Section 3.5
Energy Conservation and Climate Change

This section evaluates greenhouse gas (GHG) emissions and energy consumption associated with the proposed project and analyzes the project's consistency with applicable plans and policies. This section is based on technical data presented in the *Greenhouse Gas Assessment* prepared by Ldn Consulting, Inc. (2022; see Appendix F) and available data resources pertaining to energy use and conservation. Analysis in this section also draws upon data in the *City of Encinitas General Plan* (1991) and the *City of Encinitas 2013-2021 Housing Element Update Environmental Assessment* (2018). Third-party technical reports were peer-reviewed by Michael Baker International and the City of Encinitas.

ENVIRONMENTAL SETTING

Climate Change

Climate change is a distinct change in average meteorological conditions with respect to temperature, precipitation, and storms. Climate change can result from both natural processes and human activities. Natural changes in the climate result from very small variations in the earth's orbit which change the amount of solar energy the planet receives. Human activities can affect the climate by emitting heat-absorbing gases into the atmosphere and by making changes to the planet's surface, such as deforestation and agriculture. The following impacts to California from climate change have been identified:

- Higher temperatures, particularly in the summer and in inland areas;
- More frequent and more severe extreme heat events;
- Reduced precipitation, and a greater proportion of precipitation falling as rain rather than snow;
- Increased frequency of drought conditions;
- Rising sea levels;
- Ocean water becoming more acidic, harming shellfish and other ocean species; and
- Changes in wind patterns.

These direct effects of climate change may in turn have a number of other impacts, including increases in the number and intensity of wildfires, coastal erosion, reduced water supplies, threats to agriculture, and the spread of insect-borne diseases.

Greenhouse Gas

GHGs are naturally present in the earth's atmosphere and play a critical role in maintaining the planet's temperature. The natural process through which heat is retained in the troposphere is called the greenhouse effect. The greenhouse effect traps heat in the troposphere through a threefold process as follows: shortwave radiation emitted by the sun is absorbed by the earth; the earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and re-emit it in all directions, with some radiation heading out into space and some heading back toward the earth. This "trapping" of the long-wave (thermal) radiation emitted back toward the earth is the underlying process of the greenhouse effect. Without the presence of GHGs, the earth's average temperature would be approximately zero degrees Fahrenheit.

Parts of the earth's atmosphere act as an insulating blanket, trapping sufficient solar energy to keep the global average temperature within a range suitable for human habitation. The blanket is a collection of atmospheric gases called greenhouse gases because they trap heat similar to the effect of glass walls in a greenhouse. These gases, mainly water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone, and chlorofluorocarbons, all act as effective global insulators, reflecting infrared radiation back to the earth. Human activities, such as producing electricity and driving internal combustion vehicles, emit these gases into the atmosphere.

GHGs are unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have much longer atmospheric lifetimes of one year to several thousand years that allow them to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, scientists who study atmospheric chemistry agree that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration.

Energy

Electricity

Electricity usage in California for different land uses varies substantially by the types of uses in a building, types of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building.

Electricity in California is predominantly provided by renewable resources, such as solar, wind, geothermal, and hydroelectric. In 2021, renewable resources supplied approximately 50 percent of the in-state electricity generation while natural gas-fired power plants provided approximately 40 percent and nuclear provided less than 10 percent. Given the size and population of the state,

California is still one of the largest importers of energy in the nation, as approximately 20 to 30 percent of the state's electricity supply came from generating facilities outside the state in 2021. As such, almost all of the coal-fueled electricity generation consumed in the state was imported (approximately 4 percent of state's power supply) (EIA 2022).

San Diego Gas & Electric (SDG&E) provides electric services to 3.7 million customers through 1.49 million electric meters and 905,000 natural gas meters located within a 4,100-square-mile service area that includes San Diego County and southern Orange County (SDGE 2022). SDG&E is a subsidiary of Sempra Energy and would provide electricity to the project. SDG&E receives electric power from a variety of sources. Refer to Table 3.5-1 for SDG&E's distribution of renewable resources.

Table 3.5-1: Portfolio Percentages for SDG&E 2020 Renewable Portfolio Standard

Biopower	Geothermal	Solar PV	Wind	Hydro	Solar Thermal
2%	--	46%	52%	<0.1%	--%

Source: CPUC 2021.

Electricity consumption attributable to San Diego County from 2010 to 2020 is shown in Table 3.5-2, Electricity Consumption in San Diego County 2010-2020. Additionally, energy consumption in San Diego County remained relatively constant between 2010 and 2020, with no substantial increase or decrease.

Table 3.5-2: Electricity Consumption in San Diego County 2010-2020

Year	Electricity Consumption (in millions of kilowatt hours)
2010	19,115
2011	19,121
2012	19,548
2013	19,689
2014	19,900
2015	19,873
2016	19,642
2017	19,362
2018	19,480
2019	18,989
2020	19,045

Source: CEC 2016.

Renewable Energy

In 2018, California ranked first in the nation for electricity generated from solar, geothermal, and biomass energy; fourth in hydroelectric power; and fifth in wind energy. By the end of 2021, California had approximately 15,500 megawatts of utility-scale solar power capacity and 28,000 megawatts of installed solar capacity. Geothermal resources in the state, approximately 2,730 megawatts of capacity, account for almost 70 percent of the nation's utility-scale electricity generation from geothermal energy. The state has over 30 power plants fueled by biomass (wood and wood waste), which leads the nation in energy generation. At the end of 2019, the state had more than 6,300 megawatts of installed wind capacity (EIA 2022).

Natural Gas

The CPUC regulates natural gas utility service for approximately 11 million gas meters for customers who receive natural gas from Pacific Gas & Electric (PG&E), Southern California Gas (SoCalGas), SDG&E, Southwest Gas, and several smaller natural gas utilities. SDG&E provides natural gas service to the counties of San Diego and Orange and would provide natural gas to the project. SDG&E is a wholesale customer of SoCalGas and currently receives all of its natural gas from the SoCalGas system (CPUC 2022).

The majority of California's natural gas customers are residential and small commercial customers (core customers). These customers accounted for approximately 35 percent of the natural gas delivered by California utilities in 2022. Large consumers, such as electric generators and industrial customers (noncore customers), accounted for approximately 65 percent of the natural gas delivered by California utilities in 2012 (CPUC 2022).

Petroleum

As of 2021, California was the seventh largest producer of crude oil in the nation. However, the state's overall crude oil production has steadily declined during the past 30 years. Due to its large size and population, California is the second-largest consumer of petroleum products and the largest consumer of motor gasoline and jet fuel in the nation. Almost 85 percent of petroleum consumed in the state is used in the transportation sector (EIA 2022).

However, technological advances, market trends, consumer behavior, and government policies could result in significant changes in fuel consumption by type and in total. As such, the state has implemented various policies and incentives to increase the use of non-carbon-emitting vehicles and decrease vehicle miles traveled (VMT). In 2021, California drivers owned approximately 931,000 electric vehicles and plug-in hybrid vehicles, with the state having the second-highest ratio of electric vehicles to charging ports (EIA 2022).

