5.17 ENERGY CONSUMPTION

This section of the Draft Environmental Impact Report (EIR) addresses to potential for the proposed project to result in a wasteful consumption of energy. Public Resources Code Section 21100(b)(3) and State *CEQA Guidelines* §15126.4 require EIRs to describe, where relevant, the wasteful, inefficient, and unnecessary consumption of energy caused by a project. In 1975, largely in response to the oil crisis of the 1970s, the California legislature adopted Assembly Bill (AB) 1575, which created the California Energy Commission (CEC). The statutory mission of the CEC is to forecast future energy needs, license thermal power plants of 50 megawatts or larger, develop energy technologies and renewable energy resources, plan for and direct State responses to energy emergencies, and to promote energy efficiency through the adoption and enforcement of appliance and building energy efficiency standards. AB 1575 also amended Public Resources Code Section 21100(b)(3) to require EIRs to consider the wasteful, inefficient, and unnecessary consumption of energy caused by a project. Thereafter, the State Resources Agency created Appendix F of the State *CEQA Guidelines*.

State *CEQA Guidelines* Appendix F assists the Lead Agency, in this case the City of Redding, in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. For the reasons set forth below, this Draft EIR concludes that the proposed project would not result in this type of energy consumption and therefore would not create a significant impact on energy resources.

5.17.1 ENVIRONMENTAL SETTING

Energy consumption is analyzed in this EIR due to the potential direct and indirect environmental impacts associated with the project. Such impacts include the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and emissions of pollutants during both the construction and long-term operational phases.

ELECTRICITY AND NATURAL GAS SERVICES

Redding Electric Utility (REU) provides electrical services to the City of Redding through State-regulated public utility contracts. The Pacific Gas and Electric Company (PG&E) provides electric and natural gas services to certain areas in the City. Electricity and natural gas service is available to most locations where land uses could be developed.

The City's development review process includes a review and comment opportunity for utility companies, including REU and PG&E, to provide input from each utility company on all development proposals. The input facilitates a detailed review of all projects by service purveyors to assess the potential demands for utility services on a project-by-project basis. Utility companies are bound by contract to update energy systems to meet any additional demand.

REU has existing facilities adjacent to the proposed project location. According to an Electric Service Questionnaire completed by REU, the agency has sufficient capacity within its system to accommodate the proposed project. The existing circuits in the project area could accommodate the estimated demand. However, new transformers and infrastructure would be required to serve each of the proposed buildings. The additional facilities required include new transformers and underground cable to serve each building, new primary switching equipment, and the feeder circuit extension from Hartnell

Avenue, along Parkview Avenue to Henderson Road would be required to accommodate the estimated new load for the project. PG&E runs an overhead line across the proposed project site. The line is proposed to be relocated underground as part of the development.

ENERGY USAGE

Electricity

Electricity is quantified using kilowatts (kW) and kilowatt-hour (kWh). 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 1 hour. The kWh is commonly used as a billing unit for energy delivered to consumers by electric utilities. Californians consumed 285,701 gigawatt hours (GWh) of electricity in 2016, which is the most recent year for which data is available[1].

Electricity and natural gas in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use.[2] The electricity consumption attributable to nonresidential land uses in Shasta County from 2009 to 2016 is shown in Table 5.17-1, NONRESIDENTIAL ELECTRICITY CONSUMPTION IN SHASTA COUNTY 2009-2016. This reflects the most specific data available, as the City nor the California Energy Commission track data specifically for the City. As indicated, the demand has remained relatively constant, with no substantial increase, even as the population has increased.

Table 5.17-1
NONRESIDENTIAL ELECTRICITY CONSUMPTION IN SHASTA COUNTY 2009–2016

Year	Nonresidential Electricity Consumption (in millions of kilowatt hours)
2009	811
2010	778
2011	773
2012	782
2013	795
2014	815
2015	837
2016	816

Source: California Energy Consumption Data Management System. *Electricity and Natural Gas Consumption by County*. 2016. [Online]: http://ecdms.energy.ca.gov/. Accessed: October 29, 2018.

Natural Gas

Natural gas energy usage is typically quantified using the British Thermal Unit (Btu). Total natural gas usage in California was approximately 1.57 trillion Btu's in 2016 (the most recent year for which this specific data is available). The natural gas consumption attributable to nonresidential land uses in Shasta County from 2009 to 2016 is shown in Table 5.17-2, NONRESIDENTIAL NATURAL GAS CONSUMPTION IN SHASTA COUNTY 2009-2016. Similar to electricity consumption, the demand has remained relatively constant, with no substantial increase, even with an increase in population.

