

4.6 ENERGY

This chapter describes the potential impacts associated with the adoption and implementation of the proposed project that are related to energy demand, energy conservation, and energy infrastructure. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of potential impacts and cumulative impacts.

4.6.1 ENVIRONMENTAL SETTING

4.6.1.1 REGULATORY FRAMEWORK

Federal Regulations

Energy Independence and Security Act of 2007

Signed into law in December 2007, the Energy Independence and Security Act contains provisions designed to increase energy efficiency and availability of renewable energy. This act contains provisions for increasing fuel economy standards for cars and light trucks, while establishing new minimum efficiency standards for lighting as well as residential and commercial appliances and equipment.

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.

Update to Corporate Average Fuel Economy Standards (2021 to 2026)

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. On March 30, 2020, the United States Environmental Protection Agency (USEPA) finalized 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 to 2026. A consortium of automakers and California have agreed on a voluntary framework to reduce emissions that can serve as an alternative path forward for clean vehicle standards

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nationwide. Automakers who agreed to the framework are Ford, Honda, BMW of North America, and Volkswagen Group of America. The framework supports continued annual reductions of vehicle GHG emissions through the 2026 model year, encourages innovation to accelerate the transition to electric vehicles, and provides industry the certainty needed to make investments and create jobs. This commitment means that these auto companies will only sell cars in the United States that meet these standards.

State Regulations

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. The *Long Term Energy Efficiency Strategic 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;¹
- All new commercial construction in California will be zero net energy by 2030;
- Heating, ventilation, and air conditioning, commonly referred to as “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.

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.

The CPUC and the California Energy Commission (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 retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.

¹ Zero net energy buildings are buildings in which 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.

- **Goal 3.** Transform the commercial lighting market through technological advancement and innovative utility initiatives.

California Building Code: Building Energy Efficiency Standards

The State provides a minimum standard for energy conservation through Part 6 of Title 24 of the California Code of Regulations, commonly referred to as the “California Energy Code.” The California Energy Code was originally adopted in June 1977 and is updated on a three-year cycle. Title 24 requires the design of building shells and building components to conserve energy. The 2019 California Energy Code is the most recent version and improves upon the previous 2016 standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 standards move toward cutting energy use in new homes by more than 50 percent and will require installation of solar photovoltaic (PV) systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: (1) smart residential PV systems; (2) updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa); (3) residential and nonresidential ventilation requirements; and (4) nonresidential lighting requirements.² Under the 2019 standards, nonresidential buildings will be 30 percent more energy efficient compared to the 2016 standards, and single-family homes will be 7 percent more energy efficient.³ When accounting for the electricity generated by the solar PV system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards.⁴ The City regularly adopts updates under the San Rafael Municipal Code (SRMC) Title 12, Building Regulations, Chapter 12.100, Adopted Codes.

California Building Code: CALGreen

The California Building Standards Commission adopted the California Green Building Standards Code, also known as CALGreen, in Part 11 of Title 24. CALGreen establishes standards that apply to the planning, design, operation, construction, use, and occupancy of every newly constructed building or structure throughout the State, unless otherwise indicated in the California Building Standards Code. The purpose of CALGreen is to improve public health, safety, and general welfare by enhancing the design and construction of buildings. CALGreen encourages sustainable construction practices in energy efficiency. Compliance with the CALGreen Code is not a substitution for meeting the certification requirements of any green building program. The City of San Rafael has adopted all sections of the California Code of Regulations Title 24, Part 11, in SRMC Title 12, Building Regulations, Chapter 12.100, Adopted Codes.

² California Energy Commission, 2018, News Release: Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation, accessed February 27, 2020.

³ California Energy Commission, 2018, 2019 Building Energy and Efficiency Standards Frequently Asked Questions, http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf, accessed February 27, 2020.

⁴ California Energy Commission, 2018, 2019 Building Energy and Efficiency Standards Frequently Asked Questions, http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf, accessed February 27, 2020.

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California Energy Commission

The California Energy Commission (CEC) was created in 1974 as the State's principal energy planning organization. The CEC is charged with six basic responsibilities as follows:

- 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

2019 Appliance Efficiency Regulations

The 2019 Appliance Efficiency Regulations (Title 20, California Code of Regulations Sections 1601 through 1609) include standards for both federally regulated appliances and non-federally regulated appliances. There are 24 categories of appliances included in the scope of these regulations, including such devices as washing machines, microwave ovens, dishwashers, and furnaces. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the state, and those designed and sold exclusively for use in recreational vehicles or other mobile equipment. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by all other states and they reduce GHG emissions by reducing energy demand.

Renewables Portfolio Standard

Established in 2002 under Senate Bill (SB) 1078 and accelerated by several laws, most recently SB 100 in 2018, California's Renewables Portfolio Standard obligates investor-owned utilities, energy service providers, and community choice aggregators to procure 33 percent of their electricity from eligible renewable energy sources by 2020, 60 percent from eligible renewable energy sources by 2030, and 100 percent from eligible renewable energy or other carbon-free sources by 2045. SB 100 establishes a 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 statewide Renewables Portfolio Standard requirements do not directly apply to individual development projects, but to utilities and energy providers, such as MCE and PG&E, whose compliance with Renewables Portfolio Standard requirements would contribute to the State of California objective of transitioning to renewable energy.

Senate Bill 1368

On September 29, 2006, SB 1368 was signed into law.⁵ This law limits long-term investments in baseload generation by the State's utilities to those power plants that meet an emissions performance standard jointly established by the CEC and the CPUC. The CEC has designed regulations that:

- Establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds of carbon dioxide (CO₂) per megawatt-hour. This would encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of GHGs;
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This would facilitate public awareness of utility efforts to meet customer needs for energy over the long-term while meeting the State's standards for environmental impact; and
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard.⁶

California Energy Benchmarking and Disclosure

Assembly Bill (AB) 1103 (2007) requires that electric and gas utilities maintain records of the energy consumption data of all nonresidential buildings to which they provide service and that by January 1, 2009, upon authorization of a nonresidential building owner or operator, an electric or gas utility shall upload all of the energy consumption data for the specified building to the United States Environmental Protection Agency Energy Star Portfolio Manager in a manner that preserves the confidentiality of the customer. This statute further requires a nonresidential building owner or operator to disclose Energy Star Portfolio Manager benchmarking data and ratings, for the most recent 12-month period, to a prospective buyer, lessee, or lender. Enforcement of the latter requirement began on January 1, 2014.