At the federal and state levels, various policies, rules, and regulations have been enacted to improve vehicle fuel efficiency, promote the development and use of alternative fuels, and reduce transportation-source air pollutants, GHG emissions, and VMT. Market forces have driven the price of petroleum products steadily upward over time, and technological advances have made use of other energy resources or alternative transportation modes increasingly feasible. Accordingly, since 2010, on-road automotive fuel consumption in San Diego County has generally declined and heavy-duty vehicle fuel consumption has steadily increased.

REGULATORY FRAMEWORK

Federal

Greenhouse Gas Emissions

To date, no national GHG reduction targets or climate plans have been adopted that would apply to the project or the City of Encinitas.

Massachusetts v. EPA (2007)

In *Massachusetts v. U.S. Environmental Protection Agency (EPA)*, the Supreme Court directed the EPA Administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. In making these decisions, the EPA Administrator is required to follow the language of Section 202(a) of the federal Clean Air Act. On December 7, 2009, the EPA Administrator signed a final rule with two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- Elevated concentrations of GHGs — CO_2, CH_4, N_2O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6) — in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the "endangerment finding."

- Combined emissions of GHGs — CO_2, CH_4, N_2O, and HFCs — from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is referred to as the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from vehicles as air pollutants under the Clean Air Act.

Energy Conservation

Federal Energy Policy and Conservation Act

In response to the 1973 oil crisis, Congress enacted the Energy Policy and Conservation Act (EPCA) of 1975, which established the first fuel economy standards for on-road motor vehicles in the United States. The purpose of EPCA is to increase energy production and supply, reduce energy demand, provide energy efficiency, and give the executive branch additional powers to respond to disruptions in energy supply. Most notably, EPCA established the Strategic Petroleum Reserve, the Energy Conservation Program for Consumer Products, and Corporate Average Fuel Economy regulations.

Intermodal Surface Transportation Efficiency Act

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of surface transportation programs. The purpose of the ISTEA is to maximize mobility and address national and local interests in air quality and energy. The ISTEA contained factors that metropolitan planning organizations (MPO) were to address in developing transportation plans and programs, including some energy-related factors. To meet the ISTEA requirements, MPOs adopted policies defining the social, economic, energy, and environmental values guiding transportation decisions.

Transportation Equity Act for the 21st Century

In 1998, Congress enacted the Transportation Equity Act for the 21st Century, which expanded programs and initiatives established in the ISTEA legislation. The act authorizes highway, highway safety, transit, and other efficient surface transportation programs. The act continues the program structure established for highways and transit under the ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of transportation decisions.

Energy Independence and Security Act

In 2007, Congress enacted the Energy Independence and Security Act of 2007 (EISA) with the purpose to increase energy independence and efficiency. The legislation requires the Renewable Fuel Standard (RFS) to continually increase over time to reduce the reliance of petroleum. The U.S. EPA is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. The RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

State

Greenhouse Gas Emissions

Discussed below are some of the key state directives and policies pertaining to GHG emissions reduction.

Assembly Bill 32

The California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32; California Health and Safety Code Division 25.5, Sections 38500–38599) established regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and established a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This requirement was achieved early in 2016.

California Air Resources Board Scoping Plan

In 2008, the California Air Resources Board (CARB) adopted its Scoping Plan, which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's Scoping Plan contains the main strategies California will implement to reduce GHG emissions by 174 million metric tons of carbon dioxide equivalent ($MMTCO_2e$), or approximately 30 percent, from the state's projected 2020 emissions level of 596 $MMTCO_2e$ under a business-as-usual (BAU)[1] scenario. This is a reduction of 42 $MMTCO_2e$, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan in 2014. The updated Scoping Plan summarizes recent science related to climate change, including anticipated impacts to California and the levels of GHG reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The Scoping Plan update also looks beyond 2020 toward the 2050 goal, established in Executive Order S-3-05, and observes that "a mid-term statewide emission limit will ensure that the state stays on course to meet our long-term goal." The Scoping Plan update did not establish or propose any specific

[1] "Business-as-Usual" refers to emissions that would be expected to occur in the absence of GHG reductions. See http://www.arb.ca.gov/cc/inventory/data/bau.htm. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.

post-2020 goals, but identified such goals adopted by other governments or recommended by various scientific and policy organizations.

In 2017, CARB approved the *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target*. This update focuses on implementation of a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. To achieve this, the updated Scoping Plan draws on a decade of successful programs that addresses the major sources of climate changing gases in every sector of the economy, such as programs dedicated to zero-emission vehicles, renewable energy, clean energy, and sustainable transit-based communities. CARB is in process of finalizing the *Draft 2022 Scoping Plan Update*, which assesses progress toward the statutory 2030 target.

Senate Bill 97

Senate Bill (SB) 97 (2007) (Chapter 185, Statutes of 2007; Public Resources Code Sections 21083.05 and 21097) acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. The Natural Resources Agency adopted amendments to the CEQA Guidelines in 2010 to address the directive. As a result, CEQA lead agencies are required to estimate the emissions associated with project-related vehicular traffic, energy consumption, water usage, and construction activities to determine whether project-level or cumulative impacts could occur and to mitigate the impacts where feasible.

Senate Bill 375

SB 375 (2008) (Chapter 728, Statutes of 2008) aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires each metropolitan planning organization (MPO) to adopt a sustainable communities strategy or alternative planning strategy that will prescribe land use allocation in that MPO's regional transportation plan. CARB is charged with reviewing each MPO's sustainable communities strategy or alternative planning strategy for consistency with its assigned targets. San Diego County is part of the San Diego Association of Governments' (SANDAG) MPO and is covered under SANDAG's *2050 Regional Transportation Plan*.

Energy Conservation

Discussed below are some of the key state directives and policies pertaining to energy conservation.

State of California Energy Action Plan

The CEC and CPUC approved the first state of California *Energy Action Plan* in 2003. The plan established shared goals and specific actions to ensure that adequate, reliable, and reasonably priced electrical power and natural gas supplies are provided, and identified policies, strategies,

and actions that are cost effective and environmentally sound for California's consumers and taxpayers. In 2005, a second *Energy Action Plan* was adopted by the CEC and CPUC to reflect various policy changes and actions of the prior two years.

At the beginning of 2008, the CEC and CPUC determined that it was not necessary or productive to prepare a new energy action plan. This determination was based in part on a finding that the state's energy policies have been significantly influenced by the passage of AB 32, the California Global Warming Solutions Act of 2006 (discussed above). Rather than produce a new energy action plan, the CEC and CPUC prepared an "update" that examines the state's ongoing actions in the context of global climate change.

Senate Bill 1078

SB 1078 (2002) established the California Renewable Portfolio Standard (RPS) Program and required that a retail seller of electricity purchase a specified minimum percentage of electricity generated by eligible renewable energy resources as defined in any given year, culminating in a 20 percent standard by 2018. These retail sellers include electrical corporations, community choice aggregators, and electric service providers. The bill relatedly required the CEC to certify eligible renewable energy resources, design and implement an accounting system to verify compliance with the RPS by retail sellers, and allocate and award supplemental energy payments to cover above-market costs of renewable energy.

Senate Bills 107, X1-2, 350, and 100

SB 107 (2006) accelerated the RPS established by SB 1078 by requiring that 20 percent of electricity retail sales be served by renewable energy resources by 2010 (not 2017). Additionally, SB X1-2 (2011) requires all California utilities to generate 33 percent of their electricity from eligible renewable energy resources by 2020. Specifically, SB X1-2 sets a three-stage compliance period: by December 31, 2013, 20 percent shall come from renewables; by December 31, 2016, 25 percent shall come from renewables; and by December 31, 2020, 33 percent shall come from renewables.

