementing corridor plans to address all transportation modes, specifically active transportation, focusing on separated or protected facilities for all ages and abilities.
- Action 3-2.18: Prioritize addressing active transportation deficiencies in Equity Priority Areas.

- Policy 3-2.5: Address traffic volumes and speeds in neighborhoods to reduce cut-through traffic and promote use of existing low-stress streets for active transportation travel.
  - Action 3-2.31: Implement traffic-calming measures, where appropriate, to improve neighborhood livability and preserve low-stress active transportation routes, such as:
    - Narrowing street widths.
    - Adding curb extensions to reduce crossing distances for pedestrians.
    - Adding or removing on-street parking, depending on feasibility and right-of-way.
    - Adding chicanes, chokers, or diverters to slow traffic.
    - Creating rough-paved crosswalks to increase visibility and encourage slow vehicle movement.
    - Adding rumble strips or speed tables with bicycle cutouts to slow vehicles but allow for seamless bicycle passage.
    - Adding planted islands.
  - Action 3-2.32: Include active transportation network improvements and traffic calming in regular paving and maintenance projects unless infeasible due to engineering or conflict with emergency access.

- Goal 3-3: Transition away from single-occupancy vehicles.
  - Policy 3-3.1: Continue to offer and improve TDM programs that incentivize a shift away from single-occupancy vehicles.

- Action 3-3.1: Work with local employers and existing residential and commercial development to expand TDM and related efforts to help meet employee transportation needs through modes that reduce VMT from single-occupancy automobile trips less than five miles, such as:
  - Unlimited free access to transit service (CityBus, Sonoma County Transit, and SMART).
  - Funding for increased transit frequency.
  - Paid incentives to active transportation and micromobility users, including a transportation allowance and secure on-site bicycle parking, lockers, showers and other facilities that support bicycling commuting to and from work.
  - Programs and incentives to expand carpooling, vanpooling, and car sharing.
  - Staggered work shifts, flex time (e.g., 9/80 work schedule), and telecommuting.
  - Paid-parking disincentives for single-occupant vehicles and/or parking cash-out incentives.

As a result of implementation of these General Plan 2050 goals, policies, and actions, the proposed project would incrementally decrease reliance on fossil fuel energy resources through 2050.

Increasing Reliance on Renewable Energy

Chapter 3, *Circulation, Open Space, Conservation, and Greenhouse Gas Reduction,* of the proposed General Plan 2050 contains goals, policies, and actions that require local planning and development decisions to consider renewable resources and active modes of transportation. The same proposed General Plan 2050 goals, policies, and actions listed previously would support the use of renewable energy resources.

In addition to the proposed General Plan 2050 goals, policies, and actions, the 2022 CBSC currently includes provisions for development projects to include rooftop photovoltaic systems and BES infrastructure or demonstrate energy-efficiency performance equivalent to including photovoltaic and BES features. In addition, it is anticipated that each new code cycle for the CBSC improves on the last one and requires higher performance for energy efficiency and incorporates additional requirements for on-site renewable energy and EV charging infrastructure. Potential future development projects over the buildout horizon of the proposed General Plan 2050 would therefore result in a net increase from existing conditions in on-site photovoltaic electricity generation and EV charging stations and associated infrastructure, further supporting and accelerating the adoption of EVs and the use of renewable energy in future years.

Similarly, LSEs that serve future development projects in the EIR Study Area, such as PG&E and SCP, would be required to incrementally increase their energy procurement sources to include eligible renewable and carbon-free sources through 2045 under SB 100. As a result, electricity consumed by individual development projects as well as existing structures in the EIR Study Area would rely more on renewable and carbon-free sources for electricity in future years than is experienced under existing conditions.

Summary

Compliance with federal, State, and local regulations (e.g., Building Energy Efficiency Standards, CALGreen, Renewables Portfolio Standard, and CAFE standards) would increase building energy efficiency and vehicle fuel efficiency and reduce building energy demand and transportation-related fuel usage. Additionally, the proposed General Plan 2050 includes goals, policies, and actions related to land use and transportation planning and design, energy efficiency, public and active transit, and renewable energy generation that will further contribute to minimizing building, transportation-related energy, and nonrenewable sources of energy demands. As stated, the buildout that could occur under the proposed project would reduce the per-capita transportation energy consumption, decrease reliance on fossil fuels, and increase reliance on renewable energy sources.

