4.5 ENERGY

4.5.1 EXISTING CONDITIONS

Project Site and Vicinity

Following is information about the existing environmental setting as of the date the NOP for this Draft EIR was published. For additional information regarding the existing conditions related to energy, this can be found in Section 4.3, Air Quality, Section 4.4, Greenhouse Gas Emissions and Section 4.11, Utilities and Service Systems of this Draft EIR.

The Project Site is primarily undeveloped and currently vacant and thus has no energy consumption. The City of Anaheim Public Utilities Department (APU) would be the provider of electrical services to the Project Site. The Southern California Gas Company provides natural gas service to the areas surrounding the Project Site.

Energy Basics

Energy use, especially through fossil fuel consumption and combustion, relates directly to environmental quality since it can have the potential to adversely affect air quality and generate greenhouse gas (GHG) emissions that may contribute to climate change. Energy is generally transmitted either in the form of electricity, measured in kilowatts (kW)[1] or megawatts (MW),[2] or natural gas, which is measured in British thermal units (BTU), or cubic feet.[3] Fuel, such as gasoline or diesel, is measured in gallons or liters. Electrical power is generated through a variety of sources, including fossil fuel combustion, hydropower, wind, solar, biofuels, and others. Natural gas is widely used to heat buildings, prepare food in restaurants and residences, and fuel vehicles, among other uses. Fuel use for transportation is related to the fuel efficiency of cars, trucks, and public transportation, choice of different travel modes such as automobile, carpool, and public transit, and miles traveled by these modes, and generally based on petroleum-based fuels such as diesel and gasoline. Electric vehicles (EVs) may not have any direct emissions but do have indirect emissions via the source of electricity generated to power the vehicle. Construction and routine operation and maintenance of infrastructure also consume energy.

Electricity

Electricity is used primarily for lighting, appliances, vehicle charging, and other uses. Trends over the past several decades have resulted in an increase in the use of electric power,

1 1 kW = 1,000 watts; A watt is a derived unit of power that measure rate of energy conversion. 1 watt is equivalent to work being done at a rate of 1 joule of energy per second. In electrical terms, 1 watt is the power dissipated by a current of 1 ampere flowing across a resistance of 1 volt.

2 1 MW = 1 million watts

3 A unit for quantity of heat that equals 100,000 British thermal units. A British thermal unit is the quantity of heat required to raise the temperature of 1 pound of liquid water 1 degree Fahrenheit at a constant pressure of 1 atmosphere.

especially for new homes. Electric power for new homes is often used for electric spacing heating, electric water heating, electric cooking, and electric clothes drying.

Natural Gas

Natural gas is used primarily for heating, water heating, and cooking purposes and is typically associated with commercial and residential uses.

Fuel

Fuel is used primarily for powering off-road equipment, trucks, and passenger vehicles. The typical fuel types used are diesel and gasoline.

Electricity Generation, Distribution, and Use

Based on data and information available at the time of NOP release, the State of California generated approximately 203,257 gigawatt-hours (GWh) of electricity. Approximately 47.5 percent of the energy generation is sourced from natural gas, 32.3 percent from renewable sources (i.e., solar, wind, and geothermal), 7.2 percent from large hydroelectric sources, and the remaining 13.1 percent is sourced from coal, nuclear, oil, and other nonrenewable sources.[4]

Electricity and natural gas are distributed through the various electric load-serving entities (LSEs) in California. These entities include investor-owned utilities (IOUs), publicly owned LSEs, rural electric cooperatives, community choice aggregators, and electric service providers.[5]

Natural Gas Generation, Distribution, and Use

Natural gas as an energy resource has several applications but is most commonly associated with cooking appliance use, electricity generation, and space and water heating. According to the CEC, in 2012 total natural gas demand in California for industrial, residential, commercial, and electric power generation was 2,313 billion cubic feet per year (BCF/year), up from 2,196 BCF/year in 2010.[8] Demand in all sectors except electric power generation remained relatively flat for the last decade due in large part to energy efficiency measures, but demand for power generation rose about 30 percent between 2011 and 2012. In 2019, it was estimated that California consumed 2,218.7 trillion BTU of natural gas.[9] Natural gas-fired generation has become the dominant source of electricity in California, as it fuels about 43 percent of electricity consumption followed by hydroelectric power. Because natural gas is a resource that provides load when the availability of hydroelectric power generation and/or other sources decrease, use varies greatly from year to year. The availability of hydroelectric resources, the emergence of renewable resources for electricity generation,

[4] California Energy Commission (CEC). 2022 Total System Electric Generation. Website: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2022-total-system-electric-generation. Accessed December 18, 2023.

[5] California Energy Commission (CEC). 2019. Electric Load-Serving Entities (LSEs) in California Website: https://www.energy.ca.gov/almanac/electricity_data/utilities.html. Accessed December 28, 2023.

and overall consumer demand are the variables that shape natural gas use in electric generation.