On October 8, 2015, AB 802 was signed into law to revise and recast the above provisions. The new law directs the CEC to establish a statewide energy benchmarking and disclosure program and enhances the CEC's existing authority to collect data from utilities and other entities for the purposes of energy forecasting, planning and program design. Among the specific provisions, AB 802 would require utilities to maintain records of the energy usage data of all buildings to which they provide service for at least the most recent 12 complete months. Beginning no later than January 1, 2017, AB 802 would require each utility, upon the request and the written authorization or secure electronic authorization of the owner, owner's agent, or operator of a covered building, as defined, to deliver or provide aggregated energy usage data for a covered building to the owner, owner's agent, operator, or to the owner's account in the Energy Star Portfolio Manager, subject to specified requirements.

⁵ Public Utilities Code, Chapter 598, Statutes of 2006.

⁶ Public Utilities Code, Chapter 598, Statutes of 2006.

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Senate Bill 350

SB 350, signed into law on October 7, 2015, expands the California Renewables Portfolio Standard by establishing a renewable energy goal of 50 percent of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 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. SB 350 also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. SB 350 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.

AB 1493 Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required California Air Resources Board (CARB) to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the USEPA's denial of an implementation waiver. The USEPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011.

The standards phase is during the 2009 through 2016 model years. When fully phased in, the near-term (2009 to 2012) standards resulted in about a 22 percent reduction compared with the 2002 fleet, and the mid-term (2013 to 2016) standards resulted in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed-valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

The second phase of the implementation for the Pavley Bill was incorporated into amendments to the Low-Emission Vehicle Program referred to as "LEV III" or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The new rules will clean up gasoline and diesel-powered cars and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles and hydrogen fuel cell cars. The package will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California.

California Code of Regulations Title 13, Motorized Vehicles

California Code of Regulations Section 2449(d)(2) of Article 4.8, In-Use Off-Road Diesel-Fueled Fleets, regulates the idling time to reduce oxides of nitrogen (NOx), diesel particulate matter (PM), and other

criteria pollutant emissions from in-use off-road diesel-fueled vehicles and certain types of motorized equipment. Such practices limit wasteful and unnecessary energy consumption. Article 4.8 is in Division 3, Air Resources Board, Chapter 9, Off-Road Vehicles and Engines Pollution Control Devices.

State Greenhouse Gas Regulations

Many of the regulations for GHG reductions focus on decreasing energy use through increasing energy efficiency, fuel efficiency, and land use patterns that discourage single-occupancy vehicles. The following regulations create a nexus between energy and GHG emissions or transportation, and are described in more detail in Chapter 4.8, Greenhouse Gas Emissions, and Chapter 4.16, Transportation, of this Draft Environmental Impact Report (EIR):

- **Executive Order S-03-05.** Signed June 1, 2005, Executive Order (EO) S-03-05 GHG reduction targets for the State: 2000 levels by 2010; 1990 levels by 2020; and 80 percent below 1990 levels by 2050.
- **The Global Warming Solutions Act.** This act, also referred to as AB 32, was passed by the California legislature on August 31, 2006, to place the State on a course to reduce its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in EO S-03-05.
- **CARB Scoping Plan.** The 2017 CARB Scoping Plan is the most recent version of this plan and it is updated every five years. Major elements of the 2017 Scoping Plan framework include implementing Mobile Source Strategy, the Low Carbon Fuel Standard, and implementation of SB 350 (described above).
- **Sustainable Communities and Climate Protection Act.** In 2008, SB 375, the Sustainable Communities and Climate Protection Act, was adopted with the intent 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, commonly referred to as “VMT” and vehicle trips.
- **Executive Order B-30-15.** Signed April 29, 2015, EO B-30-15 sets a goal of reducing GHG emissions in the State to 40 percent below 1990 levels by year 2030. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, Safeguarding California, to ensure climate change is accounted for in State planning and investment decisions.
- **Senate Bill 32.** Signed in September 2016, SB 32 (California Health and Safety Code Section 38566) made the EO B-30-15 goal for year 2030 into a statewide mandated legislative target.
- **Senate Bill 1383.** Signed on September 19, 2016, SB 1383 supplements the GHG reduction strategies in the CARB Scoping Plan to consider short-lived climate pollutants. SB 1383 establishes targets for reducing organic waste in landfills.

Regional Regulations

Plan Bay Area: Strategy for a Sustainable Region

As described in Chapter 4, Environmental Analysis, of this Draft EIR, Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC) are regional planning agencies tasked with coordinating land use and transportation planning in the Bay Area, including development of the Bay

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Area's Regional Transportation Plan/Sustainable Communities Strategy, known as *Plan Bay Area*. The 2040 update to *Plan Bay Area* was adopted jointly by the ABAG and MTC on July 26, 2017. *Plan Bay Area 2040* proposes the Climate Initiatives Program, which promotes the densification of land use and a relative decrease in per capita energy consumption, in addition to a net reduction in vehicle fuel use while also allowing growth within the region. As part of the implementing framework for *Plan Bay Area*, local governments have identified Priority Development Areas (PDAs) and Transit Priority Areas (TPAs) to focus growth. PDAs are transit-oriented, infill development opportunity areas within existing communities. TPAs are half-mile buffers surrounding major transit stops or terminals. Overall, well over two-thirds of all regional growth in the Bay Area by 2040 is allocated within PDAs. As shown on Figure 4-1, in Chapter 4.0, Environmental Analysis, the EIR Study Area has three PDAs and three TPAs.⁷ The current *Plan Bay Area 2040* is currently being updated to extend the planning horizon to 2050.⁸

Local Regulations

San Rafael General Plan 2020

The City of San Rafael 2020 General Plan goals, policies, and programs that are relevant to energy are primarily in the Sustainability Element. As part of the proposed project, some existing General Plan policies would be amended, substantially changed, or new policies would be added. The Sustainability Element is being eliminated and its policies and programs are being moved to other elements. A comprehensive list of policy changes is provided in Appendix B, Proposed General Plan Goals, Policies, and Programs, of this Draft EIR. Applicable goals, policies, and programs are identified and assessed for their effectiveness and potential to result in an adverse physical impact later in this chapter under Section 4.6.3, Impact Discussion.