[1] California Energy Commission. *Tracking Progress*. updated November 2017. [Online]: https://www.energy.ca.gov/renewables/tracking_progress/documents/statewide_energy_demand.pdf. Accessed: November 1, 2018.
[2] US Energy Information Administration. *California State Profile and Energy Estimates*. Updated October 18, 2018. [Online]: http://www.eia.gov/state/data.cfm?sid=CA#ConsumptionExpenditures. Accessed: October 31, 2018.

Table 5.17-2
NONRESIDENTIAL NATURAL GAS CONSUMPTION IN SHASTA COUNTY 2009–2016

Year	Nonresidential Natural Gas Consumption (million British Thermal units [Btu])
2009	1,431,663
2010	1,388,337
2011	1,392,041
2012	1,743,228
2013	1,520,700
2014	1,297,582
2015	1,460,627
2016	1,573,381

Source: California Energy Consumption Data Management System. *Electricity and Natural Gas Consumption by County*. 2016. [Online]: http://ecdms.energy.ca.gov/. Accessed: October 29, 2018.

Gasoline/Diesel Fuels

In 2017, taxable gasoline sales (including aviation gasoline) in California accounted for 14,921,441,859 gallons of gasoline.[3] Automotive fuel consumption in Shasta County from 2009 to 2017 is shown in Table 5.17-3, AUTOMOTIVE FUEL CONSUMPTION IN SHASTA COUNTY 2009-2017. As shown, gasoline fuel consumption has declined in the county since 2009 but diesel fuel consumption has increased.

Table 5.17-3
AUTOMOTIVE FUEL CONSUMPTION IN SHASTA COUNTY 2009–2017

Year	Gasoline Fuel Consumption (gallons)	Heavy-Duty Vehicle/Diesel Fuel Consumption (gallons)
2009	113,720,002	39,010,499
2010	113,320,407	38,643,129
2011	109,927,984	38,517,536
2012	107,826,538	37,870,126
2013	107,370,177	40,339,253
2014	107,917,443	41,247,731
2015	109,129,489	41,691,072
2016	110,521,285	44,479,787
2017	111,222,696	44,817,175

Source: California Air Resources Board. *EMFAC2017 Emissions Model*. 2017.

5.17.2 REGULATORY SETTING

The following is a description of State and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process.

STATE

California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24)

The California Code of Regulations Title 24, California's energy efficiency standards for residential and non-residential buildings, was established by the CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, and provide energy efficiency standards for residential and non-residential buildings. In 2013, the CEC updated Title 24 standards with

[3] BOE (California Board of Equalization). *Net Taxable Gasoline Sales*. 2016. [Online]: http://www.cdtfa.ca.gov/taxes-and-fees/MVF_10_Year_Report.pdf. Accessed: October 31, 2018.

more stringent requirements. The 2013 standards are expected to substantially reduce the growth in electricity and natural gas use. Additional savings result from the application of the standards on building alterations. For example, requirements for cool roofs, lighting, and air distribution ducts are expected to save additional electricity. These savings are cumulative, doubling as years go by. The 2016 standards went into effect on January 1, 2017. California's energy efficiency standards are updated on an approximate three-year cycle. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018 and take effect on January 1, 2020. Under the 2019 standards, homes will use about 53 percent less energy and nonresidential buildings will use about 30 percent less energy than buildings under the 2016 Title 24 standards.

California Green Building Standards

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code was adopted in 2016 and went into effect January 1, 2017.

2008 California Energy Action Plan Update

The California Public Utilities Commission and California Energy Commission *2008 Energy Action Plan Update* provides a status update to the *2005 Energy Action Plan II,* which is the State's principal energy planning and policy document. The plan continues the goals of the original *Energy Action Plan*, describes a coordinated implementation plan for State energy policies, and identifies specific action areas to ensure that California's energy is adequate, affordable, technologically advanced, and environmentally sound. First-priority actions to address California's increasing energy demands are energy efficiency, demand response (i.e., reduction of customer energy usage during peak periods in order to address system reliability and support the best use of energy infrastructure), and the use of renewable sources of power. If these actions are unable to satisfy the increasing energy and capacity needs, the plan supports clean and efficient fossil-fired generation.

