

4.7 Greenhouse Gas Emissions

This section evaluates the potential for impacts on greenhouse gas (GHG) emissions resulting from the Perris Airport Logistics Center Project (Proposed Project). Information presented in this section related to construction and operation emissions is based on California Emissions Estimator Model (CalEEMod) modeling prepared by Harris & Associates dated June 21, 2024, and included in Appendix B to this EIR.

At the Draft EIR public scoping meeting on November 1, 2023, there were no comments regarding greenhouse gas emissions received in response from Planning Commissioners, organizations' representatives, or members of the public.

4.7.1 Environmental Setting

The following sections describe the environmental setting for the Proposed Project as it relates to GHG emissions.

4.7.1.1 Global Climate Change Overview

Climate change refers to any substantial change in measures of climate (such as temperature, precipitation, or wind) lasting for decades or longer. Earth's climate has changed many times during the planet's history, including events ranging from ice ages to long periods of warmth. Historically, natural factors, such as volcanic eruptions, changes in Earth's orbit, and the amount of energy released from the sun, have affected Earth's climate. Some GHGs, such as water vapor, occur naturally and are emitted to the atmosphere through natural processes, while others are emitted through human activities. Beginning in the late 18th century, human activities associated with the Industrial Revolution changed the composition of the atmosphere and, therefore, very likely influenced Earth's climate.

The accumulation of GHGs in the atmosphere regulates Earth's temperature. Without the natural heat-trapping effects of GHGs, Earth's temperature would be approximately 86 degrees Fahrenheit (°F) cooler (Riebeek 2010). However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of GHGs in the atmosphere beyond the level of naturally occurring concentrations.

The Global Carbon Project (2020) released an update of the global carbon budget for the year 2019. The atmospheric carbon dioxide (CO₂) concentration in 2019 was 410 parts per million (ppm), 48 percent above the concentration at the start of the Industrial Revolution (about 280 ppm in 1750). Global GHG emissions experienced an unprecedented drop in 2020 but are likely to rebound in 2021. It is projected that global fossil fuel CO₂ equivalent (CO₂e) emissions in 2021 will rebound 4.9 percent compared to 2020 to 36.4 billion metric tons (MT) of CO₂, returning to nearly 2019 emission levels of 36.7 billion MT CO₂. The annual mean growth rate of atmospheric

CO₂ has shown a steady increase. The highest growth rates since 1960 occurred in 1987, 1998, and 2015–2016, even reflecting a strong El Niño, which weakens the land sink effect (Jackson et al. 2021).

4.7.1.2 Regulatory Setting

This section describes the federal, state, and local regulatory framework adopted to address GHG emissions.

Federal

U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) is responsible for implementing federal policy to address global climate change. In 2009, the EPA issued a Final Rule for mandatory reporting of GHG emissions, which applies to fossil fuel and industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and requires annual emissions reporting. This rule does not regulate the emission of GHGs; it only requires the monitoring and reporting of GHG emissions for those sources above certain thresholds.

State

Assembly Bill 32 and Senate Bill 32: California Global Warming Solutions Act

Assembly Bill (AB) 32 requires the California Air Resources Board (CARB) to reduce statewide GHG emissions to 1990 levels by 2020. As part of this legislation, CARB was required to prepare a “Scoping Plan” that demonstrates how the state will achieve this goal. The first Scoping Plan was adopted in 2011 and describes local governments as “essential partners” in meeting the statewide goal, recommending a GHG reduction level 15 percent below 2005–2008 levels (depending on when a full emissions inventory is available) by 2020.

CARB released the 2017 Scoping Plan Update on January 20, 2017. The 2017 Scoping Plan Update provides strategies for achieving the 2030 target established by Executive Order (EO) B-30-15 and codified in Senate Bill (SB) 32 (40 percent below 1990 levels by 2030). The most recent update to the Scoping Plan, the 2022 Scoping Plan, was adopted by CARB in December 2022. The 2022 Scoping Plan assesses progress toward the statutory 2030 target and identifies a path to achieving carbon neutrality by 2045.

Assembly Bill 341: Commercial Recycling

AB 341 sets a statewide goal of 75 percent recycling, composting, or source reduction of solid waste by the year 2020. As required by AB 341, the California Department of Resources Recycling and Recovery (CalRecycle) adopted the Mandatory Commercial Recycling Regulation on January 17, 2012. The regulation was approved by the Office of Administrative Law on May 7, 2012. It became

effective immediately and clarified the responsibilities in implementing mandatory commercial recycling. The Mandatory Commercial Recycling Regulation focuses on increased commercial waste diversion as a method to reduce GHG emissions. The regulation is designed to achieve a 5 MMT CO₂ reduction in GHG emissions, which equates to roughly an additional 2–3 MT CO₂ of currently disposed commercial solid waste being recycled by 2020 and thereafter.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statutes of 2005) required the California Energy Commission (CEC) to prepare a state plan to increase the use of alternative fuels in California. The CEC prepared the State Alternative Fuels Plan in partnership with CARB and in consultation with other state, federal, and local agencies. The State Alternative Fuels Plan presents strategies and actions that California must take to increase the use of alternative nonpetroleum fuels in a manner that minimizes the costs to California and maximizes the economic benefits of in-state production. The State Alternative Fuels Plan assesses various alternative fuels and develops fuel portfolios to meet California’s goals to reduce petroleum consumption, increase alternative fuel use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

Assembly Bill 1493: Clean Car Standards

Also known as “Pavley I,” AB 1493 standards were the nation’s first GHG standards for automobiles. AB 1493 requires CARB to adopt vehicle standards that lower GHG emissions from new light-duty automobiles to the maximum extent feasible. In January 2012, CARB adopted the Advanced Clean Cars Program to achieve additional GHG emissions reductions for passenger vehicles for model years 2017–2025. The program includes low emissions vehicles (LEV) regulations and zero-emission vehicle regulations. Together, the two standards increased average fuel economy to roughly 43 miles per gallon in 2020 (and more for years beyond 2020).

