3.8 Greenhouse Gas Emissions

This section presents the physical and regulatory setting for *greenhouse gas* (GHG) emissions and identifies and evaluates potential GHG impacts that could result from the construction and operation and maintenance of the Proposed Project. This section provides information regarding the Proposed Project's GHG emissions, applicable regulations, environmental impacts, and mitigation measures to reduce or avoid significant effects.

3.8.1 Environmental Setting

Climate Change Overview

According to the U.S. Environmental Protection Agency (EPA), the term *climate change* refers to any significant change in measures of climate (e.g., temperature, precipitation, wind) lasting for an extended period (i.e., several decades or longer). Scientific consensus is that climate change is occurring, and that human activity contributes in some measure (perhaps substantially) to that change. The potential effects of climate change in California include sea-level rise and reductions in snowpack as well as an increased number of extreme-heat days per year, high ozone days, large forest fires, and drought years (CARB 2014). Globally, climate change could affect numerous environmental resources through potential, although uncertain, changes in future air temperatures and precipitation patterns. According to the International Panel on Climate Change (IPCC), the projected effects of climate change are likely to vary regionally but are expected to include the following direct effects (IPCC 2007):

- Higher maximum temperatures and more hot days over nearly all land areas
- Higher minimum temperatures and fewer cold days and frost days over nearly all land areas
- Reduced diurnal temperature range over most land areas
- Increase in the heat index over most land areas
- More intense precipitation events

Many secondary effects also are projected to result from climate change, including global rise in sea level, ocean acidification, impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity. The possible outcomes and feedback mechanisms that are involved are not understood fully, and much research remains to be done. However, over the long term, the potential exists for substantial environmental, social, and economic consequences.

Greenhouse Gases

Gases that trap heat in the atmosphere, known as the *greenhouse effect*, are called *greenhouse gasses*, or GHGs. Emissions of GHGs, if not sufficiently curtailed, contribute to global climate change.

GHG emissions from human activities primarily include carbon dioxide (CO_2), with much smaller amounts of nitrous oxide (N_2O), methane (CH_4, often from unburned natural gas),

sulfur hexafluoride (SF_6) from high-voltage power equipment, and hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) from refrigeration/chiller equipment. Because the potential contribution to the greenhouse effect varies widely among GHGs, and because CO_2 is the gas most commonly referenced as a contributor to climate change, GHG emissions are often quantified and reported as CO_2-equivalent (CO_2e) emissions. *Global warming potential* (GWP) is a value calculated by the IPCC that reflects the *climate forcing* (the physical process of affecting the of climate) potential of 1 kilogram of a given GHG relative to that of an equivalent mass of CO_2e such that the GWP for CO_2 is always 1. The GWP of a GHG is calculated based on the intensity of infrared absorption (i.e., *radiative efficiency)* of the gas and how long the gas persists in the atmosphere (i.e., *lifetime*). CARB uses a GHG's 100-year GWP from IPCC's 4th Assessment Report (AR4) as the multiplying factor to determine CO_2e (IPCC 2007; CARB 2023). For example, SF_6 (which represents a small fraction of the total GHG emissions worldwide) has both a high lifetime relative to other GHGs and a very high radiative efficiency, with a calculated 100-year GWP of 22,800 as of the IPCC's 4AR. (IPCC 2007, tbl. TS.2). Therefore, an emission of 1 metric ton of SF_6 would be reported by CARB as 22,800 metric tons CO_2e ($MTCO_2e$). The 100-year GWPs of CH_4 and N_2O as of the 4AR are 25 and 298, respectively (IPCC 2007, tbl. TS.2). The principal GHG emissions from human activity that enter and accumulate in the atmosphere are as follows:

