5.8 GREENHOUSE GAS EMISSIONS

5.8.1 INTRODUCTION

This section describes the existing regulatory and environmental settings, and analyzes the General Plan and Barstow International Gateway (BIG) projects, collectively referred to as "Project" or "proposed Project," potential to generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment, and conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the GHG emissions. This evaluation is based on the methodology recommended by the Mojave Desert Air Quality Management District (MDAQMD) and the California Air Resources Board (CARB). Because no single project is large enough to result in a measurable increase in global concentrations of GHG, GHG emissions impacts of the Project are considered on a cumulative basis.

Where significant impacts remain despite compliance with the existing regulatory framework, feasible mitigation measures are recommended to avoid or reduce the Project's potentially significant environmental impacts.

Proposed General Plan

Proposed General Plan-related information in this section is based on methodology and information discussed in **Section 5.8.3: Methodology For Evaluating Impacts** and **Section 5.8.4: Environmental Setting**, respectively. Communitywide GHG emissions modeling for the proposed General Plan is included in **Appendix 5.3 GP-1: Air Quality and Greenhouse Gas Emissions Modeling**.

Barstow International Gateway (BIG)

BIG-related information in this section is based in part on the following studies:

- *Barstow International Gateway Greenhouse Gas Assessment*; see **Appendix 5.8 BIG-1: Greenhouse Gas Emissions Assessment**
- *CEQA Assessment*; see **Appendix 5.15 BIG-1: CEQA Assessment – Transportation Analysis** ("CEQA Assessment").

Summary of Findings – Proposed General Plan

The emissions inventory and forecast for the General Plan utilizes a community emissions accounting method that includes sources that are in the indirect and direct jurisdictional control of the City of Barstow (geographic region).[1] As described in Section 5.8.6, the proposed General Plan would result in a substantial increase in GHG emissions as a result of City's planned growth, including BIG and its associated jobs. However, the City intends to implement mitigation measures, including developing and implementing a Climate Action Plan (see Mitigation Measure [**MM] GP GHG-1)**, to further reduce GHG emissions throughout the City. These mitigation measures will also build on the GHG reductions associated with the

[1] Emissions from permitted sources are excluded from the existing emissions inventory because the reductions associated with the Industrial sector are regulated separately by MDAQMD or are otherwise not under the jurisdiction of the City.

BIG project described in more detail later in this section (see **MM BIG AQ-1** through **MM BIG AQ-14**), as well as national Truck Miles Traveled [TMT]) reductions from BIG project implementation.

Because the community emissions accounting method is based on the City's geographic boundary, and the significance threshold used for the General Plan is based on California's emissions targets under Assembly Bill (AB) 1279, the emissions forecast for the General Plan separates the BIG project-level emissions that occur outside of California from those emissions within California. The results are as follow:

- **California.** The proposed Project would increase GHG emissions in California by 134,471 metric tons of carbon dioxide equivalents ($MTCO_2e$) per year (41 percent increase) from existing levels in California without mitigation. This net increase would exceed MDAQMD's significance threshold of 90,718 $MTCO_2e$ per year (100,000 tons per year) and emissions at year 2048 would not achieve the GHG reduction targets of AB 1279.
- **California + National**. When considering BIG emissions reductions achieved as result of a reduction in national TMT, the proposed Project would result in an increase in community emissions of 42,045 $MTCO_2e$ per year (13 percent increase) from existing levels. This net increase would not exceed MDAQMD's significance threshold of 90,718 $MTCO_2e$/yr (100,000 tons/yr) but would still not achieve the plan-level GHG reduction target of AB 1279 for year 2048.

Implementation of **MM GP GHG-1** would ensure that the City of Barstow (City) prepares a Climate Action Plan (CAP) to align GHG emissions targets in the City with the State's carbon neutrality goal set by AB 1279. **MM GP GHG-1** would also ensure that the City is tracking and monitoring the City's GHG emissions. However, given the growth in population and employment within the City and its SOI (proposed General Plan area) and the magnitude of emissions reductions needed to achieve the GHG reduction target, GHG emissions are significant and unavoidable after mitigation.

The proposed General Plan would be consistent with the goals of the Southern California Association of Government's (SCAG) Connect SoCal 2024, 2024-2050 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS). However, the proposed General Plan may conflict with the Natural and Working Lands (NWL) actions and strategies in CARB's Scoping Plan pertaining to croplands due to the anticipated loss of farmlands. Implementation of **MM GP AG-1** would reduce the loss of farmland to the extent feasible. However, it would not fully avoid or reduce the conversion of farmland to nonagricultural uses. Therefore, the proposed General Plan would still conflict with the 2022 CARB Scoping Plan's NWL strategies regarding croplands after mitigation resulting in a significant and unavoidable impact.

Summary of Findings – Barstow International Gateway

BIG would have construction-related and operational impacts from GHG, but with mitigation, overall would enhance regional goods movement efficiency and would reduce environmental impacts from regional truck and train traffic, in furtherance of the State Rail Plan (Caltrans, 2024). Construction would generate greenhouse gas emissions from equipment, vehicle trips, and rail activities, although these temporary impacts would be minimized through mitigation measures like using cleaner technology and renewable fuels. After completion, operational emissions would occur from rail yard equipment, locomotives, a small number of heavy-duty trucks, and building energy use.

However, BIG would reduce truck trips, resulting in reduced GHG emissions by enhancing rail transport efficiency, and would overall reduce GHG emissions. As part of the BIG, environmental impacts will be reduced by utilizing electric cargo handling equipment, renewable energy sources like solar power, increasing renewable diesel usage, utilizing a dedicated Tier 4 fleet for the trains from the Ports to BIG's intermodal facility, and adhering to state regulations for cleaner vehicle technologies. Ultimately, BIG is a net GHG-reduction project.

5.8.2 REGULATORY SETTING

5.8.2.1 Federal

To date, national standards have not been established for GHG emissions, nor have any regulations or federal legislation been enacted specifically to address climate change or direct GHG emissions reduction at the project level. Laws have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

Energy Policy and Conservation Act of 1975

The Energy Policy and Conservation Act of 1975 was developed to establish energy conservation programs to efficiently and effectively minimize any adverse economic or employment impacts of changing patterns of energy use and meet local economic, climatic, geographic, and other unique conditions and requirements of each state. The Act established the Strategic Petroleum Reserve, the Energy Conservation Program for Consumer Products, and Corporate Average Fuel Economy (CAFE) regulations (updated regularly).

National Climate Program Action of 1978

The National Climate Program Act requires the Secretary of Commerce to establish a National Climate Program Office to enable the United States (U.S.) and other nations to understand and respond to natural and man-induced climate processes and their implications. The Program includes: (1) procedures for assessing the effect of climate on agriculture, energy supply and demand, land and water resources, transportation, human health, and national security; (2) basic and applied research to improve understanding of climate processes; (3) methods of improving climate forecasts; (4) global data collection and climate monitoring and analysis activities to provide reliable, useful, and available information on a continuing basis; (5) systems for the management and active dissemination of climatological data and information; (6) measures for increasing international cooperation in climate research, monitoring, analysis, and data dissemination; (7) mechanisms for intergovernmental climate-related research and services, including participating by universities and the private sector; (8) experimental climate forecast centers; and (9) biennial revisions for the final five-year plan.

In 1979, the National Research Council released Strategy for the National Climate Program, the first of a number of reviews and advisory documents prepared by the National Research Council on the program. The Global Change Research Act of 1990 as amended is the currently mandated framework within which climate and global change research is implemented among federal departments and agencies.

Energy Policy Act of 1992

The Energy Policy Act of 1992 set goals, created mandates, and amended utility laws to increase clean energy use and improve overall energy efficiency in the U.S. The Act has 27 titles detailing various measures designed to lessen the nation's dependence on imported energy, provides incentives for clean and renewable energy, and promotes energy conservation in buildings. Title XVI (Global Climate Change) requires the Secretary of Energy to report to the Congress on specified implications of global climate change policies, including the generation of GHGs and carbon dioxide (CO_2), and U.S. compliance with its international obligations.

Energy Policy Act of 2005

The Energy Policy Act of 2005 sets forth an energy research and development program covering energy efficiency; renewable energy; oil and gas; coal; Tribal energy resource development; nuclear matters and security; vehicles and motor fuels, including ethanol; hydrogen; electricity; energy tax incentives; hydropower and geothermal energy; and climate change technology.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 requires, among other key measures, the following, which would aid in the reduction of national GHG emissions:

- 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 (mpg) for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium-duty trucks 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 and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

On April 9, 2025, President Trump signed an executive order (EO) calling for the sunset of various environmental regulations. The order affects pieces of several keystone energy and environmental legislation, including the Energy Independence and Security Act of 2007.

Massachusetts v. Environmental Protection Agency (2007)

The U.S. Supreme Court ruled in *Massachusetts v. Environmental Protection Agency* 549 U.S. 497 (2007), that CO_2 and other GHGs are pollutants under the Federal Clean Air Act (FCAA), which the United States Environmental Protection Agency (U.S. EPA) must regulate if it determines they pose an endangerment to public health or welfare. The Supreme Court's opinion also referenced a Council on Environmental Quality report issued in 1970 that concluded that "["m]an may be changing his weather"" and a 1979 Climate Research Board investigation that determined "If [CO_2] continues to increase, the study group finds no reason to doubt that climate changes will result and no reason to believe that these changes will be negligible… A wait-and-see policy may mean waiting until it is too late."

Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles

In 2024, the U.S. EPA issued a final rule, *Multi-Pollutant Emissions Standards for MYs 2027 and Later Light-Duty and Medium-Duty Vehicles* that sets new, more protective standards to reduce harmful air pollutant emissions from light-duty and medium-duty vehicles starting with model year 2027. The final rule builds upon U.S. EPA's final standards for federal GHG emissions standards for passenger cars and light trucks for model year 2023 through 2026 and leverages advances in clean car technology to help improve public health from vehicle emissions. These standards will phase in over model year 2027 through 2032. For light-duty vehicles, the standards are projected to result in an industry-wide average target for the light-duty fleet of 85 grams per mile of CO_2 in model year 2032, representing a nearly 50 percent reduction in projected fleet average emissions target levels relative to the existing model year 2026 standards. The medium-duty vehicle standards are projected to result in an average target of 274 grams per mile of CO_2 by model year 2032, representing a 44 percent reduction in projected fleet average emissions target levels relative to the existing model year 2026 standards. Overall, the U.S. EPA projects that cumulative CO_2 reductions as a result of the new standards are approximately 7.2 billion metric tons over the life of the program.

In response to President Trump's "Unleashing American Energy" Executive Order (EO), published on January 20, 2025, the U.S. EPA announced its intention to reconsider regulations and actions that rely on the 2009 Greenhouse Gas Endangerment Finding (Endangerment Finding) on March 12, 2025. This includes the Multi-Pollutant Emissions Standard for model year 2027 and Later Light-Duty and Medium-Duty Vehicles. California currently has no authority to implement these standards.

U.S. EPA Endangerment Finding

The U.S. EPA authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing FCAA and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the U.S. EPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs (CO_2, methane [CH_4], nitrous oxide [N_2O], hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulfur hexafluoride [SF_6]) constitute a threat to public health and welfare. Therefore, it is the Supreme Court's interpretation of the existing FCAA and the U.S. EPA's assessment of the scientific evidence that form the basis for the U.S. EPA's regulatory actions.

In response to President Trump's "Unleashing American Energy" EO, published on January 20, 2025, the U.S. EPA announced its intention to reconsider regulations and actions that rely on the Endangerment Finding on March 12, 2025. The March 12, 2025 announcement specifically targets the following which impact GHG emissions:

- Advanced Clean Trucks (ACT) Plan
  - Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards

  - Multi-Pollutant Emissions Standards for model year 2027 and Later Light- and Medium-Duty Vehicles
  - Greenhouse Gas Emissions Standards for Heavy-Duty Vehicles – Phase 3.
- Corporate Average Fuel Economy (CAFE) Standards

Federal Vehicle Standards

In response to the U.S. Supreme Court ruling in *Massachusetts v. EPA* (2007) discussed above, EO 13432 was issued in 2007 directing the U.S. EPA, the Department of Transportation, and the 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 U.S. EPA and NHTSA issued a final rule regulating cars and light trucks for model year 2012 to 2016. The NHTSA is responsible for establishing vehicle standards and for revising existing standards. Compliance with federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the U.S.

CAFE standards are federal regulations that are set to reduce energy consumed by on-road motor vehicles. The NHTSA regulates the standards, and the U.S. EPA measures vehicle fuel efficiency. The standards specify minimum fuel consumption efficiency standards for new automobiles sold in the U.S. On May 19, 2009, President Obama issued a Presidential Memorandum proposing a new national fuel economy program that adopts uniform federal standards to regulate both fuel economy and GHG emissions. The program covers model year 2012 to model year 2016 and ultimately requires an average fuel economy standard of 35.5 mpg in 2016 (39 mpg for cars and 30 mpg for heavy-duty trucks). In response to the Presidential Memorandum, an October 2010 Regulatory Announcement developed with support from industry, the State of California, and environmental stakeholders was issued by the U.S. EPA and the U.S. Department of Transportation.

On August 28, 2012, the U.S. EPA and the NHTSA issued a joint final rule to establish 2017 through 2025 GHG emissions and CAFE standards. To further California's support of the national program to regulate emissions, the CARB submitted a proposal that would allow automobile manufacturer compliance with the U.S. EPA's average fuel economy regulations to show conformity with California's requirements for the same model year. The Final Rulemaking Package was filed on December 6, 2012, and the final rulemaking became effective on December 31, 2012. Building on Advanced Clean Cars (ACC) I, rulemaking for ACC II was finalized on November 30, 2022. This further accelerates California's transition to zero-emissions vehicles (ZEVs) by setting a ZEV sales target of 100 percent by 2035 instead of ACC I's target of 35 percent.

On June 7, 2024, the NHTSA finalized their CAFE standards for model year 2030 to 2035. The final rule requires an industry-wide fuel average of approximately 50.4 mpg for passenger cars and light-duty trucks and an industry fleet-wide average for heavy-duty pickup trucks and vans of roughly 2.851 gallons per 100 miles.

In response to President Trump's "Unleashing American Energy" EO, published on January 20, 2025, the U.S. EPA announced its intention to reconsider regulations and actions that rely on the Endangerment Finding on March 12, 2025. This includes the CAFE standards. On June 6, 2025, the NHTSA published an interpretive rule that establishes the NHTSA's authority to revise the CAFE standards without consideration of EVs. California currently has no authority to implement these standards.

Recent Changes in Federal GHG Policy

In August 2022, President Biden signed the Inflation Reduction Act (IRA) into Law. The IRA is the largest investment in clean energy and climate action that has ever been enacted and marks the most significant action Congress has taken on clean energy and climate change in the nation's history. The IRA invests $350 million for grants, technical assistance and tools, including carbon labeling, to help manufacturers, institutional buyers, real estate developers, builders and others measure, report and substantially lower the levels of embodied carbon and other GHG emissions associated with all relevant stages of production, use and disposal of construction materials and products including steel, concrete, asphalt and glass. Public and private sector investments driven by the IRA are expected to reduce GHG emissions by approximately 1 billion tons in 2030. In response to President Trump's "Unleashing American Energy" EO, published on January 20, 2025, disbursement of all funds supporting the IRA were paused and all contracts supporting clean energy and climate-related initiatives were terminated.

In March 2022, the U.S. EPA released state-level data as a resource to support states as they work to address the climate crisis and reduce climate pollution. These resources include new state-level GHG emissions and sinks, updates to the U.S. EPA's existing State Inventory Tool to help states compile their own emission and sink estimates, and information on state-level opportunities to reduce emissions of highly-potent GHGs.

In November 2021, the Infrastructure Investment and Jobs Act was approved by the U.S. Congress and was signed by President Biden. The act aims to build modernized environmentally friendly infrastructure and update outdated structures which would reduce GHG emissions. In response to President Trump's "Unleashing American Energy" EO, published on January 20, 2025, disbursement of all funds supporting the Infrastructure Investment and Jobs Act were paused and all contracts supporting clean energy and climate-related initiatives were terminated.

5.8.2.2 State

California Air Resources Board (CARB)

The CARB is responsible for the coordination and oversight of State and local air pollution control programs in California. Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness about climate change and its potential for severe long-term adverse environmental, social, and economic effects. California is a significant emitter of carbon dioxide equivalents (CO_2e) in the world and produced 369 gross million metric tons of CO_2e ($MMTCO_2e$) in 2020. In the State, the transportation sector is the largest emitter of GHGs, followed by industrial operations such as manufacturing and oil and gas extraction.

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation, such as the landmark AB 32, *California Global Warming Solutions Act of 2006*, was specifically enacted to address GHG emissions. Other legislation, such as Title 24 building efficiency standards and Title 20 appliance energy standards, were originally adopted for other purposes such as energy and water conservation but also provide GHG reductions. This section describes the major provisions of California legislation.

AB 32 (California Global Warming Solutions Act of 2006)

AB 32 instructs the CARB to develop and enforce regulations for reporting and verifying statewide GHG emissions. AB 32 also directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. It set a timeline for adopting a Scoping Plan for achieving GHG reductions in a technologically and economically feasible manner.

CARB Scoping Plan

Overview. CARB adopted the Scoping Plan to achieve AB 32 goals. The Scoping Plan and its updates establish an overall framework for the measures that would be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business-as-usual" [BAU]).[2] The Scoping Plan and its updates evaluate opportunities for sector-specific reductions, including the transportation sector, integrates early actions and additional GHG reduction measures by both CARB and the State's Climate Action Team, identifies additional measures to be pursued as regulations, and outlines the adopted role of a cap-and-trade program, which is discussed below.[3] Additional development of these measures and adoption of the appropriate regulations occurred through the end of 2013.