SB 350 (2015) requires retail seller and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030, with interim goals of 40 percent by 2024 and 45 percent by 2027.

SB 100 (2018) accelerated and expanded the standards set forth in SB 350 by establishing that 44 percent of the total electricity sold to retail customers in California per year by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 also states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of the retail sales of electricity to California. This bill requires that the achievement of 100 percent zero-

carbon electricity resources does not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Consequently, utility energy generation from nonrenewable resources is expected to be reduced based on implementation of the 60 percent RPS in 2030. Therefore, any project's reliance on nonrenewable energy sources would also be reduced.

Assembly Bill 1007

AB 1007 (2005) required the CEC to prepare a statewide plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). The CEC prepared the plan in partnership with CARB and in consultation with other state, federal, and local agencies. The plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

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

Commonly referred to as the CALGreen Code, Title 24, Part 11 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. Title 24 also provides voluntary tiers and measures that local governments may adopt which encourage or require additional measures in the five green building topics. The 2019 standards became effective January 1, 2020. The standards require that all low-rise residential buildings shall have a photovoltaic system meeting the minimum qualification requirements such that annual electrical output is equal to or greater than the dwelling's annual electrical usage. Notably, net energy metering rules limit residential rooftop solar generation to produce no more electricity than the home is expected to consume on an annual basis. Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards, while new nonresidential buildings will use about 30 percent less energy.

The California Energy Commission (CEC) updates the Building Energy Efficiency standards (Energy Code) every three years. The 2022 Energy Code encourages efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards, strengthens ventilation standards, and more. Buildings whose permit applications are applied for on or after January 1, 2023 must comply with the 2022 Energy Code.

The CALGreen standards originally took effect in 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-

rise residential, and state-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings.
- Mandatory reduction in outdoor water use through compliance with a local water-efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance.
- Sixty-five percent of construction and demolition waste must be diverted from landfills.
- Mandatory inspections of energy systems to ensure optimal working efficiency.
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations.
- Low pollutant-emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards.

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15 percent improvement in energy requirements, stricter water conservation, 10 percent recycled content in building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar-reflective roofs. CALGreen's more rigorous Tier 2 standards call for a 30 percent improvement in energy requirements, stricter water conservation, 75 percent diversion of construction and demolition waste, 15 percent recycled content in building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar-reflective roofs.

California's Energy Efficiency Standards for Appliances (Title 20)

Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards.

New appliances regulated under Title 20 include refrigerators, refrigerator-freezers and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution

transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems.

Title 20 presents protocols for testing for each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance, and water design.

Local

City of Encinitas Climate Action Plan (CAP)

The City's Climate Action Plan (CAP) was adopted in January 2018 and was most recently updated in 2020. The CAP serves as a guiding document and outlines a course of action for community and municipal operations to reduce GHG emissions and the potential impacts of climate change within the jurisdiction. The CAP benchmarks GHG emissions in 2012 and identifies what reductions are required to meet GHG reduction targets based on state goals embodied in AB 32. The CAP aims to achieve local community wide GHG reduction targets of 13 percent below 2012 levels by 2020 and 44 percent below 2012 levels by 2030.

To achieve these objectives, the CAP identifies a summary of baseline GHG emissions and the potential growth of these emissions over time; the expected climate change effects on the City; GHG emissions reduction targets and goals to reduce the community's contribution to global warming; and identification of strategies, specific actions, and supporting measures to comply with statewide GHG reduction targets and goals, along with strategies to help the community adapt to climate change impacts.

As part of the CAP implementation, each strategy, action, and supporting measure will be continually assessed and monitored. Reporting on the status of implementation of these strategies, periodic updates to the GHG emissions inventory, and other monitoring activities will help ensure that the CAP is making progress. It should be noted that as of this time, the City has not adopted implementing ordinances for the CAP. Therefore, strategies requiring the City to adopt ordinances to implement are not applicable to the project. The following strategies are applicable to the project:

- RE-2: Require New Homes to install Solar Photovoltaic Systems
- CET-4: Require Residential Electric Vehicle Charging Stations

City of Encinitas All-Electric Building Ordinance

Ordinance 2021-13 was adopted by the City of Encinitas to amend Section 23.12.080 and Section 23.12.110 of Chapter 23.12 (Uniform Codes for Construction) of Title 23 (Building and

Construction) of the City of Encinitas Municipal Code. The ordinance is intended to implement goals and objectives set forth in the City's CAP for reducing GHG emissions, conserving water and energy, encouraging green buildings, protecting the natural environment, and protecting the health of residents and visitors. Specifically, Section 100.0, subpart (e) of the California Energy Code is amended in Section 23.12.080(D) of the Municipal Code to require all newly constructed buildings to meet the requirements of an "All-Electric Building" (no natural gas or propane plumbing installed within the building and there is no gas meter connection). Under the ordinance, restaurant use may be approved for an exception to install gas-fueled cooking appliances.

City of Encinitas General Plan and Certified Local Coastal Program

The City of Encinitas General Plan serves as a policy document that provides long-range guidance to City officials responsible for decision-making with regard to the City's future growth and long-term protection of its resources. The City of Encinitas General Plan is intended to ensure decisions made by the City conform to long-range goals established to protect and further the public interest as the City continues to grow and to minimize adverse effects potentially occurring with ultimate buildout. The City of Encinitas General Plan also provides guidance to ensure that future development conforms to the City's established plans, objectives, and/or policies, as appropriate.

The California Coastal Act (Public Resources Code Section 30000 et seq.) is intended to protect the natural and scenic resources of the Coastal Zone. All local governments located wholly or partially within the Coastal Zone are required to prepare an) for those areas of the Coastal Zone within its jurisdiction. The City of Encinitas General Plan includes issues and policies related to California Coastal Act requirements; therefore, the City of Encinitas General Plan also serves as Local Coastal Plan (LCP) Land Use Plan for the City. The relevant goals and policies of the General Plan include:

Circulation Element

Policy 1.15: The City will actively support an integrated transportation program that encourages and provides for mass-transit, bicycle transportation, pedestrians, equestrians, and car-pooling.

GOAL 3: The City of Encinitas will promote the use of other modes of transport to reduce the dependence on the personal automobile.

Policy 3.2. Continue to assist in expanding public transportation and emphasize public transportation in future development with preference given to cost-effective alternatives.

Policy 3.3: Create a safe and convenient circulation system for pedestrians.

Policy 3.11: The City will strive to implement a safe, direct, and convenient circulation system for commuting and recreational bicycle traffic. The City will support the development of additional bicycle facilities in the Coastal Zone, including the following:

- All Circulation Element roads will include provisions for bicycle lanes unless precluded by design and safety considerations in which cases, alternative routes shall be provided to form a continuous network;
- The provision of secure bicycle storage facilities at all beaches designated for high and moderate levels of use; and
- The installation of bicycle and surfboard racks on all buses serving the Coastal Zone.

Resource Management Element

Policy 1.1: Require new development to utilize measures designed to conserve water in their construction.

