2.9 Greenhouse Gas Emissions and Climate Change

This section presents a summary of regulations applicable to greenhouse gas (GHG) emissions, a summary of climate change science and GHG sources in California, quantification of project-generated GHGs and discussion about their contribution to global climate change, and analysis of the project's resiliency to climate change–related risks. In addition, a mitigation measure is recommended to reduce the Cannabis Program's contribution to climate change.

Comments were received in response to the notice of preparation (NOP) pertaining to greenhouse gas emissions and climate change impacts. These issues are addressed in the impact analysis below. All comments received in response to the NOP are presented in Appendix A of this Draft PEIR.

A summary of impacts evaluated in this section is provided in Table 2.9.1.

Table 2.9.1 Greenhouse Gas Emissions and Climate Change Summary of Impacts

Issue Number	Issue Topic	Project Direct Impact	Project Cumulative Impact	Impact after Mitigation
1	Conflict with the San Diego County Climate Action Plan	Alternative 1: Less than Significant Alternatives 2–5: Significant	Alternative 1: Less than Significant Alternatives 2–5: Significant	Alternatives 1–5: Less than Significant

2.9.1 Existing Conditions

2.9.1.1 *Greenhouse Gas Emissions and Climate Change*

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected toward space. The absorbed radiation is then emitted from the earth as low-frequency infrared radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic forcing (IPCC 2014).

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent is estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is considered to be enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

2.9.1.2 *Greenhouse Gas Emission Sources*

Emissions of CO_2 are byproducts of fossil fuel combustion. Methane, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. Nitrous oxide is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water), respectively, 2 of the most common processes for removing CO_2 from the atmosphere.

As discussed previously, GHG emissions are attributable in large part to human activities. The total GHG inventory for California in 2021 was 381 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) (CARB 2022a). This is less than the 2020 target of 431 $MMTCO_2e$ established by Assembly Bill (AB) 32 (discussed below).

Table 2.9.2, presented at the end of this section, shows that in 2019, a total of 2,984,000 $MMTCO_2e$ were generated by activities in the unincorporated county and from County government operations. The largest contributor of GHG emissions was on-road transportation, which includes emissions from gasoline and diesel fuel use from vehicles operating on roadways. The second largest contributor was electricity consumption, which accounts for electricity generated from nonrenewable sources and consumed at buildings and facilities.

2.9.1.3 *Effects of Climate Change on the Environment*

According to the Intergovernmental Panel on Climate Change, which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, the global average temperature will increase by 3.7 degrees Celsius (°C) to 4.8°C (6.7 degrees Fahrenheit [°F] to 8.6°F) by the end of the century unless additional efforts to reduce GHG emissions are made (IPCC 2014: 10). According to California's Fourth Climate Change Assessment, if global GHG emissions reduce at a moderate rate, California will experience

average daily high temperatures that are warmer than the historical average by 2.5°F from 2006 to 2039, by 4.4°F from 2040 to 2069, and by 5.6°F from 2070 to 2100. However, if GHG emissions continue at current rates, then California will experience average daily high temperatures that are warmer than the historic average by 2.7°F from 2006 to 2039, by 5.8°F from 2040 to 2069, and by 8.8°F from 2070 to 2100 (OPR et al. 2018).

Since its previous climate change assessment in 2012, California has experienced several of the most extreme natural events in its recorded history: a severe drought from 2012 through 2016; an almost nonexistent Sierra Nevada winter snowpack in 2014-2015; increasingly large and severe wildfires; and back-to-back years of the warmest average temperatures (OPR et al. 2018). According to the California Natural Resources Agency's *Safeguarding California Plan: 2018 Update*, California experienced the driest 4-year statewide precipitation on record from 2012 through 2015; the warmest years on average in 2014, 2015, and 2016; and the smallest and second-smallest Sierra Nevada snowpack on record in 2014 and 2015 (CNRA 2018). According to the National Oceanic and Atmospheric Administration and the National Aeronautics and Space Administration, 2016, 2017, and 2018 were the hottest recorded years in history (NOAA 2019). In contrast, the northern Sierra Nevada experienced one of its wettest years on record during the 2016-2017 water year (CNRA 2018). The changes in precipitation exacerbate wildfires throughout California through a cycle of high vegetative growth coupled with dry, hot periods, which lowers the moisture content of fuel loads. As a result, the frequency, size, and devastation of forest fires have increased. In November 2018, the Camp Fire completely destroyed the town of Paradise in Butte County and caused 85 fatalities, becoming the state's deadliest fire in recorded history. The largest fires in the state's history have occurred between 2018 and 2020. Moreover, changes in the intensity of precipitation events following wildfires can also result in devastating mudslides and landslides. In January 2018, following the Thomas Fire, the city of Santa Barbara received 0.5 inches of rain in just 5 minutes, causing destructive mudslides formed from the debris and loose soil left behind by the fire. These mudslides resulted in 21 deaths.

As temperatures increase, the amount of precipitation falling as rain rather than snow also increases, which could lead to increased flooding because water that would normally be held in the snowpack of the Sierra Nevada and Cascade Range until spring would flow into the Central Valley during winter rainstorm events. This scenario would place more pressure on California's levee/flood control system (CNRA 2018). Furthermore, in the extreme scenario involving the rapid loss of the Antarctic ice sheet and the glaciers atop Greenland, the sea level along California's coastline is expected to rise 54 inches by 2100 if GHG emissions continue at current rates (OPR et al. 2018).

Temperature increases and changes to historical precipitation patterns will likely affect ecological productivity and stability. Existing habitats may migrate due to climatic changes where possible, but habitats and species that lack the ability to retreat will be severely threatened. Altered climate conditions will also facilitate the movement of invasive species to new habitats where they would outcompete native species. Altered climatic conditions dramatically endanger the survival of arthropods (e.g., insects, spiders), which could have cascading effects throughout ecosystems (Lister and Garcia 2018). Conversely, a warming climate may support the populations of other insects, such as ticks and mosquitos, which transmit diseases harmful to human health, such as the Zika virus, the West Nile virus, and Lyme disease (European Commission Joint Research Centre 2018).