Fuel Use

California is one of the top producers of petroleum in the nation, with drilling operations occurring throughout the State. A network of crude oil pipelines connects production areas to oil refineries in the Los Angeles area, the San Francisco Bay Area, and the Central Valley. California oil refineries also process Alaskan and foreign crude oil received in ports in Los Angeles, Long Beach, and the San Francisco Bay Area. Crude oil production in California and Alaska is in decline. According to the EIA, California's field production of crude oil has steadily declined since the mid-1980s, totaling approximately 4,103 million barrels in 2022.[6] At the same time, California refineries have become increasingly dependent on foreign imports.[7] Foreign suppliers provide approximately half of the crude oil refined in California.[8]

The main category of fuel use in California is transportation fuel, specifically gasoline and diesel. According to the EIA, transportation accounted for nearly 41 percent of California's total energy demand, amounting to approximately 2,355.5 trillion BTU in 2020 and 2,784 trillion BTU in 2021.[9] California's transportation sector, including rail and aviation, consumed roughly 524 million barrels of petroleum fuels in 2020 and 2,731 million barrels in 2021.[10] The CEC produces the California Annual Retail Fuel Outlet Report, which is a compilation of gasoline and diesel fuel sales data from across the State available at the County level. According to the CEC, California's 2022 fuel sales totaled 13,640 million gallons of gasoline and 1,883 million gallons of diesel.

Alternative Fuels

A variety of alternative fuels are used to reduce petroleum-based fuel demand. The use of these fuels is encouraged through various Statewide laws, regulations and plans, such as the Low Carbon Fuel Standard (LCFS) and Senate Bill (SB) 32. Conventional gasoline and diesel may be replaced, depending on the capability of the vehicle, with transportation fuels including hydrogen, biodiesel, and electricity. Currently, there are 57 public hydrogen refueling stations and 36 public biodiesel refueling stations in California, none of which are in the City.[11]

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6 California Energy Commission (CEC). California Field Production of Crude Oil. Website: https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPCA2&f=M. Accessed December 18, 2023.

7 California Energy Commission (CEC). 2023. Oil Supply Sources to California Refineries. Website: https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/oil-supply-sources-california-refineries. Accessed December 18, 2023.

8 California Energy Commission (CEC). 2023. Foreign Sources of Crude Oil Imports to California 2021. Website: https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/foreign-sources-crude-oil-imports. Accessed December 18, 2023.

9 United States Energy Information Administration (EIA). 2021. Profile Overview. Website: https://www.eia.gov/state/?sid=CA#tabs-2. Accessed December 18, 2023.

10 United States Energy Information Administration (EIA). 2021. Total Petroleum Consumption Estimates, 2022. Website: https://www.eia.gov/state/seds/sep_fuel/html/pdf/fuel_use_pa.pdf. Accessed December 18, 2023.

11 California Energy Commission (CEC). 2023. California Retail Fuel Outlet Annual Report. Website: https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting. Accessed December 18,2023.

Electric Vehicles

Electricity can be used to power electric and plug-in hybrid electric vehicles (EVs) directly from the power grid. Electricity used to power vehicles is generally provided by the electricity grid and stored in the vehicle's batteries. Fuel cells are being explored to use electricity generated onboard the vehicle to power electric motors. Currently, California has approximately 13,836 public EV charging stations, including all charger types, and approximately 35,662 EV supply equipment (EVSE) ports.[12]

4.5.2 REGULATORY SETTING

Federal

Office of Energy Efficiency and Renewable Energy

The Office of Energy Efficiency and Renewable Energy's (EERE) mission is to accelerate the research, development, demonstration, and deployment of technologies and solutions to equitably transition America to net-zero GHG emissions economy-wide by no later than 2050, and ensure the clean energy economy benefits all Americans, creating good paying jobs for the American people—especially workers and communities impacted by the energy transition and those historically underserved by the energy system and overburdened by pollution (EERE 2023a).

EERE's work will involves the four principles:

- Building the clean energy economy in a way that benefits all Americans. It focuses on addressing environmental injustices that disproportionately affect communities of color, low-income communities, and indigenous communities.
- Fostering a diverse Science Technology Engineering and Math (STEM) workforce. It focuses on the need to increase awareness of clean energy job opportunities at minority-serving institutions and ensure that organizations receiving EERE funding are thinking through diversity and equity in their own work.
- Developing more robust workforce training opportunities to build a pipeline for permanent, good-paying jobs for the clean energy workforce.
- Working closely and learning from state and local governments.

Energy Independence and Security Act

The Energy Policy Act of 2005 created the Renewable Fuel Standard Program. The Energy Independence and Security Act of 2007 expanded this program by:

- Expanding the Renewable Fuel Standard Program to include diesel in addition to gasoline.

[12] Ibid.

- Increasing the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- Establishing new categories of renewable fuel and setting separate volume requirements for each one.
- Requiring the United States Environmental Protection Agency (EPA) to apply lifecycle GHG emissions performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

This expanded Renewable Fuel Standard Program lays the foundation for achieving substantial reductions of GHG emissions from the use of renewable fuels, reducing the use of imported petroleum, and encouraging the development and expansion of the nation's renewable fuels sector.

