

3.6 ENERGY

This section described the environmental and regulatory setting energy resources. It also describes existing conditions and potential impacts relative to energy resources that would result from implementation of the proposed project, and mitigation for potentially significant impacts, where feasible.

3.6.1 Environmental Setting

Natural gas and electricity are currently provided to the surrounding community by PG&E. A number of regulations exist associated with reducing energy usage; the most prevalent are Parts 6 and 11 of the California Building Standards Code (CCR Title 24). Part 6, the 2019 Building Energy Efficiency Standards, focuses on several key areas to improve the energy efficiency of newly constructed buildings, as well as additions and alterations to existing buildings, and includes requirements that enable demand reductions, and future solar electric and thermal system installations. The 2019 Building Energy Efficiency Standards also include updates to the energy efficiency divisions of Part 11, the 2019 California Green Building Standards (CalGreen). A set of prerequisites has been established for both residential and nonresidential standards, which include efficiency measures that should be installed in any building project striving to meet advanced levels of energy efficiency. The California Energy Commission (CEC) estimates that implementation of the 2019 Building Energy Efficiency Standards may reduce statewide annual electricity consumption by approximately 53 percent as compared with energy consumption under the 2016 standards, and may reduce greenhouse gas (GHG) emissions by 70,000 metric tons over three years (CEC 2019a).

3.6.2 Regulatory Setting

Federal

Federal Energy Regulatory Commission

The Federal Energy Regulatory Commission (FERC) is an independent agency that regulates the interstate transmission of electricity, natural gas, and oil. FERC also reviews proposals to build liquefied natural gas terminals and interstate natural gas pipelines, and licenses hydropower projects. Licensing of hydroelectric facilities under FERC's authority includes input from state and federal energy and power generation, environmental protection, fish and wildlife, and water quality agencies.

Federal Energy Conservation Policy Act

The National Energy Conservation Policy Act (42 U.S.C. Section 8201 et seq.) serves as the underlying authority for federal energy management goals and requirements, and is the foundation of most federal energy requirements. The National Energy Conservation Policy Act also established fuel economy standards for on-road motor vehicles in the U.S. The National Highway Traffic Safety Administration (NHTSA) is responsible for establishing additional vehicle standards and for revising existing standards. NHTSA and the USEPA are taking coordinated steps to enable the production of clean energy vehicles with improved fuel efficiency. NHTSA sets the Corporate Average Fuel Economy levels, which, based on Obama-era regulations, would have required about 5 percent annual increases in fuel efficiency. However, in March 2020, the Trump administration rolled back the standards, with the final rule increasing the stringency of Corporate Average Fuel Economy levels and carbon dioxide emission standards by 1.5 percent each year through 2026 (USEPA 2020).



State

California Public Utilities Commission Requirements

The California Public Utilities Commission (CPUC) is a state agency created by a constitutional amendment to regulate privately owned utilities providing telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation services and in-state moving companies. The CPUC is responsible for ensuring that California utility customers have safe, reliable utility services at reasonable rates, while protecting utility customers from fraud. The CPUC regulates the planning and approval for the physical construction of electric generation, transmission, or distribution facilities, and local distribution pipelines of natural gas.

Warren-Alquist Energy Resources Conservation and Development Act

Initially passed in 1974 and amended since, the Warren-Alquist Energy Resources Conservation and Development Act (Warren-Alquist Act) created the CEC, California's primary energy and planning agency. The seven responsibilities of the CEC are forecasting future energy needs, promoting energy efficiency and conservation through setting standards, supporting energy-related research, developing renewable energy resources, advancing alternative and renewable transportation fuels and technologies, certifying thermal power plants 50 megawatts or larger, and planning for and directing state response to energy emergencies. The CEC regulates energy resources by encouraging and coordinating research into energy supply and demand problems to reduce the rate of growth of energy consumption. Additionally, the Warren-Alquist Act acknowledges the need for renewable energy resources and encourages the CEC to explore renewable energy options that would be in line with environmental and public safety goals (Warren-Alquist Act, PRC Section 25000 et seq.)