San Rafael Municipal Code

The SRMC includes various directives pertaining to energy use, conservation, and infrastructure. The SRMC is organized by title, chapter, and section. Most provisions related to energy impacts are included in Title 12, Building Regulations, and Title 14, Zoning, as follows:

- **Chapter 12.100, Adopted Codes.** This chapter adopts the California Building Code in its entirety.
- **Chapter 12.230, California Existing Building Code Amendments.** Section 12.230.020, Amendments, describes the deletions and amendments to the adopted 2019 California Existing Building Code Standards, as described in Section 12.100.010, Adopted Codes.
- **Chapter 12.235, California Green Building Construction Standards Code Amendments.** Section 12.235.020, Amendments, describes the deletions and amendments to the adopted 2019 CALGreen Building Code Standards as described in Section 12.100.010, Adopted Codes.

⁷ Metropolitan Transportation Commission and Association of Bay Area Governments, 2017, *Plan Bay Area 2040 Final*, <http://2040.planbayarea.org/>, accessed on March 12, 2019.

⁸ To read more about *Plan Bay Area*, go to www.planbayarea.org.

- **Chapter 12.315, Expedited Permitting Process for Electric Vehicle Charging Stations.** This chapter is intended to promote the use of electric vehicles by streamlining the permitting process for electric vehicle charging stations.
- **Chapter 12.320, Expedited Permit Process for Small Residential Rooftop Solar Systems.** This chapter ensures a 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.
- **Section 14.16.305, Small Wind Energy Systems.** This section establishes standards to regulate the design and placement of small wind energy systems on public and private property in order to minimize the potential safety and aesthetic impacts on neighboring properties. Such systems are allowed in all zones except for parks/open space and water zoning districts. Standards include height, setbacks, noise, and access.
- **Section 14.16.307, Solar Installations.** This section establishes standards for the installation of solar systems along with the required permit approvals necessary to install such systems.

San Rafael 2019 Climate Change Action Plan

The San Rafael 2019 *Climate Change Action Plan* (CCAP), completed in Spring of 2019, contains policies and actions focused on the reduction of GHG emissions and energy conservation across both government and community sectors. The 2019 CCAP builds off the 2009 CCAP and the San Rafael 2016 Greenhouse Gas Emission Inventory, providing a comparison between baseline and more recent emissions to identify where reductions have occurred. The 2019 CCAP establishes targets similar to the State's GHG emission goals, to reduce emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. In San Rafael, that means emissions would need to drop to 241,455 metric tons of CO₂ equivalents (MTCO₂e) by 2030 and 80,485 MTCO₂e by 2050, which include energy reduction and efficiency measures. Strategies that are relevant to the analysis of potential energy impacts and conservation actions within the EIR Study Area are provided in more detail in Chapter 4.8, Greenhouse Gas Emissions, of this Draft EIR.

4.6.1.2 EXISTING CONDITIONS

California's Energy Supplies

In 2017, California's power mix supply of electricity was derived from the following sources: natural gas (33.67 percent), nuclear (9.08 percent), "large" hydroelectric (14.72 percent), renewables (29.00 percent), coal (4.13 percent), and unspecified (9.25 percent).⁹ Overall, electricity demand is forecast to increase an average of 1.27 percent¹⁰ annually from 2016 through 2030, even with the more aggressive building and appliance energy efficiency standards and programs.

⁹ California Energy Commission, Energy Almanac, Total Electricity System Power. http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html, accessed on April 3, 2019.

¹⁰ California Energy Commission, 2018, Tracking Progress, Statewide Energy Demand (CED 2017 Revised Mid Energy Demand scenario), http://www.energy.ca.gov/renewables/tracking_progress/documents/statewide_energy_demand.pdf, accessed on April 3, 2019.

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Natural gas has become an increasingly important source of energy since the State's power plants rely on this fuel. Nearly 45 percent of the natural gas burned in California was used for electricity generation, and much of the remainder consumed in the residential (21 percent), industrial (25 percent), and commercial (9 percent) sectors. California continues to depend upon out-of-state imports for nearly 90 percent of its natural gas supply.¹¹ Overall natural gas demand is forecast to increase by 0.37 to 0.98 percent annually from 2016 to 2028.¹²

A third major source of energy for California is crude oil, which is the primary source of transportation fuels in the State. Oil supply sources for the State include in-state production, Alaska, and foreign imports. Of the approximately 642 million barrels of crude oil delivered to refineries in the State in 2018, California itself produced 31.10 percent,¹³ while foreign sources and Alaska provided 57.54 percent and 11.36 percent, respectively.¹⁴

Major transportation fuels include gasoline and diesel. Gasoline is the largest transportation fuel by volume used in California, followed closely by diesel fuel. In 2018, approximately 15.5 billion gallons of gasoline and 3.1 billion gallons of diesel fuel were sold in California's retail market.^{15,16} Nearly all semi-trucks, delivery vehicles, buses, trains, ships, buses, and other equipment have diesel engines.

Energy Providers

Marin Clean Energy

Marin Clean Energy (MCE) is the default electricity provider for all communities in Marin County, including San Rafael, and several other communities in the San Francisco Bay Area. As a Community Choice Aggregation program and not-for-profit public agency, MCE is independently run by representatives from participating communities. MCE provides electricity generated from renewable sources such as solar, wind, bioenergy, geothermal, and hydropower, which is delivered to customers through Pacific Gas and Electric Company (PG&E) transmission lines. Individuals residing in participating areas are automatically enrolled in MCE, and individuals residing or working within the MCE service area are automatically enrolled in MCE.

MCE offers four program options; the Light Green program, which provides 60 percent renewable power service; the Deep Green program, which provides 100 percent renewable power service from solar and wind sources in California; the Local Sol program, which provides 100 percent locally produced solar power from the Novato Cooley Quarry solar farm; and the Opt-Out program, which means individuals are

¹¹ California Energy Commission, 2017, Supply and Demand of Natural Gas in California, http://www.energy.ca.gov/almanac/naturalgas_data/overview.html, accessed on April 3, 2019.

¹² California Energy Commission, 2017, Draft Natural Gas Market Trends and Outlook, Page 12. 2017_Draft_Natural_Gas_Market_Trends_and_Outlook.pdf.

¹³ This total may include minor amount from North Dakota and the Gulf Coast States.

¹⁴ California Energy Commission, 2019, Oil Supply Sources to California refineries, https://www.energy.ca.gov/almanac/petroleum_data/statistics/2018_monthly_oil_sources.html, accessed on April 3, 2019.