Signed on December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) aims to:

- Move the United States toward greater energy independence and security.
- Increase the production of clean renewable fuels.
- Protect consumers.
- Increase the efficiency of products, buildings, and vehicles.
- Promote research on and deploy GHG capture and storage options.
- Improve the energy performance of the federal government.
- Increase U.S. energy security, develop renewable fuel production, and improve vehicle fuel economy.

EISA reinforces the energy reduction goals for federal agencies put forth in Executive Order 13423, as well as introduces more aggressive requirements. The three key provisions enacted are the Corporate Average Fuel Economy (CAFE) Standards, the Renewable Fuel Standard Program, and the appliance/lighting efficiency standards.

The EPA is committed to developing, implementing, and revising both regulations and voluntary programs under the following subtitles in EISA, among others:

- Increased Corporate Average Fuel Economy Standards
- Federal Vehicle Fleets
- Renewable Fuel Standard
- Biofuels Infrastructure
- Carbon Capture and Sequestration[13]

[13] United States Environment Protection Agency (EPA). Summary of the Energy Independence and Security Act. Website: https://www.epa.gov/laws-regulations/summary-energy-independence-and-security-act.

EPA and National Highway Traffic Safety Administration Light-Duty Vehicle GHG Emission Standards and Corporate Average Fuel Economy Standards Final Rule

Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light-duty trucks. The law has become more stringent over time. On May 19, 2009, President Barack Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

The EPA and the NHTSA issued final rules on a second-phase joint rulemaking, establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012.[14] The standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles. The final standards are projected to result in an average industry fleet wide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

The EPA and NHTSA issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that began in the 2014 model year and achieve up to a 20 percent reduction in CO_2 emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles, and a 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

The State of California has received a waiver from the EPA to have separate, stricter CAFE standards. Although global climate change did not become an international concern until the 1980s, efforts to reduce energy consumption began in California in response to the oil crisis

[14] United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks.

in the 1970s, resulting in the incidental reduction of GHG emissions. In order to manage the State's energy needs and promote energy efficiency, Assembly Bill (AB) 1575 created the CEC in 1975.

Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6); Green Building Standards Code (Title 24, Part 11)

The Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6 of the CCR) were established in 1978 in response to a legislative mandate to reduce California's energy consumption and to create uniform building codes to reduce California's energy consumption and to provide energy efficiency standards for residential and non-residential buildings. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. The current 2022 Standards became effective January 1, 2023. The State of California has also adopted efficiency design standards within the Title 24 Building Standards and CALGreen requirements. Title 24 of the California Code of Regulations (CCR, specifically, Part 6) is California's Energy Efficiency Standards for Residential and Non-residential Buildings. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The latest updates to Part 6 of the Title 24 Building Standards Code requires all new low-rise builds to install photovoltaic (PV) panels that can generate an output greater than or equal to the amount of electricity that a home will consume in one year.

The 2022 California Green Building Standards Code (24 CCR, Part 11), also known as the CALGreen Code, is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went into effect on January 1, 2011, which contains mandatory requirements for new residential and nonresidential buildings throughout California. The Code is updated on a regular basis, with the most recent update consisting of the 2022 California Green Building Standards Code (CALGreen) that became effective January 1, 2023. Local jurisdictions are permitted to adopt more stringent requirements, as State law provides methods for local enhancements. The development of the CALGreen Code is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the Code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction. The regulation of green building standards is established by the CEC and its California Energy Code. The State Building Code provides the minimum standard that buildings need to meet in order to be certified for occupancy, which is generally enforced by the local building official.

Renewables Portfolio Standard; SB 350 (Clean Energy and Pollution Reduction Act)

The California Renewables Portfolio Standard (RPS) was established in 2002 under Senate Bill (SB) 1078 and was amended in 2006 and 2011. The RPS program requires investor-

owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. The CPUC is required to provide quarterly progress reports regarding the State's progress toward RPS goals.

SB 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. SB 350 implements some of the goals of Executive Order (EO) B-30-15 and reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the Renewables Portfolio Standard (RPS), higher energy efficiency requirements for buildings, initial strategies toward a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Based on California Legislative Information 2015, the objectives of SB 350 are:

1. To increase from 33 percent to 50 percent, the procurement of California's electricity from renewable sources by 2030, with interim targets of 40 percent by 2024 and 45 percent by 2027;
2. To double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation;
3. Reorganize the Independent System Operator (ISO) to develop more regional electrify transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States.[15]

The text of SB 350 sets a December 31, 2030 target for 50 percent of electricity to be generated from renewable sources. In 2022, APU produced 35.9% of electricity from renewable sources. The RPS requires the public utilities within California to achieve 100 percent electricity generation from renewable energy sources by 2045.