Policy 1.10: Promote the use of water efficient sprinkling and gardening systems to include ordinances and technology to encourage drought tolerant plants.

GOAL 5: The City will make every effort to participate in programs to improve air and water quality in the San Diego region.

Policy 5.1: The City will monitor and cooperate with the ongoing efforts of the U. S. Environmental Protection Agency, the San Diego Air Pollution Control District, and the State of California Air Resources Board in improving air quality in the regional air basin. The City will implement appropriate strategies from the San Diego County SIP which are consistent with the goals and policies of this plan.

GOAL 6: The City will make every effort to reduce the amount of solid and liquid waste generated in the Planning Area and will identify ways to responsibly deal with these wastes.

Policy 6.1: The City will phase in all practical forms of mandatory recycling as soon as possible.

Policy 6.2: The City will contract only with waste haulers who will willingly cooperate with the City's recycling effort.

GOAL 9: **The City will encourage the abundant use of natural and drought tolerant landscaping in new development and preserve natural vegetation, as much as possible, in undeveloped areas.**

Policy 9.4: Encourage and adopt standards for the use of drought tolerant and/ or natural landscaping and efficient irrigation systems throughout the City.

GOAL 13: **Create a desirable, healthful, and comfortable environment for living while preserving Encinitas, unique natural resources by encouraging land use policies that will preserve the environment.**

Policy 13.1: The City shall plan for types and patterns of development which minimize water pollution, air pollution, fire hazard, soil erosion, silting, slide damage, flooding and severe hillside cutting and scarring.

GOAL 15: **The City will make every effort to conserve energy in the City thus reducing our dependence on fossil fuels.**

Policy 15.1: The City will encourage the use of alternate energy systems, including passive solar and architectural and mechanical systems, in both commercial and residential development.

Policy 15.2: The patterns of proposed subdivisions and the orientation and design of structures on lots shall be designed with the objective of maximizing the opportunities for solar energy use and energy conservation.

Policy 15.3: Energy conserving construction standards and requirements shall be enforced in the field inspection of new construction.

City of Encinitas Housing Element 2019

In March 2019, the City Council adopted the Housing Element Update (HEU) which provides the City with a coordinated and comprehensive strategy for promoting the production of safe, decent, and affordable housing for all within the City. The purpose of the HEU is to ensure that the City establishes policies, procedures, and incentives to increase the quality and quantity of the housing supply in the City.

The Housing Plan Update 2019 includes the 2013-2021 HEU and a series of discretionary actions to update and implement the City's Housing Element. The City received a Local Coastal Program (LCP) Amendment approval for the HEU from the California Coastal Commission in September 2019, and certification from the state Department of Housing and Community Development in October 2019.

GOAL 2: Sound housing will be provided in the City of Encinitas for all persons.

Policy 2.8: Continue to develop and promote an energy efficiency conservation measure consistent with the strategies outlined in the City's Climate Action Plan.

Additionally, according to the *City of Encinitas 2013-2021 Housing Element Update Environmental Assessment*, implementation of projects identified in the HEU would not directly conflict with the policies and reduction measures in the City's CAP. However, project implementation has the potential to exceed the City's interim screening threshold (900 $MTCO_2e$ per year) which would potentially conflict with the City's ability to achieve the CAP's GHG emissions reduction targets. Development projects that do not achieve the screening level threshold shall prepare a project-specific greenhouse gas analysis that identifies an appropriate project-level significance threshold and project-specific mitigation measures.

STANDARDS OF SIGNIFICANCE

Thresholds of Significance

The following thresholds of significance are based, in part, on CEQA Guidelines Appendix G. For the purposes of this EIR, the project may have a significant adverse impact related to GHG emissions if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The project would have a significant impact related to energy if it would:

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

PROJECT IMPACTS AND MITIGATION

GREENHOUSE GAS EMISSIONS

Impact 3.5-1 **The project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Impacts would be less than significant.**

The HEU Environmental Assessment determined that the HEU had the potential to result in impacts due to exceedances of the City's interim 900 $MTCO_2e$/yr threshold and required developments that would exceed the applicable 900 $MTCO_2e$ interim screening threshold of significance (or those in place at the time of the development application) to prepare a Greenhouse Gas Emissions Assessment. The *Greenhouse Gas Assessment* prepared for the project (Ldn Consulting 2022; see Appendix F) provides the project-level analysis including both construction and operational emissions.

The project would result in direct and indirect emissions of CO_2, N_2O, and CH_4, and would not result in other GHGs that would facilitate a meaningful analysis. Therefore, this analysis focuses on these three forms of GHG emissions. Direct project related GHG emissions include emissions from construction activities, area sources, and mobile sources, while indirect sources include emissions from energy consumption, water demand, and solid waste generation. The most recent version of the California Emissions Estimator Model (CalEEMod), version 2020.4.0, was used to calculate direct and indirect project related GHG emissions (Appendix F). With respect to cumulative San Diego Air Basin-wide conditions, the San Diego Air Pollution Control District (SDAPCD) has developed strategies to reduce short-term construction-related criteria air pollutant emissions and to reduce long-term mobile-source GHG emissions.

Construction

Construction activities and equipment expected as part of the project are shown in Table 3.5-3, Anticipated Construction Equipment.

Table 3.5-3: Anticipated Construction Equipment

Equipment Identification	Duration (in months)
Site Preparation	
Rubber Tired Dozers	3
Tractors/Loaders/Backhoes	4
Grading	
Excavators	1
Graders	1
Rubber Tired Dozers	1
Tractors/Loaders/Backhoes	3

Table 3.5-3, continued

Equipment Identification	Duration (in months)
Building Construction	
Cranes	1
Forklifts	3
Generator Sets	1
Tractors/Loaders/Backhoes	3
Welders	1
Architectural Coating	
Air Compressors	1
Paving	
Pavers	2
Paving Equipment	2
Rollers	2

Note: This equipment list is based upon equipment inventory within CalEEMod; the quantity and types are based upon assumed use during project construction.
Source: Ldn Consulting, Inc. 2022 (see Appendix F).

Based on expected construction activities and equipment shown in Table 3.5-3, project construction would generate 880.72 $MTCO_2e$ over the construction life of the project (refer to Table 3.5-4, Expected Construction CO_2e Emissions MT/Year). Lead agencies, including the SDAPCD and the County of San Diego, recommend that construction emissions be amortized (i.e., total construction emissions divided by the lifetime of the project, assumed to be 30 years) over a 30-year period to account for the contribution of construction emissions over a project's lifetime. As such, amortizing the emissions from project construction over a 30-year period would result in an annual contribution of approximately 29.36 $MTCO_2e$ per year. These emissions are added to operational emissions to account for the contribution of construction to GHG emissions for the lifetime of the project.

Table 3.5-4: Expected Construction CO_2e Emissions (MT/Year)

Year	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	CO_2e
2023	0.00	105.63	105.63	0.02	0.01	108.26
2024	0.00	567.55	567.55	0.10	0.03	579.55
2025	0.00	191.02	191.02	0.03	0.00	192.90
					Total	**880.72**
					Yearly Average Construction Emissions (metric tons/year over 30 years)	**29.36**

Notes: Expected construction emissions are based upon CalEEMod modeling assumptions for equipment and durations listed in Table 3.5-3.
Source: Ldn Consulting, 2022 (see Appendix F).