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the CEC. The act established state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission regulates privately owned utilities in the energy, rail, telecommunications, and water fields.

California Code of Regulations Title 24, Part 6

California Code of Regulations, Title 24, Part 6 (California’s Energy Efficiency Standards for Residential and Nonresidential Buildings), was established in 1978 to reduce California’s energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although the standards were not originally intended to reduce GHG emissions, electricity production by fossil fuels and natural

gas use result in GHG emissions, and energy-efficient buildings require less electricity and natural gas. Therefore, increased energy efficiency results in decreased GHG emissions.

The CEC adopted its 2008 Standards on April 23, 2008, in response to AB 32. The 2008 Standards were adopted to (1) provide California with an adequate, reasonably priced, and environmentally sound supply of energy; (2) pursue California energy policy, which states that energy efficiency is the resource of first choice for meeting California’s energy needs; (3) meet the West Coast Governors’ Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes every 3 years; and (4) meet the requirements of EO B-18-12 and those in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards. The latest update of the California Code of Regulations, Title 24, Part 6, which went into effect on January 1, 2023, significantly increases the energy efficiency of new residential and non-residential buildings.

California Green Building Standards Code (California Code of Regulations, Title 24, Part 11)

The California Green Building Standards Code (CALGreen) was adopted in 2010 and went into effect on January 1, 2011. Further updates to CALGreen went into effect on January 1, 2017, January 1, 2020, and January 1, 2023. CALGreen is the first statewide mandatory green building code and significantly raises the minimum environmental standards for construction of new buildings in California. The mandatory provisions in CALGreen reduce the use of volatile organic compound-emitting materials, strengthen water conservation, and require construction waste recycling. The latest 2022 update of the CALGreen Code went into effect on January 1, 2023. The 2022 CALGreen Code mandatory measures for nonresidential uses that reduce GHG emissions and are applicable to the Proposed Project include, but are not limited to, the following:

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors’ entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- Designated parking for clean air vehicles. In new projects or additions to alterations that add 10 or more vehicular parking spaces, provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).

- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.3 (5.106.5.3). Additionally, Table 5.106.5.4.1 specifies requirements for the installation of raceway conduit and panel power requirements for medium- and heavy-duty electric vehicle supply equipment for warehouses, grocery stores, and retail stores.
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
 - Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
 - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1)
 - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
 - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
 - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20

gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).

- Outdoor potable water uses in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELo), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 SF or for excess consumption where any tenant within a new building or within an addition that is projected to consume more than 1,000 gallons per day (GPD) (5.303.1.1 and 5.303.1.2).
- Outdoor water uses in rehabilitated landscape projects equal or greater than 2,500 SF. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 SF requiring a building or landscape permit (5.304.3).

The 2022 CalGreen Building Standards Code has been adopted in Perris Municipal Code Section 16.08.050.

Executive Order B-30-15: 2030 Greenhouse Gas Emissions Reduction Target

On April 29, 2015, Governor Jerry Brown announced through EO B-30-15 the following GHG emissions target:

- By 2030, California shall reduce GHG emissions to 40 percent below 1990 levels.

The emissions reduction target of 40 percent below 1990 levels by 2030 is an interim-year goal to make it possible to reach the ultimate goal of reducing emissions 80 percent under 1990 levels by 2050. The EO directs CARB to provide a plan with specific regulations to reduce statewide sources of GHG emissions. EO B-30-15 does not include a specific guideline for local governments.

Executive Order N-79-20: Zero-Emission Vehicles

EO N-79-20, signed by Governor Gavin Newsom on September 23, 2020, directs the state to require that, by 2035, all new cars and passenger trucks sold in California be zero-emission vehicles to reduce transportation GHG emissions, the primary source of emissions in the state. Following the EO, CARB will develop regulations to mandate that 100 percent of in-state sales of new passenger cars and trucks are zero emission by 2035 and that all operations of medium- and heavy-duty vehicles shall be 100 percent zero emission by 2045 where feasible.

Executive Order S-01-07: Low Carbon Fuel Standard

In 2007, Governor Arnold Schwarzenegger signed EO S-01-07, which mandates (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020, and (2) that a low carbon fuel standard (LCFS) for transportation fuels be established in California. CARB developed the LCFS regulation pursuant to the state's authority under AB 32 and the federal Clean Air Act and adopted it in 2009.