California Energy Commission; AB 118 (State Alternative Fuels Plan)

In 1974, the California Energy Commission (CEC) was created to be the State's principal energy planning organization and to meet the energy challenges facing the State in response to the 1973 oil embargo. The CEC is charged with seven basic responsibilities when designing State energy policy:

- Advancing State Energy Policy;
- Achieving Energy Efficiency;
- Certifying Thermal Power Plants;
- Investing in Energy Innovation;

[15] California Legislative Information (California Leginfo). 2015. Senate Bill 350 Clean Energy and Pollution Reduction Act of 2015. Website: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350. Accessed December 18, 2023.

- Transforming Transportation;
- Developing Renewable Energy; and
- Preparing for Energy Emergencies.

Assembly Bill (AB) 118 requires the CEC to prepare a plan to increase the use of alternative fuels in California. The State Alternative Fuels Plan was prepared by the CEC with the California Air Resources Board (CARB) and in consultation with other federal, State, and local agencies to reduce petroleum consumption, to increase use of alternative fuels (e.g., ethanol, natural gas, liquefied petroleum gas, electricity, and hydrogen), to reduce GHG emissions, and to increase in-state production of biofuels. The State Alternative Fuels Plan recommends a strategy that combines private capital investment, financial incentives, and advanced technology that will increase the use of alternative fuels, result in significant improvements in the energy efficiency of vehicles, and reduce trips and vehicle miles traveled (VMT) through changes in travel habits and land management policies.

Appliance Efficiency Regulations

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

Executive Order N-79-20 and Advanced Clean Cars II Regulation

This Executive Order issued by Governor Newsom in 2020, calls for elimination of new internal combustion passenger vehicles by 2035. It also directs the CARB to pursue a goal of 100 percent medium and heavy-duty vehicles in the State to be zero-emissions by 2045. This establishes a target for the transportation sector that helps put the State on a path to carbon neutrality by 2045.

The Advanced Clean Cars II Regulation was adopted subsequently by CARB in August 2022, establishing ZEV standards for passenger vehicles for model years 2026-2035. The regulation requires that 35 percent of new vehicles being sold in 2026 be zero-emission, increasing to 68 percent in 2030 and 100 percent by 2035.

California Assembly Bill 1493: Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required the 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 EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in

2011.[16] The standards applied to 2009 through 2016 model year vehicles. After adopting these initial GHG standards for passenger vehicles, CARB adopted continuing standards for future model years.

The second phase of the implementation for the Pavley Bill was incorporated into amendments to the Low Emission Vehicle (LEV) 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 aims to reduce GHGs from new cars by 34 percent from 2016 levels by 2025, which is achieved by reducing pollutants from gasoline and diesel-powered cars, and delivering increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid EVs and hydrogen fuel cell cars. By 2035, all new passenger cars, trucks and SUVs sold in California will have zero emissions. The Advanced Clean Cars II regulations will rapidly scale down light-duty passenger car, pickup truck, and SUV emissions starting with the 2026 model year.[17]

California Code of Regulations Title 13: Motor Vehicles

California Code of Regulations, Title 13: Division 3, Chapter 10, Article 1, Section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.[18] This measure seeks to reduce public exposure to diesel particulate matter and other air contaminants by establishing idling restrictions, emission standards, and other requirements for heavy-duty diesel engines and alternative idle reduction technologies to limit the idling of diesel-fueled commercial motor vehicles. Any person that owns, operates, or causes to operate any diesel-fueled commercial motor vehicle must not allow a vehicle to idle for more than 5 consecutive minutes at any location, or operate a diesel-fueled auxiliary power system for greater than 5 minutes at any location when within 100 feet of a restricted area.

California Code of Regulations, Title 13: Division 3, Chapter 9, Article 4.8, Section 2449: General Requirements for In-Use Off-Road Diesel-Fueled Fleets

This measure regulates oxides of nitrogen (NO_X), diesel particulate matter (DPM), and other criteria pollutant emissions from in-use off-road diesel-fueled vehicles. This measure also requires each fleet to meet fleet average requirements or demonstrate that it has met "best available control technology" requirements. Additionally, this measure requires medium

[16] California Air Resources Board (ARB). 2013. Clean Car Standards—Pavley, Assembly Bill 1493. Website: https://ww2.arb.ca.gov/californias-greenhouse-gas-vehicle-emission-standards-under-assembly-bill-1493-2002-pavley. Accessed December 18, 2023.

[17] California Air Resources Board (ARB). 2023. Website: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii. Date accessed: February 5, 2024

[18] Thomas Reuters Westlaw. 2019. California Code of Regulations, Title 13. Motor Vehicles. Website: https://govt.westlaw.com/calregs/Index?bhcp=1&transitionType=Default&contextData=%28sc.Default%29. Accessed December 18, 2023.

and large fleets to have a written idling policy that is made available to operators of the vehicles informing them that idling is limited to 5 consecutive minutes or less.

Starting January 1, 2024, the regulation requires, with some limited exceptions, including for lack of availability, that all fleets procure and use renewable diesel in all vehicles owned or operated in California that are subject to the Off-Road Regulation. Fleets must document and retain records related to the fleet's procurement of renewable diesel.