California Integrated Energy Policy

SB 1389 requires the CEC to "conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The CEC shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety" (PRC Section 25301[a]). The CEC adopts an Integrated Energy Policy Report every two years and an update every other year (CEC 2019b). At the time of the NOP publication, the CEC had published its 2018 report and the 2020 report was circulated for public comments in January 2020. The report noted California's policy initiatives to reduce GHG and transform California's electricity system. The report also noted the additional efforts required to decarbonize California's overall energy system and invest in managing our aging energy infrastructure while planning for the future.

Title 20 and Title 24, California Code of Regulations

New buildings constructed in California must comply with the standards in Title 20, Energy Building Regulations, and Title 24, Energy Conservation Standards, of the CCR. Title 20 contains a range of standards, such as power plant procedures and siting, energy efficiency standards for appliances, and ensuring reliable energy sources are provided and diversified through energy-efficiency and renewable energy resources. Title 24 (AB 970) contains energy-efficiency standards for residential and nonresidential buildings based on a state mandate to reduce California's energy demand. Specifically, Title 24 addresses a number of energy-efficiency measures that impact energy used for lighting, water



heating, heating, and air conditioning, including the energy impact of the building envelope such as windows, doors, skylights, wall/floor/ceiling assemblies, attics, and roofs. In addition, the new 2019 standards require rooftop solar on all new residential development under three stories.

Part 11 of Title 24 is the CalGreen code, which sets minimum and mandatory sustainability requirements to reduce environmental impact through better planning, design, and construction practices. CalGreen works along with the mandatory construction codes of Title 24 and is enforced at the local level. Any project-related construction would be required to comply with the Title 24 codes currently in place, including the CalGreen code. The existing 2019 standards became effective in January 2020.

Assembly Bill 1493 – Clean Car Standards (Pavley)

This bill was passed in 2002 and requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions through mandating gradual reductions in global warming pollutants from cars and light trucks sold in California from 2009 through 2016. The average gram-per-mile reduction of GHG emissions from new California cars and light trucks is required to be about 30 percent in 2016 compared to model year 2004 vehicles.

CARB adopted the Advanced Clean Cars (ACC) program in 2012 in coordination with the USEPA and NHTSA. The ACC program combined the control of criteria pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. CARB adopted a new approach to passenger vehicles—cars and light trucks—by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also includes efforts to support and accelerate the numbers of plug-in hybrids and zero-emission vehicles in California. The new standard drops GHG emissions to 166 grams per mile, a reduction of 34 percent compared to 2016 levels, through 2025.

Local

Humboldt County General Plan

The Humboldt County General Plan, adopted October 23, 2017, contains several policies that directly pertain to energy resources, including the following:

Goal E-G1. Countywide Strategic Energy Planning. An effective energy strategy based on self-sufficiency, development of renewable energy resources and energy conservation that is actively implemented countywide through Climate Action Plans, General Plans and the Redwood Coast Energy Authority's Comprehensive Energy Action Plan.

Goal E-G2. Increase Energy Efficiency and Conservation. Decrease energy consumption through increased energy conservation and efficiency in building, transportation, business, industry, government, water and waste management.

- **Policy E-P1. Energy Conservation Standards and Incentives.** Develop incentives to encourage residential and commercial building plans that exceed California Building Standards Code requirements for energy.



- **Policy E-P4. Transportation Energy Conservation and Alternative Fuels Substitution.** Support revitalization and infill projects within Urban Development Areas as a means to reduce long-term vehicle miles traveled as an energy conservation strategy. Support the development and implementation of Electric Vehicle (EV) charging stations and other alternative fueling infrastructure.
- **Policy E-P10. Transportation Management Plans.** Major commercial, business, or industrial, facility developments shall be required to submit a transportation management plan that addresses energy conservation measures such as connectivity to alternative transportation modes; preferential parking for carpools, vanpools, motorcycles, mopeds, and bicycles; shuttle services; alternative fueling stations; transit passes; bike lockers; and locker-room facilities. Develop incentives for projects not deemed as major that incorporate such energy conservation measures.
- **Policy E-P11. Energy-efficient Landscape Design.** Encourage and incentivize energy efficient landscape design in development projects, subdivisions, and in new and existing streets and parking areas in order to reduce impervious surfaces, minimize heat and glare, control soil erosion, and conserve water.
- **Policy E-P12. Water Efficiency.** Promote the efficient use of water in residences, businesses, industries, and agriculture.
- **Policy E-P17. Residential Design.** Proposed single-family residential structures should be designed to maximize solar access, energy conservation and passive solar energy generation. Solar access potential should be evaluated based on each climate zone within the County as established by the National Weather Forecast Center in Eureka.