- **Carbon dioxide (CO_2):** CO_2 is a naturally occurring gas that enters the atmosphere through natural as well as anthropogenic (human) sources. Key anthropogenic sources include the burning of fossil fuels (e.g., oil, natural gas, coal), solid waste, trees, wood products, and other biomass as well as industrial chemical reactions, such as those associated with manufacturing cement. CO_2 is removed from the atmosphere when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH_4):** Like CO_2, CH_4 is emitted from both natural and anthropogenic sources. Key anthropogenic sources of CH_4 include gaseous emissions from landfills, releases associated with the mining and materials extraction industries (in particular, coal mining), and fugitive releases from extraction and transport of natural gas and crude oil. Livestock and agricultural practices also emit CH_4. Small quantities of CH_4 are released during fossil fuel combustion.
- **Nitrous oxide (N_2O):** N_2O is emitted from both natural and anthropogenic sources. Significant anthropogenic sources include industrial activities, agricultural activities (primarily the application of nitrogen fertilizer), the use of explosives, combustion of fossil fuels, and decay of solid waste.
- **Fluorinated gases (HFCs, PFCs, and SF_6):** HFCs, PFCs, and SF_6 are synthetic gases emitted from a variety of industrial processes and contribute substantially more to the greenhouse effect on a pound-for-pound basis than the previously described GHGs. Fluorinated gases often are used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, HFCs, and halons). These gases typically are emitted in small quantities, but because of their high GWPs, they are sometimes referred to as "high global warming potential gases."

GHG emissions cumulatively contribute to planet-wide atmospheric accumulations and, consequently, no regional "hot spots" of elevated concentrations of GHGs exist. Therefore, GHG emissions, existing or future, are not a localized phenomenon, and there are no localized geographical constraints related to GHG emissions within in the Proposed Project area.

Regional Setting

Human-caused GHG emissions have increased substantially since the pre-industrial era (last 150 years) and now are higher than ever (IPCC 2023). GHG emissions in the United States were 5 percent lower in 2020 than in 20202, the difference stemming largely from the impacts of the coronavirus (COVID-19) pandemic on travel and other economic activity. The 5-percent increase in total GHG emissions on 2021 was driven largely by an increase in CO_2 emissions from fossil fuel combustion due to economic activity rebounding after the height of the COVID-19 pandemic (EPA 2023).

The primary sources of GHG emissions in the U.S. are transportation (nearly 28 percent of 2021 GHG emissions), electricity production (25 percent), industry (23 percent), commercial and residential (13 percent), and agriculture (10 percent) emissions. Land use and forestry offset 12 percent of the total emissions by acting as a sink that absorbs CO_2 from the atmosphere. In the United States since 1990, managed forests and other lands have absorbed more CO_2 from the atmosphere than they emit (EPA 2023).

California GHG Emissions Inventory

In 2020, California's GHG emissions totaled approximately 369.2 million $MTCO_2e$ (CARB 2022). The primary sources of GHG emissions in the state by sector are as follows:

- Transportation: 38 percent
- Industrial: 22 percent
- Electricity generation: 11 percent
- Residential: 8 percent
- Agriculture and forestry: 9 percent
- Commercial: 6 percent

California's GHG emissions from 2014 to 2020 are shown in Table 3.8-1.

Table 3.8-1 California Greenhouse Gas Emissions, 2014 to 2020

Emission inventory category	2014	2015	2016	2017	2018	2019	2020	Percent total GHG emissions in 2020
Transportation	157.7	161.5	165.2	166.6	165.3	162.4	135.8	36.8%
Electric power	89.8	86.0	70.4	64.2	65.0	60.2	59.5	19.9%
Industrial	85.2	83.2	81.6	81.7	81.9	80.4	73.3	16.1%
Commercial & residential	35.6	36.3	37.2	37.6	37.4	40.5	38.7	10.5%

Emission inventory category	2014	2015	2016	2017	2018	2019	2020	Percent total GHG emissions in 2020
Agriculture	33.9	32.6	32.2	31.7	32.2	31.4	31.6	8.6%
High Global Warming Potential Gases	17.7	18.6	19.4	20.1	20.5	20.7	21.3	5.8%
Recycling & Waste	8.3	8.4	8.5	8.6	8.7	8.8	8.9	2.4%

Note: Percentage may not add to 100 percent due to independent rounding. All measurements are shown in million MT CO_2e.