Senate Bill 100—The 100 Percent Clean Energy Act of 2018

On September 10, 2018, Governor Newsom signed SB 100, requiring California electricity utility providers to supply all in-state end users with electricity sourced from renewable sources. Specifically, SB 100 accelerates the goals expressed under SB 1078 and requires that the program achieve 50 percent of electricity sourced from renewables by December 31, 2026, 60 percent by December 31, 2030, and 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. This Act amends Sections 399.11, 399.15, and 399.30 of, and adds Section 454.53 to, the Public Utilities Code relating to energy. For clarification, renewable sources, as described herein, includes all renewable sources (e.g., solar, small hydro, wind) but notably omits large-scale hydroelectric and nuclear electricity generation; carbon-free sources include all renewable sources as well as large-scale hydroelectric and nuclear electricity generation.

California Senate Bill 32

In 2016, the State Legislature passed SB 32, giving the CARB the statutory responsibility to include the 2030 target previously contained in former Governor Brown's Executive Order B-30-15 in the 2017 Scoping Plan Update. SB 32 states, "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions authorized by this division, the state [air resources] board shall ensure that Statewide GHG emissions are reduced to at least 40 percent below the statewide GHG emissions limit no later than December 31, 2030." As such, SB 32 lays the foundation for the legislative reduction targets for 2030.

California Public Utilities Code

The California Public Utilities Commission (CPUC) regulates privately owned telecommunication, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. It is the responsibility of the CPUC to (1) assure California utility customers safe, reliable utility service at reasonable rates; (2) protect utility customers from fraud; and (3) promote a healthy California economy. The Public Utilities Code, adopted by the legislature, defines the jurisdiction of the CPUC.

Local

City of Anaheim

General Plan – Green Element

The Green Element of the City's General Plan contains policies relating to energy, including policies encouraging: the use of electric and alternative fueled vehicles; energy conservation; usage of passive and active solar design in existing and new development; energy-efficient retrofitting of existing buildings; the provision of free energy audits to the public; and the use of solar and wind for daylighting and natural ventilation. The goals and policies from the Green Element relevant to this analysis are included in Table 4.10-1 of Section 4.10, Land Use and Planning, with a project consistency analysis.

Anaheim Municipal Code

The 2022 California Energy Code (CCR Title 24 Part 6), which includes the Energy Efficiency Standards for Residential and Nonresidential Buildings, is adopted, with specified amendments, as Anaheim Municipal Code (AMC) Section 15.03.080. The 2022 California Green Building Standards Code (CCR Title 24 Part 11) is adopted, with specified amendments, as AMC Section 15.03.100.

Anaheim Public Utilities Greenhouse Gas Reduction Plan

The APU's Greenhouse Gas Reduction Plan (GHGRP), approved in 2015, and updated in 2020, identifies renewable energy and energy conservation targets for APU for the years 2020, 2030 and 2045. The GHGRP identifies renewables portfolio targets for increasing the APU power supply generated from renewable sources up to 33 percent by year 2020, 60 percent by year 2030, and 100 percent by 2045. In 2020, 34,000 kilowatt (kW) of photovoltaic systems were installed in the City, 50,000 kW of photovoltaic systems are expected to be installed by 2030, and 75,000 kW of photovoltaic systems are expected to be installed by 2045. The GHGRP also establishes transportation-related goals for APU to convert its fleet vehicles to result in emissions reductions of 500 MTCO2e in 2020, 1,200 MTCO2e in 2030, and 32,000 MTCO2e in 2045.

4.5.3 THRESHOLDS OF SIGNIFICANCE

In accordance with the City of Anaheim's Environmental Checklist, the Project would result in significant impacts related to energy if it would:

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

4.5.4 IMPACT ANALYSIS

a) Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

Less Than Significant With Mitigation Incorporated. Energy consumption would occur during construction and operation of the Project. The following provides estimates of the anticipated energy consumption associated with the Project.

Construction

For the purposes of the analysis herein, the overall construction timeline for the Project is expected to occur over several years. The multiple-family component of the Project is anticipated to be built first and is anticipated to be open in 2027. The commercial uses are anticipated to be open in 2029. The single-family component is anticipated to be built by 2031. If the construction schedule moves to later years, total energy consumption resulting from Project construction would likely decrease as a result of improvements in technology and more stringent regulatory requirements as older, less efficient equipment is replaced by newer and cleaner equipment.

Project construction would require the use of construction equipment for demolition, site preparation, grading, building construction, architectural coating, utility installation, and paving activities. Project construction would require energy for the manufacture and transportation of building materials, preparation of the Project Site (e.g., demolition, site clearing, and grading), and the actual construction of the proposed buildings and related improvements. Petroleum-based fuels such as diesel fuels and gasoline would be the primary sources of energy for these tasks, although all off-road construction equipment is conservatively assumed to use diesel fuel.

Construction also includes the vehicles of construction workers and vendors traveling to and from the Project Site.