¹⁵ State of California Board of Equalization, 2019, Net Taxable Gasoline Gallons.

¹⁶ State of California Board of Equalization, 2019, Net Taxable Diesel Gallons.

receiving their electricity through PG&E with no substitution by MCE.¹⁷ All electric energy provided by MCE is conveyed to customers through PG&E's existing infrastructure. PG&E continues to maintain the grid, repair lines, and conduct customer billing within the MCE service area. The EIR Study Area is currently serviced with electricity from MCE and PG&E. Customers are automatically enrolled in the MCE light green program which uses 60 percent renewable energy. Customers can either opt-up to a 100 percent renewable electricity service or can opt-out of the light green program to receive all their electricity from PG&E. Starting in 2017, 33 percent of PG&E's electricity was generated from renewable energy.

Pacific Gas and Electric Company

PG&E provides natural gas services to the EIR Study Area and provides electricity services to customers who have opted out of participating in MCE. PG&E is a publicly traded utility company that generates, purchases, and transmits energy under contract with the CPUC. PG&E owns and maintains above- and below-ground networks of electric and gas transmission and distribution facilities throughout the EIR Study Area. Both gas and electrical service is available throughout the entirety of the EIR Study Area.

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 mountain range. 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. 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 PV 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 within 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.

PG&E produces or buys its energy from a number of conventional and renewable generating sources, which travel through PG&E's electric transmission and distribution systems. The power mix PG&E provided to customers in 2017 consisted of non-emitting nuclear generation (27 percent), large hydroelectric facilities (18 percent) and eligible renewable resources (33 percent), such as wind, geothermal, biomass, solar, and small hydro.¹⁸ The remaining portion came from natural gas/other (20 percent) and unspecified power (2 percent). Unspecified power refers to electricity that is not traceable to specific generation sources by any auditable contract trail. PG&E met California's 2020 renewable energy goal three years ahead of schedule, supplying 33 percent of electricity from renewable resources that qualify under California's Renewables Portfolio Standard. PG&E continues to add more renewable energy

¹⁷ Marin Clean Energy, 2016, Your Energy Choices, <https://www.mcecleanenergy.org/your-energy-choices/>, accessed on April 3, 2019.

¹⁸ Pacific Gas and Electric Company, 2018, PG&E's 2017 Power Mix, https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2018/10-18_PowerContent.pdf, accessed on April 3, 2019.

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to their power mix and are projected to supply electricity from 50 percent eligible renewables by the end of 2030.¹⁹

PG&E's natural gas (methane) pipe delivery system includes 42,141 miles of distribution pipelines, and 6,438 miles of transportation pipelines. Gas delivered by PG&E originates in gas fields in California, the US Southwest, the US Rocky Mountains, and from Canada. Transportation pipelines send natural gas from fields and storage facilities in large pipes under high pressure. The smaller distribution pipelines deliver gas to individual businesses or residences.

PG&E gas transmission pipeline systems serve approximately 4.3 million gas customers in northern and central California.²⁰ 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. A new program, the Pipeline 2020 program, 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.²¹

Existing Energy Infrastructure in San Rafael

Electricity

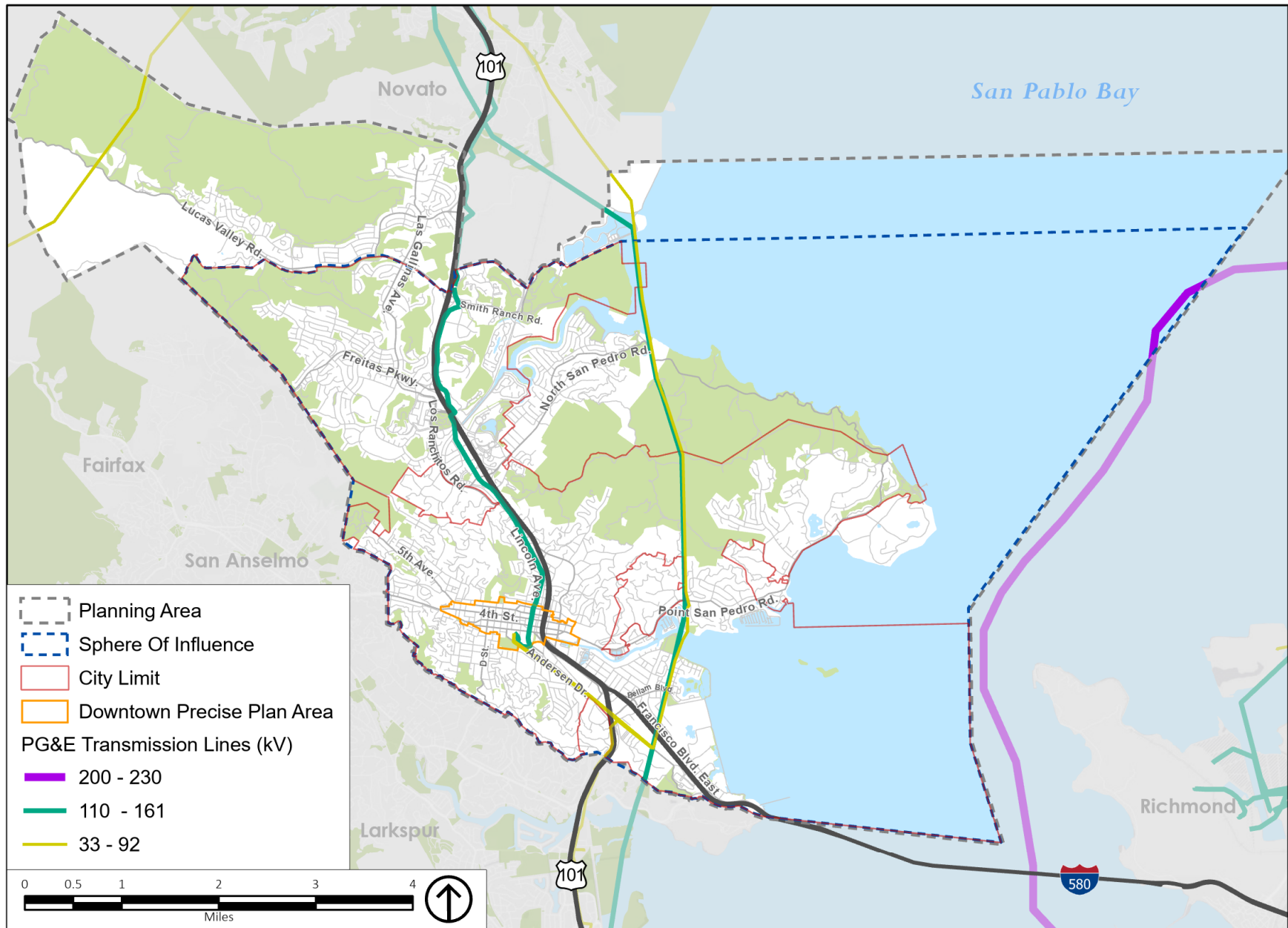
As shown on Figure 4.6-1, four 60-kilovolt (kV) underground electrical lines and two 115 kV underground electrical lines run through the EIR Study Area.²² The two 60 kV electric transmission lines under Anderson Drive terminate in the Downtown Precise Plan Area at the San Rafael substation. The substation is located on Second Street between A Street and Lindaro Street. The 115 kV electric transmission line along Lincoln Avenue also runs through the Downtown Precise Plan Area. These lines are managed and controlled by PG&E. During high wind events, also known as "red flag events," PG&E has the ability to turn off the powerlines through the Public Safety Power Shutoff Program, to prevent arcing and sparking of the electrical transmission lines, which reduces the risk of wildfires from downed power lines. PG&E is undertaking programs and improvements to minimize shutoffs and their impacts in San Rafael and the remainder of the service area.