Key elements of the Scoping Plan and its updates include:

- Expanding and strengthening existing energy efficiency programs, as well as building and appliance standards.
- Achieving a statewide renewables energy mix of 33 percent by 2020.
- Developing a California cap-and-trade program that links with other programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions (adopted in 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets (several sustainable community strategies have been adopted).

[2] CARB defines BAU in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

[3] The Climate Action Team, led by the secretary of the California Environmental Protection Agency, is a group of state agency secretaries and heads of agencies, boards, and departments. Team members work to coordinate statewide efforts to implement global warming emissions reduction programs and the State's Climate Adaptation Strategy.

- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, heavy-duty truck measures, the Low Carbon Fuel Standard (LCFS) (amendments to the Pavley Standard adopted 2009; ACC standard adopted 2012), and goods movement measures.
- Creating targeted fees, including a public goods charge on water use, fees on gases with high global warming potential (GWP), and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.
- The California Sustainable Freight Action Plan was developed in 2016 and provides a vision for California's transition to a more efficient, more economically competitive, and less polluting freight transport system. This transition of California's freight transport system is essential to supporting the State's economic development in coming decades while reducing pollution.
- CARB's Mobile Source Strategy demonstrates how the State can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years. The Mobile Source Strategy includes increasing ZEV buses and trucks.

The following revisions to the CARB Scoping Plan are provided chronologically.

Updated BAU Estimates and Inventory Forecasts. In 2012, CARB released revised estimates of the expected 2020 emissions reductions. The revised analysis relied on emissions projections updated in light of current economic forecasts that accounted for the economic downturn since 2008, reduction measures already approved and put in place relating to future fuel and energy demand, and other factors. This update reduced the projected 2020 emissions from 596 $MMTCO_2e$ to 545 $MMTCO_2e$. The reduction in forecasted 2020 emissions means that the revised BAU reduction necessary to achieve AB 32's goal of reaching 1990 levels by 2020 was adjusted to 21.7 percent, down from 29 percent. CARB also provided a lower 2020 inventory forecast that incorporated state-led GHG emissions reduction measures already in place. When this lower forecast is considered, the necessary reduction from BAU needed to achieve the goals of AB 32 is approximately 16 percent.

2014 Scoping Plan Update. In 2014, CARB adopted the first major update to the Scoping Plan. The updated Scoping Plan summarizes the most recent science-related to climate change, including anticipated impacts to California and the levels of GHG emissions reductions necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32.

Senate Bill (SB) 32. In 2016, the Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels and is discussed further below. With SB 32, the Legislature passed companion legislation, AB 197, which provides additional direction for developing the Scoping Plan. Two major updates to the Scoping Plan have occurred since the passing of SB 32 and AB 197 and are discussed further below:

2017 CARB Scoping Plan. On December 14, 2017, CARB adopted a second update to the Scoping Plan. The 2017 Scoping Plan details how the State will reduce GHG emissions to meet the 2030 target set by EO B-30-15 and codified by SB 32; EO B-30-15 is discussed further in the '**Other EO Related to GHG Emissions**'

section below. Other objectives listed in the 2017 Scoping Plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and support other federal actions. Key elements from the 2017 Scoping Plan include:

- The California Sustainable Freight Action Plan aims to have 25 percent improvement of freight system efficiency by 2030 through the deployment of over 100,000 freight vehicles and equipment capable of ZE operation and maximizing near-ZE freight vehicles and equipment powered by renewable energy.
- The Cleaner Technology and Fuels Scenario of CARB's ongoing Mobile Source Strategy includes GHG regulations for medium-duty trucks and heavy-duty trucks, periodic assessment, and promotion of cleaner fleet standards, and increasing ZEV across all vehicle classes, including rail vehicles, along with charging infrastructure.

2022 CARB Scoping Plan. On December 15, 2022, CARB adopted the *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan). The 2022 Scoping Plan sets a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels by 2045 in accordance with AB 1279. To achieve the targets of AB 1279, the 2022 Scoping Plan relies on existing and emerging fossil fuel alternatives and clean technologies, as well as carbon capture and storage. Specifically, the 2022 Scoping Plan focuses on ZE transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen. The 2022 Scoping Plan sets one of the most aggressive approaches to reach carbon neutrality in the world. Unlike the 2017 Scoping Plan, CARB no longer includes a numeric per capita threshold and instead advocates for compliance with a local GHG reduction strategy (i.e., CAP) consistent with CEQA Guidelines § 15183.5.

The key elements of the 2022 Scoping Plan focus on transportation. Specifically, the 2022 Scoping Plan aims to rapidly move towards ZE transportation (i.e., electrifying cars, buses, trains, and trucks), since transportation constitutes California's single largest source of GHGs. The regulations that impact the transportation sector are adopted and enforced by CARB on vehicle manufacturers and are outside the jurisdiction and control of local governments. The 2022 Scoping Plan accelerates development of new regulations as well as amendments to strengthen regulations and programs already in place. The 2022 Scoping Plan also presents the following relevant strategies for transitioning the transportation sector:

- Transitioning vehicles to ZE technology by achieving 100 percent ZEV sales of light-duty vehicles (light trucks) by 2040.[4]
- Promote private investment in the transition to ZEV technology, bolstered by regulatory certainty such as infrastructure credits in the LCFS for hydrogen and electricity and hydrogen station grants from the California Energy Commission's (CEC) Clean Transportation Program.

[4] On May 22, 2025, the U.S. Senate voted to revoke the waiver granted by the Biden administration for the ACC II program. On June 12, 2025, President Trump formally nullified the California's ACT rule and the ACC II program (Congressional Resolutions H.J. Res 87 and H.J. Res 88, respectively).

- Evaluate and align relevant CARB policies such as ACT, Advanced Clean Fleets (ACF), ZE Forklifts, In-use Locomotives, Clean Off-Road Fleet Recognition Program, Amendments to the In-use Off-Road Diesel-Fueled Fleets Regulation, carbon pricing through the Cap-and-Trade Program, and the LCFS.[5, 6, 7]

Included in the 2022 Scoping Plan is a set of Local Actions (2022 Scoping Plan Appendix D) aimed at providing local jurisdictions with tools to reduce GHGs and assist the state in meeting the ambitious targets set forth in the 2022 Scoping Plan. The 2022 Scoping Plan Appendix D includes a section on evaluating plan-level and project-level alignment with the state's Climate Goals in CEQA GHG analyses. In this section, CARB identifies several recommendations and strategies that should be considered for new development in order to determine consistency with the 2022 Scoping Plan. Notably, this section is focused on Residential and Mixed-Use Projects. CARB specifically states that 2022 Scoping Plan Appendix D does not address other land uses (e.g., industrial or rail). However, the 2022 Scoping Plan Appendix D plans to explore new approaches for other land use types in the future.

Attributes that accommodate growth in a manner consistent with the GHG and equity goals of SB 32 have all the following attributes:

- Transportation Electrification
  - Provide electric vehicle (EV) charging infrastructure that, at a minimum, meets the most ambitious voluntary standards in the California Green Building Standards (CALGreen) Code at the time of project approval.
- Vehicle Miles Traveled (VMT) Reduction
  - Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).
  - Does not result in the loss or conversion of the State's natural and working lands.
  - Consists of transit-supportive densities (minimum of 20 residential dwelling units/acre) or is in proximity to existing transit stops (within a half mile) or satisfies more detailed and stringent criteria specified in the region's SCS.
  - Reduces parking requirements by:
    - Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or

[5] On January 13, 2025, CARB withdrew their requests for FCAA waivers from the U.S. EPA needed to support four recently adopted vehicle emissions regulations: (1) the ACF Regulations; (2) the In-Use Locomotive Regulations; (3) part of the Commercial Harbor Craft and Ocean-Going Vessels At-Berth Regulations; and (4) part of the Transport Refrigeration Unit Engine Standards Regulations. Therefore, implementation of these regulations is currently unknown.

[6] The ACT regulation, which requires manufacturers to sell increasing percentages of zero-emission vehicles, was granted a separate waiver in 2023. On May 22, 2025, the U.S. Senate voted to revoke the waiver granted by the Biden administration for California's ACT rule (as well as the ACC II program and Heavy-Duty Omnibus regulation). On June 12, 2025, President Trump formally nullified the California's ACT rule and the ACC II program (Congressional Resolutions H.J. Res 87 and H.J. Res 88, respectively).

[7] As part of a legal settlement, CARB has agreed to repeal the High Priority Fleet and Drayage Fleet requirements of the ACF regulation. Final action on the repeal is required by August 31, 2026.

        - Providing residential parking supply at a ratio of <1 parking space per dwelling unit; or
        - For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.
    - At least 20 percent of the units are affordable to lower-income residents.
    - Result in no net loss of existing affordable units.
- Building Decarbonization
    - Uses all electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking (CARB, 2022a).

The second approach to project-level alignment with State climate goals is net zero GHG emissions, especially for new residential development. The third approach to demonstrating project-level alignment with State climate goals is to align with GHG thresholds of significance, which many local air quality management and air pollution control districts have developed or adopted (CARB, 2022b).

SB 32 (California Global Warming Solutions Act of 2006: Emissions Limit)

Enacted in September 2016, SB 32 codifies the 2030 GHG reduction target in EO B-30-15 (40 percent below 1990 levels by 2030); EO B-30-15 is discussed further in the '**Other EO Related to GHG Emissions**' section below. The bill authorizes CARB to adopt an interim GHG emissions level target to be achieved by 2030. CARB also must adopt rules and regulations in an open public process to achieve the maximum, technologically feasible, and cost-effective GHG reductions.

With SB 32, the State Legislature passed companion legislation, AB 197, which provides additional direction for developing the Scoping Plan. On December 14, 2017, CARB adopted the 2017 Scoping Plan, discussed above. The 2017 Scoping Plan details how California will reduce GHG emissions to meet the 2030 target set by EO B-30-15 and codified by SB 32.

SB 535 (Disadvantaged Communities)

Enacted in 2012, SB 525 establishes requirements for minimum funding levels to disadvantaged communities. Disadvantaged communities in California are specifically targeted for investment of proceeds from the State's Cap-and-Trade Program. These investments are aimed at improving public health, quality of life and economic opportunity in California's most burdened communities, and at the same time, reducing pollution that causes climate change. The City is identified as a disadvantaged community per SB 535.

Cap-and-Trade Program

California developed a Cap-and-Trade Program that links with other Western Climate Initiative partner programs to create a regional market system. The California Cap-and-Trade Program caps GHG emissions and requires the purchase of emission allowances for covered activities. The Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction

mandate of returning to 1990 levels of emissions by 2020. The statewide cap for GHG emissions from the capped sectors (i.e., electricity generation, industrial sources, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration. The passage of AB 398 in July 2017 extended the duration of the Cap-and-Trade Program to 2030.

The 2017 Scoping Plan sets forth measures to reduce GHG emissions to achieve State GHG emission reduction targets for 2030 as prescribed by statute, as well as 2050 targets set forth in EOs S-3-05 and B-16-2012 issued by the California Governor's office. The Cap-and-Trade Program is included in the 2017 Scoping Plan, without a termination date of 2030. The Cap-and-Trade Program is also included in the 2022 Scoping Plan without a termination date of 2030. The 2022 Scoping Plan noted that CARB will use the modeling for the 2022 Scoping Plan to assess what changes may be warranted to the Cap-and-Trade Programs to ensure achievement of the 2030 target. Based on CARB's expert opinion, the inclusion of a Cap-and-Trade Program through 2050 in the 2017 Scoping Plan, and other relevant climate laws, regulations, and policies, it is likely the Cap-and-Trade Program would continue beyond 2030.

Under the Cap-and-Trade Program, covered entities that emit more than 25,000 $MTCO_2e$ per year must comply with Program requirements. Triggering of the 25,000 $MTCO_2e$ per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of GHG Emissions (Mandatory Reporting Rule). CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities are allocated free allowances in whole or part (if eligible), and may buy allowances at auction, purchase allowances from others, or purchase offset credits.

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program would be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program would be responsible for relatively more emissions reductions. Therefore, the Cap-and-Trade Program assures that California would meet its 2020 GHG emissions reduction mandate.

Due to the regulatory framework adopted by CARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures. As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California's GHG emissions. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. The Cap-and-Trade Program was extended in 2015 to cover the combustion of fossil fuels including transportation fuels used in California. Accordingly, GHG emissions associated with the electricity usage and mobile sources of most projects that are subject to CEQA are covered by the Cap-and-Trade Program.

SB 375 (The Sustainable Communities and Climate Protection Act of 2008)

Enacted on September 30, 2008, SB 375 provides a process to coordinate land use planning, RTPs, and funding priorities to help California meet AB 32's GHG reduction goals. SB 375 requires metropolitan

planning organizations (MPO) to include SCSs in their RTPs for reducing GHG emissions, aligns planning for transportation and housing, and creates specified incentives for the implementation of the strategies.

Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 MPO. The SCAG is the MPO for the Southern California region, which includes Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial counties. Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. CARB adopted revised SB 375 targets for the MPOs in March 2018 that became effective in October 2018. All SCSs adopted after October 1, 2018, are subject to these new targets. CARB's updated SB 375 targets for the SCAG region were an 8 percent per capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent).

The targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan (for SB 32), while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of "percent per capita" reductions in GHG emissions from automobiles and light trucks relative to 2005; this excludes reductions anticipated from implementation of State technology and fuels strategies and any potential future State strategies, such as statewide road user pricing. The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translate into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCSs to achieve the SB 375 targets. CARB foresees that the additional GHG emissions reductions in 2035 may be achieved from land use changes, transportation investment, and technology strategies.

AB 1493 (Pavley Regulations and Fuel Efficiency Standards)

AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light-duty trucks. Implementation of the statute was delayed by lawsuits filed by automakers and by the U.S. EPA's denial of an implementation waiver. The U.S. EPA subsequently granted the requested waiver in 2009, which was upheld by the U.S. District Court for the District of Columbia in 2011. The regulations establish one set of emission standards for passenger vehicle and light-duty truck model year 2009–2016 and a second set of emissions standards for model year 2017 to 2025. By 2025, when all rules will be fully implemented, new passenger vehicles are anticipated to emit 34 percent fewer CO_2e emissions and 75 percent fewer smog-forming emissions.

SB 1368 (Emission Performance Standards)

SB 1368, enacted in September 2006, is the companion bill to AB 32, which directs the California Public Utilities Commission (CPUC) to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 limits carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from

resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. The law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The CPUC adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, for 1,100 pounds of CO_2 per megawatt-hour.

SB 1078, SB 107, and SBX1-2 (Renewable Electricity Standards)

SB 1078 required California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed EO S-14-08, which established a Renewable Portfolio Standard (RPS) target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. EO S-21-09 also directed CARB to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23. SBX1-2, which codified the 33 percent by 2020 goal.

SB 350 (Clean Energy and Pollution Reduction Act of 2015)

Enacted on October 7, 2015, SB 350 implements EO B-30-15's goals; EO B-30-15 is discussed further in the '**Other EO Related to GHG Emissions**' section below. The SB 350 objectives are to increase the procurement of electricity from renewable sources from 33 percent to 50 percent (with interim targets of 40 percent by 2024, and 25 percent by 2027) and to double the energy efficiency savings in electricity and natural gas end uses of retail customers through energy efficiency and conservation. SB 350 also reorganizes the California Independent System Operator (CAISO) to develop more regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western U.S.

AB 398 (Market-Based Compliance Mechanisms)

Signed on July 25, 2017, AB 398 extended the duration of the Cap-and-Trade program from 2020 to 2030. AB 398 required CARB to update the Scoping Plan and for all GHG rules and regulations adopted by the State. It also designated CARB as the statewide regulatory body responsible for ensuring that California meets its statewide carbon pollution reduction targets, while retaining local air districts' responsibility and authority to curb toxic air contaminants (TACs) and criteria pollutants from local sources that severely impact public health. AB 398 also decreased free carbon allowances over 40 percent by 2030 and prioritized Cap-and-Trade spending to various programs including reducing diesel emissions in impacted communities.

SB 150 (RTPs)

Signed on October 10, 2017, SB 150 aligns local and regional GHG reduction targets with State targets in SB 32 (i.e., 40 percent below their 1990 levels by 2030). SB 150 creates a process to include communities in discussions on how to monitor their regions' progress on meeting these goals. The bill also requires the CARB to regularly report on that progress, as well as on the successes and the challenges regions

experience associated with achieving their targets. SB 150 provides for accounting of climate change efforts and GHG reductions and identify effective reduction strategies.

SB 100 (California RPS Program: Emissions of GHGs)

Enacted in September 2018, SB 100 increased California's renewable electricity portfolio target from 50 to 60 percent by 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045.

AB 1346 (Air Pollution: Small Off-Road Engines)

Enacted in October 2021, AB 1346 required CARB to adopt cost-effective and technologically feasible regulations to prohibit engine exhaust and evaporative emissions from new small off-road engines consistent with federal law by July 1, 2022. The bill requires CARB to identify and, to the extent feasible, make available funding for commercial rebates or similar incentive funding as part of any updates to existing applicable funding program guidelines to local air pollution control districts and air quality management districts to implement to support the transition to zero-emission (ZE) small off-road equipment operations.

SB 1020 (100 Percent Clean Electric Grid)

Signed on September 16, 2022, SB 1020 provides additional goals for the path to the 2045 goal of 100 percent clean electricity retail sales. It creates a target of 90 percent clean electricity retail sales by 2035 and 95 percent clean electricity retail sales by 2040.