2006 Appliance Efficiency Regulations

The California Energy Commission adopted Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) on October 11, 2006. The regulations were 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. While 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.

Renewable Energy Sources

Established in 2002 under Senate Bill (SB) 1078 and accelerated by SB 107 (2006) and SB 2 (2011), California's Renewables Portfolio Standard obligates investor-owned utilities, energy service providers,

and community choice aggregators to procure 33 percent of their electricity from renewable energy sources by 2020. Eligible renewable resources are defined in the 2013 Renewables Portfolio Standard (RPS) to include biodiesel; biomass; hydroelectric and small hydro (30 megawatts or less); Los Angeles Aqueduct hydro power plants; digester gas; fuel cells; geothermal, landfill gas; municipal solid waste; ocean thermal, ocean wave, and tidal current technologies; renewable derived biogas; multi-fuel facilities using renewable fuels; solar photovoltaic; solar thermal electric; wind; and other renewables that may be defined later.

Governor Jerry Brown signed SB 350 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, 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. The bill 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.

Signed in 2018, SB 100 revised the goal of the program to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045.

Recent CEQA Litigation

In California, *Clean Energy Committee v. City of Woodland* (2014) 225 Cal.App.4th 173 ("CCEC"), the Court observed that State *CEQA Guidelines* Appendix F lists environmental impacts and mitigation measures that an EIR may include. Potential impacts requiring EIR discussion include:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance, and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
- The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- The degree to which the project complies with existing energy standards.
- The effects of the project on energy resources.
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

LOCAL

Redding Electric Utility Renewables Portfolio Standard

On June 17, 2003, the Redding City Council formally adopted the Renewables Portfolio Standard (RPS) for Redding Electric Utility (REU). This policy called for acquiring 20 percent of REU's energy from renewable resources by 2017. In 2009, Governor Schwarzenegger directed the California Air Resources Board to increase California's renewables energy requirements to 33 percent by 2020. On March 1,

2011, the Redding City Council revised REU's renewables policy to reflect these new requirements just before Governor Brown signed Senate Bill X1-2 on April 12, 2011, which updated the RPS. In addition to increasing the RPS to 33 percent by 2020, SBX1-2 also made a number of other significant changes to California's RPS. For the first time, the RPS would be extended to publicly owned utilities ("POUs") in California. REU is abiding by the regulation and has both an enforcement and procurement plan in place and is on track to meet the RPS goals.

In addition to cleaner renewable energy, REU helps improve energy efficiency and reduce greenhouse gas emissions by providing Energy Efficiency/Renewable Energy Rebate Programs (such as the ENERGY STAR® Rebate Program, Pol Pump Rebate Program, and Weatherization Rebate Program) through their Public Benefits Program. All REU customers are eligible to participate in REU's Rebate Programs which include a wide range of energy efficiency and renewable energy products, measures, and technologies like Energy Star® appliances, insulation, high-efficiency HVAC systems, and both solar photovoltaic and solar thermal systems.

5.17.3 STANDARDS OF SIGNIFICANCE

SIGNIFICANCE CRITERIA

In accordance with State *CEQA Guidelines*, the effects of a project are evaluated to determine whether they would result in a significant adverse impact on the environment. An EIR is required to focus on these effects and offer mitigation measures to reduce or avoid any significant impacts that are identified. The criteria used to determine the significance of impacts may vary depending on the nature of the project. According to Public Resources Code Section 21100(b)(3) and Appendix G of the State *CEQA Guidelines*, the proposed project would have a significant impact related to energy consumption, if it would:

- *Result in wasteful, inefficient, and unnecessary consumption of energy resources during project construction or operations.* Refer to Impact 5.17-1, below.

- *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.* Refer to Impact 5.17-2, below.

Based on these standards, the effects of the proposed project have been categorized as either a less than significant impact or a potentially significant impact. Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant and unavoidable impact.

5.17.4 POTENTIAL IMPACTS AND MITIGATION MEASURES

METHODOLOGY

The impact analysis focuses on the three sources of energy that are relevant to the proposed project: electricity, natural gas, and transportation fuel for vehicle trips associated with new development as well as the fuel necessary for project construction. The analysis of electricity/natural gas usage is based on California Emissions Estimator Model (CalEEMod) project specific data, which quantifies energy use for occupancy. The results of the CalEEMod modeling are included in Appendix 15.2, AIR QUALITY

DATA. Modeling was based primarily on the default settings in the computer program for Shasta County. The amount of operational fuel use was estimated using the California Air Resources Board's Emissions Factor 2017 (EMFAC2017) computer program, which provides projections for typical daily fuel usage in Shasta County. The amount of construction-related fuel use was estimated using ratios provided in the Climate Registry General Reporting Protocol for the Voluntary Reporting Program, Version 2.1. The results of EMFAC2017 modeling and construction fuel estimates are included in Appendix 15.13, ENERGY DATA.