Operation

Project operation would result in emissions generated from area sources, energy consumption, mobile sources, solid waste generation, and water use. Table 3.5-5 shows the annual operational emissions inventory. Project operations are anticipated to generate 997.46 $MTCO_2e$ per year.

Table 3.5-5: Operational GHG Emissions (MT/Year)

Source	Bio-CO_2	NBio-CO_2	Total CO_2	CH_4	N_2O	CO_2e
Area	0.00	1.81	1.81	0.00	0.00	1.85
Electrical Usage	0.00	141.87	141.87	0.01	0.00	142.28
Mobile	0.00	819.13	819.13	0.06	0.04	831.37
Waste	13.91	0.00	13.91	0.82	0.00	34.47
Water	3.08	38.02	41.10	0.32	0.01	51.37
					Subtotal[1]	1,061.44
					Amortized Construction Emissions	29.36
					149 kW of Solar PV	-80.42
					4 EV Chargers – EV Vehicle Usage	-12.92
					Project Total GHG Emissions	**997.46**
					Residents (374 persons) + Employment (2 persons): Service Population	**376**
					Metric Tons/Service Population	**2.65**

[1] Includes reductions from project design features.

Notes: Data is presented in decimal format and may have rounding errors.

EV = electric vehicle; GHG = greenhouse gas; kW = kilowatt; MT/Year = metric tons per year.

Source: Ldn Consulting, 2022 (see Appendix F).

The project would implement sustainable design features including installing of solar panels capable of generating 149 kilowatts (kW), or 245,206 kilowatt hours (kWh), of solar power annually and four on-site electric vehicle parking spaces with charging stations. Solar energy is considered 100 percent renewable and once installed, would offset GHG emissions generated from non-renewable energy sources, resulting in a GHG emissions reduction of 80.42 $MTCO_2e$ annually; refer to Table 3.5-5. The electric vehicle parking spaces would enable residents to utilize electric vehicles and would reduce GHG emissions by as much as 12.92 $MTCO_2e$ annually in 2025. It should be noted that all garages will have electrical infrastructure installed for electric vehicle chargers; however, reductions from these sources was not taken into account in evaluating project GHG emissions (Ldn Consulting 2022).

According to the City's CAP, a multi-family development is required to install 1W of solar power per square foot (CAP measure RE-2). Therefore, to be consistent with the CAP, the project is required to install at minimum of 96 kW of solar power. As the project anticipates installing solar

panels capable of generating 149 kW of solar, the project would be consistent with CAP requirements for on-site solar.

The City's CAP identifies water conservation measures that aim to reduce water consumption. In November 2020, the City updated its CAP to accommodate the adopted HEU maximum realistic yield of 2,494 additional dwelling units of 17 candidate sites within the City under build-out conditions. These additional dwelling units are based upon the HEU's permitted maximum density of 30 dwelling units per net acre on the candidate sites.

The project would implement water conservation measures to reduce potable water use to the extent feasible. The project would meet or exceed the conservation measures mandated by the 2019 California Green Building Standards Code. Additionally, the project would include non-mandatory water conservation measures, such as installation of insulated hot water pipes, pressure reducing valves, water efficient dishwashers, and dual flush toilets. The project would also use recycled water to irrigate common landscaped areas.

The performance metric for CAP Measure WE-1 sets a goal of 5 gallons saved per capita per day. The project would be consistent with the City's General Plan (pending approval by the City) and is therefore consistent with the City's CAP, assuming CAP measures are implemented with the project. As stated above, the project would install low flow water fixtures (e.g., toilets, faucets) in all of the units, thereby achieving water conservation over the long-term. It is anticipated that such measures would achieve a reduction of 5 gallons of water per person per day, consistent with the performance metric set forth in the CAP.

With respect to on-road transportation emission reductions, Goal 4.1 (Reduce VMT) includes a number of supporting goals, which are either included as part of the project design or as part of the project's transportation demand management (TDM) measures program; refer to Section 3.12, Transportation. Such measures include, but are not limited to, increasing residential density, providing very low-income affordable residential units, and providing new sidewalks along the frontage of Piraeus Street and Plato Place.

To be consistent with SB 32, the City's goal is to achieve a 44% reduction with the baseline or a reduction to a target of 254,575 $MTCO_2e$/year in 2030. The population used in analyzing the proposed project was the City population, which in 2030 is anticipated to be 64,938 persons and 27,958 employees (Ldn Consulting 2022). Thus, in order to achieve a City emission level of 254,575 MT CO_2e based on the reductions needed per SB 32, the required per capita efficiency target in 2030 would be approximately 2.74 $MTCO_2e$ (254,575/92,896) per service population (Ldn Consulting 2022).

The project was analyzed using an alternative approach for consistency with SB 32 using a project-specific locally appropriate efficiency-based threshold based on forecasted population

and the allowable emissions which the City must achieve in 2030 to be compliant with SB 32. Based on this approach, the project would be required to generate fewer service population emissions than 2.74 $MTCO_2e$. The project was found to generate 997.46 $MTCO_2e$ with both annualized construction and annual operation GHG emissions averaged over a project population of 376 persons. Given this, the project would have a projected GHG emission rate of 2.65 MT CO_2e per service population (997.46 MT CO_2e/376 persons) (Ldn Consulting 2022). As the project would generate fewer emissions than a City-specific localized efficiency metric of 2.74 $MTCO_2e$ per service population, impacts would be less than significant.

Further, this total is in line with the *2017 Climate Change Scoping Plan Update* emissions of 2 $MTCO_2e$ per capita by 2050 without taking into account future regulatory changes which would reasonably further reduce GHG emissions given California's aggressive agenda in addressing greenhouse gas emissions. Since the project would generate fewer emissions than the City-specific localized efficiency metric of 2.74 $MTCO_2e$ per service population, and because the project's long-term (2050) emissions would be within CARBs emissions projections for 2050, the project would result in a less than significant impact.

As stated, the project is consistent with the General Plan and accounted for in the HEU. In November 2020, the City's CAP was updated to address increased GHG emissions resulting from development of the 17 candidate sites identified in the HEU. Updates to the CAP assumed a maximum realistic yield of 2,494 dwelling units across the candidate sites (City of Encinitas 2021). Therefore, the City's CAP accounts for GHG emissions resulting from construction and operation of the project. The project is required to comply with the City's CAP by implementing the appropriate CAP measures, which are described above. Furthermore, the project would generate fewer emissions than the City-specific localized efficiency metric and is within the projections for the future service population established in the CAP. Therefore, the project would not generate substantial GHG emissions and would not directly contribute to short- or long-term GHG impacts. Impacts would be **less than significant**.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CONFLICT WITH APPLICABLE PLANS, POLICIES, OR REGULATIONS

Impact 3.5-2 **The project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Impacts would be less than significant.**

California Air Resources Board 2008 and 2017 Scoping Plans

CARB adopted the AB 32 Scoping Plan as a framework for achieving AB 32 goals with the most recent being the 2008 and 2017 Scoping Plans, and a Draft 2022 Scoping Plan. While the 2008 and 2017 Scoping Plans are not directly applicable to specific projects, the plans contain several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB has adopted many of the measures identified in the plans, such as those that reduce emissions from area sources and vehicle fleets, which are not applicable to individual development projects.