SB 905 (Carbon Sequestration Program)

Signed on September 16, 2022, SB 905 establishes regulatory framework and policies that involve carbon removal, carbon capture, utilization, and sequestration. It also prohibits the injecting of concentrated CO_2 fluid into a Class II injection well for the purpose of enhanced oil recovery.

AB 1279 (The California Climate Crisis Act)

Signed on September 16, 2022, AB 1279 established the goal to achieve net-zero GHG emissions no later than 2045 and net negative thereafter. The bill establishes a goal toward at least an 85 percent reduction target for anthropogenic GHG emissions below statewide 1990 emissions by 2045. The bill requires CARB to ensure that Scoping Plan updates identify and recommend measures to achieve carbon neutrality, and to identify and implement policies and strategies that enable CO_2 removal solutions and carbon capture, utilization, and storage technologies. As described above, the 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279.

AB 1384 (Resiliency Through Adaptation, Economic Vitality, and Equity Act)

Signed on September 16, 2022, AB 1384 required the release of a draft *Safeguarding California Plan* by January 1, 2024, and every three years thereafter. The intent of AB 1384 is to prioritize the most vulnerable communities, ecosystems, and economic sectors in the State's climate adaptation and resilience strategy set forth in the *Safeguarding California Plan* by ensuring that all State departments and

agencies accurately identify, collaboratively prepare for, and are sufficiently resourced to adequately respond to the impacts of climate change, such as extreme weather events, the urban heat island effect, habitat loss, wildfire, sea level rise, and drought.

AB 1389 (Clean Transportation Program)

Signed on September 16, 2022, AB 1389 establishes the Clean Transportation Program, administered by the State Energy Resources Conservation and Development Commission, to provide funding to certain entities to develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the State's climate change policies. This bill expands the list of criteria that a project is required to meet in order to be given preference for funding by the commission to include that the project is in a nonattainment area, as specified, and that the project advances the comprehensive strategy for vehicles, as provided.

AB 1749 (Community Emissions Reduction Programs: TACs and Criteria Air Pollutants)

Signed on September 16, 2022, AB 1749 develops additional measures to address TACs and criteria air pollutants by increasing the duties of the air districts. The bill would require an air district to provide annual summaries of updates to the community emissions reduction programs to ensure consistency with the statewide strategy. Air districts with a population of 1,000,000 or higher would also be required to show any permits issued for stationary sources of criteria air pollutants or TACs in an easily identifiable location on the air district's website.

AB 1857 (Solid Waste)

Signed on September 16, 2022, AB 1857 would require the Department of Resources, Recycling, and Recovery to run the Zero-Waste Equity Grant Program to promote strategies and investments in communities developing toward a zero-waste circular economy. The bill also requires the department to submit policy recommendations to the Legislature on methods to improve employment and labor standards in the zero-waste job sector.

AB 1985 (Organic Waste)

Signed on September 16, 2022, AB 1985 requires that penalties handed to local jurisdictions that fail to achieve their recovered organic waste procurement target to be imposed based on the percentage of the organic waste procurement target achieved. The bill also exempts rural jurisdiction that currently are exempt from these requirements to remain exempt until December 31, 2026. On and after January 1, 2027, the Department of Resources Recycling and Recovery would provide an extended recovered organic waste procurement target schedule for rural jurisdictions that are exempt. Furthermore, existing regulations allow renewable gas acquired through publicly owned treatment works to count toward a jurisdiction's organic waste procurement target if certain conditions are met.

AB 341

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. § 5.408 of

the CALGreen Code also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 2075 (Energy: EV Charging Standards)

Signed on September 16, 2022, AB 2075 requires the California Building Standards Commission and the Department of Housing and Community Development to consult with the State Energy Resource Conservation and Development Commission in adopting building standards regarding the installation of future vehicle charging infrastructure for parking spaces in different developments. This bill also requires the California Building Standards Commission to collaborate on EV infrastructure standards and to incorporate the most up-to-date statewide assessment of EV charging infrastructure, any electric load forecasts, and the statewide transportation electrification goals. The bill would ensure that voluntary and mandatory vehicle charging standards in the building standards code are anticipating future needs.

SB 905 (Carbon Sequestration: Carbon Capture, Removal, Utilization, and Storage Program)

Signed on September 16, 2022, SB 905 establishes regulatory framework and policies that involve carbon removal, carbon capture, utilization, and sequestration. It also prohibits the injecting of concentrated CO_2 fluid into a Class II injection well for the purpose of enhanced oil recovery.

SB 1010 (State ZEV Fleet Vehicles)

Signed on September 16, 2022, SB 1010 requires the Department of General Services and other State agencies to develop an evaluation criterion for bidders based on their vehicle fleets. More specifically, the number of ZEVs or plug-in hybrid EVs in their rental fleet. This evaluation would determine the bidder's eligibility for a commercial rental car services contract. This bill also states that the infrastructure supporting EVs or hydrogen fueling by State entities does not constitute gifts from public funds.

SB 1020 (Clean Energy, Jobs, and Affordability Act of 2022)

Signed on September 16, 2022, SB 1020 provides additional goals for the path to the 2045 goal of 100% clean electricity retail sales. It creates a target of 90 percent clean electricity retail sales by 2035 and 95% clean electricity retail sales by 2040.

SB 1145 (State GHG Dashboard)

The California Global Warming Solutions Act of 2006 designated CARB as the State agency charged with monitoring and regulating sources of GHG emissions. SB 1145, signed on September 16, 2022, requires CARB to create, and maintain on its internet website, a GHG emissions dashboard that provides updated publicly available information regarding how the State is progressing toward meeting its statewide climate change goals.

SB 1158 (GHG Reporting for Retail Electricity Suppliers)

Signed on September 16, 2022, the GHG Reporting for Retail Electricity Suppliers Bill requires retail suppliers to provide hourly reports of load factors and GHG emissions to the CPUC. This information would be published as a percentage of each load-serving entity's local and system adequacy requirements from

the previous calendar year that was met with capacity from eligible renewable energy resources, other zero-carbon resources, or energy storage resources as specified. However, this bill is starting in 2028.

SB 1203 (Net-ZE for State Agencies)

Signed on September 16, 2022, SB 1203 requires State agencies to achieve net-zero GHG operational emissions by 2035 and to publish an annual GHG emissions inventory for the public by 2024. The bill also requires the Department of General Services to develop a plan before January 1, 2026, that details actions and investments that are required to move toward net-ZE.

SB 1205 (Water Rights: Appropriate Permits)

Signed on September 16, 2022, SB 1205 requires the State Water Resources Control Board to develop regulations that focus on the climate impacts on watershed hydrology and the water availability analyses used in the board's review of applications for water rights permits. The bill requires a consultation with the Department of Water Resources, the California Department of Fish and Wildlife, and qualified hydrologists and climate change scientists in preparing the regulations. The bill also prohibits the board from refusing to accept or delay processing or approval of an application on the grounds that the regulations have not been adopted.

SB 1230 (ZEV Incentive Program)

Signed on September 16, 2022, SB 1230 requires CARB to adopt revisions to various ZE incentive programs. If the revision is infeasible, CARB would be required to prepare a report describing the reason for the infeasibility. This report would be published on the internet, and a notice would have to be prepared to the relevant policy and the fiscal committee of the legislature. This bill also requires CARB to create a single-unified education and application portal that aids applicants to the incentive programs access information and submit one application for all the programs.

SB 905 (Carbon Sequestration: Carbon Capture, Removal, Utilization, and Storage Program)

Signed on September 16, 2022, SB 905 establishes regulatory framework and policies that involve carbon removal, carbon capture, utilization, and sequestration. It also prohibits the injecting of concentrated CO_2 fluid into a Class II injection well for the purpose of enhanced oil recovery.

SB 1383 (Short-Lived Climate Pollutant Reduction Strategy)

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and CH_4. Black carbon is the light-absorbing component of fine particulate matter produced during the incomplete combustion of fuels. SB 1383 required the State board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in CH_4 by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills.

On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the State's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning,

fuel combustion (e.g., charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use (CARB, 2017). In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

CARB ACT Regulation

CARB adopted the ACT Regulation in June 2020 requiring truck manufacturers to transition from diesel trucks and vans to electric ZE trucks beginning in 2024. By 2045, every new truck sold in California is required to be ZE. This rule directly puts California on the path for an all ZE cross-dock intermodal drayage fleet in ports and rail yards by 2035, and ZE "last-mile" delivery trucks and vans by 2040. The ACT Regulation accelerates the transition of ZE medium-and heavy-duty vehicles from Class 2b to Class 8. The regulation has two components including a manufacturer sales requirement, and a reporting requirement:

- ZE Truck Sales: Manufacturers who certify Class 2b through 8 chassis or complete vehicles with combustion engines are required to sell ZE trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, ZE truck/chassis sales need to be 55 percent of Class 2b – 3 truck sales, 75 percent of Class 4 – 8 straight truck sales, and 40 percent of truck tractor sales.
- Company and Fleet Reporting: Large employers including retailers, manufacturers, brokers and others would be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, would be required to report about their existing fleet operations. This information would help identify future strategies to ensure that fleets purchase available ZE trucks and place them in service where suitable to meet their needs.

The ACT regulation was granted a separate waiver in 2023 by the Biden administration. On May 22, 2025, the U.S. Senate voted to revoke the waiver granted by the Biden administration for California's ACT rule (as well as the ACC II program and Heavy-Duty Omnibus regulation). On June 12, 2025, President Trump formally nullified California's ACT rule and ACC II program (Congressional Resolutions H.J. Res 87 and H.J. Res 88, respectively). California currently has no authority to implement ACT.

CARB ACF Regulation

CARB adopted the ACF Regulation in April 2023, requiring the use of ZEVs for targeted fleets and that manufacturers only produce ZEV trucks starting in 2036. The ACF regulation was adopted to complement the recently adopted ACT regulation to help advance the introduction of ZE technology into California's trucks and bus fleets. By 2050, the ACF regulation is expected to introduce 1,690,000 ZEVs into the California fleet and result in $26.5 billion in statewide health benefits from improved air quality. This regulation will help contribute to the goals set by EO N-79-20 (described further below) and will help achieve emission reductions outlined in the State Implementation Plan, SB 350, AB 32, SB 32, and AB 32. The regulation has four components including a manufacturer sales mandate, drayage fleets requirements, high priority and federal fleets phase-in, and State and local agency procurement requirement.

On January 13, 2025, CARB withdrew their requests for FCAA waivers from the U.S. EPA needed to support four recently adopted vehicle emissions regulations: (1) the ACF Regulations; (2) the In-Use Locomotive Regulations; (3) part of the Commercial Harbor Craft and Ocean-Going Vessels At-Berth Regulations; and (4) part of the Transport Refrigeration Unit Engine Standards Regulations. In addition, on September 25, 2025, CARB repealed the ACF drayage truck requirements (13 CCR § 2014) and the high priority and federal fleet requirements (13 CCR § 2015 through 2015.6). California currently has no authority to implement ACF. In addition, on September 25, 2025, CARB repealed the ACF drayage truck requirements (13 CCR § 2014) and the high priority and federal fleet requirements (13 CCR § 2015 through 2015.6).

CARB ZE Forklifts

In June 2024, CARB approved for adoption the ZE Forklift Regulation. The ZE Forklift Regulation will drive greater deployment of ZE forklifts within fleets throughout California to replace the 100,000 forklifts currently operating in California. This measure is one of several actions that will facilitate ZE equipment penetration in the off-road sector and has been identified in CARB's Mobile Source Strategy, State Implementation Plan, and Sustainable Freight Action Plan.

In-Use Locomotive Regulation

CARB adopted the In-Use Locomotive Regulation on April 27, 2023. Effective January 1, 2024, the regulation reduces emissions from locomotives operating in California by requiring locomotive operators to fund a spending account based on the public health costs to Californians from locomotive emissions and activity levels. Locomotive operators may use funds held in the spending account to purchase cleaner locomotive technologies. The regulation prohibits locomotives with engine build dates 23 years and older from operating in California starting in 2030. The In-Use Locomotive regulation, starting in 2030, also requires that switch, industrial and passenger locomotives with original engine build dates of 2030 or later operate in a ZE configuration in California. Additionally, in 2035, line haul locomotives with original engine build dates of 2035 or later must operate in a ZE configuration in California. The regulation will achieve emission reductions that will minimize health risk associated with exposure to toxic and criteria pollutants, help meet federal air quality standards, and support California's GHG reduction goals. The regulation also increases the use of ZE technology in the off-road sector and support the goals of EO N-79-20.

As the In-Use Locomotive Regulation would be more stringent than federal standards, CARB will need to obtain approval from the U.S. EPA. On January 13, 2025, CARB withdrew their requests for FCAA waivers from the U.S. EPA needed to support four recently adopted vehicle emissions regulations: (1) the ACF Regulations; (2) the In-Use Locomotive Regulations; (3) part of the Commercial Harbor Craft and Ocean-Going Vessels At-Berth Regulations; and (4) part of the Transport Refrigeration Unit Engine Standards Regulations. Therefore, these regulations will not be implemented.

Other EO Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs using EOs.

EO S-3-05. EO S-3-05 was issued on June 1, 2005, which established the following GHG emissions reduction targets:

- 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.

EO S-01-07. Issued on January 18, 2007, EO S-01-07 mandated that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. The EO established a LCFS and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. CARB adopted the LCFS on April 23, 2009.

EO S-13-08. Issued on November 14, 2008, EO S-13-08 facilitated the California Natural Resources Agency development of the 2009 California Climate Adaptation Strategy. Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

EO S-14-08. Issued on November 17, 2008, EO S-14-08 expanded the State's Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, EO S-21-09 (signed on September 15, 2009) directed CARB to adopt regulations requiring 33 percent of electricity sold in the State come from renewable energy by 2020. CARB adopted the Renewable Electricity Standard on September 23, 2010, which required 33 percent renewable energy by 2020 for most publicly owned electricity retailers.

EO S-21-09. Issued on July 17, 2009, EO S-21-09 directed CARB to adopt regulations to increase California's RPS to 33 percent by 2020. This builds upon SB 1078, which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107, which advanced the 20 percent deadline to 2010, a goal which was expanded to 33 percent by 2020 in the 2005 Energy Action Plan II.

EO B-16-2012. On March 23, 2012, the State identified that CARB, the CEC, the CPUC, and other relevant agencies worked with the Plug-in EV Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., EV charging stations). EO B-16-2012 also directed the number of ZE vehicles in California's State vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The EO also established a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.

EO B-30-15. Issued on April 29, 2015, EO B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030 and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMTCO_2e$. The 2030 target acts as an interim goal on the way to achieving

reductions of 80 percent below 1990 levels by 2050, a goal set by EO S-3-05. The EO also requires the State's climate adaptation plan to be updated every three years and for the State to continue its climate change research program, among other provisions. With the enactment of SB 32 in 2016, the Legislature codified the goal of reducing GHG emissions by 2030 to 40 percent below 1990 levels. EO B-30-15 is also discussed above in AB 32 (California Global Warming Solutions Act of 2006), SB 32 (Global Warming Solutions Act of 2006: Emissions Limit), and SB 350 (Clean Energy and Pollution Reduction Act of 2015).

EO B-55-18. Issued on September 10, 2018, EO B-55-18 establishes a goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This goal is in addition to the existing statewide targets of reducing GHG emissions. The EO requires CARB to work with relevant State agencies to develop a framework for implementing this goal. It also requires CARB to update the Scoping Plan to identify and recommend measures to achieve carbon neutrality. The EO also requires State agencies to develop sequestration targets in the NWL Climate Change Implementation Plan.

EO N-79-20. Signed in September 2020, EO N-79-20 establishes as a goal that where feasible, 100 percent of new passenger cars and trucks, as well as all drayage/cargo trucks and off-road vehicles and equipment, sold in California, will be ZE by 2035. The EO sets a similar goal requiring that all medium- and heavy-duty vehicles will be ZE by 2045 where feasible. It also directs CARB to develop and propose rulemaking for passenger vehicles and trucks, medium- and heavy-duty fleets where feasible, drayage trucks, and off-road vehicles and equipment "requiring increasing volumes" of new ZEVs "towards the target of 100 percent." The EO directs the California Environmental Protection Agency, the California Geologic Energy Management Division, and the California Natural Resources Agency to transition and repurpose oil production facilities with a goal toward meeting carbon neutrality by 2045. The EO also directed the State Transportation Agency, Caltrans, the California Transportation Commission, and the Department of Finance and other State agencies to identify near term actions and investment strategies to improve clean transportation while continuing a "fix-it-first"[8] approach by July 15, 2021. EO N-79-20 builds upon the CARB ACT regulation, which was adopted by CARB in July 2020. On May 22, 2025, the U.S. Senate voted to revoke the waivers granted by the Biden administration for the ACC II program and ACT regulation. On June 12, 2025, President Trump formally nullified the ACT regulation and ACC II program (Congressional Resolutions H.J. Res 87 and H.J. Res 88, respectively). Therefore, implementation of these regulations is currently unknown.

EO N-27-25. Signed on June 12, 2025, EO N-27-25 reaffirms California's commitment to advancing ZEVs and the GHG emission targets established in EO N-79-20. The EO directed CARB to develop an ACC III program, consistent with State and federal laws, and work with manufacturers that continue to follow the ACC II program, ACT regulation, and Heavy-Duty Omnibus regulation. The EO required the CARB, CEC, Governor's Office of Business and Economic Development, California State Transportation Agency, and Department of Consumer Affairs to identify additional actions that would advance ZEV adoption in California.