Energy consumption impacts are analyzed below according to topic. Mitigation measures directly correspond with an identified impact.

IMPACT 5.17-1 *Project implementation would not use fuel or energy in a wasteful manner.*

Significance: Less Than Significant Impact.

Impact Analysis: Implementation of the proposed project would require the relocation of existing overhead PG&E lines to be relocated underground. The proposed project would also require construction of new facilities within the boundary of the proposed project. Construction activities affecting existing electrical facilities would be coordinated with REU to minimize any impacts or disruptions to existing service. Energy consumption associated with the proposed project is summarized in Table 5.17-4, PROPOSED PROJECT ENERGY CONSUMPTION.

As shown in Table 5.17-4, the increase in electricity usage as a result of the project would constitute an approximate 0.15 percent increase in the typical annual electricity consumption and an approximate 0.11 percent increase in the typical annual natural gas consumption attributable to all nonresidential buildings in Shasta County. The increase in automotive fuel, including the two-phase construction of the project, would increase use in the county by 0.35 percent.

Table 5.17-4
PROPOSED PROJECT ENERGY CONSUMPTION

Energy Type	Project Annual Energy Consumption	Shasta County Annual Energy Consumption	Percentage Increase (Countywide)
Electricity Consumption[1]	1,262,460 kWh	816,000,000 kWh	0.15%
Natural Gas Consumption[1]	1,697 million Btu	1,573,381 million Btu	0.11%
Fuel Consumption[2]			
Project Construction (annual average)	38,852 gallons	44,817,175 gallons	0.09%
Project Operations	502,375 gallons	111,222,696 gallons	0.45%
Total	**541,227 gallons**	**156,039,871 gallons**	**0.35%**

Notes:
1. The project increases in electricity and natural gas consumption are compared with all of the nonresidential buildings in Shasta County in 2016.
2. The project increases in gas and fuel consumption are compared with the countywide fuel consumption in 2017.

Sources: [1] CalEEMod v. 2013.2.2; [2] EMFAC2017 (CARB 2017).

Short-Term Construction

During construction, the project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Fossil fuels used for construction vehicles and other energy-consuming equipment would be used during site clearing, grading, and construction. Fuel energy consumed during construction would be temporary in nature and would not represent a significant demand on energy resources. Some incidental energy conservation would occur during construction through implementation of the mitigation measures listed in Section 5.2, AIR QUALITY, include a requirement that equipment not in use for more than 5 minutes be turned off (refer to **MM 5.2-1**). Project construction equipment would also be required to comply with the latest EPA and CARB engine emissions standards. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Additionally, construction building materials could include recycled materials and products originating from nearby sources in order to reduce costs of transportation. Due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction. There is growing recognition among developers and retailers that sustainable construction is not prohibitively expensive, and that there is a significant cost-savings potential in green building practices and materials.

Substantial reductions in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than non-recycled materials. The incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes and manufactured or processed materials (e.g., lumber and gas) would not substantially increase demand for energy compared to overall local and regional demand for construction materials. It is reasonable to assume that production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest in minimizing the cost of doing business.

As indicated in Table 5.17-4, the project's fuel from construction would be 38,852 gallons, which would increase fuel use in the County by 0.19 percent each year during construction. A less than one percent increase in construction fuel demand is not anticipated to trigger the need for additional capacity. As such, project construction would have a nominal effect on the local and regional energy supplies. It should be noted that construction fuel use is temporary and would cease upon completion of construction. There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or State. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. A *less than significant* impact would occur in this regard.

Long-Term Operations

The energy consumption associated with operation of uses pursuant to the project would include building electricity, water, and natural gas usage, as well as fuel usage from transportation/on-road vehicles.