Changes in temperature, precipitation patterns, extreme weather events, wildfires, and sea-level rise have the potential to threaten transportation and energy infrastructure, crop production, forests and rangelands, and public health (CNRA 2018; OPR et al. 2018). The effects of climate change will also have an indirect adverse impact on the economy as more severe natural disasters cause expensive physical damage to communities and the state.

In addition, adjusting to the physical changes associated with climate change can produce mental health impacts, such as depression and anxiety.

2.9.2 Regulatory Framework

2.9.2.1 *Federal*

Energy Policy and Conservation Act

In 1975, Congress enacted the federal Energy Policy and Conservation Act, which established fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. As of 2022, the Corporate Average Fuel Economy standards require an industry-wide fleet average of approximately 49 miles per gallon for passenger cars and light-duty trucks in model year 2026. The new standards will increase fuel efficiency 8 percent annually for model years 2024–2025 and 10 percent annually for model year 2026. They will also increase the estimated fleetwide average by nearly 10 miles per gallon for model year 2026, relative to model year 2021 (DOT 2022).

Massachusetts v. EPA

On April 2, 2007, in *Massachusetts v. EPA*, the Supreme Court directed the US Environmental Protection Agency (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 or whether the science is too uncertain to make a reasoned decision. In making these decisions, the EPA administrator was required to follow the language of Section 202(a) of the federal Clean Air Act (CAA). On December 7, 2009, the administrator signed a final rule with 2 distinct findings regarding GHGs under Section 202(a) of the CAA:

- The administrator found that elevated concentrations of GHGs—CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the “endangerment finding.”
- The administrator further found the combined emissions of GHGs—CO_2, methane, nitrous oxide, and hydrofluorocarbons—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 2 findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the CAA.

2.9.2.2 *State*

Statewide GHG Emission Targets and Climate Change Scoping Plan

Reducing GHG emissions in California has been the focus of the state government for approximately 2 decades. GHG emission targets established by the state legislature include reducing statewide GHG emissions to 1990 levels by 2020 (AB 32 of 2006) and reducing them to 40 percent below 1990 levels by 2030 (Senate Bill [SB] 32 of 2016). Executive Order (EO) S-3-05 calls for statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050. This target was superseded by AB 1279, which codifies a goal for carbon neutrality and reduced emissions to 85 percent below 1990 levels by no later than 2045. These targets are in line with the scientifically established levels needed in the United States to limit the rise in global temperature to no more than 2°C, the warming threshold at which major climate disruptions, such as super droughts and rising sea levels, are projected; these targets also pursue efforts to limit the temperature increase even further to 1.5°C (United Nations 2015).

On September 16, 2022, Governor Newsom signed AB 1279, which codified stringent emissions targets for the state of achieving carbon neutrality and an 85 percent reduction in 1990 emissions levels by 2045. The California Air Resources Board (CARB) released the Final 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) on November 16, 2022, as also directed by AB 1279 (CARB 2022b). The 2022 Scoping Plan traces the pathway for the state to achieve its carbon neutrality goal and a goal of 85 percent reduction below 1990 emissions levels by 2045 using several scenarios that utilized different suites of technologies and deployment of various regulations. CARB adopted the 2022 Scoping Plan on December 16, 2022.

Senate Bill 375 of 2008

In September 2008, SB 375 was signed into law and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation policies. SB 375 requires metropolitan planning organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy, showing prescribed land use allocation in each MPO's regional transportation plan. CARB provides each affected region with reduction targets for GHGs emitted by passenger cars and light trucks for 2020 and 2035. The San Diego Association of Governments' (SANDAG's) *San Diego Forward: The Regional Plan* (2021 Regional Plan) is a regional transportation plan/sustainable communities strategy (RTP/SCS) that combines and updates 2 previous plans (the Regional Comprehensive Plan and the RTP/SCS) into 1 document that looks toward 2050. The 2021 Regional Plan reduces per capita GHG emissions from cars and light-duty trucks to 20 percent below 2005 levels by 2035, exceeding the region's state-mandated target of 19 percent. The 2021 Regional Plan also meets federal air quality conformity requirements. SANDAG submitted the final 2021 RTP/SCS to CARB on December 17, 2021, as required by California Government Code Section 65080(b)(2)(J)(ii) and completed its submittal of supporting information on March 16, 2022. CARB staff performed an evaluation of the 2021 RTP/SCS's quantification of the GHG emissions reduction strategies outlined in the 2021 Regional Plan. The technical analysis performed by CARB concluded that the 2021 Regional Plan would achieve the applicable GHG emissions reduction target for automobiles and light trucks of 19 percent per capita reduction by 2035, relative to 2005 levels, as established by CARB for the region (CARB 2022c). The final determination to approve the 2021 Regional Plan was made by CARB on August 26, 2022.

Advanced Clean Cars Program

In January 2012, CARB approved the Advanced Clean Cars program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles (ZEVs), into a single package of regulatory standards for vehicle model years 2017–2025. The new regulations strengthened the GHG standards for 2017 models and beyond. In addition, the program's ZEV regulation requires battery, fuel cell, and plug-in hybrid electric vehicles (EVs) to account for up to 15 percent of California's new vehicle sales by 2025. In August 2022, CARB adopted the Advanced Clean Cars II program, which sets sales requirements to ultimately reach the goal of 100 percent ZEV sales in the state by 2035.