[8] "Fix-it-first" approach includes building towards an integrated, statewide rail and transit network, consistent with the California State Rail Plan, to provide seamless, affordable multimodal travel options for all.

California Code of Regulations (CCR)

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 20 Appliance Efficiency Regulations. The appliance efficiency regulations (CCR Title 20, §§ 1601-1608) include standards for new appliances. Twenty-three categories of appliances are included in the scope of these regulations. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

Title 24 Building Energy Efficiency Standards. California's Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions.

The CEC adopted the 2022 Energy Code on August 11, 2021, which was subsequently approved by the California Building Standards Commission for inclusion into the California Building Standards Code. The 2022 Title 24 standards will result in less energy use, thereby reducing air pollutant emissions associated with energy consumption across California. Among other updates like strengthened ventilation standards for gas cooking appliances, the 2022 Energy Code includes updated standards such as new electric heat pump requirements for residential uses, schools, offices, banks, libraries, retail, and grocery stores; the promotion of electric-ready requirements for new homes including the addition of circuitry for electric appliances, battery storage panels, and dedicated infrastructure to allow for the conversion from natural gas to electricity; and the expansion of solar photovoltaic and battery storage standards to additional land uses including high-rise multifamily residences, hotels and motels, tenant spaces, offices, (including medical offices and clinics), retail and grocery stores, restaurants, schools, and civic uses (including theaters auditoriums, and convention centers). Projects must comply with the then-current Energy Code.

The CEC adopted the 2025 Energy Code on September 11, 2024, further advancing the State's building decarbonization goals. The 2025 Energy Code requires electric heat pumps for space and water heating in most new residential and commercial buildings, expands solar photovoltaic and battery storage requirements to more building types, and mandates electric-ready infrastructure to support future appliance electrification. Projects must comply with the then-current Energy Code.

Title 24 CALGreen Code. The California Green Building Code (CCR, Title 24, Part 11) commonly referred to as the CALGreen Code, is a statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen Code requires new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. The CALGreen Code also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics. Updates to the 2019 CALGreen Code took effect on

January 1, 2023. The 2022 CALGreen Code has improved upon the 2019 standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The most recent update to the CALGreen Code, the 2025 CALGreen Code, was adopted by the CEC on September 11, 2024, and will go into effect January 1, 2026. Projects must comply with the then-current CALGreen Code.

5.8.2.3 Regional

San Bernardino County Regional GHG Reduction Plan

In 2021, San Bernardino Council of Governments released the San Bernardino County Regional GHG Plan. This plan summarizes the actions that 23 jurisdictions within San Bernardino County (County) (including the City) selected to reduce jurisdictional GHG emissions, as well as state-mandated actions. The GHG reduction measures selected by jurisdictions for this report are non-binding unless the decision-making body of a jurisdiction decides to formally adopt them. At the time of writing, the City has not adopted these measures, and therefore the measures are non-binding within City boundaries.

Southern California Association of Governments (SCAG)

With the goal of ensuring that the SCAG region can meet its regional GHG reduction targets set by CARB, the SCAG Regional Council adopted Connect SoCal 2024 (2024 - 2050 RTP/SCS). Connect SoCal 2024 charts a course for closely integrating land use and transportation so that the region can grow smartly and sustainably. The strategy was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses, and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

The RTP is a long-range transportation plan that provides a vision for regional transportation investments over 20 years or more. The SCS is an RTP element that demonstrates the integration of the RTP's land use, transportation strategies, and transportation investments. The overarching accessibility vision of the SCAG RTP, Connect SoCal 2024, includes innovative technologies and Intelligent Transportation Systems aimed at expanding accessibility, relieving congestion, and reducing emissions. Connect SoCal is a long-range vision plan that balances future mobility and housing needs with economic, environmental, and public health goals. Connect SoCal subgoals relevant to the Project include supporting investments that result in improved safety and air quality and minimized GHG emissions (Mobility); integrating the region's development pattern and transportation network to improve air quality, reduce GHG emissions, and enable more sustainable use of energy and water (Environment); conserving the region's resources (Environment); improve access to jobs (Economy); and advancing a resilient and efficient goods movement system that supports the economic vitality of the region, attainment of clean air, and quality of life for our communities (Economy). The SCAG region strives to implement sustainable planning through integrated land use and transportation planning.

5.8.2.4 Local

Mojave Desert Air Quality Management District (MDAQMD)

The BIG footprint falls within the jurisdiction of the MDAQMD. The 2020 MDAQMD California Environmental Quality Act and Federal Conformity Guidelines (MDAQMD CEQA Guidelines) establish

significance thresholds for GHGs. As stated in the MDAQMD CEQA Guidelines, the GHG threshold established for projects is 548,000 pounds of CO_2e per day or 100,000 tons of CO_2e per year (consistent with the U.S. EPA Tailoring Rule). The MDAQMD CEQA Guidelines notes that projects with a construction phase shorter than one year and a separate operational phase can be compared to the daily value.

County of San Bernardino Countywide Plan (CWP)

The County adopted the Countywide Plan (CWP) in October 2020 (San Bernardino, 2020). The CWP Policy Plan addresses the physical, social, and economic issues facing the unincorporated areas of the County. **Table 5.8-1: Countywide Plan Policy Plan – Relevant GHG Emission Goals and Policies** includes the GHG emissions-related goals and policies relevant to the Project. For applicability of the CWP goals and policies to the Project, see **Section 5.0: Environmental Analysis**. See the **Section 5.8.4: Environmental Setting** for further discussion concerning the above conditions and their potential presence in the proposed General Plan area and the BIG footprint.

Table 5.8-1: Countywide Plan Policy Plan – Relevant GHG Emission Goals and Policies

Goal or Policy	
LAND USE ELEMENT	
Goal LU-2	**Land Use Mix and Compatibility**. An arrangement of land uses that balances the lifestyle of existing residents, the needs of future generations, opportunities for commercial and industrial development, and the value of the natural environment.
Policy LU-2.7	**Countywide jobs-housing balance**. We prioritize growth that furthers a countywide balance of jobs and housing to reduce vehicle miles traveled, increase job opportunities and household income, and improve quality of life. We also strive for growth that furthers a balance of jobs and housing in the North Desert region and the Valley region.
Policy LU-2.10	**Unincorporated commercial development**. We intend that new commercial development in the unincorporated areas serve unincorporated residential areas, tourists, and/or freeway travelers. We encourage new commercial development to be concentrated to enhance pedestrian circulation and reduce vehicular congestion and vehicle miles traveled, with new development directed into existing centralized areas when possible.
Policy LU-2.12	**Office and industrial development in the region**. We encourage office and industrial uses in the unincorporated Valley region in order to promote a countywide jobs-housing balance.
INFRASTRUCTURE & UTILITIES ELEMENT	
Goal IU-1	**Water Supply**. Water supply and infrastructure are sufficient for the needs of residents and businesses and are resilient to drought.
Policy IU-1.3	**Recycled water.** We promote the use of recycled water for landscaping, groundwater recharge, direct potable reuse, and other applicable uses in order to supplement groundwater supplies.
Policy IU-1.4	**Greywater.** We support the use of greywater systems for non-potable purposes.
Policy IU-1.9	**Water conservation.** We encourage water conserving site design and the use of water conserving fixtures, and advocate for the adoption and implementation of water conservation strategies by water service agencies. For existing County-owned facilities, we incorporate design elements, building materials, fixtures, and landscaping that reduce water consumption, as funding is available.
Goal IU-4	**Solid Waste.** Adequate regional landfill capacity that provides for the safe disposal of solid waste, and efficient waste diversion and collection for unincorporated areas.

Table 5.8-1: Countywide Plan Policy Plan – Relevant GHG Emission Goals and Policies	
Goal or Policy	
Policy IU-4.3	**Waste diversion.** We shall meet or exceed state waste diversion requirements, augment future landfill capacity, and reduce greenhouse gas emissions and use of natural resources through the reduction, reuse, or recycling of solid waste.
NATURAL RESOURCES ELEMENT	
Goal NR-1	**Air Quality.** Air quality that promotes health and wellness of residents in San Bernardino County through improvements in locally-generated emissions.
Policy NR-1.1	**Land use.** We promote compact and transit-oriented development countywide and regulate the types and locations of development in unincorporated areas to minimize vehicles miles traveled and greenhouse gas emissions.
Policy NR-1.3	**Coordination on air pollution.** We collaborate with air quality management districts and other local agencies to monitor and reduce major pollutants affecting the county at the emission source
Policy NR-1.7	**Greenhouse gas reduction targets.** We strive to meet the 2040 and 2050 greenhouse gas emission reduction targets in accordance with state law.
Policy NR-1.9	**Building design and upgrades.** We use CALGreen Code to meet energy efficiency standards for new buildings and encourage the upgrading of existing buildings to incorporate design elements, building materials, and fixture that improve environmental sustainability and reduce emissions
RENEWABLE ENERGY & CONSERVATION ELEMENT	
Goal RE-1	**Energy Conservation and Efficiency.** The County will pursue energy efficiency tools and conservation practices that optimize the benefits of renewable energy.
Policy RE-1.1	Continue implementing the energy conservation and efficiency measures identified in the County of San Bernardino Greenhouse Gas Emissions Reduction Plan.
Policy RE-1.2	Optimize energy efficiency in the built environment. • RE 1.2.1: Support low- to no-cost retrofits to improve energy efficiency of existing homes through grant and loan programs. • RE 1.1.2: Encourage property owners to participate in a PACE program for access to energy efficiency retrofit financing. • RE 1.2.3: Encourage utilities to expand free to low-cost audit and retrofit programs in the built environments. • RE 1.2.4: Work with utilities (Southern California Edison (SCE), Southern California Gas Company (SCG), etc.) to identify retrofit opportunities with short payback periods, such as variable-speed pool pumps, building air sealing, and attic insulation, for County use in conducting focused energy efficiency outreach. • RE 1.2.5: Collaborate with community partners to promote the benefits of energy efficiency to County residents, businesses, and industries. • RE 1.2.6: Encourage new development to comply with the optional energy efficiency measures of the CALGreen Code. • RE 1.2.6: Encourage new development to comply with the optional energy efficiency measures of the CALGreen Code.
Policy RE-1.3	Promote the local economic benefits of energy efficiency retrofits. • RE 1.3.1: Support workforce development and certification for green trades. • RE 1.3.2: Provide networking opportunities to connect local contractors with energy efficiency retrofit programs such as the PACE program and Energy Upgrade California. • RE 1.3.3: Encourage energy efficiency retrofit projects as components of adaptive re-use of historic structures.

Table 5.8-1: Countywide Plan Policy Plan – Relevant GHG Emission Goals and Policies	
Goal or Policy	
Policy RE-1.4	Encourage residents and businesses to conserve energy. • RE 1.4.1: Collaborate with utilities to support and learn from annual energy benchmarking reports that large energy users are conducting pursuant to AB 1103. • RE 1.4.2: Collaborate with the CEC, utilities, and local partners to launch online energy tracking competitions.
Goal RE-2	**Renewable Energy Systems.** The County will be home to diverse and innovative renewable energy systems that provide reliable and affordable energy to our unique Valley, Mountain, and Desert regions.
Policy RE-2.1	Support solar energy generation, solar water heating, wind energy and bioenergy systems that are consistent with the orientation, siting and environmental compatibility policies of the proposed General Plan. • RE 2.1.1: Utilize renewable energy development standards in the Development Code to minimize impacts on surrounding properties.
Policy RE-2.2	Promote use of energy storage technologies that are appropriate for the character of the proposed location. • RE 2.2.1: Encourage onsite energy storage with RE generation facilities, consistent with County Development Code requirements. • RE 2.2.2: Encourage and allow energy storage facilities as an accessory component of RE generation facilities. • RE 2.2.3: Establish thresholds for conditions under which energy storage facilities are a primary use and subject to separate permit processes. • RE 2.2.4: Periodically review and encourage appropriate technology types for energy storage facilities. • RE 2.2.5: Support state policies and efforts by utility companies to plan for and develop energy storage technologies through legislative advocacy and coordination with utility companies.
Policy RE-2.3	Encourage the use of feasible emerging and experimental renewable energy technologies that are compatible with County regulatory standards. • RE 2.3.1: Monitor emerging renewable energy technologies and amend County development standards as needed to accommodate suitable new technology types. • RE 2.3.2: Monitor improvements in existing renewable energy technologies, and consider allowing additional types of renewable energy facilities as they become compatible with County regulatory standards.
Policy RE-2.4	Identify and prioritize programs that support cost-effective and universal access to renewable energy. • RE 2.4.1: Expand outreach and education efforts through the County's online Community Development Toolkit on programs such as the availability of federal and state tax credits, participation in the PACE program, and other mechanisms to reduce the cost of renewable energy facilities for onsite use on new and existing buildings. • RE 2.4.2: Educate developers about the County's RE goals and policies, and encourage the inclusion of renewable energy facilities for onsite use in new developments. • RE 2.4.3: Engage with residential developers to discuss and identify opportunities and incentives to expand onsite renewable energy facilities consistent with the goals and policies of this Element. • RE 2.4.4: Encourage installation of renewable energy systems on rental properties, multi-family buildings, and buildings with multiple commercial tenants by working with property developers and owners, using tools such as green leases, split incentive programs, and the California Solar Initiative's MASH program.

Table 5.8-1: Countywide Plan Policy Plan – Relevant GHG Emission Goals and Policies	
Goal or Policy	
	• RE 2.4.5: Encourage the pursuit of community choice aggregation programs in collaboration with other interested jurisdictions in the region. • RE 2.4.6: Proactively coordinate RE programs with other jurisdictions in the County to promote countywide collaboration and consistency.
Policy RE-2.5	Support renewable energy systems that accelerate zero net energy (ZNE) through innovative design, construction, and operations of residences, businesses, and institutions that are grid-neutral and independent of centralized energy infrastructure. • RE 2.5.1: Allow and encourage construction of new buildings designed to ZNE standards consistent with state programs. • RE 2.5.2: Incorporate ZNE into outreach and educational strategies about renewable energy and energy efficiency. • RE 2.5.3: Allow and encourage construction of new buildings or developments in remote locations with stand-alone energy systems not connected to the grid. • RE 2.5.4: Encourage energy independence and resiliency, including zero net energy and stand-alone systems not connected to the grid, in County economic development presentations and outreach efforts. • RE 2.5.5: Collaborate with incorporated cities and other jurisdictions to create region-specific ZNE programs and Community Development toolkit tools tailored to the climates and characteristics of each region to provide consistency and leverage resources.
Policy RE-2.6	Encourage energy efficiency through appropriate renewable energy systems. • RE 2.6.1: Pursue and consider development incentives such as density bonuses and streamlined permitting for projects that install accessory renewable energy facilities. • RE 2.6.2: Allow developers of nonresidential properties to reduce required on-site parking spaces below minimum standards when space equivalent to the parking space reduction is devoted to renewable energy generation and storage facilities designed to serve onsite energy needs. • RE 2.6.3: Encourage solar energy generation on rooftops and on covered parking as the first priority for on-site energy generation.
Goal RE-3.1	**Community-Oriented Renewable Energy.** Community-oriented renewable energy facilities will be prioritized to complement local values and support a high quality of life in unincorporated communities.
Policy RE-3.1	Prioritize, facilitate, and encourage onsite accessory RE generation to serve the unincorporated county, with a primary focus on rooftop and parking lot solar energy generation. • RE 3.1.1: Permit rooftop, parking lot, and similar accessory RE generation facilities that primarily serve on-site energy needs in all zoning districts, including micro-grid systems, with minimal regulation and permitting requirements.
Policy RE-3.2	Encourage community-oriented renewable energy (CORE) generation that primarily serves local uses in the county. • RE 3.2.1: Specific standards shall be established and maintained for community-oriented RE generation facilities appropriate to the Valley, Desert, and Mountain regions. • RE 3.2.2: Encourage through the regulatory system the establishment of local and regional organizations to pursue community-oriented RE production and storage. • RE 3.2.3: CORE facilities shall be designed primarily to meet the needs of the local users, with an adequate overage margin to meet peak demands and defray the cost of the systems.

Table 5.8-1: Countywide Plan Policy Plan – Relevant GHG Emission Goals and Policies	
Goal or Policy	
	• RE 3.2.3: Encourage utilities and developers to establish community-shared solar programs that allow residents and businesses to purchase shares of the output of RE generation facilities to offset their electricity bills. • RE 3.2.4: Provide information and educational opportunities in the Countywide Plan Community Development Tool Kit for local organizations pursuing the acquisition of Community-Oriented Renewable Energy (CORE). • RE 3.2.5: Encourage utilization of micro-grid technologies to support the principle of "local production primarily for local consumption," to enhance local energy security and to improve local costs of living and commerce. • RE 3.2.6: Apply minimal discretion in the permit approval process for CORE facilities. • RE 3.2.7: Encourage infrastructure, net metering and regulatory systems that support CORE facilities.
Policy RE-3.3	Promote an adaptive distributed energy infrastructure that sustains local communities and improves resiliency to grid failures and increasing energy prices. • RE 3.3.1: Support research, planning and investment in accessory and community-oriented energy generation, distribution, and storage infrastructure by adapting regulatory tools to respond to rapidly evolving RE technologies. • RE 3.3.2: Encourage new institutional campuses and large residential/commercial developments to include micro-grids with onsite renewable energy generation and energy storage systems.
Policy RE-3.4	Require renewable energy facilities developed in spheres of influence of incorporated cities to be compatible and consistent with standards of the sphere cities.
Policy RE-3.5	Incorporate resident, business owner, and stakeholder input into the development and implementation of County policies for renewable energy.
Policy RE-3.6	Encourage renewable energy facilities to meet community goals, including supporting community health, wellness, and recreational needs. • RE 3.6.1: Include opportunities to incorporate public art and encourage design features that provide screening in renewable energy facilities on public spaces, nonresidential facilities, and multi-family buildings. • RE 3.6.2: Encourage the use of renewable energy facilities as shade structures in parks and community centers, and over parking lots and parking structures.
Policy RE-3.7	Continue to foster local economic benefits of renewable energy facilities through community involvement. • RE 3.7.1: Require CORE project development applications to be sponsored or co-sponsored by local users who will be the primary consumers of the energy generated by the projects. • RE 3.7.2: Encourage RE generation facility developers to give preference to San Bernardino County residents in hiring for construction, operation, and decommissioning of the facility. • RE 3.7.3: Encourage local community colleges, vocational schools, and workforce training centers to offer programs on renewable energy installation and maintenance. • RE 3.7.4: Encourage innovation zones for manufacturers to locate and operate in the unincorporated county to research, construct, test, and distribute renewable energy technologies
TRANSPORTATION & MOBILITY ELEMENT	
Goal TM-3	**Vehicle Miles Traveled.** A pattern of development and transportation system that minimizes vehicle miles traveled.