The project would comply with all applicable regulations adopted in furtherance of the 2008 and 2017 Scoping Plans to the extent required by law. The Scoping Plan outlines a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions, such as the installation of low-flow water fixtures and electric vehicle charging stations. Table 3.5-6 provides the relevant measures from the CARB Scoping Plan and project consistency with those measures.

Table 3.5-6: Project Consistency with CARB Scoping Plan

Scoping Plan Measure	Measure Number	Project Consistency
Transportation Sector		
1.5 million zero-emission and plug-in hybrid light-duty electric vehicles by 2025 (4.2 million Zero-Emissions Vehicles by 2030)	N/A	The project would install four on-site electric vehicle charging stations.
Regional Transportation-Related GHG Targets	T-3	CARB has adopted its regional transportation-related GHG targets in furtherance of SB 375. Those targets do not apply directly to the project, and instead are considered by MPOs (like SANDAG) when developing their sustainable communities strategies. See below for discussion of the project's consistency with SANDAG's Regional Transportation Plan.

Table 3.5-6, continued

Scoping Plan Measure	Measure Number	Project Consistency
Reduction in Vehicle Miles Traveled	N/A	The project would provide new sidewalks along the project frontage on Piraeus Street and Plato Place, with connection to pedestrian paths within the project site. The project applicant would work with the City and its bikeshare vendor to expand the City's bikeshare program into the project area. The electric bikeshare program would provide residents with on-demand access to electric pedal assist bikes for short-term rentals and to encourage a mode shift from vehicle use to electric bicycles.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	The project would comply with Title 24, Parts 6 and 11, building energy efficiency standards applicable at the time of building permit application. Further, as described above, the project includes numerous design features that would achieve other efficiencies relative to the consumption of energy.
Energy Efficiency (Natural Gas)	CR-1	The project would comply with Title 24, Parts 6 and 11, building energy efficiency standards applicable at the time of building permit application. The project would be consistent with City Ordinance 2021-13 which prohibits the use of natural gas (no meter connection) in residential uses.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	The project would install high-efficiency water heaters or solar water heater systems.
Renewables Portfolio Standard	E-3	The project would use energy supplied by SDG&E, which complies with the Renewable Portfolio Standard. SDG&E expects an approximate 44 percent renewables mix in calendar year 2024.
Senate Bill 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	The project would install solar panels capable of generating up to 149 kW (or 245,206 kWh) of solar power annually.
Water Sector		
Water Use Efficiency	W-1	The project would utilize water-saving features, including low-flow fixtures and water-efficient landscape irrigation.
Water Recycling	W-2	The project would use reclaimed water for on-site landscaped [homeowners association (HOA) maintained] areas.

Table 3.5-6, continued

Scoping Plan Measure	Measure Number	Project Consistency
Reuse Urban Runoff	W-4	The project would include low-impact development measures to the extent feasible to reduce the amount of stormwater runoff from the site.
Green Buildings		
State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	The project would be required to be constructed in compliance with state and local green building standards in effect at the time of building construction.
Green Building Standards Code (Greening New Public Schools, Residential, and Commercial Buildings)	GB-2	The project would meet green building standards that are in effect at the time of building permit application.
Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential, and Commercial Buildings)	GB-3	The project would be required to be constructed in compliance with local green building standards in effect at the time of building permit application.
Forests Sector		
High Global Warming Potential Gases Sector		
Limit High Global Warming Potential Use in Consumer Products	H-4	Project residents would use consumer products that would comply with the regulations that are in effect at the time of manufacture.

Sources: CARB 2008, 2017.

Based on this analysis and the items listed in Table 3.5-5, the project would be consistent with the applicable strategies and measures in the 2008 and 2017 Scoping Plans. In addition, the 2017 Scoping Plan contains a list of local actions that agencies can implement to further reduce GHG emissions. As shown in Table 3.5-7, the project would be consistent with applicable local actions set forth within Appendix B of the 2017 Scoping Plan.

Table 3.5-7: Project Consistency with Scoping Plan Local Actions

Scoping Plan Local Action	Project Consistency
Construction	
Enforce idling time restrictions for construction vehicles	The project would enforce unnecessary idling to five minutes, in accordance with CARB's Off-Road Regulation.
Divert and recycle construction and demolition waste, and use locally-sourced building materials with a high recycled material content to the greatest extent feasible	The project would divert and recycle construction and demolition waste in accordance with all applicable rules and regulations.
Minimize tree removal, and mitigate indirect GHG emissions increases that occur due to vegetation removal, loss of sequestration, and soil disturbance	The project would provide ornamental trees on-site as part of project landscaping. No mature trees would be removed from the project site with development as proposed.
Utilize existing grid power for electric energy rather than operating temporary gasoline/diesel powered generators	The project would rely on existing grid power for electric energy to the extent feasible and practical. The project would also install solar panels capable of generating up to 149 kW of solar power.
Operation	
Require on-site EV charging capabilities for parking spaces serving the project to meet jurisdiction-wide EV proliferation goals	The project proposes four on-site electric vehicle parking spaces with charging stations.
Provide adequate, safe, convenient, and secure on-site bicycle parking and storage in multi-family residential projects and in nonresidential projects	The project would include on-site bicycle parking and storage for residents, as well as participation in a bike-share program.
Require on-site renewable energy generation	The project would install solar panels capable of generating up to 149 kW of solar power.
Prohibit wood-burning fireplaces in new development, and require replacement of wood-burning fireplaces for renovations over a certain size developments	The project would not install hearth/fireplace options in residential apartment units.
Require solar-ready roofs	The project would install solar panels capable of generating up to 149 kW of solar power.
Require low-water landscaping in new developments	The project would install water efficient/drought tolerant and/or native landscape; would use smart evapotranspiration controllers; and would limit conventional turf.
Expand urban forestry and green infrastructure in new land development	The project would provide new trees on-site as part of project landscaping.

Table 3.5-7, continued

Scoping Plan Local Action	Project Consistency
Require the design of the electric outlets and/or wiring in new residential unit garages to promote electric vehicle usage	The project would include four on-site electric vehicle parking spaces with charging stations.
Require each residential unit to be "solar ready," including installing the appropriate hardware and proper structural engineering	The project would install solar panels capable of generating up to 149 kW of solar power.
Require the installation of energy conserving appliances such as on-demand tank-less water heaters and whole-house fans	The project would include the use of energy-conserving appliances, such as ENERGY STAR labeled.
Require each residential and commercial building equip buildings with energy efficient AC units and heating systems with programmable thermostats/timers	The project would equip each residential unit with programmable thermostats to control heating and air conditioning systems.
Require each residential and commercial building to utilize low flow water fixtures such as low flow toilets and faucets	The project would install low-flow or high-efficiency water fixtures (toilet, showerheads, washing machines, etc.).
Require the use of energy-efficient lighting for all street, parking, and area lighting	The project would include the use of LED lighting or other efficient lighting.
Require the landscaping design for parking lots to utilize tree cover and compost/mulch	The project would provide new trees on-site as part of project landscaping. The project would install water efficient/drought tolerant and/or native landscape and would limit use of conventional turf.