Source: (CARB 2022)

Kern County GHG Emissions Inventory

In 2011, the Kern County Board of Supervisors signed a memorandum of understanding (MOU) with the San Joaquin Valley Air Pollution Control District (SJVAPCD) to develop a communitywide GHG emission inventory for the County of Kern. The MOU required GHG emission inventory to be developed for a base year (2005) and a forecasted year (2020). The GHG emissions inventories were estimated for nine primary sectors (Electricity Production and Consumption, Residential/ Commercial/ Industrial Combustion, Transportation, Fossil Fuels Industry, Industrial Processes, Waste Management, Agriculture, Forestry and Land Use, and Other Sources). The 2005 base year GHG emissions inventory was estimated to be 27 million $MTCO_2e$, of which the Fossil Fuel Industry sector represents 40 percent, followed by the Electricity Consumption sector at 22 percent. The 2020 forecasted GHG emissions inventory was estimated to be 27 million $MTCO_2e$, of which the Electricity Consumption sector represents 31 percent, followed by the Fossil Fuel Industry sector at 26 percent.

3.8.2 Applicable Regulations, Policies and Standards

Federal Regulations, Policies and Standards

Clean Air Act

In response to a lawsuit filed by California along with other states, cities, and environmental organizations on April 2, 2007, the U.S. Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. The Court held that EPA must 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 such decisions, the EPA is required to follow the language of Section 202(a) of the Clean Air Act, which obligates it to prescribe (and from time-to-time revise) standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines. The Supreme Court decision resulted from a petition for rulemaking under Section 202(a), filed by more than a dozen environmental, renewable energy, and other types of organizations.

On December 7, 2009, the EPA Administrator signed two findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- **Endangerment finding:** The current and projected concentrations of six key GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or contribute finding:** The combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to GHG pollution that threatens public health and welfare.

Energy Independence and Security Act

The Energy Independence and Security Act (EISA) of 2007 was signed into law on December 19, 2007, by President Bush. The EISA reinforces the energy reduction goals for federal agencies put forth in Executive Order 13423 and also introduces more aggressive requirements. The three key provisions enacted are the Corporate Average Fuel Economy Standards, the Renewable Fuel Standard, and the appliance/lighting efficiency standards (EPA 2023a). This act aids in the reduction of national GHG emissions through the following measures, among others (One Hundred Tenth Congress of the United States of America 2007):

- Increase the supply of alternative fuel sources by setting a mandatory renewable fuel standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020, direct National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.
- Prescribe or revise standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards

In response to the Executive Order (EO) 13432 in 2007, the Bush Administration directed the EPA, the U.S. Department of Transportation, and the U.S. Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012 to 2016.

In December 2021, EPA issued its final rule to revise existing national GHG standards for passenger cars and light trucks through model year 2026. NHTSA issued its fuel economy standards for model year 2024 to 2026 light-duty vehicles in March 2022. EPA also released new standards limiting nitrogen oxide (NO_x) emissions from heavy-duty trucks in December 2022. The standards increase fuel efficiency by 8 percent each year in model years 2024 and 2025 and 10 percent in model year 2026, reaching a fleetwide average of 49 miles per gallon (mpg) by

2026, an increase of almost 10 mpg from model year 2021 (Center for Climate and Energy Solutions, n.d.).

Prevention of Significant Deterioration and Title V Tailoring Rule

On May 13, 2010, the EPA issued a final rule that establishes a commonsense approach to addressing GHG emissions from stationary sources under the CAA permitting programs. This final rule sets thresholds for GHG emissions that define when permits under the New Source Review Prevention of Significant Deterioration (PSD) and Title V operating permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these CAA permitting programs to limit which facilities will be required to obtain PSD and Title V permits. Facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters: power plants, refineries, and cement production facilities (EPA 2010).