Executive Order S-06-06: Biofuel and Biopower Production Targets

EO S-06-06, signed on April 25, 2006, by Governor Schwarzenegger, establishes targets for the use and production of biofuels and biopower, and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO establishes the following targets to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20 percent of its biofuels within California by 2010, 40 percent by 2020, and 75 percent by 2050. The EO also calls for the state to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies those barriers and recommends actions to address them so the state can meet its clean energy, waste reduction, and climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 plan and provides a more detailed action plan to achieve the following goals (BIWG 2012):

- Increase environmentally and economically sustainable energy production from organic waste;
- Encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications;
- Create jobs and stimulate economic development, especially in rural regions of the state; and
- Reduce fire danger, improve air and water quality, and reduce waste.

As of 2016, 2.7 percent of the total electricity system power in California was derived from biomass.

Executive Order S-3-05: Greenhouse Gas Emissions Reduction Targets

On June 1, 2005, Governor Schwarzenegger announced, through EO S-3-05, the following GHG emissions targets:

- By 2010, California shall reduce GHG emissions to 2000 levels.
- By 2020, California shall reduce GHG emissions to 1990 levels.
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

EO S-3-05 also laid out state agencies' responsibilities for implementation and reporting on progress toward these targets.

Assembly Bill 197

In 2016, the California Legislature adopted AB 197, which was signed by Governor Brown. AB 197 amends California Health and Safety Code, Division 25.5, and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach disadvantaged communities.

Assembly Bill 1279

AB 1279, the California Climate Crisis Act, enacted in September 2022, updated the goals of AB 32. The bill established a statewide goal to achieve net-zero GHG emissions by 2045 and to achieve and maintain net-negative GHG emissions thereafter. Additionally, the bill established a specific target for statewide anthropogenic GHG emissions to be reduced to at least 85 percent below the 1990 levels by 2045. The bill requires CARB to work with relevant state agencies to ensure that updates to the Scoping Plan identify and recommend measures to achieve these policy goals and to identify and implement a variety of policies and strategies that enable CO₂ removal solutions and carbon capture, utilization, and storage technologies in California, as specified. The bill also requires CARB to submit an annual progress report.

Senate Bill 97: California Environmental Quality Act Greenhouse Gas Emissions

SB 97, enacted in 2007, amended the California Environmental Quality Act (CEQA) to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. The legislation directed the California Governor’s Office of Planning and Research to develop Draft CEQA Guidelines “for the mitigation of GHG emissions or the effects of GHG emissions” and directed the resources agency to certify and adopt the CEQA Guidelines. Section 15183.5, Tiering and Streamlining the Analysis of GHG Emissions, was added as part of the Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines) amendments that became effective in 2010 and describes the criteria needed in a GHG reduction plan that would allow for tiering and streamlining of CEQA analysis for development projects.

Senate Bill 350: California Renewables Portfolio Standards Program

The California Renewables Portfolio Standards program was established in 2002 under SB 1078 and accelerated in 2006 under SB 107 by requiring that 20 percent of electricity retail sales be served by renewable energy sources by 2010. Subsequent recommendations in California energy policy reports advocated a goal of 33 percent by 2020, and on November 17, 2008, Governor Schwarzenegger signed EO S-14-08, requiring electricity retailers to serve 33 percent of their load with renewable energy by 2020. In April 2011, SB X1-2 codified EO S-14-08, setting the new Renewables Portfolio Standards targets at 20 percent by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020 for electricity retailers. Most recently, Governor Brown signed SB 350 in October 2015, which extended the Renewables Portfolio Standards target by

requiring retail sellers to procure 50 percent of their electricity from renewable energy resources by 2030.

Senate Bill 375: Sustainable Communities Strategy

SB 375 was adopted in 2008 and provides a new planning process that coordinates land use planning, Regional Transportation Plans, and funding priorities to help California meet the GHG reduction goals established in AB 32. SB 375 requires Regional Transportation Plans, developed by Metropolitan Planning Organizations, to incorporate a Sustainable Communities Strategy in their Regional Transportation Plans. The goal of the Sustainable Communities Strategy is to reduce regional vehicle miles traveled (VMT) through land use planning and consequent transportation patterns. SB 375 also includes provisions for streamlined CEQA review for some infill projects, such as transit-oriented development.

Regional

South Coast Air Quality Management District

The Project Site is within the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (AQMD).

South Coast AQMD Regulation XXVII, Climate Change

Rules 2700 and 2701

The South Coast AQMD adopted Rules 2700 and 2701 on December 5, 2008, which establishes the administrative structure for a voluntary program designed to quantify GHG emission reductions. Rule 2700 establishes definitions for the various terms used in Regulation XXVII – Global Climate Change. Rule 2701 provides specific protocols for private parties to follow to generate certified GHG emission reductions for projects within the South Coast Air Basin. Approved protocols include forest projects, urban tree planting, and manure management. The South Coast AQMD is currently developing additional protocols for other reduction measures. For a GHG emission reduction project to qualify, it must be verified and certified by the South Coast AQMD Executive Officer, who has 60 days to approve or deny the Plan to reduce GHG emissions. Upon approval of the Plan, the Executive Officer is required to issue a certified receipt of the GHG emission reductions within 90 days.

Rule 2702

The South Coast AQMD adopted Rule 2702 on February 6, 2009, which establishes a voluntary air quality investment program from which South Coast AQMD can collect funds from parties that desire certified GHG emission reductions, pool those funds, and use them to purchase or fund GHG emission reduction projects within two years, unless extended by the South Coast AQMD Governing Board. Priority will be given to projects that result in co-benefit emission reductions of

GHG emissions and criteria or toxic air pollutants within environmental justice areas. Further, this voluntary program may compete with the cap-and-trade program identified for implementation in CARB's Scoping Plan, or a federal cap and trade program.