Transportation Energy Demand. Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration (NTSA) is responsible for establishing additional vehicle standards and for revising existing standards. Compliance with Federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. Table 5.17-4 provides an estimate of the daily fuel consumed by vehicles traveling to and from the project site. As indicated in Table 5.17-4, operation of the proposed project is estimated to consume approximately 541,227 gallons of fuel per year, which would increase Countywide automotive fuel consumption by 0.35 percent. The project would not result in any unusual characteristics that would result in excessive long-term operational fuel consumption. The proposed project represents a vacant property site with an existing 7,500 square-foot structure. The proposed project is an infill project that would provide employment and services to the community, thereby reducing the need to travel long distances and reducing associated fuel consumption.[4]

The City of Redding has goals for proposed existing and future Class I and II bicycle facilities that would facilitate the reduction of vehicle trips (and associated transportation fuel consumption) from the project. The Class I bicycle path on Henderson Road to Inez Street is proposed while the existing Class II facilities on Cypress Avenue from State Route 273 (SR-273) to Ishi Drive and Hartnell Avenue from Cypress Avenue to Old Oregon Trail/Airport Road would be upgraded or proposed. The existing transit service in the City of Redding is provided primarily by the Redding Area Bus Authority (RABA). RABA provides 15 fixed route services, express route services and demand response services to the general public within the urbanized area of the Shasta County. The nearest bus stop is on west side of Hartnell Avenue south of Henderson Road, approximately 200 feet from the project site.

The proposed project includes 549 parking spaces which is a five percent reduction in required parking spaces as allowed by the RABA credit area. Parking includes ADA, van accessible spaces, compact, and motorcycle spaces. In addition, 33 of the parking spaces would have electric vehicle charging stations and 44 spaces would be preferential parking for clean vehicles. Bike parking would be provided onsite. These design features would reduce transportation fuel consumption. The project is located within a central portion of the City, would serve the existing community, and fuel consumption associated with vehicle trips generated by the project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Additionally, implementation of **MM 5.6-1** (refer to Section 5.6, GREENHOUSE GASES AND CLIMATE CHANGE) would result further reductions in transportation fuel demand, by requiring measures such as voluntary trip reduction programs for all employees, voluntary ride sharing programs for all employees, and Commute Trip Reduction subsidies for employees.

Building Energy Demand. The proposed project would consume energy for interior and exterior lighting, heating/ventilation and air conditioning (HVAC), refrigeration, electronics systems, appliances, and security systems, among other things. The proposed project would be required to comply with Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Implementation of the Title 24 standards significantly reduces energy usage. The proposed project would exceed 2016 Title 24 requirements by 15 percent. Furthermore, the electricity provider, REU, is subject to California's Renewables Portfolio Standard

[4] The California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures* (August 2010) identifies that infill developments, such as the proposed project reduce vehicle miles traveled which reduces fuel consumption. Infill projects such as the proposed project would have an improved location efficiency.

(RPS). The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020 and to 60 percent of total procurement by 2030 (as required by SB 100). SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045. Renewable energy is generally defined as energy that comes from resources which are naturally replenished within a human timescale such as sunlight, wind, tides, waves, and geothermal heat. The project proposes high efficiency outdoor lighting at 40 percent and energy efficient appliances. The increase in reliance of such energy resources further ensures projects will not result in the waste of the finite energy resources.

As mentioned above, REU currently provides electrical services within the City of Redding, while natural gas and some electrical service are provided by the PG&E. These utility companies would continue to provide these services and are required by the California Public Utilities Commission to update existing systems to meet any additional demand.

As depicted in Table 5.17-4, the project related building energy would represent a 0.15 percent increase in electricity consumption and a 0.11 percent increase in natural gas consumption over the current Countywide usage. The project would adhere to all federal, State, and local requirements for energy efficiency, including the Title 24 standards, as well as the project's design features. Additionally, as noted above **MM 5.6-1** requires the project to incorporate energy efficiency measures and energy reduction features, such as the use of energy star appliances and on-site renewable energy generation. The proposed project would not result in the inefficient, wasteful, or unnecessary consumption of building energy. Additionally, the proposed project would not result in a substantial increase in demand or transmission service, resulting in the need for new or expanded sources of energy supply or new or expanded energy delivery systems or infrastructure.

Conclusion

As shown in Table 5.17-4, the increase in electricity, natural gas, and automotive fuel consumption over existing conditions is minimal (less than 1 percent). As such, the proposed project would not place a substantial demand on regional energy supply or require significant additional capacity, or significantly increase peak and base period electricity demand, or cause wasteful, inefficient, and unnecessary consumption of energy during project construction, operation, and/or maintenance, or preempt future energy development or future energy conservation.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: No mitigation measures are required. Impacts would *be less than significant*.