Use of Electric Transmission and Distribution Equipment Use

In accordance with 40 CFR part 98, subpart DD, owners and operators of electric power system facilities with a total nameplate capacity that exceeds 17,820 pounds (7,838 kilograms) of SF_6 and/or PFCs must report emissions of SF_6 and/or PFCs from the use of electrical transmission and distribution equipment. The electrical transmission and distribution equipment use source category consists of all electric transmission and distribution equipment and servicing inventory insulated with or containing SF_6 or PFCs used within an electric power system. This equipment includes, but is not limited to, gas-insulated substations; circuit breakers; switchgear, including closed-pressure and hermetically sealed-pressure switchgear; gas-insulated lines containing SF_6 or PFCs; gas containers such as pressurized cylinders; gas carts; electric power transformers; and other containers of SF_6 or PFC. Owners and operators are required to collect emissions data, calculate GHG emissions, and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting per then requirements of 40 CFR part 98 subpart DD – Electric Transmission and Distribution Equipment Use (EPA 2024).

State Regulations, Policies and Standards

California Air Resources Board (CARB) is the agency responsible for coordination and oversight of State and local air pollution control programs in California. Currently, no State regulations establish ambient air quality standards for GHGs. However, California has passed laws directing CARB to develop actions to reduce GHG emissions, and several State legislative actions related to climate change and GHG emissions have been enacted.

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, Executive Order S-3-05 established a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.

- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The 2020 reduction target was codified in 2006 as AB 32. However, the 2050 reduction target has not been codified, and the California Supreme Court has ruled that CEQA lead agencies are not required to use it as a significance threshold (Cleveland National Forest Foundation v. San Diego Association of Governments [2017] 3 Cal.5th 497).

Assembly Bill 32 and the California Climate Change Scoping Plan

In 2006, the California legislature passed AB 32 (Health and Safety Code §§ 38500 et seq.), also known as the Global Warming Solutions Act of 2006. AB 32 required CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures so that statewide GHG emissions were reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions), anticipating that the GHG reduction goals would be met, in part, through local government actions. CARB identified a GHG emissions reduction target of 15 percent from existing levels for local governments and noted that successful implementation would rely on local government land use planning and urban growth decisions.

Pursuant to AB 32, CARB adopted the first Scoping Plan in December 2008 (CARB 2008), which was re-approved by CARB on August 24, 2011. The Scoping Plan outlined measures to meet the 2020 GHG emissions reduction goals by reducing the state's GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from 2008 levels. The plan recommended measures for further study and possible State implementation such as new fuel regulations. The Scoping Plan estimated that a reduction of 174 million $MTCO_2e$ (about 191 million U.S. tons) from the transportation, energy, agriculture, and forestry sectors, and other sources could be achieved if the State implemented all the measures in the Scoping Plan. The Scoping Plan relied on the requirements of SB 375 (discussed next) to implement the carbon emission reductions anticipated from land use decisions.

AB 32 requires the Scoping Plan to be updated at least every 5 years. CARB approved the first update to the plan on May 22, 2014, and then again in 2017. The latest update was issued in December 2022. The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon (CARB 2022a).

Executive Order S-1-07

Executive Order S-1-07, signed in 2007, identified the transportation sector as the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. Executive Order S-1-07 established a goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020 and directed CARB to determine whether the Low Carbon Fuel Standard (LCFS) could be adopted as a discrete, early-action measure as part

of the effort to meet the mandates in AB 32. On April 23, 2009, CARB approved the proposed regulation to implement the LCFS. The LCFS was intended to reduce GHG emissions from the transportation sector in California by about 16 million metric tons in 2020 (CARB, n.d.).