Rule 3002

The South Coast AQMD amended Rule 3002 on November 5, 2010, to require facilities that emit greater than 100,000 tons per year of CO₂e to apply for a Title V permit by July 1, 2011. A Title V permit is for facilities that are considered major sources of emissions.

South Coast AQMD Threshold Development

For GHG emissions and global warming, there is currently no established, universally agreed-upon “threshold of significance” by which to measure an impact. A variety of agencies have developed greenhouse gas emission thresholds and/or have made recommendations for how to identify a threshold. However, the thresholds for projects within the jurisdiction of the South Coast AQMD remain in flux. The California Air Pollution Control Officers Association explored a variety of threshold approaches but did not recommend one approach (CAPCOA 2008). CARB recommended approaches for setting interim significance thresholds (CARB 2008), in which a draft industrial project threshold suggests that non-transportation related emissions under 7,000 MTCO₂e per year would be less than significant; however, CARB has not approved those thresholds and has not published anything since then. The South Coast AQMD has explored the development of significance thresholds, as discussed below.

The South Coast AQMD has been evaluating GHG significance thresholds since April 2008. On December 5, 2008, the South Coast AQMD Governing Board adopted an interim greenhouse gas significance threshold of 10,000 MT CO₂e per year for stationary sources, rules, and plans where the South Coast AQMD is lead agency (South Coast AQMD permit threshold).

The South Coast AQMD has continued to consider the development and adoption of significance thresholds for residential and general development projects. The most recent proposal issued in September 2010 uses the following tiered approach to evaluate potential GHG impacts from various uses (South Coast AQMD Draft Local Agency Threshold):

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the project is consistent with a locally adopted GHG reduction plan. If a project is consistent with a qualifying locally adopted GHG reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening thresholds, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a

project's emissions are under one of the following screening thresholds, then the Proposed Project is less than significant:

- Option 1
 - All industrial projects: 10,000 MT CO₂e per year. Based on non-industrial land use type: residential: 3,500 MT CO₂e per year; commercial: 1,400 MT CO₂e per year; or mixed-use: 3,000 MT CO₂e per year.
- Option 2
 - All non-industrial land use types: 3,000 MT CO₂e per year.

The thresholds identified above have not been adopted by the South Coast AQMD or distributed for widespread public review and comment, and the working group tasked with developing the thresholds has not met since September 2010. The future schedule and likelihood of threshold adoption is uncertain. If CARB adopts statewide significance thresholds, South Coast AQMD staff plan to report back to the South Coast AQMD Governing Board regarding any recommended changes or additions to the South Coast AQMD's interim threshold. The only update to the South Coast AQMD's GHG thresholds since 2010 is that the 10,000 MT CO₂e per year threshold for industrial projects is now included in the South Coast AQMD's March 2023 South Coast AQMD Air Quality Significance Thresholds document that is published for use by local agencies.

In the absence of other thresholds of significance promulgated by the South Coast AQMD, and because the City of Perris does not presently have its own thresholds of significance, the City has been using the South Coast AQMD's 10,000 MT CO₂e per year threshold for industrial projects and the draft thresholds for nonindustrial projects for the purpose of evaluating the GHG impacts associated with proposed general development projects. This approach is consistent with CEQA Guidelines. Section 15064.7(b), which states that "a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence." The South Coast AQMD is the regional authority on air emissions and has published documentation for threshold development (South Coast AQMD 2008). Although the AB 32 target of reducing statewide emissions to 1990 levels by 2020 was the primary state goal at the time of the South Coast AQMD threshold development, the South Coast AQMD also determined that the interim thresholds would contribute to achieving the Executive Order S-3-05 goal of reducing emissions to 80 percent below 1990 levels by 2050. SB 32 adopted an interim threshold of 40 percent reduction from 1990 levels by 2030 to put the state on track to achieve the S-3-05 2050 target. The S-3-05 target has been superseded by the AB 1279 goal of an 85 percent reduction in anthropogenic emissions from 1990 levels by 2045. The 2022 Scoping Plan details how the State will reduce GHG emissions to meet the 2030 target set by Executive Order B-30-15 and codified by SB 32. Other objectives listed in the 2022 Scoping Plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and support the Clean Power Plan and other Federal actions. Additionally, the Scoping Plan acknowledges that new technologies and statewide

policies would be required to achieve the AB 1279 target beyond 2030, such as increased emissions reduction standards and increased use of zero-emissions vehicles. As such, a goal of 85 percent reduction from 1990 levels or net-zero GHG emissions is not prescribed as a local target or threshold. The 2030 interim target remains an appropriate threshold for local agencies to achieve a fair share reduction toward statewide emissions reduction goals. As such, the City of Perris and other lead agencies throughout the basin continue to apply the South Coast AQMD adopted and draft thresholds. The City's evaluation of impacts under the 10,000 MT CO₂e per year threshold is also considered to be conservative since it is being applied to all of the GHG emissions generated by a proposed development project (i.e., area sources, energy sources, vehicular sources, solid waste sources, and water sources) whereas the South Coast AQMD's adopted 10,000 MT CO₂e per year threshold applies only to the new stationary sources generated at industrial facilities.