California Renewables Portfolio Standard

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB 100 of 2018 sets a 3-stage compliance period requiring all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, to generate 52 percent of their electricity from renewables by December 31, 2027; 60 percent by December 31, 2030; and 100 percent carbon-free electricity by December 31, 2045. On September 16, 2022, the state passed SB 1020, the Clean Energy, Jobs, and Affordability Act of 2022, which revised state policy and requires that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California and 100 percent of electricity procured to serve all state agencies by December 31, 2045.

Building Energy Efficiency Standards

Title 24, Part 6

The energy consumption of new residential and nonresidential buildings in California is regulated by the state's Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). The California Energy Commission updates the California Energy Code every 3 years with more stringent design requirements for reduced energy consumption, which results in the generation of fewer GHG emissions. The current California Energy Code requires builders to use more energy-efficient building technologies for compliance with increased restrictions on allowable energy use. The core focus of the building standards has been efficiency, but the 2019 Energy Code ventured into on-site generation by requiring photovoltaics (PV) on new homes, providing significant GHG savings. The most recent is the 2022 California Energy Code, which advances the on-site energy generation progress started in the 2019 California Energy Code by encouraging electric heat pump technology and use, establishing electric-ready requirements when natural gas is installed, expanding PV system and battery storage standards, and strengthening ventilation standards to improve indoor air quality. The California Energy Commission estimates that the 2022 California Energy Code will save consumers $1.5 billion and reduce GHG emissions by 10 $MMTCO_2e$ over the next 30 years (CEC 2021).

Title 24, Part 11

The California Green Building Standards Code, referred to as the CALGreen Code, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Standards Code). The current version is the 2022 CALGreen Code, which took effect on January 1, 2023. As compared to the 2019 CALGreen Code, the 2022 CALGreen Code strengthened requirements pertaining to

EV and bicycle parking, water efficiency and conservation, and material conservation and resource efficiency, among other sections of the code. The CALGreen Code sets design requirements equivalent to or more stringent than those of the California Energy Code for energy efficiency, water efficiency, waste diversion, and indoor air quality. These codes are adopted by local agencies that enforce building codes and used as guidelines by state agencies for meeting the requirements of EO B-18-12.

Low Carbon Fuel Standard

In January 2007, EO S-1-07 established a Low Carbon Fuel Standard (LCFS). The EO calls for a statewide goal to be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and for an LCFS for transportation fuels to be established for California. The LCFS applies to all refiners, blenders, producers, and importers (providers) of transportation fuels in California, including fuels used by off-road construction equipment (Wade, pers. comm., 2017). The LCFS is measured on the total fuel cycle and may be met through market-based methods. For example, providers exceeding the performance required by an LCFS receive credits that may be applied to future obligations or traded to providers not meeting the LCFS.

In June 2007, CARB adopted the LCFS as a discrete early action item under AB 32 pursuant to Health and Safety Code Section 38560.5, and in April 2009, CARB approved the new rules and carbon-intensity reference values with new regulatory requirements taking effect in January 2011. The standards require providers of transportation fuels to report on the mix of fuels they provide and demonstrate they meet the LCFS-intensity standards annually. This is accomplished by ensuring that the number of "credits" earned by providing fuels with a lower-carbon intensity than the established baseline (or obtained from another party) is equal to or greater than the "deficits" earned from selling higher-intensity fuels. After some disputes in the courts, CARB readopted the LCFS regulation in September 2015, and the LCFS went into effect on January 1, 2016. CARB is currently amending the LCFS regulation with intent to adopt the amendments in 2023.

EO B-48-18: Zero-Emission Vehicles

In January 2018, EO B-48-18 was signed into law and requires all state entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, as well as install 200 hydrogen fueling stations and 250,000 EV charging stations by 2025. It specifies that 10,000 of the EV-charging stations should be direct current fast chargers. This EO also requires all state entities to continue to partner with local and regional governments to streamline the installation of ZEV infrastructure. The Governor's Office of Business and Economic Development is required to publish a *Plug-In Charging Station Design Guidebook* and update the *Hydrogen Station Permitting Guidebook* to aid in these efforts (Eckerle and Jones 2020). All state entities are required to participate in updating the *2018 Zero-Emissions Vehicle Action Plan* intended to provide direction to state agencies on the most important actions to be executed in 2018 to enable progress toward the 2025 targets and 2030 vision, give stakeholders transparency into the actions state agencies plan to take (or are taking) to further the ZEV market, and create a platform for stakeholder engagement, feedback, and collaboration. In addition, all state entities are to support and recommend policies and actions to expand ZEV infrastructure at residential land uses through the LCFS program and to recommend how to ensure affordability and accessibility for all drivers.

Cannabis State Regulations

California Code of Regulations (CCR), Title 4, Division 19 includes the following requirements regarding greenhouse gases for cannabis uses.

Section 16305: Renewable Energy Requirements

(a) Beginning January 1, 2023, all holders of indoor, tier 2 mixed-light license types of any size, and all holders of nursery licenses using indoor or tier 2 mixed-light techniques shall ensure that electrical power used for commercial cannabis activity meets the average electricity greenhouse gas emissions intensity required by their local utility provider pursuant to the California Renewables Portfolio Standard Program in division 1, part 1, chapter 2.3, article 16 (commencing with section 399.11) of the Public Utilities Code.

(b) If a licensed cultivator's average weighted greenhouse gas emission intensity, as calculated and reported upon license renewal pursuant to section 15020, is greater than the local utility provider's greenhouse gas emission intensity, the licensee shall obtain carbon offsets to cover the excess in carbon emissions from the previous annual licensed period. The carbon offsets shall be purchased from one or more of the following recognized voluntary carbon registries:

(1) American Carbon Registry,

(2) Climate Action Reserve, or

(3) Verified Carbon Standard.