Senate Bill 97

Senate Bill (SB) 97, enacted in August 2007, acknowledges that climate change is a prominent environmental issue requiring analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit guidelines to the California Natural Resources Agency for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, no later than July 1, 2009. The California Natural Resources Agency was required to certify or adopt those guidelines by January 1, 2010. On December 30, 2009, the agency adopted the State CEQA Guidelines amendments, as required by SB 97. These amendments provided guidance to public agencies regarding analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The amendments became effective on March 18, 2010 (California Natural Resources Agency 2009).

Senate Bill 605

SB 605 was enacted on September 21, 2014, requiring CARB to develop a comprehensive strategy to reduce emissions of short-lived GHGs in the state no later than January 1, 2016. As defined in SB 605, short-lived climate pollutant means "an agent that has a relatively short lifetime in the atmosphere, from a few days to a few decades, and a warming influence on the climate that is more potent than that of carbon dioxide." However, SB 605 does not prescribe specific compounds as *short-lived climate pollutants* or add to the list of GHGs regulated under AB 32. In developing the strategy, CARB completed an inventory of sources and emissions of short-lived GHGs in the state and, based on available data, identified research needs to address data gaps, identified existing and potential new control measures to reduce emissions, and prioritized development of new measures for short-lived climate pollutants that offer co-benefits by improving water quality or reducing other air pollutants that impact community health and benefit disadvantaged communities The *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) lays out a path to achieving carbon neutrality and reducing anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045 and assesses progress toward the statutory 2030 target (see Executive Order B-30-15, below) (CARB 2022c).

Executive Order B-30-15 and Senate Bill 32

California Executive Order B-30-15 (April 29, 2015) set an "interim" statewide emission target to reduce GHG emissions to 40 percent below 1990 levels by 2030 and directed State agencies with jurisdiction over GHG emissions to implement measures pursuant to statutory authority to achieve the 2030 target. Specifically, the Executive Order directed CARB to update the Scoping Plan to express the 2030 target in metric tons. SB 32 was enacted on September 8, 2016, codifying the 2030 reduction target in Executive Order B-30-15. CARB's 2022 Scoping Plan update addressed the 2030 target, as discussed previously.

Senate Bill 375

SB 375 builds on the existing framework of regional planning to tie together the regional allocation of housing needs and regional transportation planning to reduce GHG emissions from motor vehicle trips. SB 375 directs CARB to set regional targets for reducing GHG emissions, to establish a "bottom up" approach so that cities and counties participate in development of regional plans to achieve those targets. To increase public participation and local government input, the law strengthens several existing requirements for public involvement in regional planning. It establishes a collaborative process between regional and State agencies to set regional GHG reduction targets and provides CEQA incentives for development projects that are consistent with a regional plan meeting those targets. Cities and counties maintain their existing authority over local planning and land use decisions.

Executive Order B-55-18

Executive Order B-55-18 was issued on September 10, 2018, establishing a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG emissions reduction targets that were established by SB 375, SB 32, SB 1383, and SB 100.

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard Program, which was established in 2002 with SB 1070 and last updated by Senate Bill 2 of the First Extraordinary Session (SB X1-2) in 2011. SB 100 required electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045 (CEC 2021).

Local Regulations, Policies and Standards

The CPUC has sole and exclusive State jurisdiction over the siting and design of the Proposed Project because it authorizes the construction, operation, and maintenance of investor-owned public utility facilities. Pursuant to GO 131-D section XIV.B, "Local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the CPUC's jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters." Consequently, public utilities are directed to consider local regulations and consult with local agencies, but the counties' and cities' regulations are not applicable as the counties and cities do not have jurisdiction over the Proposed Project. Accordingly, the following discussion of local land use laws, regulations, and policies is provided for informational purposes only.

San Joaquin Valley Air Pollution Control District Climate Change Action Plan

The SJVAPCD adopted the Climate Change Action Plan (CCAP) in August of 2008 (SJVAPCD 2008). The CCAP directed the District Air Pollution Control Officer to develop guidance to assist Lead Agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific GHG emissions on global climate change.