Local

The City of Perris Climate Action Plan (CAP) was completed in February 2016. The Perris CAP was developed to address global climate change through the reduction of harmful greenhouse gas emissions at the community level and as part of California's mandated statewide GHG reduction goal (AB 32). Through the Perris CAP, the city has developed multiple sustainable strategies to directly benefit the community by decreasing carbon emissions while adapting to a changing climate. The programs and actions provided in the Perris CAP were developed to help the city grow healthily, resourcefully, and sustainably.

4.7.1.3 Existing Conditions

Greenhouse Gases

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. The following gases are widely seen as the principal contributors to human-induced global climate change:¹

- CO₂
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF₆)

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions increase GHG concentrations in the atmosphere and enhance the natural greenhouse effect, which scientists believe can cause global warming. While

¹ The GHGs listed are consistent with the definition in Assembly Bill (AB) 32 (California Government Code, Section 38505), as discussed in this section.

GHGs produced by human activities include naturally occurring GHGs (e.g., CO₂, methane, and nitrous oxide), some gases (e.g., hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) are completely new to the atmosphere. Certain other gases (e.g., water vapor) are short lived in the atmosphere compared to these GHGs, which remain in the atmosphere for significant periods of time and contribute to climate change in the long term. Water vapor is generally excluded from the list of GHGs because it is short lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes (e.g., oceanic evaporation). The following discussion summarizes the characteristics of the six primary GHGs.

Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form as CO₂. Natural sources of CO₂ include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Human-caused sources of CO₂ include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Earth maintains a natural carbon balance, and when concentrations of CO₂ are upset, the system gradually returns to its natural state through natural processes. Natural changes to the carbon cycle work slowly, especially compared to the rapid rate at which humans are adding CO₂ to the atmosphere. Natural removal processes (e.g., photosynthesis by land- and ocean-dwelling plant species) cannot keep pace with this extra input of human-made CO₂, and consequently, the gas is building up in the atmosphere. The concentration of CO₂ in the atmosphere has risen approximately 30 percent since the late 1800s.

Methane

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources of methane include fires, geologic processes, and bacteria that produce methane in a variety of settings (most notably wetlands). Anthropogenic sources include rice cultivation, livestock, landfills and waste treatment, biomass burning, and fossil fuel combustion (e.g., the burning of coal, oil, and natural gas). As with CO₂, the major removal process of atmospheric methane (a chemical breakdown in the atmosphere) cannot keep pace with source emissions, and methane concentrations in the atmosphere are increasing.

Nitrous Oxide

Nitrous oxide is produced naturally by a variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. Nitrous oxide is also a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion sources emit nitrous oxide. The quantity of nitrous oxide emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated nitrous oxide emissions in the state.

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

Hydrofluorocarbons are primarily used as substitutes for ozone (O₃)-depleting substances regulated under the Montreal Protocol.² Perfluorocarbons and sulfur hexafluoride are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. No aluminum or magnesium production occurs in the State of California; however, rapid growth in the semiconductor industry, which is active in the state, has led to greater use of perfluorocarbons.

Global Warming Potential

The GHGs described previously vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another GHG. GWP is based on several factors, including the relative effectiveness of a GHG in absorbing infrared radiation and the length of time that the GHG remains in the atmosphere (referred to as “atmospheric lifetime”). The GWP of each GHG is measured relative to CO₂, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO₂ over a specified time period. GHG emissions are typically measured in terms of metric tons³ (MT) of CO₂e. For example, nitrous oxide is 265 times more potent at contributing to global warming than CO₂. Table 4.7-1, Global Warming Potential for Selected Greenhouse Gases, identifies the GWP for each relevant GHG.

Table 4.7-1. Global Warming Potential for Selected Greenhouse Gases

Pollutant	Atmospheric Lifetime (Years)	GWP (100-Year) ²
Carbon Dioxide (CO ₂)	~100 ¹	1
Methane (CH ₄)	12	25
Nitrous Oxide (N ₂ O)	121	298

Source: CAPCOA 2022. Consistent with CalEEMod, Version 2022.1.1.24.

Notes: GWP = global warming potential

¹ CO₂ has a variable atmospheric lifetime and cannot be readily approximated as a single number.

² The warming effects over a 100-year period relative to other GHGs.

Emissions and Inventories

Global Emissions

Worldwide anthropogenic GHG emissions in 2010 were approximately 49,000 million metric tons (MMT) of CO₂e, including ongoing emissions from industrial and agricultural sources and emissions from land use changes (e.g., deforestation, biomass decay). CO₂ emissions from fossil

² The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the O₃ layer by phasing out the production of several groups of halogenated hydrocarbons that are believed to be responsible for O₃ depletion and are also potent GHGs.

³ A metric ton is equivalent to approximately 1.1 tons.

fuel use and industrial processes account for 65 percent of the total emissions of 49,000 MMT CO₂e (which include land use changes), and CO₂ emissions account for 77 percent of total GHG emissions. Methane emissions account for 16 percent of total GHG emissions, and nitrous oxide emissions account for 6 percent of total GHG emissions (IPCC 2014).

United States Emissions

In 2022, the United States emitted approximately 6.3 billion MT CO₂e. Total U.S. emissions increased by 17 percent from 2005 to 2022, and emissions increased from 2021 to 2022 by one percent. The increase in GHG emissions was largely attributable to an increase in fossil fuel combustion. This increase in fossil fuel consumption emissions was from increased energy use, due in part to the continued rebound in economic activity after the height of the COVID-19 pandemic (EPA 2024).