IMPACT 5.17-2	***Project implementation would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.***

Significance: Less Than Significant Impact.

Impact Analysis: Project design and operation would comply with State Building Energy Efficiency Standards, appliance efficiency regulations, and green building standards. As discussed above in Impact 5.17-1, project development would not cause inefficient, wasteful or unnecessary energy use, and impacts would be less than significant.

The City of Redding does not have a stand-alone Climate Action Plan or Energy Plan but includes policies for energy resources within the City's *General Plan*. The *General Plan* policies encourage energy efficiency through a City-provided electric-usage analysis for existing customers as well as encouraging altering energy consumption during off-peak hours and encouraging design that takes advantage of solar orientation. The *General Plan* policies are measures where the City is responsible for implementation. The proposed project would not conflict with the *General Plan* policies or obstruct their implementation.

The proposed project is an infill project that would provide employment and services to the community, thereby reducing the need to travel long distances and reducing associated fuel consumption. As noted above, implementation of **MM 5.6-1** would further reduce transportation fuel demand, by requiring measures such as voluntary trip reduction programs for all employees, voluntary ride sharing programs for all employees, and Commute Trip Reduction subsidies for employees. **MM 5.6-1** also requires the project to incorporate energy efficiency measures and energy reduction features, such as the use of energy star appliances and onsite renewable energy generation. The project proposes high efficiency outdoor lighting at 40 percent and energy efficient appliances. Therefore, the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Impacts would be *less than significant*.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: No mitigation measures are required. Impacts would *be less than significant*.

5.17.5 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

The analysis of cumulative impacts focuses on those effects that, when combined together with other similar activities or projects could result in a large enough effect or impact that would be considered cumulatively significant. If the individual project's contribution is substantial enough, it may be considered cumulatively significant. In some instances, a project-specific impact may not combine with effects from other activities, in which case, the project's contribution to a cumulative effect would be less than considerable.

The cumulative setting for energy use includes Shasta County and the incorporated cities of Redding, Anderson, and Shasta Lake, as described in Subsection 5.17.1, *Environmental Setting*. This geographic extent is appropriate as it represents the area served by Redding Electric Utility as well as the region where the majority of transportation fuel is consumed.

IMPACT 5.17-3	***The proposed project, in combination with cumulative development within Shasta County, would not use fuel or energy in a wasteful manner.***

Significance: Less Than Significant Impact.

Impact Analysis: The anticipated project impacts, in conjunction with cumulative development in the area, would increase urbanization and result in increased energy consumption. However, quantifying and/or analyzing energy consumption by cumulative projects in the area would be speculative in nature, as the proposed land use types, intensities, and sizes of projects are unknown at this time. Potential land use impacts are site-specific and require evaluation on a case-by-case basis. Each cumulative project would require separate discretionary approval and CEQA assessment, which would address potential energy consumption impacts and identify necessary mitigation measures, where appropriate. Additionally, each project would be required to comply with State Building Energy Efficiency Standards, appliance efficiency regulations, and green building standards, which would ensure that energy is not uses in a wasteful manner.

As previously noted, the proposed project would not result in significant energy consumption impacts. The proposed project would not be considered inefficient, wasteful, or unnecessary with regard to energy. Thus, the proposed project and identified cumulative projects are not anticipated to result in a significant cumulative impact. The proposed project's contribution would not be cumulatively considerable.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: No mitigation measures are required. Cumulative impacts related to energy consumption would be cumulatively *less than significant*.

IMPACT 5.17-4	***Project implementation, along with foreseeable development in the project vicinity, would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.***

Significance: Less Than Significant Impact.

Impact Analysis: The City of Redding does not have a stand-alone Climate Action Plan or Energy Plan but includes policies for energy resources within the City's *General Plan*. The City is generally the responsible party for the implementation of the energy-related *General Plan* policies. As noted above, each cumulative project would require separate discretionary approval and CEQA assessment, where consistency with applicable energy plans would be evaluated and mitigation measures would be identified, where appropriate. As previously noted, the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The proposed project would not be considered inefficient, wasteful, or unnecessary with regard to energy. Thus, the proposed project and identified cumulative projects are not anticipated to result in a significant cumulative impact.

Mitigation Measures: No mitigation measures are required.

Level of Significance After Mitigation: No mitigation measures are required. Cumulative impacts related to energy consumption would be cumulatively *less than significant*.