2.9.2.3 *Local*

San Diego County Climate Action Plan

In June 2024, the County of San Diego released the Draft Final 2024 Climate Action Plan (CAP). The CAP includes GHG-reduction measures to achieve a 43.6 percent and 85.4 percent reduction in community-wide GHG emissions from a 2019 inventory level by 2030 and 2045, respectively. The CAP also includes an aspirational goal to achieve net zero emissions by 2045. The CAP includes GHG-reduction measures that target the transportation, energy, water and wastewater, solid waste, and agricultural sectors. The Final CAP was adopted by the Board of Supervisors on September 11, 2024.

San Diego County Air Pollution Control District

The San Diego County Air Pollution Control District (SDAPCD) has jurisdiction over air quality programs in the county. SDAPCD regulates most air pollutant sources, except mobile sources, which are regulated by CARB or EPA. State and local government projects, as well as projects proposed by the private sector, are subject to SDAPCD requirements if the sources are regulated by SDAPCD. The 2022 Scoping Plan does not provide an explicit role for local air districts in implementing AB 32, but it does state that CARB will work actively with air districts in coordinating emissions reporting, encouraging and coordinating GHG reductions, and providing technical assistance in quantifying reductions. The ability of air districts to control emissions (both criteria pollutants and GHGs) is provided primarily through permitting, as well as through their role as a CEQA lead or responsible agency, the establishment of CEQA thresholds, and the development of analytical requirements for CEQA documents. SDAPCD is responsible for air

quality planning in San Diego County. To date, SDAPCD has not developed specific thresholds of significance with regard to the evaluation of GHG emissions in CEQA documents.

San Diego Association of Governments' San Diego Forward: The Regional Plan 2021

The 2021 Regional Plan covers a broad range of topics, including air quality, borders and tribal nations, climate change, economic prosperity, emerging technologies, transit and automobile energy efficiency, and fuels, habitat preservation, community health, public facilities, shoreline preservation, transportation, and water quality. The 2021 Regional Plan emphasizes the importance of multimodal transportation and places special emphasis on active transportation, such as walking and biking, and reducing car use to minimize GHG emissions, diminish air pollution, and maximize public health. The 2021 Regional Plan also includes an SCS, which identifies 5 main strategies to complement the goal of sustainability. These strategies focus on job growth and housing in urbanized areas with existing public transportation options, addressing housing needs for all economic segments of the population, the preservation of open space, investment in an accessible transit network, and reduced GHG emissions through the implementation of actions such as increasing public transportation infrastructure and access, encouraging active transportation through upgrades to pedestrian and bike facilities, and incentivizing EV use and providing additional EV infrastructure. The 2021 Regional Plan is designed to be updated every 4 years in accordance with federal law in collaboration with the 18 cities and San Diego County along with regional, state, and federal partners. The 2021 Regional Plan focuses on regional targets through 2050. The 2021 Regional Plan is projected to reduce per capita GHG emissions from cars and light-duty trucks to 20 percent below 2005 levels by 2035, exceeding the region's state-mandated target of 19 percent. The 2021 Regional Plan also meets federal air quality conformity requirements. The goals outlined in the 2021 Regional Plan are as follows:

- the efficient movement of people and goods;
- access to affordable, reliable, and safe mobility; and
- healthier air and reduced GHG emissions.

2011 San Diego County General Plan

The General Plan policies related to GHG emissions that could be applicable to the Cannabis Program include the following:

- **Policy COS-14.7: Alternative Energy Sources for Development Projects.** Encourage development projects that use energy recovery, photovoltaic, and wind energy.
- **Policy COS-14.9: Significant Producers of Air Pollutants.** Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.
- **Policy COS-14.10: Low-Emission Construction Vehicles and Equipment.** Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.

- **Policy COS-15.1: Design and Construction of New Buildings.** Require that new buildings be designed and constructed in accordance with "green building" programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHGs and toxic air contaminants.
- **Policy COS-15.3: Green Building Programs.** Require all new County facilities and the renovation and expansion of existing County buildings to meet identified "green building" programs that demonstrate energy efficiency, energy conservation, and
- **Policy COS-15.4: Title 24 Energy Standards.** Require development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.
- **Policy COS-15.6: Design and Construction Methods.** Require development design and construction methods to minimize impacts to air quality.
- **Policy COS-16.2: Single-Occupancy Vehicles.** Support transportation management programs that reduce the use of single-occupancy vehicles.
- **Policy COS-16.3: Low-Emissions Vehicles and Equipment.** Require County operations and encourage private development to provide incentives (such as priority parking) for the use of low- and zero-emission vehicles and equipment to improve air quality and reduce GHG emissions. [Refer also to Policy M-9.3 (Preferred Parking) in the Mobility Element.]

Green Building Incentive Program

The County of San Diego's Green Building Incentive Program is designed to promote the use of resource-efficient construction materials, water conservation, and energy efficiency in new and remodeled residential and commercial buildings. The program offers incentives of reduced plan-check turnaround time and a 7.5 percent reduction in plan-check and building permit fees for projects meeting program requirements.

Construction and Demolition Recycling Ordinance

The Construction and Demolition Debris Ordinance is designed to divert construction and demolition project debris from landfill disposal in the unincorporated county. The ordinance requires that 90 percent of inserts (i.e., asphalt, concrete, brick, masonry, tile, and dirt) and 70 percent of all other construction materials from a project be recycled. To comply with the ordinance, a construction and demolition debris management plan must be submitted, and a fully refundable performance guarantee must be paid prior to building permit issuance.

Strategic Plan to Reduce Waste

The County of San Diego Strategic Plan to Reduce Waste is designed to reduce waste sent to landfills. The plan includes 15 programs and policies that focus on different waste types and sources, such as reducing food and other organic waste generated from residential and commercial uses, and sets a 75 percent waste diversion target by 2025.