State of California Emissions

CARB is responsible for developing the state GHG Emission Inventory. This inventory estimates the amount of GHGs emitted to and removed from the atmosphere by human activities in the state and supports the AB 32 Climate Change Program. CARB's current GHG emission inventory covers the years 2000-2021 and is based on fuel use, equipment activity, industrial processes, and other relevant data (e.g., housing, landfill activity, and agricultural lands).

According to CARB emission inventory estimates, the state emitted approximately 381.3 MMT CO₂e emissions in 2021. This is an increase of 12.6 MMT CO₂e from 2020 but a 5.7 percent decrease since 2019. Both the 2019 to 2020 decrease and the 2020 to 2021 increase in emissions are likely due in large part to the impacts of the COVID-19 pandemic that were felt globally. The largest emissions category in the transportation sector is On-Road Transportation, which consists of passenger vehicles (cars, motorcycles, and light-duty trucks) and heavy-duty vehicles. Transportation accounts for approximately 38.2 percent of statewide emissions, followed by the industrial sector (19.4 percent) and electricity sector (16.4 percent of statewide emissions). The remaining sources of GHG emissions were in residential and commercial activities at 10 percent, agriculture at 8 percent, high-GWP gases at 6 percent, and recycling and waste at 2 percent (CARB 2023).

City of Perris

The Perris CAP included a baseline inventory of community-wide GHG emissions. Total aggregated community emissions for Perris were approximately 378,099 MT CO₂e in 2010. Transportation accounted for the largest share of emissions (60 percent), followed by residential energy use (20 percent) and commercial and industrial energy use (15 percent). Waste generation and wastewater and sewer systems accounted for the remaining 5 percent (City of Perris 2016).

4.7.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the Proposed Project would have a significant impact on GHG emissions if it would:

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

4.7.3 Regulatory Implementation

RI GHG-1 The Proposed Project will comply with all applicable requirements of the City of Perris Good Neighbor Guidelines – (Perris GNG) Siting New and/or Modified Industrial Facilities, adopted May 2022.

4.7.4 Environmental Impacts

The following sections address various potential impacts relating to GHG emissions that could result from implementation of the Proposed Project.

4.7.4.1 Threshold GHG-1: Generation of Greenhouse Gas Emissions

Impact Analysis

As described in Section 4.7.1.2, Regulatory Setting, under South Coast AQMD Threshold Development, the significance of Project GHG emissions is determined based on the South Coast AQMD threshold of 10,000 MT CO_{2e} per year for industrial uses. Project GHG emissions are quantified for construction and operation and compared to this threshold below. Consistent with South Coast AQMD recommendations, construction-related GHG emissions are amortized over a 30-year Project lifetime and added to operational emissions.

Construction and operation emissions were modeled for the Proposed Project using CalEEMod Version 2022.1.1.24. Construction is assumed to require approximately 2 years. Default construction equipment fleet and vehicle trips for worker and haul trips are assumed. A total of 186,500 cubic yards of soil would be required for import to both Site 1 (which includes Buildings 1 and 2) and Site 2 (truck and trailer storage) composing the Proposed Project. Project operational emissions are calculated for baseline year 2025 and future year 2045. Total daily vehicle traffic and fleet mix was obtained from the traffic analysis for the Proposed Project (Appendix J). The CalEEMod default vehicle mix was revised based on the passenger vehicle and truck trip percentages calculated for each Project component in Appendix J. Truck types were determined using guidance from CAPCOA (2013). Consistent with South Coast AQMD recommendations, a truck trip length of 40 miles is assumed for Buildings 1 and 2 in both scenarios, and passenger vehicle trip length was modified so that total VMT for Buildings 1 and 2 was consistent with the

VMT calculated for these buildings in the Traffic Analysis and VMT Analysis. As described in Section 4.13, Transportation, Site 2 is a locally serving use that was screened out of VMT analysis. As such, Project-specific VMT was not calculated for Site 2, and the CalEEMod average default trip lengths of approximately 13 miles is assumed for Site 2, including truck trip distance. As a locally serving use, a 40-mile trip length would not be appropriate for Site 2 truck trips. The 40-mile trip length is intended to represent average trip lengths from distribution facilities to and end facility to deliver goods, such as a port. The purpose of the Site 2 parking facility is to provide a location for trucks to stop in between distribution facilities and end destinations. As such, new VMT attributable to Site 2 would be limited to a truck's diversion from its route to Site 2. As the site is located less than 2 miles from any Interstate 215 interchange, the default trip length is likely conservative. Model default calculations for energy use, water use, consumer product use, landscaping, and solid waste generation are assumed. Refer to Appendix B for detailed modeling input and output.

Table 4.7-2 summarizes Project construction and baseline operation GHG emissions, and Table 4.7-3 summarizes Year 2045 Project emissions. Table 4.7-2 shows that the total for the Proposed Project's emissions would be 10,341 MT CO₂e per year and would exceed the South Coast AQMD threshold of 10,000 MT CO₂e per year for industrial uses. As shown in Table 4.7-3, emissions would be reduced to below the South Coast AQMD threshold by the Year 2045 due to reduced emissions from the electricity section, increased vehicle emissions standards, and a calculated reduction in Project VMT (refer to Section 4.13). As previously described, Site 2 would be a locally-serving use and calculated mobile emissions for the Proposed Project are likely conservative. However, because calculated short-term emissions would exceed the South Coast AQMD threshold, this impact would be potentially significant.