In response to the CCAP, SJVAPCD developed and adopted the *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency* (SJVAPCD 2009a; 2009b). The guidance and policy rely on the use of performance-based standards, referred to as *best performance standards*, to assess significance of project-specific GHG emissions on global climate change during the environmental review process, as required by CEQA.

Eastern Kern Air Pollution Control District CEQA Guidelines Addendum

The EKAPCD has adopted an addendum to their EKAPCD CEQA Guidelines, *Addressing GHG Emission Impacts for Stationary Source Projects When Serving as the Lead CEQA* Agency (EKAPCD 2012). This addendum establishes a significant threshold of 25,000 $MTCO_2e$ per year. Therefore, projects that emit less than 25,000 $MTCO_2e$ per year would have a less than significant individual or cumulatively considerable impact on GHG emissions. The EKAPCD approach is compatible with SJVAPCD's approach to addressing GHGs.

South Coast Air Quality Management District Draft Interim CEQA Greenhouse Gas Significance Threshold

In October 2008, the SCAQMD prepared its Draft Interim CEQA Greenhouse Gas Significance Threshold (SCAQMD 2008). To evaluate operational impacts of proposed industrial projects, the SCAQMD recommended an interim threshold of 10,000 $MTCO_2e$ per year. Per SCAQMD guidance, construction emissions should be amortized over the operational life of a project, which is proposed at 30 years.

Los Angeles County Climate Action Plan – Revised Draft

The *Revised Draft 2045 Climate Action Plan* (2045 CAP) is the County's path toward meeting the goals of the Paris Agreement and achieving carbon neutrality for unincorporated Los Angeles County. The 2045 CAP builds on previous climate action work from the *Unincorporated Los Angeles County Community Climate Action Plan 2020* (2020 CCAP), adopted in October 2015 as a subcomponent of the Air Quality Element of the *Los Angeles County General Plan 2035* (General Plan). The 2045 CAP identifies strategies, measures, and actions to mitigate GHG emissions from community activities, which may include some municipal operations; however, municipal operations are not the focus of this plan. The 2045 CAP is an update to the 2020 CCAP, and it sets new GHG emissions reduction targets beyond the 2020 timeframe that are consistent with state goals pursuant to SB 32, AB 1279, and the 2022 Scoping Plan (Los Angeles County Department of Regional Planning 2015a; 2015b; 2023).

3.8.3 Applicant Proposed Measures

SCE has proposed measures to reduce environmental impacts. The significance of the impact is first considered prior to application of *applicant proposed measures* (APMs), and a significance determination is made. The implementation of the APMs is then considered as part of the Proposed Project when determining whether impacts would be significant and thus would require mitigation. These APMs would be incorporated as part of any CPUC project approval,

and SCE would be required to adhere to the APMs as well as any identified mitigation measures. The APMs are included in the MMRP for the Proposed Project, and the implementation of the measures would be monitored and documented in the same manner as mitigation measures. There are no APMs that would apply to potential GHG emissions for the Proposed Project.

3.8.4 Environmental Analysis

Approach to Impact Analysis

Section 15064.4 of the CEQA Guidelines addresses the significance of GHG emissions. Section 15064.4 calls for a lead agency to make a "good-faith effort" to "describe, calculate, or estimate" GHG emissions in CEQA environmental documents. Section 15064.4 further states that the analysis of GHG impacts should include consideration of: (1) the extent to which a project may increase or reduce GHG emissions, (2) whether project emissions would exceed a locally applicable threshold of significance, and (3) the extent to which a project would comply with "regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions."