Implementation of the proposed General Plan 2050 goals, policies, and actions, in conjunction with and complementary to regulatory requirements, would ensure that energy demand associated with potential growth under the proposed project would decrease overall energy consumption, decrease reliance on fossil fuels, and increase reliance on renewable energy. As such, the energy consumption under the proposed project would not be considered inefficient, wasteful, or unnecessary. Therefore, energy impacts associated with implementation and operation of land uses accommodated under the proposed project would be *less than significant*.

Significance without Mitigation: Less than significant.

ENE-2	**Implementation of the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.**

California Renewables Portfolio Standard Program

The State's electricity grid is transitioning to renewable energy under California's RPS Program. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. In general, California has RPS requirements of 33 percent renewable energy by 2020 (SB X1-2), 44 percent by 2024 (SB 100), 50 percent by 2026 (SB 100), 52 percent by 2027 (SB 100), 60 percent by 2030 (SB 100), 90 percent by 2035 (SB 1020), 95 percent by 2040 (SB 1020), and 100 percent by 2045 (SB 100). Additionally, SB 1020 requires all State agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.

The statewide RPS requirements do not directly apply to individual development projects, but to utilities and energy providers such as PG&E and SCP, whose compliance with RPS requirements would contribute to the State of California objective of transitioning to renewable energy. In addition, customers in Sonoma County will automatically receive electric generation service from SCP's Clean Energy program, which uses approximately 50 percent renewable energy and 91 percent carbon-free.[29] Even if customers in the EIR Study Area were to opt out of SCP's service, and therefore receive all their electricity from PG&E, 48

[29] Sonoma Clean Power, Frequently Asked Questions, https://sonomacleanpower.org/frequently-asked-questions#:~:text=Why%20is%20Sonoma%20Clean%20Power,you%20choose%20to%20opt%20out., accessed July 25, 2023.

percent of PG&E's base plan electricity is generated from renewable energy in 2021.[30] By 2030, PG&E is set to meet the State's new 60 percent renewable energy mandate set forth in SB 100.

The net increase in energy demand associated with implementation of the proposed project would be within the service capabilities of PG&E and SCP and would not impede their ability to implement California's renewable energy goals. Therefore, implementation of the proposed project would not conflict with or obstruct implementation of California's RPS program, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

ENE-3	**Implementation of the proposed project would not, in combination with past, present, and reasonably foreseeable projects, result in a cumulative impact with respect to energy.**

Cumulative impacts would occur if a series of actions lead to a wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a State or local plan for renewable energy and energy efficiency.

All the development projects in the vicinity of the project's EIR Study Area are within the service area of PG&E and SCP. These projects would result in a long-term increase in operational energy demand for electricity and natural gas use associated with population growth. In addition, construction activities would require the use of energy for purposes such as the operation of construction equipment and tools, and construction of development projects may overlap. However, all projects developed within the SCP and PG&E service area would implement the requirements of the Building and Energy Efficiency Standards (CCR, Title 24, Part 6) and the California Green Building Code (CCR, Title 24, Part 11). Furthermore, new buildings would use new energy-efficient appliances and equipment, pursuant to the Appliance Efficiency Regulations.

As shown in Table 4-6.5, future development would decrease annual VMT, and thus fuel consumption. Moreover, vehicles would be subject to the USEPA CAFE standards for vehicular fuel efficiency, and average corporate fuel economy continues to increase as a result of State and federal laws, including the Pavley Advanced Clean Cars program. Vehicle turnover also improves the overall fuel economy of California's vehicle fleets. The proposed General Plan 2050 also includes goals, policies, and actions to reduce energy use and measures to align with the State's goals for carbon neutrality. Cumulative impacts would therefore be *less than significant*.

Significance without Mitigation: Less than significant.

[30] Pacific Gas and Electric Company, 2021, Power Content Label, https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2022/1022-Power-Content-Label.pdf, accessed August 29, 2023.

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