Table 4.7-2. Proposed Project-Related Baseline Year Greenhouse Gas Emissions

Emissions Source	Emissions (MT CO ₂ e)
Area and Refrigerants	18
Electricity	879
Natural Gas	881
Mobile	7,711
Waste	254
Water	499
Emergency Fire Pump Testing (two pumps, 30 minutes per week)	7
Amortized Construction Emissions	99
Total Annual Emissions	10,348
<i>Threshold of Significance</i>	<i>10,000</i>
Significant Impact?	Yes

Source: CalEEMod, Version 2022.1.1.24. Refer to Appendix B for model output.

Notes: MT CO₂e = metric tons of carbon dioxide equivalent

Table 4.7-3. Proposed Project-Related Year 2045 Greenhouse Gas Emissions

Emissions Source	Emissions (MT CO ₂ e)
Area and Refrigerants	18
Electricity	659
Natural Gas	881
Mobile	4,857
Waste	254
Water	442
Emergency Fire Pump Testing (two pumps, 30 minutes per week)	7
Amortized Construction Emissions	99
Total Annual Emissions	7,217
<i>Threshold of Significance</i>	<i>10,000</i>
Significant Impact?	No

Source: CalEEMod, Version 2022.1.1.24. Refer to Appendix B for model output.

Notes: MT CO₂e = metric tons of carbon dioxide equivalent

Significance of Impact

Short-term Project emissions would exceed the 10,000 MT CO₂e threshold. This impact would be potentially significant without mitigation.

4.7.4.2 Threshold GHG-2: Conflict with Applicable Plan

Impact Analysis

The statewide emissions reduction targets and the Perris CAP are the applicable plans for reducing GHG emissions for the Proposed Project. As stated previously, the South Coast AQMD's Tier 3 thresholds used Executive Order S-3-05 goal as the basis for deriving the screening level. Executive Order S-3-05 included the goal to reduce greenhouse gas emissions to 80 percent below 1990 levels by 2050. The interim threshold to achieve S-3-05, the 2030 goal established in SB 32, continues to be an interim target for the updated statewide emissions reduction target in AB 1279. AB 1279 is further addressed below. However, given that South Coast AQMD's Tier 3 thresholds were designed to help achieve long-term emissions reduction goals consistent with the SB 32 interim emissions reduction target, consistency with SB 32 and Executive Order S-3-05 can be evaluated by determining if the Proposed Project would exceed the threshold. As described above, the Proposed Project's emissions would exceed the applicable South Coast AQMD threshold of 10,000 MTCO₂e per year in the short-term and would not be consistent with Executive Order S-3-05 or the interim target of SB 32. However, near-term GHG emissions would be reduced to below the 10,000 MT CO₂e threshold with implementation of mitigation measures MM GHG-1 and MM TR-1. Additionally, long-term Project emissions would be reduced below the threshold without additional mitigation. As such, the Proposed Project would be on track to meet the SB 32 and S-3-05 reduction targets with implementation of mitigation measures MM GHG-1 and MM TR-1. Furthermore, as further described below, reductions in GHG emissions are increasingly addressed via regulatory requirements at the state level and the Proposed Project would be required to comply with these regulations as they come into effect.

The state has most recently adopted AB 1279, which establishes an accelerated goal of reducing statewide anthropogenic GHG emissions by 85 percent below 1990 levels by 2045. The CARB 2022 Scoping Plan outlines a roadmap for the state to meet this target. The Scoping Plan acknowledges that new technologies will be required to be developed in order to meet this target. Regarding distribution centers, the Scoping Plan focuses on implementation of increasingly stringent truck emissions standards, including the Advanced Clean Trucks and Advanced Clean Fleets regulations. Additionally, Executive Order N-79-20 includes a target that 100-percent of medium- and heavy-duty vehicles will be zero-emission by 2045 for all operations where feasible, and by 2035 for drayage trucks. These regulations are designed to transition trucks to zero-emissions technology (CARB 2022). Trucks served by the Proposed Project would be subject to all State emissions standards regulations. As shown in Table 4.7-2 and Table 4.7-3, mobile

emissions account for the largest share of Project emissions. Implementation of State emissions reduction standards for passenger vehicle and trucks would reduce Project mobile emissions in accordance with State goals for transportation sustainability, including emissions from distribution centers. The Proposed Project would comply with all applicable state regulations, which also include the CALGreen standards for building energy and water use efficiency, and waste diversion requirements. As such, the Proposed Project would comply with the 2022 Scoping Plan.

The Perris CAP is a plan to reduce City-wide GHG emissions consistent with the AB 32 target of reducing GHG emissions to 1990 levels by 2020. The Perris CAP is based on 2020 emission projections and AB 32 and does not account for more recently passed legislation with more stringent policies and guidelines. However, the Perris CAP remains the most recent City-adopted plan related to GHG emissions reductions. As described above, the Proposed Project would be consistent with plans to achieve more aggressive targets and would therefore be consistent with Perris CAP emissions targets. Similar to the 2022 Scoping Plan, applicable GHG reduction measures in the Perris CAP include Measure SR-11, Goods Movement, that focuses on transition of truck fleets to low emissions technologies. The Perris CAP also includes measures for energy efficiency (Measure SR-2), construction waste diversion (Measure SR-13), and water efficiency (Measure SR-14) that would be implemented consistent with State regulations, including CALGreen. As described above, the Proposed Project and future truck fleets that access the site would be required to comply with State standards. As such, Proposed Project emissions would be reduced consistent with the Perris CAP.