Landscape Ordinance

The County of San Diego's Landscaping Ordinance was adopted in accordance with the state's Model Water Efficient Landscape Ordinance, which establishes water efficiency standards for new and existing landscapes. The County's ordinance applies to new construction for which the County issues a building permit or a discretionary review where the aggregate landscaped area is 500 square feet or more to obtain outdoor water use authorization. For projects between 500 and 2,500 square feet, the County has a more streamlined process called the Prescriptive Compliance Option. All landscape areas are subject to a maximum applied water allowance, which sets an upper limit of allowable water use per landscape area.

County Operations Strategic Sustainability Plan

The County's 2020–2030 County Operations Strategic Sustainability Plan (Strategic Plan) supersedes the previously implemented 2015 Strategic Energy Plan. The Strategic Plan sets goals to promote sustainability in 4 key sectors of County operations: energy, water, waste, and transportation. The goals outlined in the Strategic Plan relating to GHG emissions are as follows:

- reduce energy use and GHG emissions,
- promote clean energy production,
- provide sound facility energy management,
- achieve cost savings,
- reduce fleet vehicle miles traveled (VMT),
- eliminate underutilized vehicles to decrease size of fleet,
- electrify the fleet where possible, and
- expand EV charging infrastructure on County sites for both public and fleet.

The Strategic Plan is intended to consolidate the sustainability planning efforts of other County planning documents under a single County operations purpose (i.e., mission statement).

2.9.3 Analysis of Project Impacts and Determination of Significance

2.9.3.1 *Thresholds of Significance*

The issue of global climate change is inherently a cumulative issue because the GHG emissions of individual projects cannot be shown to have any material effect on global climate. Thus, the project's impact on climate change is addressed only as a cumulative impact.

State CEQA Guidelines Section 15064 and relevant portions of Appendix G recommend that a lead agency consider a project's consistency with relevant, adopted plans and discuss any inconsistencies with applicable regional plans, including plans to reduce GHG emissions. According to Appendix G of the State CEQA Guidelines, implementing a project would result in a cumulatively considerable contribution to climate change if it would:

- generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or

- conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

The County of San Diego has adopted a CAP for the purpose of reducing GHG emissions in the county. As indicated in the CAP, most reductions will be achieved through measures that apply to all sources, both existing and new. The CAP establishes reduction targets for the years 2030 and 2045 and shows that the GHG-reduction measures of the CAP are sufficient to reduce countywide emissions to demonstrate that, through the CAP, the County is doing its "fair share" in assisting the state in meeting its long-term GHG reductions goals (i.e., AB 1279). Notably, the CAP's 2030 target exceeds the 2030 goals of SB 32 (i.e., a 40 percent reduction from statewide 1990 GHG levels by 2030) to better align with the trajectory identified by CARB in the 2022 Scoping Plan to meet the ambitious targets of AB 1279 (i.e., carbon neutrality and an 85 percent reduction from statewide 1990 GHG levels by no later than 2045).

Projects that are subject to CEQA and do not include a general plan amendment that induces more growth than what was assumed in the CAP are required to demonstrate consistency with the CAP to enable the County to meet its GHG-reduction targets. According to the CAP, proposed development projects that are consistent with the emission-reduction and adaptation measures included in the CAP and the programs that are developed as a result of the CAP would be considered to have a less-than-significant cumulative impact on climate change and emissions consistent with State CEQA Guidelines Section 15064(h)(3). The CAP and its consistency checklist are intended to provide a way for project applicants to streamline the CEQA process by showing project consistency with the CAP and can be used to determine GHG-related impacts for new development projects consistent with the General Plan (County of San Diego 2024). Because the Cannabis Program could introduce new development in the form of commercial cannabis uses (cultivation and noncultivation), it could be considered a development program that could be subject to the CAP.

The CAP is CEQA qualified and allows for CEQA streamlining of GHG analysis. Appendix 8, "2024 Climate Action Plan Consistency Review Checklist" (CAP Checklist), of the Final Draft CAP may be used to determine whether future cannabis cultivation sites and noncultivation uses would be consistent with the goals of AB 1279.

The CAP Checklist includes 2 steps: Step 1 entails evaluating whether a project would introduce growth outside of the growth projections used in the CAP to estimate future GHG emissions for activities occurring in the county; step 2 provides "consistency requirements" that project proponents are required to incorporate into their project to demonstrate compliance with the CAP. Projects requiring general plan or zoning amendments that would increase the development capacity assumed in the CAP cannot use the CAP Checklist.

The Cannabis Program would entail amendments to the County's Regulatory Code and Zoning Ordinance, but no amendments to the General Plan and its land use designations. The GHG-reduction measures of the CAP may be used to determine whether the project would conflict with a local plan to reduce GHG emissions.

State CEQA Guidelines Appendix G is a sample initial study checklist that includes a number of factual inquiries related to the subject of climate change, as it does on a whole series of environmental topics. Notably, lead agencies are under no obligation to use these inquiries in fashioning thresholds of significance on these subjects or indeed on any subject addressed in the checklist (*Save Cuyama Valley v. County of Santa Barbara* [2013] 213 Cal.App.4th 1059,

1068). Rather, with few exceptions, “CEQA grants agencies discretion to develop their own thresholds of significance” (*Save Cuyama Valley v. County of Santa Barbara* 2013). Even so, it is a common practice for lead agencies to take the language from the inquiries set forth in Appendix G and to use that language in fashioning thresholds. The 2 inquiries of Appendix G that pertain to GHG emissions ask whether a project’s direct or indirect GHG emissions would have a significant impact on the environment or if a project’s GHG emissions would conflict with an applicable plan for reducing GHG emissions. These questions can reasonably be combined to assess a project’s cumulative contribution of GHG emissions to the global phenomenon of anthropogenic climate change. The County has done so here.