Sources: CARB 2017; Ldn Consulting, 2022 (see Appendix F).

San Diego Association of Governments' San Diego Forward: The Regional Plan

SANDAG developed *San Diego Forward: The Regional Plan* to provide a regional growth-management strategy that targets per-capita GHG emissions reductions from passenger vehicles and light-duty trucks in the San Diego region. The Regional Plan integrates land use and transportation strategies to meet GHG emissions reduction targets that are forecasted to achieve the state's 2035 and 2050 GHG reduction goals. The Regional Plan incorporates local land use projections and circulation networks in city and county general plans. Typically, a project would be consistent with the Regional Plan if it does not exceed the underlying growth assumptions in the Regional Plan.

Project implementation would result in an increase of 149 new residential units within the City of Encinitas, which is consistent with that proposed in the HEU (up to 206 base residential units). The HEU includes the City's share of the required new residential units in the region, as provided

by the Regional Housing Needs Assessment from SANDAG. The City projected a deficit of 1,062 very low/low income units and 238 moderate/above moderate income units. As part of the HEU process, the City updated SANDAG with the growth projections approved by the City within the HEU. As the project has been designed in accordance with growth projections identified in the HEU, no conflict with SANDAG's regional growth forecast for the City would occur. Additionally, the project includes energy efficiency features that support the policy objectives of the Sustainable Communities Strategy and Regional Transportation Plan required by SB 375. As shown in Table 3.5-8, the project is consistent with all applicable Regional Plan policy objectives and strategies.

Table 3.5-8: Project Consistency with SANDAG's San Diego Forward: The Regional Plan

Category	Sustainable Communities Strategy	Consistency Analysis
Strategy #1	Invest in a reimagined transportation system.	*Consistent.* The project would create a walkable environment that promotes and enhances the pedestrian experience throughout the site, with safe, convenient, and attractive connections. The project would provide four on-site electric vehicle charging stations to promote zero-emission options for residents and guests.
Strategy #2	Incentivize sustainable growth and development.	*Consistent.* The project would provide 15 very-low income affordable housing units, which provide greater opportunity for lower income families to live closer to job centers and achieve a jobs/housing match near transit, and to allow a greater number of families to be accommodated within a given building footprint.
Strategy #3	Implement innovative demand and system management.	*Consistent*. The project would construct over 1,100 linear feet of sidewalks along Piraeus Street and Plato Place that would connect to on-site pedestrian paths, and would coordinate with the City to participate in its bike share program. The HOA would provide alternative modes of transportation information to residents as a part of the "New Resident" package. The HOA would also provide residents with transit schedules within the area and alert residents when new transit services are added, or services are charged. The HOA would also act as a Travel Advisor, providing new residents with information regarding how members of households can travel in alternative ways that meet their needs.

Source: SANDAG 2021.

City of Encinitas Climate Action Plan

Originally adopted in 2011, the City approved the latest update to its Climate Action Plan (CAP) in November 2020. Since adoption of the City's first CAP, new methods for calculating GHG emissions and projecting future emissions have been developed, and advances in technology and public policy offer greater options for innovative GHG reduction strategies. The City's updated CAP commits to implementing specific programs and projects aimed at reducing and mitigating

the impacts of GHG-emitting activities by targeted dates. Housing construction associated with the project would be subject to requirements of the CAP, as applicable.

Construction features required of new housing includes solar water heaters, rooftop solar panels, and low-flow fixtures as explained above. The project would install solar panels capable of generating up to 149 kW of solar power which aligns with the goal of CAP measure RE-2. The project would also align with the requirements of CAP measure CET-4 by installing four on-site electric vehicle charging stations. Additionally, the project would install high-efficiency water heaters or solar water heater systems, which would further reduce GHG emissions. As stated earlier, the project would also be consistent with City Ordinance 2021-13 which prohibits the use of natural gas in residential uses, thereby avoiding associated GHG-related emissions. For these reasons, the project is considered to be consistent with the City's CAP.

Conclusion

The project as proposed would be consistent with the CARB's *Climate Change Scoping Plan*, SANDAG's The Regional Plan, and the City's CAP. The project is consistent with these plans based on the design attributes that serve to promote building electrification and achieve other efficiencies in the consumption of energy, water and transportation fuels; and its provision of residential opportunities (including affordable units) in a jurisdiction with the need for more housing. Therefore, the project would not conflict with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions. Impacts would be **less than significant**.

Mitigation Measures: None required.

Level of Significance: Less than significant.

WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES

Impact 3.5-3	**The project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. Impacts would be less than significant.**

Construction-Phase Energy Use

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 to power construction vehicles and other energy-consuming equipment would be used during site demolition, clearing, grading, and construction. Fuel energy consumed during these activities would be temporary in nature and would not represent a significant demand on energy resources. Some incidental energy conservation would occur during construction through compliance with state requirements that equipment not in use for more than five minutes be turned off. Project construction equipment would be required to comply with the latest U.S. EPA and CARB engine emissions standards. These standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption.

Additionally, construction building materials would include recycled materials and products originating from nearby sources to reduce the costs of transportation. 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 therefore reasonable to assume that production of building materials such as concrete, steel, etc., would employ energy conservation practices in the interest of minimizing the cost of doing business.

As such, project construction would not represent a substantial increase in demand for local or regional energy supplies. Construction fuel use would be temporary and would cease upon completion of project construction. No unusual project characteristics 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 project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

Operational Phase (Long-Term) Energy Use

Transportation Energy Demand

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration 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. Based on the limited number of new vehicle trips the project would generate on

an daily or annual basis, the project would not substantially increase automotive fuel consumption within San Diego county. The project does not propose any unusual features that would result in excessive long-term operational fuel consumption.

The key drivers of transportation-related fuel consumption are job locations/commuting distance and many personal choices on when and where to drive for various purposes. Such factors are outside the scope of the project design. However, the project would include four on-site electric vehicle charging stations to encourage and support the use of electric vehicles by residents and guests of the project, and thus, reduce the petroleum fuel consumption. In addition, as discussed in the Traffic Impact Study, the project would implement TDM strategies including increasing residential density, providing affordable housing, participating in a bikeshare program, providing pedestrian improvements, and providing public transit information to new residents. These strategies would reduce VMT and thus reduce transportation related fuel consumption.

To comply with CAP measure CET-4, the project is required to install electric vehicle charging stations at 5 percent of the total number of residential parking spaces. The project would install four electric vehicle charging stations (at the parking area near the on-site pool), which meets the requirement of CAP measure CET-4. While the project cannot guarantee residents would utilize the electric chargers, it is assumed that the availability of electric chargers on-site would provide incentive and support for the use of electric vehicles, and thus, contribute to a reduction in the consumption of fossil fuels.

Given the project's small (resident) population compared to the size of the City and region, project implementation would have a minimal contribution to fuel consumption and demand. The project would not have any unusual characteristics that would result in substantial or excessive long-term fuel consumption in the county. Therefore, the project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during operation. Impacts would be **less than significant** in this regard.