As described above, the Proposed Project would be consistent with Statewide GHG reduction goals and the Perris CAP with mitigation. Potential impacts related to applicable GHG regulation plans would be potentially significant prior to mitigation.

Significance of Impact

The Proposed Project would exceed the South Coast AQMD Tier 3 threshold in the short-term without mitigation and would therefore result in a potentially significant impact related to consistency with statewide emissions reduction goals.

4.7.5 Cumulative Impacts

The following sections address various potential cumulative impacts relating to GHG emissions that could result from implementation of the Proposed Project.

4.7.5.1 Cumulative Threshold GHG-1: Generation of Greenhouse Gas Emissions

The geographic scope of consideration for GHG emissions is on a global scale as such emissions contribute, on a cumulative basis, to global climate change. Given the nature of environmental consequences from GHG emissions, CEQA requires that lead agencies evaluate the cumulative

impacts of GHGs, even relatively small additions, on a global basis. By nature, GHG evaluations are a cumulative study, and a significant cumulative impact exists. As described in Section 4.7.4.1, Threshold GHG-1: Generation of Greenhouse Gas Emissions, implementation of the Proposed Project would result in short-term emissions above the applicable South Coast AQMD significance threshold. Mitigation Measures MM GHG-1 and MM TR-1 would reduce emissions to below the threshold. As such, implementation of the Proposed Project would not be cumulatively considerable with mitigation.

4.7.5.2 Cumulative Threshold GHG-2: Conflict with Applicable Plan

The plans and policies applicable to the Proposed Project and cumulative projects for reducing GHG emissions include statewide emissions reductions targets and the Perris CAP. Similar to Proposed Project, construction and future operation of cumulative projects would be required to comply with Statewide regulations, including CALGreen standards for building energy and water efficiency. State emissions reductions standards passenger vehicles, truck fleets, and the energy sector would result in ongoing emissions reductions consistent with State and City emission reduction goals. As such, implementation of the Proposed Project and cumulative projects would not result in a significant cumulative impact with respect to consistency with applicable regulations and applicable mitigation.

4.7.6 Level of Significance Before Mitigation

4.7.6.1 Threshold GHG-1: Generation of Greenhouse Gas Emissions

Potentially Significant: Short-term Project emissions would exceed the 10,000 MT CO_{2e} threshold. This impact would be potentially significant without mitigation.

4.7.6.2 Threshold GHG-2: Conflict with Applicable Plan

Potentially Significant: The Proposed Project would exceed the South Coast AQMD Tier 3 threshold in the short-term without mitigation and would, therefore, result in a potentially significant impact related to statewide emissions reduction goals.

4.7.7 Mitigation Measures

4.7.7.1 Threshold GHG-1: Generation of Greenhouse Gas Emissions

MM GHG-1: On-Site Renewable Energy Generation. Prior to the issuance of building permits, the Project Proponent/Developer shall provide documentation (e.g., building plans) that design of Buildings 1 and 2 would include the installation of solar panels to offset estimated Project electricity use by at least 25 percent.

4.7.8 Level of Significance After Mitigation

4.7.8.1 Threshold GHG-1: Generation of Greenhouse Gas Emissions

Mitigation measure MM GHG-1 would reduce Project emissions related to energy use. Additionally, as described in Section 4.13, implementation of a Transportation Demand Management Plan (TDM) for the Proposed Project would reduce VMT from Buildings 1 and 2 by approximately 4.1 percent. Table 4.7-4, Proposed Project-Related Mitigated Base Year Greenhouse Gas Emissions, presents the Proposed Project near-term GHG emissions with implementation of mitigation measures MM GHG-1 and MM TRAN-1. As shown in Table 4.7-4, implementation of a TDM plan and installation of an on-site photovoltaic system would reduce GHG emissions to below the 10,000 MT CO_{2e} threshold in the short-term. This impact would be reduced to a less than significant level.

Table 4.7-4. Proposed Project-Related Mitigated Base Year Greenhouse Gas Emissions

Emissions Source	Emissions (MT CO _{2e})
Area and Refrigerants	18
Electricity	721
Natural Gas	881
Mobile	7,477 ¹
Waste	254
Water	499
Amortized Construction Emissions	99
Total Annual Emissions	9,949
<i>Threshold of Significance</i>	<i>10,000</i>
Significant Impact?	No

Source: CalEEMod, Version 2022.1.1.24. Refer to Appendix B for model output.

Notes: MT CO_{2e} = metric tons of carbon dioxide equivalent

¹ Buildings 1 and 2 account for 74 percent of total daily VMT. MM TRA-1 is assumed to reduce 74 percent of mobile emissions by 4.1 percent (234 MT CO_{2e}).

4.7.8.2 Threshold GHG-2: Conflict with Applicable Plan

With implementation of mitigation measures MM GHG-1 and MM TRAN-1, potential impacts to GHG emissions from Proposed Project would be reduced to less than significant levels. No significant and unavoidable impacts would remain.