Therefore, the Cannabis Program would have a significant impact if it were to:

- conflict with the San Diego County Climate Action Plan.

2.9.3.2 *Approach to Analysis*

GHG emissions associated with the project would be generated during project construction and during operation after the project is built. Estimated levels of construction- and operation-related GHGs are presented below and provided for informational purposes. The project is evaluated for its consistency with adopted regulations, plans, and policies aimed at reducing GHG emissions (i.e., the County’s CAP).

Potential new commercial cannabis facilities could result in an increase in GHG emissions from short-term construction-related activities and their long-term operation. As recommended by SDAPCD, both construction- and operation-related emissions of GHGs were calculated using the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.26 computer program for the types and sizes of indoor, outdoor, and mixed-light commercial cannabis cultivation uses that could be licensed in the future, as well as noncultivation uses using the projected acreages, square footage, and number of new licenses for each alternative summarized in Table 1.4.

Operational emissions were also estimated. CalEEMod was used to estimate on-site operational emissions, including emissions generated by off-road equipment, maintenance activity, energy use, and water and solid waste generation. CalEEMod energy consumption rates were adjusted to account for energy efficiency improvements from the 2019 California Energy Code as a conservative assumption. Default energy consumption for electricity was used based on CalEEMod data for San Diego Gas and Electric. Off-road equipment assumed includes a utility vehicle (e.g., John Deere Gator) for commercial cannabis cultivation operations. Mobile source emissions were estimated using default trip lengths provided in CalEEMod for the assumed land use type of Research and Development, meant to represent cannabis cultivation. Research and Development was chosen as a representative land use in CalEEMod to account for high electricity consumption that would be typical of mixed-light and indoor cultivation operations. Emissions from wastewater and solid waste generation were also estimated using default values in CalEEMod.

Detailed model assumptions and inputs for these calculations are presented in Appendix C.

2.9.3.3 *Approach to Analysis*

2.9.3.4 *Issue 1: Conflict with the San Diego County Climate Action Plan*

Guidelines for Determination of Significance

According to Section 15064 and Appendix G of the State CEQA Guidelines, the Cannabis Program would result in a significant impact if would generate direct or indirect GHG emissions that could conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions (i.e., the County's CAP).

Impact Analysis

Alternative 1: No Project—Retention of Current Cannabis Regulations

Under Alternative 1, the Cannabis Program would not be adopted. The existing 5 commercial cannabis facilities in the unincorporated areas of El Cajon, Escondido, and Ramona would be allowed to continue to operate under the existing ordinances as well as expand their existing facilities and operations to a total of 10,000 square feet of building area. However, no new commercial cannabis uses would be allowed. These expansions would not generate significant construction or operational emissions based on typical screening criteria for expansion of existing development.

While some expansion could occur under Alternative 1 resulting in some level of GHG emissions, climate impacts would be less than significant under Alternative 1.

Alternative 2: Proposed Project—Cannabis Program Consistent with State Requirements

Under Alternative 2, outdoor cultivation activities could occur on up to 472 acres of land, with a total of up to 1,772,120 square feet (i.e., approximately 41 acres) of building area. Mixed-light cultivation activities could occur on up to 293 acres of land, with a total of up to 668,184 square feet (i.e., approximately 15 acres) of building area. Indoor cultivation activities could occur on up to 8 acres of land, with a total of up to 240,000 square feet (i.e., approximately 5.5 acres) of building area. Noncultivation uses could occur on up to 259 acres of land, with a total of up to 2,030,400 square feet (i.e., approximately 47 acres) of building area. This would result in a total development footprint (i.e., cultivation activities, buildings, caretaker housing, storage buildings, on-site nurseries, agricultural shade or crop structures, water tanks, ponds, parking, cannabis operation buildings, other associated improvements) of approximately 1,032 acres, with approximately 108 acres (4,710,704 square feet) of building area for Alternative 2. Cannabis facilities would be required to observe a 600-foot buffer from certain state-defined sensitive uses, including schools, daycares, and youth centers.

Construction and operation of new commercial cannabis operations would generate GHG emissions. During construction of new commercial cannabis sites, GHGs would be emitted by construction equipment, haul trips transporting equipment and materials, and commute trips by construction workers if a new building is required to support cannabis cultivation. Notably, future cannabis cultivation and noncultivation activities could be located in existing buildings requiring minimal renovations and would not require the use of heavy-duty equipment. The total amount of emissions generated by the construction of 1 outdoor, 1 mixed-light, and 1

indoor commercial cannabis cultivation site and 1 example noncultivation use would total 533 $MTCO_2e$ (see Appendix C for additional details).

Operation of commercial cannabis facilities would generate GHG emissions associated with worker commute trips, haul truck trips transporting cannabis and cannabis products, landscaping and fertilizer use, water consumption, waste and wastewater generation, waste generation, and electricity use. Electricity would be consumed to power well pumps that supply irrigation water to outdoor, indoor, and mixed-light commercial cannabis cultivation operations, as well as grow lights and other equipment at indoor and mixed-light commercial cannabis cultivation sites. Use of on-site off-road equipment, such as a utility vehicle (e.g., John Deere Gator), would also generate GHG emissions. Table 2.9.3, presented at the end of this section, summarizes the emissions associated with operation of individual outdoor, indoor, and mixed-light commercial cannabis cultivation sites and an example noncultivation use (see Appendix C for additional details).