¹⁹ Pacific Gas and Electric. October 2018. Where Your Electricity Comes From. https://www.pge.com/pge_global/common/pdfs/your-account/your-bill/understand-your-bill/bill-inserts/2018/10-18_PowerContent.pdf

²⁰ Pacific Gas and Electric. 2019. Company Profile. https://www.pge.com/en_US/about-pge/company-information/profile/profile.page

²¹ Pacific Gas and Electric. 2009. Pipeline 2020 Program. <https://www.pge.com/about/newsroom/mediaevents/pipeline2020/index.shtml>

²² California Energy Commission. April 3, 2018. API Explorer, California Electric Transmission Line. <https://cecgis-caenergy.opendata.arcgis.com/datasets/california-electric-transmission-line>



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4.6-1
PG&E Electric Transmission Lines

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Natural Gas

Seven PG&E gas high-pressure transmission pipelines run beneath the EIR Study Area, as shown on Figure 4.6-2. Three of these pipelines are within the Downtown Precise Plan Area:

- One 16-inch pipeline running in Lindero Street to 3rd street to Lincoln Avenue
- One 12-inch pipeline running in Lindero Street to 2nd Street
- One 12-inch pipeline running along Ida Street to H Street.²³

PG&E’s 2018 California Gas Report projects total system demand to decline at an annual average rate of 0.4 percent between 2018 and 2035. PG&E anticipates that sufficient supplies will be available from a variety of sources at market-competitive prices to meet existing and projected market demands in its service area.²⁴ Table 4.6-1 shows the winter peak-day demand, the summer peak-day demand, and the total resources available to meet demands.

TABLE 4.6-1 DEMAND AND SUPPLY FORECAST FOR PG&E

Year	Demand	Resources Available to Meet Demand
Winter Peak Demand		
2018	3,671	5,200
2019	3,557	4,317
2020	3,463	4,317
Summer Peak Demand		
2018	1,805	5,200
2019	1,681	4,317
2020	1,557	4,317

Source: San Rafael Department of Public Works, 2018, 3-Year Capital Improvement Program.

Existing Energy Use within San Rafael

Electricity use is measured in kilowatt-hours (kWh), and natural gas use is measured in therms. Vehicle fuel use is typically measured in gallons (e.g., gallons of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh.

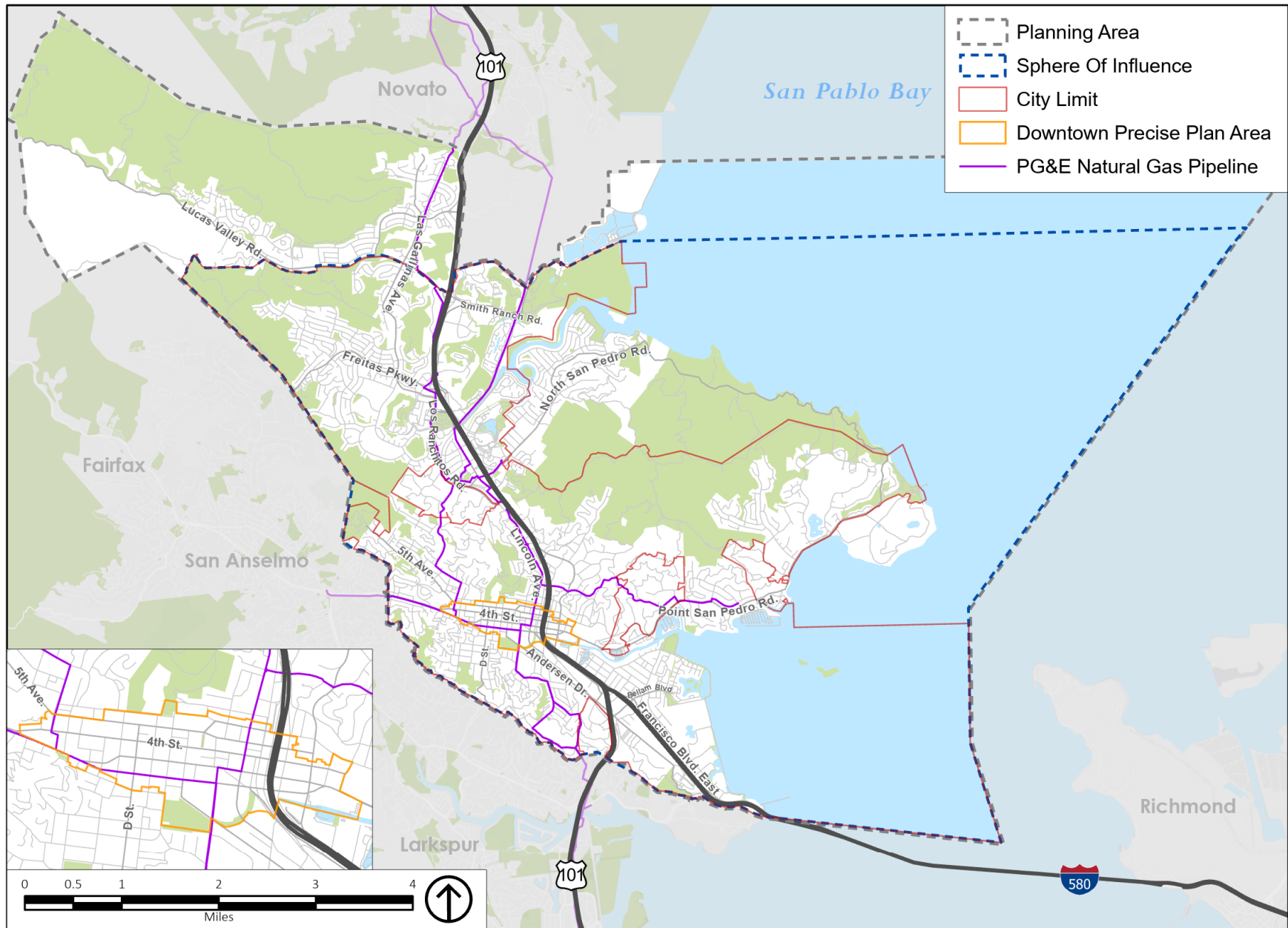
Electricity consumption citywide in 2016 for residential land uses was 118,031,218 kWh and nonresidential land uses was 214,481,019 kWh, totaling approximately 332,512,237 kWh or 332.5 million kWh.²⁵ Natural gas consumption citywide in 2016 for residential land uses was 9,467,604 therms and nonresidential land uses was 5,687,627 therms, totaling approximately 15 million therms.²⁶