3.6.3 Methodology for Analysis

The applicable energy regulations were reviewed, as well as available data from County and other databases, in order to complete the analysis portion of this section. The regulations and data were analyzed in conjunction with the thresholds of significance listed below to determine whether the proposed project would result in a significant impact to energy.

3.6.4 Thresholds of Significance

The CEQA Guidelines' Appendix G Environmental Checklist was assessed during the NOP scoping process to identify the proposed project components that have the potential to cause a significant impact. The following thresholds of significance were used to determine if further evaluation within this EIR was warranted to ascertain whether the proposed project may:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

3.6.5 Project Impact Analysis and Mitigation Measures

This section analyzes the proposed project's potential to result in significant impacts to energy resources. When a potential impact was determined to be potentially significant, feasible mitigation measures were identified to reduce or avoid that impact.



Energy Consumption

Impact EN-1: The proposed project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

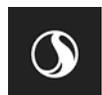
**Impact Analysis
Construction**

Off-Road Equipment

The proposed project is anticipated to be constructed in nine phases, with Phase 1 and Phase 2 breaking ground January 2021, and Phase 9 completed in December 2030. Table 3.6-1 provides estimates of the project's construction fuel consumption from off-road construction equipment.

Table 3.6-1: Construction Off-Road Fuel Consumption

Phase	Construction Element	Fuel Consumption (Gallons)
Phase 1 and Phase 2	Site Preparation	5,645
	Grading	9,234
	Building Construction	37,093
	Paving	2,267
	Architectural Coating	240
Phase 3 and Phase 4	Site Preparation	6,586
	Grading	9,234
	Building Construction	84,078
	Paving	2,267
	Architectural Coating	240
Phase 5 and Phase 6	Site Preparation	5,645
	Grading	2,936
	Building Construction	50,076
	Paving	2,267
	Architectural Coating	240
Phase 7, Phase 8, and Phase 9	Site Preparation	5,645
	Grading	10,773
	Building Construction	97,185
	Paving	2,267
	Architectural Coating	240
Total Construction Fuel Consumption		334,158



As shown in Table 3.6-1, construction activities associated with the proposed project would be estimated to consume 334,158 gallons of diesel fuel. 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 other parts of the state. Therefore, it is expected that construction-related fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

On-Road Vehicles

On-road vehicles for construction workers, vendors, and haulers would require fuel for travel to and from the site during construction. Table 3.6-2 provides an estimate of the total on-road vehicle fuel usage during 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 other parts of the state. Therefore, it is expected that construction fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region.

Table 3.6-2: Construction On-Road Consumption

Phase	Total Annual Fuel Consumption (Gallons)
Phase 1 and Phase 2	22,114
Phase 3 and Phase 4	72,919
Phase 5 and Phase 6	7,091
Phase 7, Phase 8, Phase 9	46,884

Notes:

Totals may appear not to sum exactly due to rounding. All calculations were completed using unrounded values.

Operation

Transportation Energy Demand

Table 3.6-3 provides an estimate of the daily and annual fuel consumed by vehicles traveling to and from the project site. These estimates were derived using the same assumptions used in the operational air quality analysis for the proposed project.

Table 3.6-3: Long-Term Operational Vehicle Fuel Consumption

Project Component	Trips per Day	Annual Vehicle Miles Traveled (VMT)	Average Fuel Economy (miles/gallon)	Total Annual Fuel Consumption (gallons)
Car Trips				
Commercial	139	743,658	34.2	21,744
Residential	1,728	10,596,096	34.2	309,827



Project Component	Trips per Day	Annual Vehicle Miles Traveled (VMT)	Average Fuel Economy (miles/gallon)	Total Annual Fuel Consumption (gallons)
Truck Trips				
Commercial	103	554,793	6.1	90,950
Residential	1,280	7,848,960	6.1	1,286,715
Total				1,703,236

Notes:

Percent of vehicle trips and VMT provided by CalEEMod.