New commercial cannabis facilities under Cannabis Program would not involve amendments to the General Plan and could be subject to the CAP. The following measures of the CAP may apply to future commercial cannabis site under the Cannabis Program:

- **Measure T-2: Increase the use of low-carbon and zero-emission landscaping and off-road construction equipment in the unincorporated area.** This measure directs the County to develop a program by 2026 to provide residents and businesses with incentives to purchase alternative fuel and/or zero-emissions construction and landscaping equipment as well as a landscaping ordinance to require zero emission landscaping equipment by 2040 and zero emission construction equipment by 2045.
- **Measure T-3: Install electric vehicle charging stations and provide incentives for zero-emissions vehicles in the unincorporated area.** This measure entails requirements for zero emissions vehicle infrastructure for existing and planned residential and nonresidential development.
- **Measure T-6: Support transit and transportation demand management to reduce single occupancy vehicle trips in the unincorporated area.** This measure directs the County to develop a Transportation Demand Management (TDM) program to implement TDM strategies to reduce countywide VMT.
- **Measure E-2: Develop policies and programs to increase energy efficiency and electrification in the unincorporated area.** This measure directs the County to amend the County's Code of Regulatory Ordinances to develop a reach code (i.e., a building code that exceeds the mandatory requirements of the California Building Code) by 2025 to require all-electric equipment in new residential, commercial, and industrial construction to reduce energy emissions from new development. At the time of drafting this EIR, there is inherent uncertainty as to what exact project types (e.g., restaurants, cultivation) would be required to comply with or be exempt from the reach code.
- **Measure E-3: Develop policies and programs to increase renewable energy use, generation, and storage in the unincorporated area.** This measure entails amending the County's Code of Regulatory Ordinances by 2026 to require (Tier 2) CALGreen or similar renewable energy requirements for new residential and nonresidential construction.

- **Measure SW-2: Achieve zero waste within the unincorporated area.** This measure directs the County to update its Strategic Plan to Reduce Waste by 2028 to include strategies to achieve an 80 percent diversion rate by 2030 and zero waste (90 percent diversion) by 2045.

The CAP Checklist translates these overarching measures to project-level analyses and includes requirements for EV-charging infrastructure, solar photovoltaic systems, and water efficiency requirements meeting the Tier 2 voluntary requirements of the most current version of the CALGreen Code; all-electric development; compliance with the County's TDM strategy; and use of electric or zero-emission construction equipment for heavy-duty equipment exceeding 50 horsepower.

Alternative 2 does not include any regulatory provisions directing future cannabis cultivation and noncultivation uses to comply with the measures of the CAP. For this reason, this impact would be potentially significant for Alternative 2.

Alternative 3: Cannabis Program with Expanded County Regulations

Under Alternative 3, the definition of "sensitive uses" would be expanded beyond schools, daycares, and youth centers to also include regional parks, local parks, public trails, recreation facilities, preserves with visitor-serving amenities, religious assembly, childcare centers, public libraries operated by the County or other cities, residential care facilities, and other cannabis facilities. The required sensitive use buffer would be 1,000 feet. In addition, advertising of cannabis on a billboard would be prohibited within 1,000 feet of the expanded sensitive uses. The development potential for this alternative is provided in Table 1.4 and is the same as Alternative 2 described above.

As discussed above under Alternative 2, the extent of construction and operational activity for new cannabis sites would vary depending on the location and existing site conditions, such as the existence of on-site buildings that could be used to support the commercial cannabis facility. The development potential under Alternative 3 is identical to Alternative 2. Neither the change in what is considered a sensitive use under Alternative 3 nor the more conservative buffer distance would alter the increased energy demand projected for Alternative 2.

Therefore, this impact would be potentially significant for Alternative 3 regarding compliance with the CAP.

Alternative 4: Cannabis Program with Outdoor Cannabis Cultivation Prohibition

Under Alternative 4, all commercial outdoor cannabis cultivation within the unincorporated county would be prohibited and mixed-light and indoor cultivation would be allowed only within a building or greenhouse. This alternative would result in 2,002,524 square feet of cannabis building area and 479 acres of land area dedicated to cannabis cultivation activity as compared to Alternatives 2, 3, and 5 (2,680,304 square feet of cannabis building area and 773 acres of land area dedicated to cannabis cultivation activity). This alternative would also require a 1,000-foot buffer from expanded sensitive uses, as defined by Alternative 3, and prohibit cannabis advertising on a billboard within 1,000 feet of the expanded sensitive uses. The development potential for this alternative is provided in Table 1.4.

It is foreseeable, in a cumulative context, that the allowance of additional licenses for mixed-light and indoor cultivation under Alternative 4 would result in an increase in total electrical demand to grow cannabis under cumulative conditions.

Therefore, this impact would be potentially significant for Alternative 4 regarding compliance with the CAP.

Alternative 5: Cannabis Program with Maximum 1 Acre of Outdoor Cannabis Cultivation Canopy

Under Alternative 5, outdoor commercial cannabis cultivation would be limited to 1 acre of total canopy area. This alternative would also require a 1,000-foot buffer from expanded sensitive uses, as defined by Alternative 3, and prohibit cannabis advertising on a billboard within 1,000 feet of the expanded sensitive uses. The development potential for this alternative is provided in Table 1.4 and is the same as Alternative 2 described above.

As discussed above under Alternative 2, the extent of construction and operational activity for new cannabis sites would vary depending on the location and existing site conditions, such as the existence of on-site buildings that could be used to support the commercial cannabis facility. The development potential under Alternative 5 is identical to Alternative 2. Neither the change in what is considered a sensitive use under Alternative 3 nor the more conservative buffer distance would alter the increased energy demand projected for Alternative 2.

Therefore, this impact would be potentially significant for Alternative 5 regarding compliance with the CAP.

2.9.4 Cumulative Impacts

The geographic scope of the cumulative impact analysis for GHG emissions and climate change is global. Climate change is an inherently cumulative issue and relates to development in the region, California, and, most of all, the world. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. The combination of GHG emissions from past, present, and future projects contribute substantially to the phenomenon of global climate change and its associated environmental impacts. Therefore, the impacts discussed above in Section 2.9.3 are also the cumulative effects of the project.