Off-road construction equipment use was calculated from the default equipment data (i.e., mix, hours per day, horsepower, load factor, and days per phase) provided in the CalEEMod construction output files included in Appendix E. The total horsepower hours for the Project was then multiplied by fuel usage estimates per hours of construction activities included in the OFFROAD Model. Fuel consumption from construction worker, vendor, delivery/haul trucks, and on-site truck trips was calculated using the trip rates and distances provided in the CalEEMod construction output files. Total VMT was then calculated for each type of construction-related trip and divided by the corresponding miles per gallon factor using California Air Resources Board's EMFAC 2021 model. EMFAC provides the total annual VMT and fuel consumed for each vehicle type. Construction vendor and delivery/haul trucks were conservatively assumed to all be heavy-duty diesel trucks. As shown in Table 4.5-1, Energy Use During Construction, a total of approximately 411,011 gallons of gasoline fuel and approximately 471,474 gallons of diesel is estimated to be used during Project construction.

TABLE 4.5-1
ENERGY USE DURING CONSTRUCTION

Source	Gasoline – gallons (approx.)	Diesel Fuel – gallons (approx.)
Off-road Construction Equipment	33,296	61,858
Worker commute	453,453	1,123
Vendors	140,861	1,455
On-road haul	654	664,273
Totals	**628,265**	**728,709**

Note: Totals may not add due to rounding.
Sources: Psomas 2024e and Psomas 2024f.
Data from CalEEMod, OFFROAD and EMFAC2021 provided in Appendix E.

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

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas, or oil; and
- Increasing reliance on renewable energy sources (including consideration of whether additional renewable energy features can be added to the proposal being evaluated).

Fuel energy consumed during construction would be temporary in nature and would not represent a significant demand on energy resources. The construction schedule is anticipated to follow a typical five-day per week schedule and construction equipment used would be standard. Compliance with applicable State laws and regulations and the SCAQMD's construction Best Management Practice (BMP) measures.

Furthermore, California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, limit idling from both on-road and off-road diesel-powered equipment and are enforced by the CARB, which helps to reduce overall energy consumption. Also, it is reasonable to assume the overall construction schedule and process would be designed and implemented to be efficient as feasible to avoid excess monetary costs. This is because equipment and fuel are not typically used wastefully due to the added expense associated with renting the equipment, maintaining it, and fueling it. Beyond the foregoing, the opportunities for further future efficiency gains during construction are limited.

Moreover, 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. Energy used in construction of the Project would enable the

development of buildings that meet the latest energy efficiency standards as detailed in California's Title 24 building standards, as discussed further below.

Based on the foregoing, proposed construction activities would not result in inefficient, wasteful, or unnecessary fuel consumption because of: (1) the inherent financial incentives for developers and contractors to use energy consuming resources in an efficient manner; (2) the location of the Project Site being in a generally urbanized area near regional routes of travel and public transit; and (3) the requirement to adhere to applicable laws and regulations designed to enhance energy efficiency. Impacts would be less than significant, and no mitigation measures are either required.

Operations

Energy consumption associated with the operations of the Project would occur for multiple purposes including, but not limited to, lighting, building heating and cooling, refrigeration electronic devices and transportation fuels. Electricity consumption estimates were calculated by the CalEEMod model. Transportation related energy consumption of gasoline and diesel fuel was calculated based on the quantity of vehicles, average travel distance, vehicle class, and fuel efficiency of each vehicle class as provided by the EMFAC model. Energy consumption calculations are included in Appendix H.

Mobile Energy Sources

Project related transportation fuels would be used for worker commute trips (Project residents and employees), visitors as well as truck deliveries.

It is estimated that approximately 370,308 gallons of gasoline fuel and approximately 7,912 gallons of diesel per year for conventionally fueled roadway vehicles, as shown in Table 4.5-2, below. The estimated amount of fuel consumption associated with electricity fueled vehicles are also included in the estimates shown in Table 4.5-2.

TABLE 4.5-2
ANNUAL PROJECT ENERGY CONSUMPTION

Source	Gasoline Fuel (gallons) (approx.)	Diesel Fuel (gallons) (approx.)	Electricity (kWh/yr) (approx.)	Natural Gas (kBTU/yr) (approx.)
Project	370,308	7,912	2,116,586	2,203
Sources: Psomas 2024e based on data from CalEEMod and EMFAC2022.				

With the issuance of Executive Order N-79-20 and the subsequent adoption of the Advanced Clean Cars II regulation, the proportion of the passenger vehicle fleet that is electric and alternatively fueled is anticipated to increase with each passing year, which would further gradually reduce gasoline fuel consumption while gradually increasing electrical consumption into the future.

Based on the foregoing, transportation fuel consumption would not be wasteful, inefficient, or unnecessary.