The CEQA Guidelines also state that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project would comply with the requirements in a previously approved plan or mitigation program (including plans or regulations for the reduction of GHG emissions) that provides specific requirements to avoid or substantially lessen the cumulative problem within the geographic area in which the project site is located (CEQA Guidelines § 15064(h)(3)). However, it does not set a numerical threshold of significance for GHG emissions. The following guidance on measures to mitigate GHG emissions are provided when GHG emissions are found to be significant:

Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others, the following:

1. Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision
2. Reductions in emissions resulting from a project through implementation of project features, project design, or other measures
3. Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions
4. Measures that sequester GHGs

In the case of the adoption of a plan such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

Calculation of GHG Emissions

For the Proposed Project, construction activities would be the primary source of GHG emissions. After becoming operational, the Project would not include any stationary sources of emissions. GHG emissions from worker trips for maintenance activities would be comparable to maintenance of the existing subtransmission line. Annual GHG emissions were estimated for construction activities using the CalEEMod model (CalEEMod.2020.4.0) for both on-road and off-road sources. Helicopter emissions were estimated based on the Swiss Federal Office of Civil Aviation (FOCA) Guidance on the Determination of Helicopter Emissions (FOCA 2015).

Appendix C presents emission calculations and assumptions spreadsheets supporting the GHG emissions inventory in this section.

Thresholds

See "Local Regulations, Policies and Standards", within Section 3.8.2.

The SJVAPCD has not adopted significant thresholds for GHG emissions. The EKAPCD has adopted a significant threshold of 25,000 $MTCO_2e$ per year. The most conservative emissions significance threshold of 10,000 $MTCO_2e$ per year established by the SCAQMD has been applied to assess the Proposed Project's impact on GHG emissions.

Summary of Impacts

Table 3.8-2 provides a summary of the CEQA significance criteria and impacts related to greenhouse gas emissions that would occur during construction and operation and maintenance of the Proposed Project.

Table 3.8-2 Summary of Proposed Project Impacts to Greenhouse Gas Emissions

Would the proposed project:	Potentially Significant Impact	Less than Significant Impact with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.	☐	☐	☒	☐
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.	☐	☐	☐	☒

Impacts Discussion

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction

During construction of the Proposed Project, the majority of GHG emissions would be generated from the operation of heavy equipment, construction-related vehicles, and helicopters. The following Proposed Project construction activities would produce GHG emissions:

- Vegetation clearing at pole work areas, along access roads, and at staging yards
- Grading of staging areas
- Removing old poles and excavating for new pole holes
- Pull boxes and vault construction at each end of underground conduit
- Vehicle traffic to and from work sites and staging yards
- Equipment and material transport via trucks and helicopters
- Conductor stringing via helicopters

A total of approximately 4,543 $MTCO_2e$ would be emitted by construction equipment over the 3-year construction period, as shown in Table 3.8-3. GHG construction emissions from construction activities amortized over 30 years is approximately 151 $MTCO_2e$.

The combined emissions from Proposed Project construction would be below the threshold of 10,000 $MTCO_2e$ per year. Therefore, impacts from GHG emissions would be less than significant. No mitigation is required.

Operation

The Proposed Project's GHG emissions from operation and maintenance would primarily result from vehicle travel to and from the Proposed Project area to conduct routine inspections and maintenance. Vehicle emissions associated with subtransmission line operation and maintenance would be similar to existing conditions because SCE currently conducts maintenance on the transmission of the existing subtransmission line, and the Proposed Project would not increase the intensity, frequency, or duration of inspections or maintenance for the subtransmission line.

Since the operation and maintenance activities and associated emissions would be far less than those for the construction activities and emissions, the annual CO_2e emissions from operation and maintenance activities would be well below the threshold of 10,000 $MTCO_2e$ per year. Therefore, impacts from GHG emissions during operation and maintenance would be less than significant. No mitigation is required.

Table 3.8-3 Proposed Project GHG Emissions

Year/criteria	Estimated Annual CO2e Emissions (MT)
2024	533
2025	2,227
2026	1,782
Total	**4,543**
30-year amortized	151
SJVAPCD	-
EKAPCD threshold	25,000
SCAQMD threshold	10,000
Thresholds exceeded?	No

Source: (SCE 2022)

Required APMs and MMs: None required.

b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Construction, Operation, and Maintenance

Plans and policies adopted for the purpose of reducing GHG emissions in the Proposed Project area includes the *2017 Scoping Plan Update*, SB 32, SJVAPCD CCAP, and *Los Angeles County Revised Draft 2045 CAP*. The Proposed Project's consistency with these plans and policies is evaluated to determine whether the Proposed Project would conflict with an applicable plan, policy, or regulation adopted for reducing GHG emissions.