Table 5.8-1: Countywide Plan Policy Plan – Relevant GHG Emission Goals and Policies	
Goal or Policy	
Policy TM-3.1	**VMT reduction.** We promote new development that will reduce household and employment VMT relative to existing conditions.
Policy TM-3.2	**Trip reduction strategies.** We support the implementation of transportation demand management techniques, mixed use strategies, and the placement of development in proximity to job and activity centers to reduce the number and length of vehicular trips.
Goal TM-4	**Complete Streets, Transit, and Active Transportation.** On- and off-street improvements that provide functional alternatives to private car usage and promote active transportation in mobility focus areas
Policy TM-4.8	**Local bicycle and pedestrian networks**. We support local bike and pedestrian facilities that serve unincorporated areas, connect to facilities in adjacent incorporated areas, and connect to regional trails. We prioritize bicycle and pedestrian network improvements that provide safe and continuous pedestrian and bicycle access to mobility focus areas, schools, parks, and major transit stops.
Policy TM-4.9	**Bike and pedestrian safety.** We promote pedestrian and bicyclist safety by providing separated pedestrian and bike crossings when we construct or improve bridges over highways, freeways, rail facilities, and flood control areas. We monitor pedestrian and bicycle traffic accidents and promote safety improvements in unincorporated high-accident areas.
Source: County of San Bernardino. 2020. *Countywide Policy Plan*. https://countywideplan.sbcounty.gov/policy-plan/.	

Codified Ordinances of the County of San Bernardino

The Codified Ordinances of the County of San Bernardino (County Code) regulations addressing GHG are provided below.

County Code § 63.0501: Adoption of California Energy Code. Under this section, the 2019 California Energy Code contained in Part 6 of Title 24 of the CCR, is designated and adopted by reference as the Energy Code for the design and installation of energy systems for the unincorporated area of the County. (San Bernardino, 2022a)

County Code § 63.1501: Adoption of California Green Building Standards Code. Under this section, the 2019 CALGreen Code, contained in Chapters 1-8 of Part 11 of Title 24 of the CCR, is designated and adopted by reference as the CALGreen Code for the unincorporated area of the County. (San Bernardino, 2022b)

County Code Chapter 83.14: Transportation Control Measures. The purpose of this chapter is to reduce vehicle trips thereby reducing air congestion and pollutants and improving air quality, to comply with State law, and to promote an improved quality of life. This Chapter is intended to satisfy the legal requirements of Chapter 6 of the San Bernardino County Congestion Management Program. (San Bernardino, 2007)

For applicability of these County Code standards to the Project, see **Section 5.0: Environmental Analysis.**

City of Barstow 2015-2020 General Plan

The City adopted the City of Barstow 2015-2020 General Plan (2015 General Plan) in February 2015. The 2015 General Plan is the overarching guide in implementation of the Development Code, which defines

development regulations and establishes zoning districts throughout the City. The City establishes goals and policies that address GHG emissions within the City. The plan addresses GHG emissions in the Barstow GHG Analysis Report which lists the City's goals and policies that impact GHGs. Consistency with the general plan would be achieved if the Project follows the applicable general plan policies. **Table 5.8-2: City of Barstow 2015 General Plan Policies** includes the applicable goals and policies relevant to the Project.

Table 5.8-2: City of Barstow 2015 General Plan Policies

Goal or Policy	
CIRCULATION ELEMENT	
Goal 3	Foster improved traffic flow and air quality by encouraging the use of non-motorized transportation, alternative fuel vehicles and multi-occupant vehicles
Policy 3A	Encourage pedestrian travel by improving the means by which residents and visitors may walk throughout the community
Policy 3B	Establish a network of bicycle routes as illustrated on Exhibit C-2.
Policy 3C	Encourage carpooling and the use of alternative fuel vehicles by city residents and employees.
Policy 3D	Implement incentives outlined in Municipal Code Chapter 19.49 – Design Guidelines such as relaxation of parking requirements, density bonuses and exceptions to building height and lot coverage requirements in exchange for on- or off-site provision of bicycle racks and/or storage facilities, bikeways, electric vehicle charging facilities, designated pedestrian pathways or other design features designed to foster alternatives to single-occupancy, internal combustion engine driven vehicle use.
RESOURCE CONSERVATION AND OPEN SPACE ELEMENT	
Goal 2	Ensure protection of air quality by reducing air pollution and emissions from pollutants
Policy 2B	Public Facilities and Operations – Local government should take a leadership role in reducing the emissions from its own vehicle fleet as a model for the private sector.
Goal 6	Provide programs and incentives to encourage residents, businesses, and developers to reduce consumption and efficiently use energy resources.
Policy 6A	Educate the development community with regard to green building principles and other strategies for conserving natural resources.
Goal 4	Reduce traffic congestion and vehicle trips through more efficient infrastructure and support for trip reduction programs.
Policy 4.1	Utilize Transportation Demand Management (TDM) Strategies as an integral component of the City's transportation program to reduce total vehicle trips on Barstow roadways and reduce the corresponding vehicle emissions. • Strategies to incentivize drivers to reduce solo driving: • Increase carpooling and vanpooling • Increase the use of transit and bicycling and walking • Redistribute vehicle trips from peak periods to non-peak periods by shifting work times/days/locations • Encourage greater use of telecommuting • Other "first mile/last mile" strategies to allow travelers to easily connect to and from transit service at their origin and destination. These strategies include the development of mobility hubs around major transit stations, the integrations of bicycling and transit through folding-bike-on-buses programs, triple bike racks on buses, and dedicated racks on light and heavy rail vehicles.

Table 5.8-2: City of Barstow 2015 General Plan Policies	
Goal or Policy	
Policy 4.2	Work with employers and developers to provide employees and residents with attractive and affordable transportation alternatives and to provide facilities and programs that increase the effectiveness of TDM strategies and transportation control measures (e.g., employer-based trip reduction programs and transit programs).
Goal 5	Invest in more efficient and effective transportation infrastructure, and support for trip reduction programs to reduce traffic congestion, vehicle trips and the need for costly new or expanded roadways.
Policy 5.2	Provide transportation and alternative transit infrastructure that allows the efficient local and regional movement of people, raw materials, and goods.
Goal 7	Reduce the City's proportionate contribution to greenhouse gas emissions and potential impact that may result in climate change from internal governmental operations and land use activities within its authority.
Policy 7.1	Strive to reduce greenhouse gas emissions from its internal governmental operations and land use activities within its authority by 15 percent below 2008 levels by the year 2020 pending adoption of emission reduction targets for the City's Climate Action Plan. The City will also work with the Southern California Association of Governments (SCAG) to ensure that the City receives its proportionate fair share reduction in greenhouse gas emissions as may be identified under the provisions of SB 375 (2008 Chapter 728) for any projects or activities requiring approval by SCAG. The California Air Resources Board (ARB) Scoping Plan suggests that cities strive to achieve a 15 percent emission reduction from government operations and the overall community by 2020. As part of SB 375 implementation, the SB 375 Regional Targets Advisory Committee recommended approaches to set greenhouse gas reduction targets to ARB in September 2009. ARB adopted final regional targets on September 23, 2010. The City will work with SCAG to determine the City's proportionate fair share reduction of the regional targets. The results of this process could inform the City's draft internal greenhouse gas targets.
Goal 8	Ensure that projects subject to environmental review are thoroughly assessed using best available air quality techniques and implement feasible mitigation measures to reduce significant environmental effects.
Policy 8.5	Encourage developers to propose innovative measures to reduce greenhouse gas emission impacts, such as bike paths and trail systems to facilitate non-vehicular transportation.
Goal 9	Minimize air emissions related to energy consumption and area sources in government operations and the community.
Policy 9.1	Increase the use of energy conservation features, renewable sources of energy and low-emission equipment in new and existing development projects within the city.
Policy 9.2	Require new development to use energy efficient lighting systems and energy efficient appliances, if commercially available.
Goal 13	Improve project site designs to encourage walking, bicycling, and transit use.
Policy 13.2	Require developers of projects that generate emissions in excess of MDAQMD CEQA significance thresholds to submit a project greenhouse gas transportation design analysis that reduces greenhouse gas emission, prepared by a civil engineer, architect, or urban designer familiar with design measures. Such an analysis shall be submitted prior to the City accepting the project application. The City of Barstow will review the subject analysis and see that appropriate measures are implemented.
Sources: City of Barstow, 2015 First Carbon Solutions. 2014. *Greenhouse Gas Analysis Report City of Barstow 2020 General Plan Update*.www.barstowca.org.	

City of Barstow Municipal Code

The Code of the City of Barstow (Barstow Code) regulations addressing GHG emissions are provided below (Barstow, 2015). For applicability of the Barstow Code standards to the Project, see **Section 5.0**.

Barstow Code § 10.09.030: Trip reduction. This section establishes objectives for trip reductions in the City by identifying large employers to evaluate trip reduction strategies and supporting various transportation initiatives and land use regulations aimed at reducing vehicle emissions and promoting alternative modes of transportation.

Barstow Code § 10.09.040: Travel demand management. This section identifies measures to implement strategies and programs which reduce traffic congestion, VMT, and/or vehicle trips, which result in reduction of mobile source emissions.

Barstow Code Title 15: Buildings and Construction. This title includes various regulations concerning erection, construction, maintenance, etc. of all buildings and/or structures in the City.

Barstow Code § 15.08.010: Building Codes. Codes adopted specifies the various State Codes the City has adopted, including among others the 2019 Edition of California Energy Code (Part 6, Title 24, CCR) and the 2019 CALGreen Code (Part 11, Title 24, CCR).

Barstow Code § 19.06.090: Alternative Energy. This section establishes standards for the permitting, design, and installation of alternative energy systems such as solar.

Barstow Code § 19.08.090: As stated in § 19.08.090, developments would be encouraged to build or remodel with sustainable building materials and energy-conservation measures in their interior and exterior spaces. Projects would also aim to improve aesthetics and energy efficiency of developments. The section lists available incentives for site developments which can be found below.

- Modification of site development guidelines, zoning requirements, or architectural design guidelines including but are not limited to:
  - Reductions in setback and minimum square footage requirements;
  - Reductions in the number of required vehicular parking spaces (not to exceed 20 percent of total required spaces);
  - Density bonuses and other incentives for projects qualifying for Leadership in Energy and Environmental Design certification;
  - Density bonuses and other incentives for projects that provide day care, carpooling, EV charging stations, or other features that promote jobs/housing balance and/or environmental sustainability;
- Other regulatory incentives or concessions proposed by the developer or the city that result in identifiable reductions in energy, water use, or GHG emissions.

5.8.3 METHODOLOGY FOR EVALUATING IMPACTS

5.8.3.1 Definition of Study Area

The study area is the geographic boundary in which the environmental investigations were conducted specific to each resource topic.

Proposed General Plan

The study area for the proposed General Plan Update is the proposed General Plan area sources of GHG emissions, as shown in **Figure 3-1: Regional Vicinity Map** and **Figure 3-2: Local Vicinity Map** in **Section 3:0: Project Description** and the earth's atmosphere as GHGs are global pollutants. GHG emissions impacts are based on GHG emissions generated by the land uses within the City ("community emissions") and their effect on the ability to achieve the California GHG emissions reduction goals set forth in the legislative targets. Because no single project is large enough to result in a measurable increase in global concentrations of GHG, GHG emissions impacts of the Project are considered on a cumulative basis.

Barstow International Gateway

The study area for the BIG project's direct impacts is the BIG footprint, off-site rail and non-rail improvements, and rail emissions along the rail corridor. The rail corridor for the BIG project extends from the San Pedro Ports to the BNSF Needles station within California, and eastern destinations outside of California.

5.8.3.2 Methodology

Proposed General Plan

The General Plan community GHG emissions inventory and forecast is based on activity data compiled for the proposed General Plan update and is included as **Appendix 5.3 GP-1: Air Quality and Greenhouse Gas Emissions Modeling** to this EIR. The community emissions inventory was compiled using the *United States Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions* (U.S. Community Protocol) accounting protocols, which were first developed in 2012 and last updated in 2019. The following is a summary of the assumptions used for the community GHG emissions analysis:

- **On-Road Transportation**. The primary source of on-road mobile-source emissions (e.g., passenger cars and heavy-heavy duty trucks) is from the combustion of fuel (i.e., gasoline and diesel) from vehicle trips associated with land uses in the proposed General Plan area. On-road emissions are based on calendar year 2023 (Existing Year) and 2048 (Horizon Year) vehicle emissions data from CARB's EMission FACtors (EMFAC) 2021 Version 1.0.2, for the County, MDAB subarea. Additionally, mobile-source emissions modeling is based on total passenger car VMT and truck miles traveled (TMT) data provided by Fehr & Peers using the San Bernardino Transportation Analysis Model (SBTAM+) and origin-destination (O-D) approach. For the General Plan analysis, TMT represents the miles traveled for light-heavy duty trucks (LHDT), medium-heavy duty trucks (MHDT), and heavy-heavy duty trucks (HHDT) while VMT represents miles traveled for all other

types of vehicles such as light duty automobiles (LDA). The VMT provided by Fehr & Peers for the General Plan includes passenger VMT and TMT for all land uses in the City at buildout, including BIG. To provide a conservative emissions analysis for the proposed Project, the total VMT and TMT provided by Fehr & Peers includes the full trip length and does not apply the recommendations of CARB's Regional Targets Advisory Committee (RTAC). Additionally, the analysis considers TMT reductions that would occur under BIG, as described in Section 5.15 of this DEIR.

- **Building Energy.** Emissions associated with electricity and natural gas use for residential and nonresidential land uses in the study area were modeled based on the average of the five-year (2019 to 2023) data provided by SCE and Southwest Gas. The five-year averages are used to account for fluctuations in energy use. Year 2048 electricity and natural gas demand forecasts are adjusted for increases in population for residential uses and square footage for non-residential uses in the study area. The carbon intensity of the purchased electricity is based the CO_2e intensity factor of 374 lbs./MWh (megawatt-hour), as reported in the SCE 2023 Sustainability Report (SCE 2024). For natural gas, the intensity factors for CO_2, CH_4, and NO_2 are from the California Emissions Estimator Model (CalEEMod) version 2022.1 (CAPCOA, 2022). The carbon intensity for Horizon Year 2048 considers the 100 percent RPS standard mandated under SB 100, which requires all the State's electricity to come from carbon-free resources by 2045.
- **Off-Road Equipment.** Off-road equipment in the study area is based on calendar year 2023 emission rates for the County obtained from CARB's OFFROAD V1.1.0 web database. OFFROAD was used to estimate GHG emissions from lawn and garden, light commercial, agricultural equipment, and construction equipment in the proposed General Plan area. As noted below, this information was supplemented with BIG project data, as available, for existing and future sources of emissions.
  - **Light Commercial Equipment.** Light commercial equipment in CARB's offroad model includes generator sets, pumps, pressure washers, air compressors, welders, and gas compressors used at commercial properties. To determine the percentage of emissions attributable to the study area, light commercial equipment is estimated based on employment for Barstow as a percentage of the County and forecast based on the change in employment in the proposed General Plan area.
  - **Agricultural Equipment.** Agricultural equipment use for baseline year conditions is estimated based on the percentage of farmland in the proposed General Plan area compared to the County. Forecast agricultural equipment use is based on the planned percentage reduction in farmland in the study area under the proposed General Plan compared to existing farmland in the proposed General Plan area. See **Section 5.3: Agriculture and Forestry Resources** for more information.
  - **Construction Equipment.** Construction equipment use for the community GHG emissions is estimated based on building permit data for the City and the County from data compiled by the U.S. Census and assumes that construction emissions for the forecast year would be similar to historical levels. In addition, the community GHG emissions are supplemented with the amortized construction emissions from BIG to ensure a conservative estimate of construction emissions at the General Plan Horizon Year.

  - **Lawn and Garden Equipment.** Lawn and garden equipment is mainly associated with residential land uses in the proposed General Plan area (e.g., leaf blowers, lawn mowers, trimmers/edgers, etc.). This subsector of offroad equipment is estimated using the percentage of population in the City compared to the County and forecast based on the change in population in the proposed General Plan area.