²³ Pacific Gas and Electric. 2019. Gas Transmission System Map. https://www.pge.com/en_US/safety/how-the-system-works/natural-gas-system-overview/gas-transmission-pipeline/gas-transmission-pipelines.page

²⁴ California Gas and Electric Utilities. 2018. 2018 California Gas Report. https://www.socalgas.com/regulatory/documents/cgr/2018_California_Gas_Report.pdf

²⁵ Marin Climate & Energy Partnership. April 2019. City of San Rafael Community and Government Operations Greenhouse Gas Inventory for 2016.

²⁶ Marin Climate & Energy Partnership. April 2019. City of San Rafael Community and Government Operations Greenhouse Gas Inventory for 2016.



Source: ESRI, 2017; County of Marin, 2009; City of San Rafael, 2019; PlaceWorks, 2019.

Figure 4.6-2
PG&E Natural Gas Transmission Pipeline Map

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Automotive fuel consumption data available for 2019 reported that San Rafael used approximately 42,928 gallons of gasoline and 1,650 gallons of diesel, per day. This equates to approximately 15,668,720 gallons of gasoline per year and 602,250 gallons of diesel per year.²⁷

In the City of San Rafael there are 1,900 locations that have installed solar photovoltaic (PV) panels or cells. Of these solar PV installations, 1,803 of them are at residential properties, while 97 are located on non-residential properties that include commercial buildings, institutions, educational facilities, non-profits, and industrial land uses.²⁸ The total amount of solar PV installations in San Rafael have a total capacity of 14,372.08 kW of direct current. Over the course of a year, one kW is able to generate 1,619 kWh, meaning that solar PV installations in San Rafael are able to generate a total of approximately 23.3 million kWh annually.²⁹

4.6.2 STANDARDS OF SIGNIFICANCE

Pursuant to Appendix G, Environmental Checklist, of the California Environmental Quality Act (CEQA) Guidelines, implementation of the proposed project would result in 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. Result in significant cumulative impacts related to energy demand, energy conservation, and energy infrastructure.

4.6.3 IMPACT DISCUSSION

ENE-1	Implementation of the proposed project could result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
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Construction

Potential future development in the EIR Study Area would require the temporary use of construction equipment for grading, hauling, and building activities. Energy use during construction would vary based on the type of construction (i.e., demolition, grading, site preparation, etc.). The majority of construction

²⁷ California Air Resources Board, 2019, EMFAC2011 Emissions Model.

²⁸ California Distributed Generation Statistics, April 30, 2020, Download Data, Distributed Generation Interconnection Program Data, NEM Currently Interconnected Data Set, <https://www.californiadgstats.ca.gov/downloads/>, accessed September 11, 2020.

²⁹ U.S. Department of Energy, National Renewable Energy Laboratory, PVWatts Calculator, <https://pvwatts.nrel.gov/>, accessed on September 11, 2020.

equipment during demolition and grading would be gas or diesel powered, and other equipment during building construction would be electricity powered. Construction would also include the vehicles of construction workers traveling to and from each project site as well as haul trucks for the export of materials from site clearing and the export and import of soil for grading. Transportation energy use depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode.

The proposed Conservation and Climate Change (C) Element contains a goal, policy, and program that requires local planning and development decisions to conserve energy during construction-related activities. The following goal, policy, and program would limit wasteful and unnecessary energy consumption in the EIR Study Area:

Goal C-4: Sustainable Energy Management. Use energy in a way that protects the environment, addresses climate change, and conserves natural resources.

- **Policy C-4.2: Energy Conservation.** Support construction methods, building materials, and home improvements that improve energy efficiency in existing and new construction.
 - **Program C-4.2B: Green Building Standards.** Implement State green building and energy efficiency standards for remodeling projects and new construction. Consider additional measures to incentivize green building practices, low carbon concrete, and sustainable design.

There would be no unusual project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in other parts of the state. All operation of construction equipment would cease upon completion of project construction. Furthermore, the construction contractors are anticipated to minimize nonessential idling of construction equipment during construction, in accordance with California Code of Regulations, Title 13, Section 2449(d)(2) of Article 4.8, Chapter 9. Such required practices would limit wasteful and unnecessary energy consumption. Projects within the city would be similar to projects currently in development within San Rafael. No projects consisting of multiple phases over an extended period are anticipated. Furthermore, construction vehicles for model years 2017 to 2025 are mandated by the CAFE standards, which include targets for gallons of fuel consumed per mile. Therefore, short-term construction activities that occur as a result of implementation of the proposed General Plan 2040 would not result in inefficient, wasteful, or unnecessary fuel consumption.

Operation

Operation of new development projects accommodated under the General Plan Update would create additional demands for electricity and natural gas, and diesel or gasoline for some types of motorized vehicles used for transportation when 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. Operational use of gasoline and diesel would include motorized equipment such as emergency generators, vehicles, and available public transit such as buses and trains.