Building (Non-Mobile Source) Consumption

As discussed above, for building energy usage, the Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6 of the CCR) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The current applicable standards are the 2022 Standards; the Project's buildings would be required to comply with then-current Standards in this regard. For example, the Project would be required to include solar in compliance with applicable provisions. Title 24 standards also include a broad set of energy conservation requirements that apply to the structural, mechanical, electrical, and plumbing systems in a building. For instance, the Title 24 Lighting Power Density requirements define the maximum wattage of lighting that can be used in a building based on its square footage. Title 24 standards, widely regarded as the most advanced energy efficiency standards, would help reduce the amount of energy required for lighting, water heating, and heating and air conditioning in buildings and promote energy conservation.

As discussed above, the 2022 California Green Building Standards Code (24 CCR, Part 11), also known as the CALGreen code, contains mandatory requirements and voluntary measures for new residential and nonresidential buildings. The development of the CALGreen Code is intended to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the following construction practices: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental quality (CBSC 2022). In short, the CALGreen Code was adopted to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impact during and after construction. The AMC includes the mandatory provisions of the CALGreen Code by reference for all buildings and structures. Development of buildings that comply with the latest energy efficiency standards adopted by the State of California would not result in inefficient, wasteful, and unnecessary consumption of energy. Therefore, the Project's buildings would be required to comply with then-current CALGreen Code standards and requirements. These would include the following:

- **Stormwater pollution prevention.** Prevent the pollution of stormwater runoff from construction activities through compliance with either a local ordinance or best management practices (4.106.2 [residential], 5.106.1 [nonresidential]).
- **Short-term bicycle parking**. If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- **Long-term bicycle parking**. For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2).

- **Facilitation for future installation of electric vehicle charging.** Install and clearly identify raceways capable of supporting a 208/240-volt dedicated branch circuit as shown in Table 5.106.5.3.3 (4.106.4 [residential], 5.106.5.3 [nonresidential]).
- **Recycling by Occupants**. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling (4.410.2 [residential], 5.410.1 [nonresidential]).
- **Wastewater reduction**. Each building shall reduce the generation of wastewater by one of the following methods:
  1. The installation of water-conserving fixtures or
  2. Using nonpotable water systems (5.303.4).
- **Water use savings**. 20 percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35, and 40 percent reductions (5.303.2, A5303.2.3 [nonresidential]).
- **Water meters**. Separate water meters for buildings in excess of 50,000 square feet or any tenant projected to consume more than 1,000 gallons per day (5.303.1).
- **Irrigation efficiency**. Moisture-sensing irrigation systems for larger landscaped areas (5.304.3).
- **Materials pollution control**. Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring and particleboard (4.501 [residential], 5.404 [nonresidential]).
- **Building commissioning**. Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies (5.410.2).

Compliance with the above requirements and standards would help ensure that building energy consumption would not result in the use of energy in a wasteful, inefficient, or unnecessary manner. Furthermore, the Project would be mandates to comply with applicable goals and policies of the General Plan and the APU's Updated GHGRP, which would further enhance energy conservation.

To further reduce operational GHG emissions for the Project, the Project would implement **MM GHG-1**, which requires that the Project include natural gas lines only for the multiple-family residential building: (A) for all fire elements located (1) at the front entrance, (2) on the rooftop deck, (3) in all common areas, and (B) for each individual residential unit stove (but not for ovens or heating/cooling systems within each unit).

Also, to minimize the Project's GHG emissions, **MM GHG-2** would be implemented, which requires that the Property Owner/Developer install and maintain solar power generation on the rooftops of all of the proposed buildings to generate at least 15% of the Project's electrical demand on-site. Solar panels may be installed on rooftops and above the surface parking lot for the commercial buildings, behind (south of) the commercial buildings, and/or elsewhere in the Project Site to achieve the targeted 15% power generation. The locations of

on-site power generation shall be subject to review and approval by the City to ensure compatibility with the scenic corridor overlay requirements. Solar panels shall not be visible from E. Santa Ana Canyon Road. Prior to issuance of a building permit for the Project, the Property Owner/Developer shall submit a memorandum and plan to the City for review and approval demonstrating that the proposed solar panels would not result in a substantial source of glare for neighboring properties and for local roadways. By February 1 of each year, the Property Owner/Developer shall submit a memorandum to the City Planning Department describing the prior year's electrical usage and on-site power generation. If 15% on-site power generation was not achieved in the prior year, the memorandum shall contain feasible measures that the Property Owner/Developer shall implement to reduce electrical usage and/or to increase on-site renewable energy generation to achieve this target.

As required by **MM GHG-3**, the Property Owner/Developer shall enter into a Power Purchasing Agreement with APU for the purchase of 60% "green power" for all of the Project's electricity demand that cannot be produced on-site, if available. The Property Owner/Developer shall submit documentation of green power purchases for the prior year, or documentation that it is not available, to City Planning each February 1. This information will be included in the memorandum that is required by **MM GHG-2.**

In summary, the consumption of energy resources (including electricity, natural gas, gasoline, and diesel), during Project construction and during operation of the Project would not be considered inefficient or wasteful and would result in a less than significant impact, consistent with the guidance derived from Appendix F of the State CEQA Guidelines and relevant case law, with the incorporation of identified project design features, coupled with compliance with applicable laws, regulations and policies designed to enhance energy efficiency. Moreover, the nature and location of the Project, which would involve the densification and/or intensification of urban uses on a vacant site in a generally urbanized area near major transportation corridors, public transit, and pedestrian/bicycle infrastructure helps to further reduce energy impacts in this regard.