- **Refrigerant Leakage.** Refrigerants are based on the CARB's statewide 2021 refrigerant use and statewide population from 2021 census data in order to derive emissions per person. The CARB statewide 2021 refrigerant use CO_2e emissions, which are based on AR4 GWPs, were adjusted to AR5 GWPs.
- **Solid Waste Disposal.** GHG emissions from solid waste disposed of by residents and employees in the proposed General Plan area were quantified based on the waste-in-place method. This method assumes that the degradable organic component in waste decays slowly throughout a few decades, during which CH_4 and biogenic CO_2 are formed. If conditions are constant, the rate of CH_4 production depends solely on the amount of carbon remaining in the waste. As a result, emissions of CH_4 from waste deposited in a disposal site are highest in the first few years, then gradually decline. Significant CH_4 production typically begins one or two years after waste disposal in a landfill and continues for 10 to 60 years or longer. GHG emissions from solid waste disposal in the baseline year were modeled using CARB's Landfill Emissions Tool v.1.9, which includes waste characterization data from CalRecycle for the City of Barstow, which was adjusted to account for solid waste associated with the SOI. Modeling assumes a 75 percent reduction in fugitive GHG emissions from the landfill's Landfill Gas Capture System and converts the emissions results of the Landfill Emissions Tool v.1.9 from AR4 GWPs to AR5 GWPs. The Landfill gas capture efficiency is based on CARB's LGOP, v.1.1 (CARB, 2010).
- **Water Use and Wastewater Treatment.** GHG emissions from this sector include indirect GHG emissions from the embodied energy associated with water use and wastewater generation and fugitive GHG emissions from processing wastewater. Water demand and wastewater generation is based on data provided by the Mojave Water Agency and City of Barstow (see **Section 5.17: Utilities and Service Systems**). Electricity use from water use is estimated using energy rates identified by in the 2022 CalEEMod Users Guide (CAPCOA, 2022). Then energy is multiplied by the carbon intensity of energy. Wastewater treatment also results in direct CH_4 emissions from wastewater processing, which are based on the emission rates identified in the 2022 CalEEMod Users Guide (CAPCOA, 2022).
- **BIG Emissions.** Emissions from rail activities are associated with BIG. The other residential and non-residential land uses of the proposed General Plan Horizon Year 2048, in and of themselves, do not result in an increase in rail traffic. Rail traffic is regional and associated with pass-through traffic on the BNSF main line, activities at the existing BNSF rail yard, and future activities related to BIG. A community emissions inventory and forecast normally does not include sources outside of the jurisdiction's land use control. However, to account for rail emissions associated with proposed General Plan with the BIG project, the emissions from rail activities associated with BIG are integrated into the communitywide emissions analysis for the proposed General Plan. Please see the methodology below for the methodology used to estimate rail emissions for BIG.

- **Industrial Operations.** Industrial sources of emissions that require a permit from MDAQMD or are otherwise not subject to the City's jurisdiction are not included in the community inventory.
- Life-cycle emissions are not included in this analysis because not enough information is available for the proposed General Plan; and therefore, they would be speculative. Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analysis was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the proposed project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials is also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (LCI, 2008). As stated above, the GHG inventory and forecast are based on community emissions based on emission sources within the direct and indirect jurisdictional control within the General Plan area.

Barstow International Gateway

BIG construction and operational emissions sources were calculated based on BIG-specific activity levels. Climate change is a global phenomenon. The geographic scope for GHG emissions is global because impacts of climate change are experienced on a global scale regardless of the location of GHG emission sources. Detailed modeling assumptions and modeling outputs are provided in **Appendix 5.8 BIG-1.**

Construction

Construction is assumed to occur over approximately 34 months beginning in the third quarter of 2025 and ending in the third quarter of 2028. Construction emissions can vary substantially from day to day, depending on the level of activity, and the specific type of equipment used. Construction emissions result from on-site and off-site activities. On-site construction emissions principally consist of exhaust emissions from the load factors and hours of use of heavy-duty construction equipment and motor vehicle operation. Off-site construction emissions are caused by motor vehicle exhaust from vendor delivery vehicles and worker trips. Additionally, off-site emissions would occur from trains hauling construction materials (e.g., ballast, rails, railroad ties, etc.) from locations within California and outside of California. The construction emissions account for the total emissions that would occur in and out of the State. Total construction emissions are modeled based on the below assumptions, then amortized over a 30-year period and added to operational emissions.

Models

GHG emissions from BIG demolition and construction were calculated using emission factors from CARB's OFFROAD model. The use of emission rates from the OFFROAD models reflects the recommendation of CARB to capture the latest off-road construction assumptions. OFFROAD default load factors (the ratio of average equipment horsepower utilized to maximum equipment horsepower) and useful life parameters

were used for emission estimates. Mobile-source emissions from worker vehicle trips and truck trips were calculated using VMT and truck miles traveled (TMT) estimates and appropriate emission factors from CARB's EMFAC model. As noted above, EMFAC2021 emissions projections assumed implementation of the ACT Regulation and the Heavy-Duty Low NO_X Omnibus Regulation. These regulations were disapproved by Congressional Resolutions H.J. Res 87 and H.J. Res 89, respectively. Therefore, EMFAC2021 emission rates would be expected to increase without the ACT Regulation and the Heavy-Duty Low NO_X Omnibus Regulation. CARB is reviewing the effect of these resolutions on EMFAC and has not provided emissions modeling guidance. Overall, GHG emissions associated with BIG construction as set forth herein are overestimated. As the TMT reductions represent a net decrease in total BIG emissions, any emission rate increases would represent a greater emissions reduction than the emissions calculated in this analysis. Therefore, GHG emissions associated with BIG are overestimated.[9] **Table 5.8-3: Regulations and Agreements Assumed in the Unmitigated Construction and Operational Emissions** summarizes the regulations that were assumed in the construction emissions unmitigated scenario.

Table 5.8-3: Regulations and Agreements Assumed in the Unmitigated Construction and Operational Emissions

Off-Road Construction Equipment	On-Road Trucks	Trains	Fugitive Dust
Emission Standards for Non-road Diesel Engines – Tier 1, 2, 3, and 4 standards gradually phased in over all years (accounted for in emissions factor projections) due to normal construction equipment fleet turnover. **California Diesel Fuel Regulations –** 15 parts per million (ppm) sulfur starting September 1, 2006. **CARB In-Use Off-Road Diesel Vehicle Rule –** Off-road mobile equipment powered by diesel engines 25 hp or larger must meet the fleet average or best available control technology requirements for NO_X and PM emissions by March 1 of each year.	**Emission Standards for On-road Trucks –** Engine emission standards gradually phased in due to normal truck fleet turnover and accounted for in emissions factor projections. **California Diesel Fuel Regulations –** 15 ppm sulfur starting September 1, 2006. Airborne Toxic Control Measure to Limit Diesel Fueled Commercial Motor Vehicle Idling – Diesel trucks are subject to idling limits starting February 1, 2005. **Port of Los Angeles Clean Truck Program –** Heavy-duty diesel drayage trucks calling on port terminals	**Emission Standards for Locomotives –** Tiered engine emission standards gradually phased in due to normal locomotive fleet turnover and accounted for in emissions factor projections. **1998 Fleet Average Agreement –** Fleet average emission factors for NO_X for linehaul locomotives operating in the South Coast area. **2005 CARB/Railroad Statewide Agreement –** Reduced line haul locomotive idling times assumed to take effect starting in 2006.	**MDAQMD Rue 403 Compliance –** Properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.

[9] EMFAC2021 emissions projections assumed implementation of the ACT Regulation and the Heavy-Duty Low NO_X Omnibus Regulation. These regulations were disapproved by Congressional Resolutions H.J. Res 87 and H.J. Res 89, respectively. The resolutions were signed by the President on June 12, 2025. These resolutions, along with H.J. Res. 88 (revoking federal light-duty vehicle GHG standards), nullify California regulations that had been authorized by U.S. EPA waivers under the FCAA. CARB is currently evaluating the impact of the actions (H.J. Res 87, H.J. Res 88, and H.J. Res 89) under the Congressional Review Act, but has not yet provided emissions modeling guidance. Because the State has no authority to implement these regulations, the model overestimate emissions associated with TMT emissions in California and therefore GHG emissions associated with BIG, as a general matter, are overestimated in this document.

Table 5.8-3: Regulations and Agreements Assumed in the Unmitigated Construction and Operational Emissions			
Off-Road Construction Equipment	**On-Road Trucks**	**Trains**	**Fugitive Dust**
CARB Portable Diesel-Fueled Engines Air Toxics Control Measure - Effective September 12, 2007, all portable engines having a maximum rated horsepower of 50 bhp and greater and fueled with diesel shall meet weighted fleet average PM emission standards. **CARB Off-Road Large Spark Ignition Equipment Rule –** LSI engines greater than 25 hp, powered by gasoline, LPG, or other alternative fuels to meet HC + NO_X requirement beginning January 1, 2009.	shall meet the U.S. EPA 2007 emission standards for on-road heavy-duty diesel engines (U.S. EPA, 2001) by 2012. **CARB Statewide Truck and Bus Regulation –** Installation of PM retrofits on all heavy-duty trucks beginning January 1, 2012, and replacement of older trucks starting January 1, 2015. By January 1, 2023, all vehicles need to have model year 2010 engines or equivalent.	**Non-road Diesel Fuel Rule –** 500 ppm sulfur starting June 2007 and 15 ppm sulfur starting January 1, 2012. Applies to all line-haul locomotives. **California Diesel Fuel Regulations –** 15 ppm sulfur starting January 1, 2007. Applies to all switch locomotives.	
Note: This table is not intended to be a comprehensive list of all potentially applicable regulations; rather, the table lists key regulations and agreements that quantifiably affect the emission calculations for BIG construction and assumed in the analysis. Emissions reductions are reflected in EMFAC emission factors for on-road vehicles and reflected in U.S. EPA locomotive emission factors.			

Construction Schedule

For analysis purposes, construction is assumed to begin in third quarter 2025 and be completed by third quarter 2028 with an overall duration of approximately 34 months. Construction continuing into 2028 would include track and signal work, while equipment testing would occur at the intermodal facility. The assumed construction phase timing is shown in **Table 5.8-4: Construction Schedule**. During peak construction periods, work would be under way at several locations within the BIG footprint simultaneously, with overlapping construction of various elements.

Table 5.8-4: Construction Schedule	
Phase	**Approximate Number of Days**
South Main Lines	
Demolition, Site Preparation, and Mobilization	39
Mass Grading	220
Bridges and Box Culverts	248
Fine Grading/Place Subballast	25
Track and Signal Construction	151
Intermodal Facility	
Demolition, Site Preparation, and Mobilization	39
Mass Grading	165
Drainage and Underground	333
Bridges and Box Culverts	333
Fine Grading/Place Subballast	165
Buildings/Pavement	361
Track and Signal Construction	319
Block Swap Yard	
Demolition, Site Preparation, and Mobilization	39
Mass Grading	109
Drainage and Underground	277
Bridges and Box Culverts	277
Fine Grading/Place Subballast	361
Track and Signal Construction	389
North Main Lines	
Demolition, Site Preparation, and Mobilization	39
Mass Grading	109
Bridges and Box Culverts	109
Fine Grading/Place Subballast	53
Track and Signal Construction	179
Transload Warehouse Construction	
Warehouse Construction	319
Civil Site Improvements	263
33 kV Distribution	601
Solar Site	344
Source: Project construction schedule provided by TranSystems/Burns & McDonnell.	

Table 5.8-5: Construction Assumptions Summary summarizes the methodology, models used, and other construction assumptions described in **Table 5.8-4**. See **Appendix 5.8 BIG-1** for detailed construction assumptions used in this analysis, as well as the modeled emissions.

Table 5.8-5: Construction Assumptions Summary

Emissions Source	Assumptions	Methodology or Model Used
Off-Road Equipment[1]	See Table 10 in **Appendix 5.8 BIG-1** for equipment assumptions	CARB OFFROAD
Earthwork (fugitive dust)	26,000,000 cubic yards of balanced cut and fill, truck loading, and storage piles 2,000,000 cubic yards of subcut and soil	U.S. EPA AP-42 §§ 11.9 and 13.2
Electricity from water conveyance for dust suppression	Approximately 2,103 million gallons of water	CalEEMod Version 2022.1
On-Road Hauling and Worker Vehicle Trips	See Table 11 in **Appendix 5.8 BIG-1** for construction trip assumptions. Peak worker trips would occur during building construction and peak truck trips would occur during demolition, site preparation, and mobilization.	CARB EMFAC2021
Demolition	150,000 square feet of structures 36,000 square feet of concrete slab removal	U.S. EPA AP-42 §§ 11.9 and 13.2
Rail Deliveries (Locomotive Hauling and Idling)	• 80 trains for rail tie delivery • 44 trains for welded rail delivery • 315 trains for ballast delivery • Total of approximately 439 trains over a 10-month construction period. • Each train was assumed to idle 8 hours per day. • Approximately 2 trains per day	U.S. EPA, Emission Factors for Locomotives, April 2009
Concrete and Asphalt Batch Plants	2.3 million cubic yards total over a 21-month period. Three electrically powered concrete batch plants (1.9 million cubic yards total, approximately 3,500 cubic yards per day). One electrically powered asphalt bath plant Approximately 345,379 cubic yards (approximately 633 cubic yards per day)	U.S. EPA AP-42 § 11.12

Notes:
[1] Includes Demolition, Grading, Bridges and Box Culverts, Building Construction, Track and Signal Work, Solar Farm, and 33 kV Transmission Line

Source: **Appendix 5.8 BIG-1: Greenhouse Gas Assessment**.

Temporary Mainline Relocation Train Trips

During construction, the existing mainline would be reconstructed. Prior to reconstruction, a new south mainline would be constructed immediately north of Main Street. Trains would then be diverted to this south mainline while the existing mainline is reconstructed. Upon reconstruction, trains would be evenly split between the two mainlines. Therefore, construction air quality analysis assumes 100 percent of trains

would use the south mainline from 2025-2027, and beginning 2027, half of trains BNSF's mainline would use the south mainline and half would use the reconstructed mainline. Train count projections are provided for 2026, 2027, and 2028, to consider potential changes in emissions as trains are diverted from the existing mainline to the proposed south mainline until 2027, then split between the two mainlines from 2027 to 2028. The location of the trains affects localized pollutant concentrations but would not affect overall mass emissions of GHGs.

Train count data is based on actual train data from the last quarter of 2022 and the first three quarters of 2023 as these were the most recent available data at the time environmental analysis commenced. Growth rates were applied to the existing train counts for future year data. Growth is based on a compounded annual growth rate (CAGR) derived from the historical change in container volumes associated with train trips (see the CAGR data prepared by EnSafe, which can be found in Appendix B [BNSF CAGRs used in BIG] of EnSafe's BNSF Barstow International Gateway Corridor Emissions Analysis. EnSafe's corridor emissions analysis is located within Appendix B of **Appendix 5.3 BIG-1**). The changes in emissions associated with moving trains closer or farther from sensitive receptors was included in construction emissions dispersion modeling given these changes would occur during the construction period.

Operations

BIG operational GHG emission sources were calculated based on BIG-specific activity levels. Operational GHG emission sources include rail yard equipment, stationary sources, area sources[10], locomotives, and heavy-duty truck and employee commute trips. The following building area was assumed for modeling purposes:

- **Intermodal Facility**: 150,000 square feet of building area
- **Transload Facility**: 9,000,000 square feet of building area

Operational emission source assumptions were obtained from BNSF. Operational mobile source activity assumptions were based on traffic data within the BIG transportation analysis (including TMT); see **Appendix 5.15 BIG-1: CEQA Assessment – Vehicle Miles Traveled, Active Transportation, and Public Transit Analysis.** Typically, intermodal transport grows by approximately two percent per year. However, as discussed above, BIG would introduce a unique cross-dock intermodal operation which would present competitive benefits to suppliers compared to long-distance transport via heavy-duty truck. As such, BNSF anticipates that during this "initial transition period" after opening year and while suppliers transition supply chains to use BIG, a higher growth percentage than typical would occur. Following this initial transition period and through horizon year, BIG's growth would continue at the normal approximately 2 percent per year. Therefore, the analysis evaluates BIG's environmental impacts during Opening Year (2028), Interim Year (2033), and Horizon Year (2048) conditions (see Appendix B of **Appendix 5.3 BIG-1**).

Table 5.8-6: Operational Assumptions Summary identifies the methodology, models used, and other operational assumptions described above for all operational analysis years. See **Appendix 5.3 BIG-1** for

[10] Area sources occur from consumer products, architectural coatings, and landscaping that were previously not present on the site.

more information regarding the construction assumptions used in this analysis, as well as the modeled emissions.