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Electrical Energy

While the electricity and natural gas demand for the potential future development in the EIR Study Area would increase compared to existing conditions, potential future development would be required to comply with the current and future updates to the Building and Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6) and the 2019 California Green Building Code (California Code of Regulations, Title 24, Part 11), which would contribute to reducing the energy demands. New buildings would also use new energy-efficient appliances and equipment, pursuant to the Appliance Efficiency Regulations (Title 20, California Code of Regulations, Sections 1601 through 1609), which would ensure the use of efficient and non-wasteful electricity and natural gas consumption. New and replacement buildings in compliance with these standards would generally have greater energy efficiency than existing buildings. It is anticipated that each update to the Building Energy Efficiency Standards and CALGreen will result in greater building energy efficiency and move closer toward buildings achieving zero net energy.

The proposed Conservation and Climate Change (C) Element contains goals, policies, and programs that require local planning and development decisions to address efficient use of energy and energy conservation. The following goals, policies, and programs would further limit wasteful and unnecessary energy consumption in the EIR Study Area, beyond those listed in the construction discussion.

Goal C-4: Sustainable Energy Management. Use energy in a way that protects the environment, addresses climate change, and conserves natural resources.

- **Policy C-4.1: Renewable Energy.** Support increased use of renewable energy and remove obstacles to its use.
 - **Program C-4.1B: PACE Financing.** Participate in a Property Assessed Clean Energy (PACE) financing program to fund installation of renewable energy systems, energy efficiency upgrades to existing buildings, and other improvements such as electric vehicle chargers and battery storage. Consider other funding sources to improve local energy generation and storage.
 - **Program C-4.1C: Regulatory Barriers.** Continue efforts to remove regulatory barriers and provide creative incentives for solar energy installations, such as rooftop solar systems and parking lot canopies. The installation of renewable energy systems that are consistent with the Climate Change Action Plan should be encouraged and accelerated.
 - **Program C-4.1D: Reducing Natural Gas Use.** Promote electrification of building systems and appliances in new buildings and those that currently use natural gas.
 - **Program C-4.1E: Municipal Buildings.** Wherever feasible, incorporate renewable energy technology such as solar, cogeneration, and fuel cells, in the construction or retrofitting of City facilities. Continue use of Marin Clean Energy (MCE) Deep Green (100 percent renewable) power.
- **Policy C-4.2: Energy Conservation.** Support construction methods, building materials, and home improvements that improve energy efficiency in existing and new construction.
 - **Program C-4.2A: Energy Efficiency Outreach.** Continue to inform businesses and residents of programs and rebates to conserve energy and weatherize their homes.
 - **Program C-4.2B: Green Building Standards.** Implement State green building and energy efficiency standards for remodeling projects and new construction. Consider additional measures to incentivize green building practices, low carbon concrete, and sustainable design.

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growth that would occur as currently allowed and projected under General Plan 2020), the 2040 With Project conditions would also decrease total VMT by approximately 2 percent in the EIR Study Area. This indicates that buildout conditions under the proposed General Plan 2040 would be more efficient in reducing VMT on a per service population basis, thus reducing energy demand from transportation.

Additionally, the efficiency of vehicles would also increase by 3.41 miles per gallon (mpg) and 3.71 mpg, respectively, compared to 2020 conditions. A decrease in VMT and fuel usage for gasoline-powered vehicles and increase in VMT and fuel usage for electric-powered vehicles are primarily based on the assumption in emission factors that a greater mix of light-duty automobiles would be electric-powered in future years based on regulatory (e.g., Advanced Clean Cars) and consumer trends. Fuel efficiency will improve over time, and implementation of the proposed General Plan 2040 would not result in less efficiency in transportation fuel usage. The improvement in fuel efficiency would be attributable to regulatory compliance (e.g., CAFE standards), resulting in new cars that are more fuel efficient and the attrition of older, less fuel-efficient vehicles. The CAFE standards are not directly applicable to residents or land use development projects, but to car manufacturers. Thus, residents and employees of San Rafael 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 city more fuel-efficient vehicle options.

In conjunction with the regulatory (i.e., Renewables Portfolio Standard, SB 350, and SB 100) 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.

In addition to regulatory compliance that would contribute to more fuel-efficient vehicles and less demand in fuels, the proposed General Plan 2040 includes goals, policies, and programs previously listed that would contribute to efficient energy and fuel use. Because transportation is a leading source of energy use in San Rafael, many goals and policies in the proposed General Plan 2040 appear in the Mobility Element. These proposed goals, policies, and programs focus on minimizing VMT through land use and transportation planning efforts that work in conjunction. Goal M-5 supports local streets that are safe, attractive, and provide easy access to homes and businesses, thus encouraging biking and walking. Policies aim to reduce VMT, and therefore reduce energy use from the transportation sector, by encouraging carpooling, working from home, flextime, micromobility (e-bikes, e-scooters), and similar strategies. Policies also support a continued shift to cleaner fuel vehicles and more electric charging stations. Goal M-4 supports a more robust public transit system, to make it easier to travel without a car. Goal M-6 supports pedestrian and bicycle improvements, making it safer and easier to walk or cycle around the city. Goal M-7 supports parking to accommodate a more sustainable transportation system, including parking for transit users and charging stations for electric vehicles. Goal CSI-3 supports public safety services to maintain safe streets for all users. Collectively, these goals and policies would minimize overall VMT, and thus fuel usage associated with potential future development in San Rafael.

Furthermore, roughly half of the potential new population and employment opportunities would occur within the PDAs and TPAs, and on a limited number of vacant parcels and in the form of infill/intensification on sites either already developed and/or underutilized, and/or in close proximity to

existing residential and residential-serving development, thus contributing to reduced energy use from the transportation sector. Placing residential and nonresidential uses near each other to create self-sustaining communities and neighborhoods and offering mixed-used developments, could result in shorter distances traveled between where people work and live and to amenities. The shorter distances reduce VMT by reducing the average vehicle trip distance traveled. It also encourages people to forego vehicle travel altogether and either bike, walk, or take public transportation, which would also contribute to minimizing VMT.