With respect to building energy consumption, the Project would develop residential and non-residential uses that incorporate the latest energy efficiency and CALGreen standards, develop on-site renewable energy production, provide EV parking and charging infrastructure, and help serve local commercial needs.

In conclusion, with implementation of **MM GHG-1** through **MM GHG-3,** the Project would result in a less than significant impact related to this threshold.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. The Project's electricity provider would be required to meet the State's current RPS objective of 33 percent. The Project's electricity provider would also be required to meet the State's future RPS objective of 60 percent of in-State electricity sales being generated from renewable energy sources by 2030.

The Project would be designed in accordance with the Title 24 Building Standards and CALGreen requirements. These standards, which are viewed as some of the most stringent in the nation, would include minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., heating, ventilation, and air conditioning [HVAC] and water heating systems), and indoor and outdoor lighting. Incorporating the applicable Title 24 standards into the Project's design would ensure that the Project would not result in the use of energy in a wasteful manner (in most respects) and would help facilitate important state and local goals for energy efficiency. Furthermore, on-site renewable energy sources, such as, for example, solar panels, would be incorporated into the Project design to the extent required under applicable laws and regulations. Furthermore, the Project would also include renewable energy generation (i.e., solar panels would be incorporated into the Project design to the extent required under applicable laws and regulations) and electric vehicle charging infrastructure, which would be more energy efficient than gasoline or diesel fueled passenger vehicles. The foregoing would allow the Project to utilize more renewable energy sources as part of its energy supply. Furthermore, the Project would be required to comply with relevant goals and policies set forth in the General Plan, the APU's GHGRP, and the Specific Plan. Compliance with these aforementioned project design features, as well as mandatory requirements under applicable laws and regulations, would ensure that the Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing energy use or increasing the use of renewable energy. Therefore, the Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

In conclusion, the Project would result in a less than significant impact related to this threshold and no mitigation is required.

4.5.5 CUMULATIVE IMPACTS

The geographic scope of the cumulative energy analysis is the City of Anaheim. The Project, in combination with other cumulative projects, would be required to comply with all applicable goals, policies and actions, including, among others, those set forth in applicable City ordinances, the General Plan, the APU's GHGRP that address energy conservation and energy efficiency, and the latest California Energy Code and Title 24 standards, as described in more detail above. In doing this would result in more energy efficient buildings, overall project design, and landscaping being developed than otherwise would be expected to occur. Also, these standards would promote the use of alternative fuel vehicles and renewable energy generation in the Project, as well as other cumulative projects that are developed. As such, the Project in combination with other cumulative projects would have a less than significant cumulative impact related to energy.

Moreover, the Project would not have a cumulatively considerable contribution to this already less than significant cumulative impact. As discussed above, the Project would generate energy demand during construction and operation, principally consisting of electricity and transportation fuel consumption. The Project would consume an increasing amount of electricity and decreasing amount of fossil fuels such as gasoline and diesel over time. Development associated with the Project would be designed in accordance with then-current Title 24 Standards including CALGreen Code and California's Energy Efficiency

Standards for Residential and Non-Residential Buildings. These standards include, among other things, minimum energy efficiency requirements related to the building envelope, mechanical systems (e.g., HVAC and water heating systems), indoor and outdoor lighting, and illuminated signs.

Given the nature and location of the proposed uses, the Project's construction is not anticipated to result in unusually high energy use with the incorporation of identified design features, coupled with compliance with applicable laws, regulations and policies designed to enhance energy efficiency. Construction energy demand generated by the Project would largely be limited to the activities which would be required for the construction of the Project and would normally not constitute the unnecessary, inefficient, or wasteful consumption of energy resources. For example, industry standard limitations on idling of vehicles and equipment and requirements that equipment be properly maintained would result in fuel savings. Also, the Project would include renewable energy generation and electric vehicle charging infrastructure, would further ensure efficient energy usage. Moreover, the Project would be located near major transportation corridors and pedestrian/bicycle facilities, which would further reduce potential consumption of transportation energy resources.

Therefore, the Project would not result in the unnecessary, inefficient, or wasteful consumption of energy resources nor would it conflict with applicable plans, policies, or regulations adopted for renewable energy and energy efficiency during construction or operation.

Accordingly, potential cumulative impacts in this regard would be less than significant.

4.5.6 MITIGATION PROGRAM

See Section 4.7, Greenhouse Gas Emissions, of this Draft EIR for mitigation measures referenced in this section.

4.5.7 SIGNIFICANCE AFTER MITIGATION

With implementation of **MM GHG-1** through **MM GHG-3,** the Project would result in a less than significant impact related to energy.