Table 5.8-6: Operational Assumptions Summary

Emissions Source	Assumptions	Methodology or Model Used
Equipment and Emergency Generators	See Table 14: Operational Diesel Equipment in **Appendix 5.8 BIG-1** for diesel equipment assumptions.	CARB OFFROAD
Energy Sources	Based on 150,000 square feet of intermodal facility buildings and 9,000,000 square feet of warehouse building area and associated electricity and natural gas consumption.	CalEEMod Consumption Rates and Southern California Edison energy intensity factors from the CEC Annual Power Content Labels. Future years projected based on SB 100 and AB 1279 goals.
Solar Generation	6.4 MW of rooftop solar on transload warehouses to comply with the CALGreen Code 21 MW of solar power from the on-site solar farm	Southern California Edison energy intensity factors from the CEC Annual Power Content Labels. Future years projected based on SB 100 and AB 1279 goals.
Locomotive GHG Emissions	See Table 15: Train Operational Assumptions within the BIG Footprint and Table 16: Locomotive Fleet Mix in **Appendix 5.8 BIG-1** for train assumptions. Baseline train count data is based on actual train data from the last quarter of 2022 and the first three quarters of 2023. Growth rates were applied to the existing train counts for future year data.	U.S. EPA Emissions Factors for Locomotives (April 2009)
Rail Corridor Between Ports and Needles Station GHG Emissions	Actual 2022 and 2023 train count data provided by BNSF Locomotive inventory based on the 1998 MOU annual reporting. Compound Annual Growth Rates (CAGR) and GHG emissions for With BIG and Without BIG are found in Appendix B of the Corridor Emissions Analysis, which is located within Appendix B of **Appendix 5.3 BIG-1**. For 2028, 2033, and 2048, the net BIG GHG emissions is the increment between the BIG project condition and Without BIG. See Table 15: Train Operational Assumptions within the BIG Footprint in **Appendix 5.8 BIG-1**.	U.S. EPA Emissions Factors for Locomotives (April 2009) The Climate Registry, 2021 Emissions Factors (2021) CARB, LCFS Pathway Certified Carbon Intensities
Other Mobile Sources (Passenger Cars)	See Table 17: BIG Passenger Vehicle Trip Generation in **Appendix 5.8 BIG-1** for mobile source assumptions.	CARB EMFAC2021

Table 5.8-6: Operational Assumptions Summary		
Emissions Source	**Assumptions**	**Methodology or Model Used**
National Roadway Network TMT Improvements	See Table 18: Annual Net TMT Removed from National Network by BIG in **Appendix 5.8 BIG-1.**	CARB EMFAC2021 (EMFAC2021 emission rates represent a conservative reduction estimate because reductions would be greater without H.J. Res 87 and H.J. Res 89.)
Barstow Yard Switcher Elimination and Replacement	Annual fuel consumption of 50,000 gallons per switcher. Six switchers replaced with Tier 4 engines, nine switchers removed.	GHG emission factors from The Climate Registry, 2021 Emission Factors, Tables 2.1 and 2.7, 2021.
Other (Area Sources, Solid Waste, Water and Wastewater)	Proposed building area.	CalEEMod 2022 Consumption and Emissions Rates.
Source: **Appendix 5.8 BIG-1: Greenhouse Gas Assessment**.		

5.8.4 ENVIRONMENTAL SETTING

Regional Setting

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

Carbon Cycle and Greenhouse Effect

The global carbon cycle is comprised of large carbon flows to and from various reservoirs (e.g., atmosphere, ocean, and biomass). Billions of tons of carbon are absorbed by oceans and living biomass (i.e., sinks) and are emitted to the atmosphere annually through natural processes (i.e., sources). When in equilibrium, carbon fluxes (i.e., the net exchange) among these various reservoirs are roughly balanced.

Through man-made activities such as fossil fuel combustion and other industrial processes, the increase in GHG emissions is outpacing the natural carbon sources and sinks, increasing the planet's greenhouse effect, and effectively disrupting this balance.

GHG Emissions and GWP

The primary GHGs contributing to the greenhouse effect are CO_2, CH_4, and N_2O. Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Examples of fluorinated gases include chlorofluorocarbons (CFCs), HFC), PFCs, SF_6, and nitrogen trifluoride (NF_3); however, it is noted

that these gases are not associated with typical land use development. Human-caused emissions of GHGs exceeding natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the Earth's climate, known as global climate change or global warming.

GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of a GHG molecule is dependent on multiple variables and cannot be pinpointed, more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms of carbon sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere.

Many other trace gases have greater ability to absorb and re-radiate longwave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a GWP for each GHG based on its ability to absorb and re-radiate longwave radiation. The GWP is a dimensionless metric that determines the relative ability of any gas to trap heat in the atmosphere and propagate the greenhouse effect. It quantifies the climate change impact of emitting 1 kilogram of a GHG, normalized by the impact of emitting 1 kilogram of CO_2 for a specific timeframe (e.g., 20 years, 100 years, 500 years). This time dependence is set to reflect the different values of atmospheric persistence based on each GHG's chemistry and structure.

Table 5.8-7: Description of GHG summarizes the primary GHGs attributed to global climate change, including their physical properties.

Table 5.8-7: Description of GHG

GHG	Description
Carbon Dioxide (CO_2)	CO_2 is a colorless, odorless gas that is emitted naturally and through human activities. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. The atmospheric lifetime of CO_2 is variable because it is readily exchanged in the atmosphere. CO_2 is the most widely emitted GHG and is the reference gas (GWP of 1) for determining GWPs for other GHGs.
Nitrous Oxide (N_2O)	N_2O is largely attributable to agricultural practices and soil management. Primary human-related sources of N_2O include agricultural soil management, sewage treatment, combustion of fossil fuels, and adipic and nitric acid production. N_2O is produced from biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years. The GWP of N_2O is 298.
Methane (CH_4)	CH_4, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure

Table 5.8-7: Description of GHG	
GHG	**Description**
	conditions) and is largely associated with agricultural practices and landfills. CH_4 is the major component of natural gas, about 87 percent by volume. Human-related sources include fossil fuel production, animal husbandry, rice cultivation, biomass burning, and waste management. Natural sources of CH_4 include wetlands, gas hydrates, termites, oceans, freshwater bodies, non-wetland soils, and wildfires. The atmospheric lifetime of CH_4 is about 12 years and the GWP is 25.
Hydrofluoro-carbons (HFCs)	HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase out of CFCs and HCFCs gains momentum. The 100-year GWP of HFCs range from 124 for HFC-152 to 14,800 for HFC-23.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Two main sources of PFCs are primary aluminum production and semiconductor manufacturing. GWPs range from 6,500 to 9,200.
Chlorofluoro-carbons (CFCs)	CFCs are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987. GWPs for CFCs range from 3,800 to 14,400.
Sulfur Hexafluoride (SF_6)	SF_6 is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. This gas is manmade and used for insulation in electric power transmission equipment in the magnesium industry, in semiconductor manufacturing, and as a tracer gas. The GWP of SF_6 is 23,900.
Hydrochlorofluorocarbons (HCFCs)	HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, HCFCs are subject to a consumption cap and gradual phase out. The U.S. is scheduled to achieve a 100 percent reduction to the cap by 2030. The 100-year GWPs of HCFCs range from 90 for HCFC-123 to 1,800 for HCFC-142b.
Nitrogen Trifluoride (NF_3)	NF_3 was added to Health and Safety Code § 38505(g)(7) as a GHG of concern. This gas is used in electronics manufacture for semiconductors and liquid crystal displays. It has a GWP of 17,200.

Sources:
U.S. EPA. 2025. *Overview of Greenhouse Gases*. https://www.epa.gov/ghgemissions/overview-greenhouse-gases.
U.S. EPA. 2018. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2016*.
IPCC. 2007. *Climate Change 2007: The Physical Science Basis.*
National Research Council. 2010. *Advancing the Science of Climate Change.*
U.S. EPA. 2010. *Methane and Nitrous Oxide Emission from Natural Sources*.

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities.

The IPCC AR6 (IPCC, 2022) summarizes the latest scientific consensus on climate change. It finds that atmospheric concentrations of CO_2 have increased by 50 percent since the Industrial Revolution and continue to increase at a rate of two parts per million each year. By the 2030s, and no later than 2040, the world will exceed 1.5°C warming (CARB, 2022a). These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (California EPA, 2006). In the past, gradual changes in the Earth's temperature changed the distribution of species, availability of water, and other conditions. Human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC, 2007).

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in frequency of warm spells/heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

Potential Climate Change Impacts for California

There is at least a greater than 50 percent likelihood that global warming will reach or exceed 1.5°C in the near-term, even for the very low GHG emissions scenario (IPCC, 2022). Climate change is already impacting California and will continue to affect it for the foreseeable future. For example, the average temperature in most areas of California is already 1°F (~0.56°C) higher than historical levels, and some areas have seen average increases in excess of 2°F (~1.1°C) (Cal OES, 2020). The California Fourth Climate Change Assessment identifies the following climate change impacts under a BAU scenario, in which no new actions are taken to curb GHG emissions:

- Annual average daily high temperatures in California are expected to rise by 2.7°F by 2040, 5.8°F by 2070, and 8.8°F by 2100 compared to observed and modeled historical conditions. These changes are statewide averages. Heat waves are projected to become longer, more intense, and more frequent.

- Warming temperatures are expected to increase soil moisture loss and lead to drier seasonal conditions. Summer dryness may become prolonged, with soil drying beginning earlier in the spring and lasting longer into the fall and winter rainy season.
- High heat increases the risk of death from cardiovascular, respiratory, cerebrovascular, and other diseases.
- Droughts are likely to become more frequent and persistent through 2100.[11]
- Climate change is projected to increase the strength of the most intense precipitation and storm events affecting California.
- Mountain ranges in California are already seeing a reduction in the percentage of precipitation falling as snow. Snowpack levels are projected to decline significantly by 2100 due to reduced snowfall and faster snowmelt.
- Marine layer clouds are projected to decrease, though more research is needed to better understand their sensitivity to climate change.
- Extreme wildfires (i.e., fires larger than 10,000 hectares or 24,710 acres) would occur 50 percent more frequently. The maximum area burned statewide may increase 178 percent by the end of the century.
- Exposure to wildfire smoke is linked to increased incidence of respiratory illness.
- Sea level rise is expected to continue to increase erosion of beaches, cliffs, and bluffs (Cal OES, 2020).

Global climate change risks to California are shown in **Table 5.8-8: Summary of GHG Emissions Risks to California** and include impacts to public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

California's GHG Sources and Relative Contribution

In 2023, the statewide GHG emissions inventory was updated for 2000 to 2021 emissions using the GWPs in the IPCC AR4 (IPCC, 2007) and reported that California produced 381.3 $MMTCO_2e$ GHG emissions in 2021 (49.7 $MMTCO_2e$ below the 2020 GHG Limit of 431 $MMTCO_2e$) (CARB, 2023a). The growth in statewide emissions from 2020 to 2021 was likely due in large part to the increase of transportation and other economic activity that occurred in 2021 relative to 2020, as California emerged from the COVID-19 pandemic.

California's transportation sector was the single-largest generator of GHG emissions, producing 38.2 percent of the State's total emissions. Industrial sector emissions made up 19.4 percent, and electric power generation made up 16.4 percent of the State's emissions inventory. Other major sectors of GHG emissions include residential and commercial (10.2 percent), agriculture and forestry (8.1 percent), high GWP (5.6 percent), and recycling and waste (2.2 percent) (CARB, 2023a).

[11] Overall, California has become drier over time, with five of the eight years of severe to extreme drought occurring between 2007 and 2016, and with unprecedented dry years in 2014 and 2015 (OEHHA, 2018). Statewide precipitation has become increasingly variable from year to year, with the driest consecutive four years occurring from 2012 to 2015 (OEHHA, 2018).

Table 5.8-8: Summary of GHG Emissions Risks to California	
Impact Category	**Potential Risk**
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level Impacts	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand
Sources: CEC 2006, 2009; CCCC 2012; CNRA 2014; Cal OES 2020.	

Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. In 2014, statewide GHG emissions dropped below the 2020 GHG Limit (AB 32 target for year 2020) and have remained below the Limit since that time. Additionally, per capita GHG emissions have dropped from a 2001 peak of 13.8 $MTCO_2e$ per person to 9.7 $MTCO_2e$ per person in 2021, a 30 percent decrease.

Transportation emissions increased from 2020, likely from passenger vehicles whose emissions rebounded after COVID-19 shelter-in-place orders were lifted. Electricity emissions also increased compared to 2020; however, there has been continued growth of in-state solar generation and imported renewable electricity. High-GWP emissions have continued to increase as high-GWP gases replace ozone-depleting substances being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also continue to demonstrate that the carbon intensity of California's economy (i.e., the amount of carbon pollution per million dollars of gross domestic product) is declining. From 2000 to 2021, the carbon intensity of California's economy decreased by 50.8 percent while the gross domestic product increased by 67.9 percent (CARB, 2023a).

Proposed General Plan

Existing Emissions

The existing land uses within the proposed General Plan area consist of a wide range of residential uses, industrial uses, commercial uses, public space, and open space. Operation of these land uses generates GHG emissions from natural gas used for energy, heating, and cooking; electricity usage; vehicle trips for employees and residents; area sources such as landscaping equipment and consumer cleaning products; water demand; waste generation; and solid waste generation.[12] **Table 5.8-9: Existing Proposed General Plan Area – GHG Emissions Inventory** shows the emissions associated with existing land uses in the proposed General Plan area. Emissions from permitted sources are excluded from the existing emissions inventory because the reductions associated with the Industrial sector are regulated separately by MDAQMD or are otherwise not under the jurisdiction of the City.

Table 5.8-9: Existing Proposed General Plan Area – GHG Emissions Inventory

Sector	Existing (CEQA Baseline) 2023 GHG Emissions	
	$MTCO_2e$/Year	Percent of Total
On-Road Transportation	232,465	71%
Residential (Natural Gas and Electricity)	34,168	10%
Nonresidential* (Natural Gas and Electricity)	28,532	9%
Solid Waste (Waste Commitment)	8,984	3%
Water/Wastewater	1,772	1%
Other - Offroad Equipment	4,732	1%
Refrigerants	15,460	5%
Total Community Emissions	326,114	100%
Service Population	48,626	NA
$MTCO_2e$/SP	6.71	NA

Notes: Emissions from permitted sources are excluded from the existing emissions inventory because the reductions associated with the Industrial sector are regulated separately by MDAQMD or are otherwise not under the jurisdiction of the City. The General Plan community inventory does not include the existing emissions associated with the existing BNSF yard as no changes are proposed.

Source: **Appendix 5.3-1 General Plan: Air Quality and Greenhouse Gas Emissions Modeling.**

Barstow International Gateway

The approximately 5,000-acre BIG footprint is in the western part of the City and southwestern part of the County; see **Figure 3-1: Regional Vicinity Map** and **Figure 3-2: Local Vicinity Map** in **Section 3:0: Project Description**. The BIG footprint is generally bordered by the Mojave River on the north, Historic Main Street (also referred to as National Trails Highway or Route 66) (hereinafter Main Street) on the south, Lenwood Road on the east, and Hinkley Road on the west. As a result of property acquisitions associated with BIG the majority of former residents within the BIG footprint have relocated and many of

[12] Emissions from water demand and wastewater are emissions associated with electricity used to supply, treat, and distribute water.

the residences have been demolished. To provide a conservative impact analysis, the emissions baseline for BIG is considered to be zero.

5.8.1 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

Addressing impacts from project-generated GHG emissions requires an agency to determine what constitutes a significant impact. The State CEQA Guidelines specifically allow lead agencies to determine thresholds of significance that illustrate the extent of an impact and are a basis from which to apply mitigation measures. This means that each agency is left to determine whether a project's GHG emissions will have a "significant" impact on the environment. The CEQA Guidelines direct that agencies are to use "careful judgment" and "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" the project's GHG emissions (14 CCR § 15064.4(a)). A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) quantify GHG emissions resulting from a project; and/or (2) rely on a qualitative analysis or performance based standards.

Amendments to State CEQA Guidelines § 15064.4(b) that resulted from SB 97 indicate that a lead agency should consider the following factors when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting.
- Whether a project's emissions exceed a threshold of significance that the lead agency determines applies to the Project.
- The extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

Accordingly, the Project would have a significant effect concerning GHG emissions if it would:

- **Impact 5.8-1:** Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- **Impact 5.8-2:** Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

MDAQMD CEQA and Federal Conformity Guidelines – General Plan and BIG

According to the MDAQMD's CEQA and Federal Conformity Guidelines, a project is significant if it triggers or exceeds the most appropriate evaluation criteria. A significant project must incorporate mitigation sufficient to reduce its impact to a level that is not significant. A project that cannot be mitigated to a level that is not significant must incorporate all feasible mitigation. The MDAQMD specifies that project emissions must include direct and indirect emissions during construction and operation. Construction and operational emissions were calculated using the models and emissions factors. This analysis conservatively does not use the MDAQMD's GHG (CO_2e) significance threshold of 100,000 tons per year (or 90,718 metric tons) and a comparison of General Plan emissions to this threshold is provided for informational purpose only.

Zero Net Increase Threshold – BIG ONLY

For the purposes of determining whether the BIG Project's GHG emissions are significant, this EIR considers a more conservative no net increase threshold (i.e., zero net increase) from CEQA baseline in order to provide a more conservative analysis of the BIG Project GHG emissions impacts. A zero net increase threshold means that a project must avoid adding any new GHG emissions to the atmosphere, either by designing the project to be inherently carbon-neutral or offsetting any residual emissions with on-site, off-site, or carbon offsets.

Consistency with Statewide GHG Reduction Targets – General Plan Only

The proposed General Plan forecasts growth in the proposed General Plan area through year 2048; therefore, this EIR analyzes the potential for the proposed General Plan Project to conflict with statewide GHG reduction goals identified in the CARB Scoping Plan that are applicable to local governments ("plan-level threshold"). This includes AB 1279, which requires an 85 percent reduction in statewide GHG emissions by 2045 to stabilize CO_2e emissions and avoid the most catastrophic impacts of climate change as well as substantial progress toward carbon neutrality.[13]

- The City's Existing emissions are 326,114 $MTCO_2e$. An 85 percent reduction in existing community emissions would require the City's 2048 community emissions forecast to achieve 48,917 $MTCO_2e$.

5.8.2 PROJECT IMPACTS AND MITIGATION MEASURES

Applicable Proposed General Plan Policies

The proposed General Plan goals and policies relevant to GHG emissions are listed below.

Land Use Element

- **Policy LU-2.1 Balanced mix of land uses.** Plan for and maintain a balanced mix of high quality l and uses to ensure a range of residential options, fiscal sustainability, and convenient access to shops, restaurants, services, and well-paid jobs.
- **Policy LU-3.2 Downtown design and land use.** Promote building and site designs that facilitate a walkable, experience-oriented atmosphere in the downtown. Encourage a mix of land uses that provide the opportunity to live, work, shop, and eat during the day and/or night.