2.9.4.1 *Issue 1: Conflict with the San Diego County Climate Action Plan*

The San Diego County General Plan Update EIR identified less than cumulatively considerable impacts associated with GHG emissions and global climate change from implementation of the General Plan (County of San Diego 2011). The San Diego County CAP Final Supplemental EIR identified less than cumulatively considerable impacts to GHG emissions and conflicts with applicable plans reducing the emissions of GHG (County of San Diego 2024).

The Cannabis Program would have less-than-significant impacts associated with GHG under Alternative 1.

With respect to the cumulative nature of climate change, the County's CAP Checklist is designed to demonstrate that future projects are contributing their "fair share" in assisting the state in meeting its long-term GHG reduction targets, as codified in AB 1279 (i.e., carbon neutrality by no later than 2045). Existing development would not have been subject to the provisions of the CAP; therefore, the efficiency of an existing project's emissions may be less than planned future projects. The CAP Checklist includes requirements for EV-charging infrastructure, solar photovoltaic systems, and water efficiency requirements meeting the Tier 2 voluntary requirements of the most current version of the CALGreen Code; all-electric development; compliance with the County's TDM strategy; and use of electric or zero-emission construction equipment for heavy-duty equipment exceeding 50 horsepower. As noted above, there is inherent uncertainty at the programmatic level as to whether future cannabis cultivation sites and noncultivation uses could comply with all provisions of the CAP as detailed in the CAP Checklist. For example, it is not known if fully electric development (CAP Measure E-2) may be feasible for future cannabis cultivation and noncultivation sites based on the need for the use of natural gas in certain operations or propane for sites with limited or no access to other energy sources in rural areas of the county. Therefore, this cumulative impact would be significant under Alternatives 2, 3, 4, and 5.

2.9.5 Significance of Impacts Prior to Mitigation

2.9.5.1 *Issue 1: Conflict with the San Diego County Climate Action Plan*

The Cannabis Program would have less-than-significant impacts associated with increased GHG emissions or conflicts with applicable plans reducing the emissions of GHG under Alternative 1. Alternatives 2 through 5 of the Cannabis Program would result in potentially significant impacts due to conflicts with the County's CAP. These alternatives could also result in cumulatively considerable contributions to significant cumulative impacts.

2.9.6 Mitigation

2.9.6.1 *Issue 1: Conflict with the San Diego County Climate Action Plan*

No mitigation is required for Alternative 1.

The following mitigation is identified for Alternatives 2, 3, 4, and 5.

M-GC.1-1: Implement the requirements of the County's Climate Action Checklist

Commercial cannabis facilities shall implement the measures enumerated in the County's Climate Action Plan Checklist as applicable.

2.9.7 Conclusion

The discussion below provides a synopsis of the conclusion reached in each of the above impact analyses and the level of impact that would occur after the mitigation measure is implemented.

2.9.7.1 *Issue 1: Conflict with the San Diego County Climate Action Plan*

The Cannabis Program would have less-than-significant impacts associated with increased GHG emissions or conflicts with applicable plans reducing the emissions of GHG under Alternative 1.

Alternatives 2 through 5 of the Cannabis Program would result in potentially significant impacts due to conflicts with the County's CAP. These alternatives could also result in cumulatively considerable contributions to significant cumulative impacts. Implementation of Mitigation Measure M-GC.1-1 would require compliance with the CAP and would address this impact.

While there is inherent uncertainty at the programmatic level as to whether future cannabis cultivation sites and noncultivation uses could comply with all provisions of the CAP as detailed in the CAP Checklist, a project may not be required to comply with all measures of CAP if it is not a land use subject to the CALGreen Code or the County's Code of Regulatory Ordinances or if necessary infrastructure and equipment are not available at the location of a future project. For example, it is not known if fully electric development (CAP Measure E-2) may be feasible for future cannabis cultivation and noncultivation sites based on the need for the use of natural gas in certain operations or propane for sites with limited or no access to other energy sources in rural areas of the county.

Moreover, because future cannabis cultivation and noncultivation sites could be located within existing buildings, thus not requiring substantial physical alterations, implementation of the measures of the CAP may not be applicable or required. It is also foreseeable that future cannabis cultivation sites may be capable of reducing operational emissions through other GHG-reducing avenues to demonstrate consistency with the CAP. Furthermore, the CAP is not designed to limit future development within the county, but is intended to streamline the CEQA process with respect to GHG emissions. It has also been determined that future cannabis cultivation and noncultivation sites could likely comply with all Tier 2 provisions of the CAP Checklist (Zarabi, pers. comm., 2024). Therefore, for the reasons provided above, implementation of Mitigation Measure M-GC.1-1 would be sufficient to reduce this impact to a less-than-significant level under project and cumulative conditions.

Table 2.9.2 County Greenhouse Gas Emissions Inventory by Sector in 2019

Sector	Emissions ($MTCO_2e$)	Percent
On-road transportation	1,331,000	45
Electricity	599,000	20
Natural gas	478,000	16
Waste	193,000	6
Agriculture	134,000	4
Propane	121,000	4
Off-road transportation	71,000	2
Water	39,000	1
Wastewater	18,000	1
Total	2,984,000	100

Notes: $MTCO_2e$ = million metric tons of carbon dioxide. Totals may not sum due to rounding.

$MTCO_2e$ = metric tons of carbon dioxide equivalent.

Source: County of San Diego 2024.

Table 2.9.3 Greenhouse Gas Emissions Associated with Operation of Individual New Commercial Cannabis Cultivation Site Types and Noncultivation Sites

License Type	$MTCO_2e$/year
Outdoor	1,188
Mixed-light	488
Indoor	216
Noncultivation	935

Note: $MTCO_2e$/year = metric tons of carbon dioxide equivalent per year.

Source: Modeling conducted by Ascent in 2024.