In 2008, SB 32 set a goal to achieve GHG emissions reductions of 40 percent below 1990 levels by 2030 and achieve eventual net carbon neutrality. Under AB 32, the first Climate Change Scoping Plan, which set the goal of reducing GHG emissions to 1990 levels by 2020, was released in 2008, to be updated every five years. The 2017 Scoping Plan Update shifted focus to achieving the SB 32 goal of reducing GHG emissions to 40 percent below 1990 levels by 2030 and assessed progress towards achieving the SB 32 goal of returning to 1990 GHG levels by 2020. The latter goal was achieved in 2016, and the 2022 Scoping Plan Update identified how the State could reach the 2030 climate target and substantially advance toward the State's goal of achieving net carbon neutrality by 2045, incorporating five dozen recommendations from the AB 32 Environmental Justice Advisory Committee (EJAC) (CARB 2022b; EJAC 2022).

The State's plan for meeting the SB 32 targets includes implementation of the LCFS and Renewables Portfolio Standard, which is aimed at delivering cleaner fuels and energy, the Advanced Clean Cars Program, which has put more than a quarter-million clean vehicles on the road, and the Sustainable Freight Action Plan, which will result in efficient and cleaner systems

to move goods throughout the state. The 2022 Scoping Plan Update enhances and implements these ongoing efforts to put the State on the path to achieving its 2030 target. These statewide programs are implemented at the State level, and compliance at a specific plan or project level is not addressed in the Scoping Plan. The Proposed Project would utilize vehicles that meet current standards at the time of construction and operation and would not conflict with the statewide programs designed to address the GHG emissions reduction goals in SB 32.

The SJVAPCD CCAP (SJVAPCD 2008) adopted the *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009a; 2009b)*. The guidance and policy rely on the use of performance-based standards to assess significance of project specific GHG emissions on global climate change. However, these guidance plans are not applicable to the Proposed Project because the SCE is not a land use agency, and the Proposed Project is not considered a stationary source of GHG emissions; therefore, the Proposed Project would not conflict with the SJVAPCD CCAP and associated guidance for implementation.

The Los Angeles County 2045 CAP identifies strategies, measures, and actions to mitigate GHG emissions from community activities, under the categories of energy supply, transportation, building energy and water, waste, agriculture, forestry, and other land use in Los Angeles County (Los Angeles County Department of Regional Planning 2023). The CAP strategies and measures would not apply to the Proposed Project except for the transportation strategy to institutionalize low-carbon transportation that includes Measure T9: Expand use of zero-emission technologies for off-road vehicles and equipment. The performance objective for this measure is to increase the fleetwide percentage of off-road fleet and equipment in unincorporated Los Angeles County that are zero emission vehicles (ZEVs) by 20 percent by 2030 as well as construction, agriculture, and manufacturing equipment in unincorporated Los Angeles County that are ZEVs by 50 percent by 2030. The Proposed Project construction is anticipated to be completed before 2030; hence, the Proposed Project would not conflict with the measures in the CAP. None of the measures in the CAP apply to operation of electrical utility lines. Because the CAP transportation measure would not apply at the time of Proposed Project construction and the CAP strategies do not address electrical utility lines, the Proposed Project would not conflict with the Los Angeles County 2045 CAP.

As discussed above, the Proposed Project would be implemented under the framework of the statewide policies, and programs designed to implement SB 32 and the Proposed Project would not conflict with the strategies or measures in the SJVAPCD CCAP or Los Angeles County 2045 CAP; therefore, the Proposed Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs, and no impact would occur.

Required APMs and MMs: None required.

3.8.5 References

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