Building Energy Demand

The CEC developed year 2020 to 2035 forecasts for energy consumption and peak demand in support of the 2021 IEPR for each of the major electricity and natural gas planning areas and the state, based on economic and demographic growth projections (CEC 2022). The CEC forecasts that the statewide annual average growth rates of energy demand between 2021 and 2030 will be 1.3 percent to 2.3 percent increase for electricity and a less than 0.1 percent to 0.8 percent increase for natural gas. The CEC developed 2018-2030 forecasts for energy consumption and peak demand in support of the 2021 IEPR for each of the major electricity and natural gas planning areas and the state based on the economic and demographic growth projections.

CEC forecasts that the statewide annual average growth rates of energy demand between 2016 and 2030 would be 0.99 percent to 1.59 percent for electricity and 0.25 percent to 0.77 percent for natural gas. Operational energy consumption of the project would represent a limited increase in electricity consumption and no increase in natural gas consumption over the current Countywide usage, which would be significantly lower than the CEC's energy demand forecasts. The proposed residential uses would consume energy evenly throughout the day. As a result, the project would not result in unique or more intensive peak or base period electricity demand.

As described under Impact 3.5-1, the project would include project components to promote sustainability through site design that would conserve energy, water, open space, and other natural resources, and would become specific COA by the City. Most notably, the project would generate up to 149 kW of solar power and would install four on-site Level II electric vehicle charging stations. The project would meet or exceed Title 24 energy efficiency requirements current at the time of construction. The Title 24 Building Energy Efficiency Standards are updated every three years and become more stringent between each update. Therefore, complying with the latest Title 24 standards at the time of construction would make the project more energy efficient than existing buildings built under the earlier versions of the Title 24 standards.

The project would also comply with CALGreen Tier II standards. Other energy-saving features incorporated into the proposed development include the prohibition of natural gas hearths and incorporation of low-flow water fixtures, drought-tolerant landscaping, ENERGY STAR appliances, and high-efficiency heating, ventilation, and air conditioning systems. As previously stated, the project would also be consistent with City Ordinance 2021-13 which prohibits the use of natural gas in residential uses (e.g., no utility connections for natural gas).

Furthermore, the electricity provider, SDG&E, is subject to California's Renewables Portfolio Standard. The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 100 percent of total procurement 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 would also install on-site solar panels capable of generating approximately 149 kW of solar power on-site. The increase in reliance of renewable energy resources further ensures that the project would not result in the waste of the finite energy resources.

Therefore, the project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during operation. Impacts would be **less than significant**.

Conclusion

The project does not involve any unusual characteristics that would result in excessive long-term operational demand for electricity, and would not create a new operational demand for natural gas. For the reasons above, the project would not place a substantial new demand on regional energy supply or require significant additional capacity. Therefore, the project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Impacts would be **less than significant**.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CONFLICT WITH OR OBSTRUCT A STATE OR LOCAL PLAN FOR RENEWABLE ENERGY OR ENERGY EFFICIENCY

Impact 3.5-4	**The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be less than significant.**

Refer to discussion under Impacts 3.5-1 and 3.5-2. The project would follow applicable energy standards and regulations during the construction and operation phases. Specifically, the project would be consistent with all actions in the City's CAP. As stated above, the project would generate up to 149 kW of solar power and would install four on-site Level II electric vehicle charging stations, consistent with measure CET-4 of the CAP. Furthermore, the project includes various project components to reduce its energy consumption which include installing smart meters and programmable thermostats, low-flow water fixtures, and efficient lighting in all buildings (refer to Impact 3.5-1). The project would be constructed and operated in accordance with all existing, applicable regulations at the time of construction. For the reasons stated, the project would not obstruct a state or local plan for renewable energy or energy efficiency. Impacts would be **less than significant**.

Mitigation Measures: None required.

Level of Significance: Less than significant.

CUMULATIVE IMPACTS

Impact 3.5-5	**The project would not result in cumulative impacts related to energy conservation and climate change. Impacts would be less than cumulatively considerable.**

Geographic Scope

Climate change is an inherently cumulative category of impact. No one project will cause climate change; rather, it is the agglomeration of all global emissions that causes harm. To help address its contribution to the cumulative issue, the state of California has elected to reduce GHG emissions at the state level for activities under its control and has promulgated policy for local agencies to do the same. As such, the City predominantly uses the CAP as the mechanism to reduce GHG emissions and energy consumption in the City on a project-by-project basis.

Cumulative projects that would have the potential to be considered in a cumulative context with the project's incremental contribution, and that are included in the analysis of cumulative impacts relative to energy resources, are identified in Table 3.0-1 and Figure 3.0-1, in Section 3.0 of this EIR. To be conservative, the cumulative analysis also includes all 2019 HEU sites to the extent they may contribute to certain issue-specific cumulative effects (see Table 3.0-2).

Potential Cumulative Impacts

The project is consistent with the City's General Plan and accounted for in the HEU, which will form the basis of future updates to the CAP, and the project and cumulative project's emissions would be captured in such future CAP updates. The CAP has been updated to account for the HEU, including the proposed project and other cumulative projects listed in Tables 3.0-1 and 3.0-2.

The project is required to be consistent with the City's CAP through implementing the appropriate CAP measures, as previously described herein. Similarly, other cumulative projects analyzed in the HEU would also be consistent with the General Plan, and future projects would be subject to provisions of the CAP and any associated implementing ordinances in effect at the time of application submittal for those projects. Furthermore, future development would be subject to compliance with applicable federal, state, and local energy and building regulations.

The project was analyzed using an alternative approach for consistency with SB 32 using a project-specific locally appropriate efficiency-based threshold based on forecasted population and the allowable emissions which the City must achieve in 2030 to be compliant with SB 32. Based on this approach, the project would be required to generate fewer service population emissions than 2.74 $MTCO_2e$. The project was found to generate 997.46 $MTCO_2e$ with both

annualized construction and annual operation GHG emissions averaged over a project population of 376 persons. Given this, the project would have a projected GHG emission rate of 2.65 MT CO_2e per service population (997.46 MT CO_2e/376 persons) (Ldn Consulting 2022). As the project would generate fewer emissions than a City-specific localized efficiency metric of 2.74 MTCO_2e per service population, impacts would be less than significant and the project would not substantially contribute to cumulatively considerable short- or long-term GHG impacts.

As to energy consumption, the cumulative impact analysis focuses on three relevant sources of energy: (1) electricity (including energy required for water delivery, sanitary sewer, and solid waste disposal); (2) natural gas; and (3) transportation fuel for vehicle trips associated with new development, as well as the fuel necessary for project construction. Construction of the cumulative projects listed in Table 3.0-1 and Table 3.0-2 would not represent a substantial increase in demand for local or regional energy supplies because construction fuel use would be temporary and would cease upon completion of project construction. None of the cumulative projects would involve any unusual characteristics that would result in excessive long-term operational demand for electricity or natural gas.

As described under Impact 3.5-1, the project would incorporate design elements to promote sustainability through site design that would conserve energy, water, open space, and other natural resources, and would become specific conditions of approval by the City. Other cumulative projects would also include project components to comply with the CAP and/or other local, state, and federal regulations. As required by CAP measure CET-4, projects are required to install rooftop solar panels and Level II electric vehicle charging stations, which would reduce each cumulative project's energy consumption; the project is consistent with this measure. As stated in Impact 3.5-3, the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, the project's contribution to a cumulative impact would be **less than cumulatively considerable**.

Mitigation Measures: None required.

Level of Significance: Less than cumulatively considerable.