Summary

Overall, 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 2040 includes goals, policies, and programs related to land use and transportation planning and design, energy efficiency, public and active transit, and renewable energy generation that will contribute to minimizing building and transportation-related energy demands overall and demands on nonrenewable sources of energy. Implementation of proposed policies under the proposed General Plan 2040 in conjunction with and complementary to regulatory requirements, will ensure that energy demand associated with growth under the proposed General Plan 2040 would not be inefficient, wasteful, or unnecessary. Therefore, energy impacts associated with implementation and operation of land uses accommodated under the General Plan Update would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

The Downtown Precise Plan Area is mostly within the Downtown San Rafael PDA and TPA (see Figure 4-5 in Chapter 4, Environmental Analysis, of this Draft EIR), surrounding the San Rafael Transit Center. About 200 acres of the Downtown Precise Plan Area is within 0.25 miles, or within a 10-minute walking distance, of the San Rafael Transit Center. Potential future development would primarily occur within this TPA and PDA and/or on a limited number of vacant parcels and in the form of infill/intensification on sites either already developed and/or underutilized, and/or in close proximity to existing residential and residential-serving development, and in areas within close proximity to public transportation.

The Downtown Precise Plan Area is served by the same electric and natural gas facilities as the remainder of the EIR Study Area. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to ensure energy efficiency beyond what is proposed in the General Plan 2040; therefore, the impacts described above for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. New development or redevelopment in the Downtown Precise Plan Area would be required to comply with the same regulations and efficiency standards as the proposed General Plan 2040, which would ensure energy efficiency. Accordingly, potential future development would not result in wasteful, inefficient, or unnecessary consumption of energy resources and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

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ENE-2 Implementation of the proposed project could conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

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As stated in Section 4.6.1.2, Existing Conditions, the EIR Study Area is currently serviced with electricity from MCE and PG&E. Customers are automatically enrolled in the MCE light green program which uses 60 percent renewable energy and can opt-up to a 100 percent renewable electricity service. Even if customers in the EIR Study Area were to opt-out of the light green program, and therefore receive all their electricity from PG&E, 33 percent of PG&E's electricity is generated from renewable energy. Thus, additional energy that would be consumed due to implementation of the proposed General Plan 2040 is anticipated to be consistent with the California 2020 renewable energy goal of 50 percent of the total electricity sold to California retail customers per year by December 31, 2020.

The land uses accommodated under the proposed General Plan 2040 would comply with the current and future iterations of the Building Energy Efficiency Standards and CALGreen. Furthermore, as discussed for Impact Discussion ENE-1, the proposed General Plan 2040 includes Conservation and Climate Change Element goals, policies, and programs, which would support the statewide goal of transitioning the electricity grid to renewable sources. The net increase in energy demand associated with implementation of the proposed General Plan 2040 would be within the service capabilities of MCE and PG&E and would not impede their ability to implement California's renewable energy goals. Therefore, implementation of the proposed General Plan 2040 would not conflict with or obstruct implementation of California's Renewables Portfolio Standard program, and no impact would occur.

Plan Bay Area

Implementation of the proposed General Plan 2040 would be consistent with *Plan Bay Area* 2040, as roughly half of the potential future development would be concentrated within the Downtown Precise Plan Area, which makes up the majority of the Downtown San Rafael PDA and TPA, and potential future development would also occur within the other PDAs and TPAs in the city. Potential future development would also occur on a limited number of vacant parcels and in the form of infill/intensification on sites either already developed and/or underutilized, and/or in close proximity to existing residential and residential-serving development, and in areas with close proximity to public transportation. Development of this nature promotes the densification of land uses, which would reduce vehicle fuel use and per-capita energy consumption.

San Rafael Climate Change Action Plan

The 2019 Climate Change Action Plan (CCAP) was approved and adopted by the City on May 20, 2019, to reduce GHG emissions and includes a variety of regulatory, incentive-based, and voluntary strategies to reduce emissions from existing and future development in the city. It contains policies and actions focused on the reduction of GHG emissions and energy conservation across both government and community sectors. Actions provided in the 2019 CCAP to meet the City's reduction targets involve initiatives focused

on low-carbon transportation, energy efficiency, renewable energy, waste reduction, water conservation, sequestration and adaptation, and community engagement, all which serve to reduce energy use and ensure the efficient use of energy.

The proposed General Plan 2040 includes goals, policies, and programs previously listed under Impact Discussion ENE-1 that increase energy efficiency and use of renewable sources of energy throughout the city. These goals, policies, and programs would contribute to the reduction in energy demand throughout the city. Thus, implementation of the proposed General Plan 2040 would not interfere with the goals and measures of the City's CCAP, and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

Downtown Precise Plan

As described in Impact Discussion ENE-1, the Downtown Precise Plan Area is located in the service area of both MCE and PG&E and potential future development would occur in the Downtown San Rafael PDA and TPA and/or on a limited number of vacant parcels and in the form of infill/intensification on sites either already developed and/or underutilized, and/or in close proximity to existing residential and residential-serving development, and in areas within close proximity to public transportation. As such, development in this location would further the goals of the California's Renewables Portfolio Standard Program and the City's CCAP and would not impede their ability to be implemented. The proposed Downtown Precise Plan has no specific policies, and the Downtown Code has no specific regulations to ensure energy efficiency beyond what is proposed in the General Plan 2040; therefore, the impacts described above for the proposed General Plan 2040 would also apply in the Downtown Precise Plan Area. Accordingly, like the General Plan 2040, implementation of the Downtown Precise Plan would not conflict with California's Renewables Portfolio Standard Program and the City's CCAP and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

ENE-3 Implementation of the proposed project could result in a cumulatively considerable impact to energy conservation and renewable energy.

Cumulative impacts would occur if a series of actions lead to a wasteful, inefficient, or unnecessary consumption of energy resources or a conflict with or obstruction of a State or local plan for renewable energy and energy efficiency. All the development projects within the vicinity of the EIR Study Area are within the service area of MCE and PG&E. All 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 MCE and PG&E service area would implement the requirements of the Building and Energy Efficiency Standards (California Code of Regulations, Title 24, Part 6), the California Green Building Code (California Code of Regulations, Title 24, Part 11), and the San Rafael CCAP. New buildings would also use new energy-efficient appliances and equipment, pursuant to the Appliance

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Efficiency Regulations. Future projects would also implement renewable energy measures as indicated in the San Rafael CCAP and proposed goals, policies, and programs.

Future development would also increase annual fuel consumption. However, 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.

These measures would contribute toward minimizing inefficient, wasteful, or unnecessary energy consumption, and ensure compliance with State, regional, or local plans for renewable energy. Therefore, the proposed project would not result in a cumulatively considerable impact to energy and cumulative impacts would be *less than significant*.

Significance without Mitigation: Less than significant.