Average fuel economy is provided by U.S. Department of Transportation, Bureau of Transportation Statistics and reflects fuel economy of overall fleet, not just new vehicles.

VMT = vehicle miles traveled

As shown in Table 3.6-3, annual vehicular fuel consumption is estimated to be 1,703,236 gallons for both gasoline and diesel fuel. In terms of land use planning decisions, the proposed project would constitute development adjacent to an established community. The proposed project would be well positioned to accommodate existing populations. For these reasons, it would be expected that vehicular fuel consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than for any other similar land use activities in the region.

As shown in Tables 3.6-4 and 3.6-5, the proposed project is estimated to demand 1,966,698 kilowatt hours of electricity and 3,356,977 100-thousands of British Thermal Units of natural gas, respectively, on an annual basis.

Table 3.6-4: Long-Term Electricity Usage

Land Use	Size (ksf)	Title 24 Electricity Energy Intensity (kWh/size/year)	Nontitle 24 Electricity Energy Intensity (kWh/size/year)	Lighting Energy Intensity (kWh/size/year)	Total Electricity Energy Demand (kWh/size/year)	Total Electricity Demand (kWh/year)
Multi-Family Housing	147 du	775.93	3172.76	810.36	4759.05	699,580
Commercial	22 ksf	3.63	3.98	3.45	11.06	243
Single Family Housing	146 du	912.41	6155.97	1608.84	8677.22	1,266,874
Total						1,966,698

Notes:

The proposed project could potentially include a variety of uses consistent with the development standards; however, the land use selections above were based on estimating the "worst-case" scenario demand for electricity.

ksf = 1,000 square feet

kWh = kilowatt hour



Table 3.6-5: Long-Term Natural Gas Usage

Land Use	Dwelling Units (ksf)	Title 24 Natural Gas Energy Intensity (KBTU/size/year)	Nontitle 24 Natural Gas Energy Intensity (KBTU/size/year)	Total Natural Gas Energy Demand (KBTU/size/year)	Total Natural Gas Demand (KBTU/year)
Multi-Family Housing	147 du	9200.58	1599	10799.58	1,587,538
Commercial	22 ksf	19.54	0	19.54	430
Single-Family Housing	146 du	10517.5	1599	12116.5	1,769,009
Total					3,356,977

Notes:

The proposed project could potentially include a variety of uses consistent with the development standards; however, the land use selections above were based on estimating the "worst-case" scenario demand for electricity.

ksf = 1,000 square feet

KBTU= 1,000 British Thermal Units

Buildings and infrastructure constructed pursuant to the proposed project would comply with the versions of CCR Titles 20 and 24, including CalGreen, that are applicable at the time that building permits are issued. In addition, the County's General Plan includes policies and programs that seek to reduce energy consumption.

It would be expected that building energy consumption associated with the proposed project would not be any more inefficient, wasteful, or unnecessary than for any other similar buildings in the region. Current state regulatory requirements for new building construction contained in the 2019 CalGreen and Title 24 would increase energy efficiency and reduce energy demand in comparison to existing residential structures, and therefore would reduce actual environmental effects associated with energy use from the proposed project.

Level of Significance Before Mitigation

Less Than Significant Impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less Than Significant Impact.

Renewable Energy or Energy Efficiency Plans

Impact EN-2: The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Impact Analysis

The proposed project involves the construction and operation of a new residential development, a new water tank, and accompanying commercial spaces that would house general office buildings and neighborhood amenities. The proposed project would constitute development directly adjacent to an established community. The proposed project would be well positioned to accommodate existing populations.



The proposed project would comply with the versions of CCR Titles 20 and 24, including CalGreen, that are applicable at the time that building permits are issued, and would be in accordance with all applicable County measures. In addition, as required by Title 24, the project would install solar panels on the residential units. Therefore, the proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The impact would be less than significant.

Level of Significance Before Mitigation

Less Than Significant Impact.

Mitigation Measures

None required.

Level of Significance After Mitigation

Less Than Significant Impact.



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