Circulation Element

- **Policy CM-2.1 Pedestrian network.** Establish and maintain pedestrian walkways that promote safe and convenient travel to transit stops and between residential and commercial areas, schools, parks, recreation facilities and other key destination points.

[13] The 2022 Scoping Plan includes statewide measures to achieve the state's carbon neutrality goals under EO B-55-18 such as carbon dioxide removal that are not applicable to local governments. Carbon neutrality goals are a "no impact" level and not a "less than significant" impact level for climate change effects. There are presently no reliable means of forecasting how future technological developments related to carbon dioxide removal may affect future emissions in a planning jurisdiction. Therefore, carbon neutrality targets are not directly applicable to local governments and CEQA projects to mitigate GHG emissions impacts of a proposed project. Moreover, AB 1279 GHG reduction targets for 2045 are in line with the scientifically established levels needed in the U.S. to limit global warming below 1.5 to 2.0 degrees Celsius, the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels. For these reasons, the targets of AB 1279 are applicable to the EIR.

- **Policy CM-2.2 Bicycle network.** Establish and maintain a citywide bicycle network that consists primarily of Class I multipurpose trails, Class II bike lanes, or Class IV separated bikeways. Class III bike routes are acceptable facilities in constrained circumstances to attain connectivity.
- **Policy CM-2.3 Electric bikes.** Support and encourage the use of electric bicycles to reduce resident and employee reliance on cars, resulting in greater mobility while lowering vehicle miles traveled and associated emissions.
- **Policy CM-2.4 Transit service.** Coordinate with Victor Valley Transit Authority (VVTA) to provide residents and workers with accessible and convenient service between residential neighborhoods, commercial centers, educational facilities, employment nodes, and medical facilities. Coordinate with VVTA to install, improve, and maintain safe, clean, comfortable, well-lit and rider-friendly transit stops that are well marked and visible to motorists.
- **Policy CM 2.5 Downtown Barstow.** Enhance the public realm to create a pedestrian- and transit-friendly environment along and connecting to Main Street between Otis and 7th Avenues.
- **Policy CM-2.6 Design of new facilities.** Design new streets and streetscape improvements to accommodate vehicles, transit, bicycles, and pedestrians based on a combination of the land use and roadway context to promote safety and efficiency for all users.
- **Policy CM-2.7 Public space and networks.** Leverage public rights-of-way, easements, and other public spaces to maintain and expand bicycle and pedestrian networks.
- **Policy CM-2.8 Access management.** Minimize access points and curb cuts along primary and secondary arterials and in the proximity of an intersection to improve traffic flow and safety for vehicles, pedestrians, and bicycles. Eliminate and/or consolidate driveways when new development occurs or when traffic operation or safety warrants.
- **Policy CM-2.9 Site design.** Require new development to incorporate amenities and pathways so that pedestrians and bicyclists can access the site and on-site businesses safely and conveniently from the public right-of-way and parking areas.
- **Policy CM-2.10 VMT reduction.** Promote new development and transportation demand management (TDM) strategies that will reduce household and employment vehicle miles traveled (VMT). Prioritize the implementation of TDM strategies over the expansion of roadway capacity.

Public Facilities and Services Element

- **Policy PFS-1.2 Recycled and reclaimed water.** Expand the City's recycled water capabilities and encourage the use of recycled water for landscaping, groundwater recharge, direct potable reuse, and other appropriate uses. Support the use of greywater systems for non-potable purposes.
- **Policy PFS-1.3 Water conservation.** Encourage water-conserving site design and the use of water-conserving fixtures, and advocate for the adoption and implementation of water conservation strategies by water service agencies.
- **Policy PFS-1.8 Solid waste.** Provide a solid waste management system that meets or exceeds state recycling and waste diversion mandates while providing cost-effective disposal of waste for residents, businesses, and institutions.

Open Space Conservation Element

- **Policy OSC-1.5 Open space linkages.** Establish and maintain pedestrian and bicycle networks that link open space and recreation facilities.
- **Policy OSC-1.6 Heat abatement.** Design parks to include features such as shade structures and hydration stations to provide passive and active relief from extreme heat.
- **Policy OSC-3.2 Pollutant reduction and monitoring.** Coordinate with the Mojave Desert Air Quality Management District (MDAQMD) and San Bernardino County to reduce greenhouse gas emissions consistent with state law and other pollutants to maintain and progress toward state and federal attainment status. Collaborate with MDAQMD and other entities to monitor and reduce major pollutants affecting the City at the emission source.
- **Policy OSC-3.3 Construction and operations.** Invest as resources are available in City facilities and fleet vehicles to improve energy efficiency and reduce emissions. Encourage City contractors and other builders and developers to use low-emission construction vehicles and equipment to improve air quality and reduce emissions.
- **Policy OSC-5.7 Native plant species.** Require the use of native and/or drought-tolerant noninvasive naturalized plant species in development projects to provide or enhance wildlife habitat.
- **Policy OSC-7.2 Resilient landscaping.** Require the use of landscaping that is native and drought tolerant in the public realm to ensure healthy and resilient vegetation. Limit the use of turf in the public realm to when it is functionally required for recreation purposes. Encourage private property to exclusively use landscaping that is both native and drought tolerant.
- **Policy OSC-7.3 Gateways and landmarks.** Promote imaginative and distinctive features that project a positive image and community character at City gateways. Incorporate and preserve mature and specimen trees that are native and drought tolerant at gateways and landmarks.
- **Policy OSC-8.1 Energy conservation.** Pursue strategies that would conserve energy as the preferred mechanisms to reduce energy needs and to meet applicable energy-saving standards.
- **Policy OSC-8.2 Renewable sources.** Promote the use of renewable energy sources for the construction and operation of public and private sector development.
- **Policy OSC-8.3 Zero-emission infrastructure.** Coordinate with regional, state, and federal agencies as well as Victor Valley Transit Authority to plan for, fund, and install facilities that support the clean fueling of automobiles, public transit, electric bikes, and medium- and heavy-duty vehicles.
- **Policy OSC-8.4 Building design and upgrades.** Encourage new development and the upgrading of existing buildings to incorporate design elements, building materials, orientation, and fixtures that improve environmental sustainability and reduce emissions.

Safety Element

- **Policy S-2.8 Healthy, resilient, and efficient buildings.** Encourage and pursue funding for improvements to existing residential and nonresidential buildings consistent with the latest state

building code requirements for indoor air quality; energy efficiency; energy storage; disaster and severe weather resilience; and solar power. As funding is obtained, prioritize improvements for buildings that are both within 500 feet of a freeway or railroad and intended for use by residents or employees for at least eight hours a day.

- **Policy S-2.9 Urban heat reduction.** Encourage the use of shade-producing trees and structures that reduce ambient air temperatures and heat radiance from buildings, parking lots, and other impermeable surfaces.

Impact 5.8-1	***Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

Proposed General Plan

Development under the proposed General Plan would contribute to global climate change through direct and indirect emissions of GHG from land uses within the proposed General Plan area. A general plan does not directly result in development without additional approvals. Before any development can occur in the City, it must be analyzed for consistency with the General Plan, zoning requirements, and other applicable local and State requirements; comply with the requirements of CEQA; and obtain all necessary clearances and permits.

Horizon Year 2048 Emissions Forecast

Buildout of the proposed General Plan is not linked to a specific development time frame but is assumed over a 25-year horizon. Implementation of the proposed General Plan by the horizon year of 2048 would result in a net increase of 18,531 residents and 10,911 employees in the proposed General Plan area. Development that would be accommodated by the proposed General Plan would generate a net increase of 837,687 daily total VMT and TMT at buildout. The community GHG emissions inventory for the proposed General Plan at buildout compared to existing conditions is shown **Table 5.8-10: Horizon Year 2048 Proposed General Plan Area GHG Emissions Forecast**.

Buildout of the proposed General Plan is not linked to a specific development. Additionally, **Table 5.8-10** considers the net GHG emissions reductions associated with BIG, since BIG is part of the proposed General Plan area. The Net Change column in **Table 5.8-10** is the change in emissions between the emissions shown under the proposed General Plan column and the emissions shown under the Existing (2023) column. Overall, the net change represents the change in emissions that would occur from implementation of the proposed General Plan under Horizon Year 2048 when compared to the existing year 2023 conditions. Because the community emissions accounting method is based on the City's geographic boundary and the significance threshold used for the General Plan is based on California's emissions targets under AB 1279, the emissions forecast separates the BIG project-level emissions that occur outside of California from those emissions within California.

Table 5.8-10: Horizon Year 2048 Proposed General Plan Area GHG Emissions Forecast				
	GHG Emissions			
Sector	Existing (2023) $MTCO_2e/Yr$	Proposed General Plan $MTCO_2e/Yr$	Net Change $MTCO_2e/yr$	Percent Change
GENERAL PLAN COMMUNITY EMISSIONS				
On-Road Transportation[1]	232,465	300,266	67,801	29%
Residential (Natural Gas and Electricity)[2,3]	34,168	31,486	-2,682	-8%
Nonresidential (Natural Gas and Electricity)[2, 3]	28,532	21,229	-7,303	-26%
Solid Waste (Waste Commitment)	8,984	17,958	8,974	100%
Water/Wastewater	1,772	570	-1,202	-68%
Offroad Equipment	4,732	3,360	-1,372	-29%
Refrigerants	15,460	23,812	8,352	54%
Subtotal Community Emissions	326,114	398,681	72,567	22%
Net BIG (California)[4, 5]	N/A	61,904	61,904	N/A
TOTAL COMMUNITY + BIG WITHOUT MITIGATION (CALIFORNIA)	326,114	460,585	134,471	41%
Exceeds MDAQMD Significance Threshold? (100,000 tons [90,718 metric tons] CO_2e)	—	—	**Yes**	—
Achieves AB 1279 Target (48,917 MTCO2e, 85% Reduction from Existing)	—	No	--	--
TOTAL COMMUNITY + BIG WITH (CALIFORNIA & NATIONAL)				
Community Emissions	326,114	398,681	72,567	22%
Net BIG Emissions (California & National)	N/A	-30,522	-30,522	N/A
TOTAL COMMUNITY + BIG	326,114	368,159	42,045	13%

Notes: () = negative value
[1] On-road transportation includes total VMT and TMT from BIG.
[2] Based on average national gas use of the five-year (2019 to 2023) usage data provided by Southwest Gas and the CalEEMod, version 2022.1, default natural gas emissions factors. The five-year average is used to account for fluctuations in energy use.
[3] Proposed General Plan energy-sector emissions adjusted for increases in population for natural gas use and non-residential square footage for non-residential natural gas use in the proposed General Plan area.
[4] Because community emissions includes total VMT and TMT from BIG, the BIG emissions exclude the on-road mobile sources, but accounts for the TMT reductions that would occur within California.
[5] Accounts for emissions associated with offroad equipment used in daily operations, landscaping equipment, rail, refrigerants, in addition to the annual 30-year amortized BIG construction emissions.

Sources: **Appendix 5.3-1 General Plan: Air Quality and Greenhouse Gas Emissions Modeling** and **Appendix 5.8 BIG-1: Greenhouse Gas Emissions Assessment**.

As shown in **Table 5.8-10**, implementation of the proposed General Plan, with BIG, would increase GHG emissions by 134,471 $MTCO_2e/yr$ (41 percent) from existing levels without mitigation. This increase would exceed MDAQMD's significance threshold of 90,718 $MTCO_2e/yr$ ((100,000 tons/yr). The increase in

emissions would primarily be from on-road mobile-source emissions followed by rail emissions. The overall increases in on-road mobile-source emissions would be due to the anticipated growth that would be accommodated under the proposed General Plan. In addition to comparison with the MDAQMD significance GHG threshold, the proposed project is also evaluated on whether it would be consistent with the state's 2045 GHG emissions reduction target of 85 percent below 1990 levels by 2045. As shown in **Table 5.8-10**, implementation of the proposed General Plan would increase emissions by 41 percent and would not achieve the 85 percent reduction target.

The proposed General Plan contains policies that would reduce emissions from the various GHG emissions sectors to the extent feasible. For example, Circulation Element policies such as Policies CM-2.1, CM-2.2, CM-2.5, CM-2.6, and CM-2.7 in addition to Land Use Element policies LU-2.1 and LU-3.2 would support improving the pedestrian and bicycle network infrastructures. Policy CM-2.3 would support increasing use of electric bikes and Policy CM-2.4 would support increasing transit service. Also, Policy CM-2.10 would promote transportation demand management strategies to reduce household and employment passenger car VMT. Overall, these Circulation Element and Land Use Element policies would contribute towards reducing single passenger car VMT and mobile-source emissions. The proposed General Plan also includes policies that would contribute towards reducing energy sector emissions. Policies OSC-8.1, OSC-8.4, S-2.8 (Healthy, resilient, and efficient buildings), and S-2.9 (Heat-reflecting surfaces) focus on energy conservation and energy efficiency strategies and design while Policy OSC-8.2 promotes the use of renewable energy sources for construction and operation of public and private sector development.

The proposed General Plan policies identified above and mitigation measures identified for the BIG project would reduce GHG emissions associated with implementation of the proposed project. However, as discussed above and shown in **Table 5.8-10**, the proposed General Plan would result in a substantial increase in GHG emissions from existing levels and would not achieve the GHG reduction targets of AB 1279. Implementation of **MM GP GHG-1** would ensure that the City prepares a CAP to align GHG emissions targets in the City with the State's carbon neutrality goal set by AB 1279. **MM GP GHG-1** would also ensure that the City is tracking and monitoring the City's GHG emissions. However, given the growth in population and employment within the City and the magnitude of emissions reductions needed to achieve the GHG reduction target, GHG emissions are considered significant and unavoidable.

Impact 5.8-1: General Plan: Level of Significance Before Mitigation: Potentially Significant Impact.

Mitigation Measures

MM GP GHG-1 **Climate Action Plan.** The City of Barstow shall prepare a Climate Action Plan (CAP) to align GHG emissions targets in the City with the GHG reduction targets of Assembly Bill (AB) 1279. The CAP shall be completed within 36 months of certification of the General Plan EIR. The CAP shall be updated every five years to ensure the City is monitoring the plan's progress toward achieving the City's greenhouse gas (GHG) reduction target and to require amendment if the plan is not achieving specified level. The update shall consider a trajectory consistent with the GHG emissions reduction goal established under AB 1279 for year 2045, and the latest applicable statewide

legislative GHG emission reduction that may be in effect at the time of the CAP. The CAP shall include the following:

- GHG inventories of existing and forecast year GHG levels.
- Tools and strategies for reducing GHG emissions to ensure a trajectory with the long-term GHG reduction and carbon neutrality goal for year 2045 of Assembly Bill 1279. These may include, but are not limited to:
  - Encouraging electric vehicle adoption through incentive or education programs.
  - Adopting local ordinances or policies that require greater energy efficiency, waste reduction, and water conservation in new construction, additions, and/or alterations.
  - Encouraging the construction of solar arrays above parking lots, as well as the integration of solar and other renewable energy generation technologies in new construction, additions, and/or alterations.
  - Encouraging the incorporation of energy storage and other grid-harmonizing infrastructure in new construction, additions, and/or alterations.
  - Collaborating with Southern California Edison to encourage existing developments to upgrade natural gas equipment (e.g., furnaces) with electric equipment (e.g., heat pumps).
- Plan implementation guidance that includes, at minimum, the following components consistent with the proposed CAP:
  - Administration and Staffing
  - Finance and Budgeting
  - Timelines for Measure Implementation
  - Community Outreach and Education
  - Monitoring, Reporting, and Adaptive Management
  - Tracking Tools

MM GP GHG-2 Implementation of **MM BIG AQ-1** through **MM BIG AQ-14**.

Impact 5.8-1: General Plan: Level of Significance After Mitigation: Significant and Unavoidable Impact.

As shown in **Table 5.8-10** despite the national TMT reduction associated with the BIG project and implementation of **MM GP GHG-1** and **MM GP GHG-2—**which requires implementation of **BIG AQ-1** through **MM BIG AQ-14—**the City would not achieve the GHG reduction targets of AB 1279.

Barstow International Gateway

Construction GHG Emissions

BIG construction would result in direct emissions of GHGs. The approximate quantity of GHG emissions generated by construction equipment and vehicle trips utilized to build BIG is shown in **Table 5.8-11: Construction-Related GHG Emissions.**

Table 5.8-11: Construction-Related GHG Emissions

Category	Unmitigated $MTCO_2e$	Mitigated $MTCO_2e$
Construction Year 2025	38,727	19,235
Construction Year 2026	162,244	99,651
Construction Year 2027	46,309	32,290
Construction Year 2028	4,260	3,036
Total Construction Emissions	*251,539*	*154,212*
30-Year Amortized Construction	8,385	5,140

Note:
[1] Refer to **Appendix 5.8 BIG-1** for emissions assumptions details and calculations.

Source: Kimley-Horn, 2025.

Table 5.8-11 shows BIG would result in the generation of approximately 251,539 $MTCO_2e$ over the course of construction without mitigation. **Section 5.3: Air Quality** of the Draft EIR includes various mitigation measures that would minimize construction GHG emissions. **MM BIG AQ-3** requires Tier 4 off-road equipment, **MM BIG AQ-4** requires off-road equipment to use renewable diesel fuel, and **MM BIG AQ-5** requires clean on-road construction vehicles (i.e., model year 2010 or newer). See below for a list of applicable mitigation measures. With incorporation of these mitigation measures, BIG exhaust emissions from construction equipment would be reduced, resulting in total construction GHG emissions being reduced to 154,212 $MTCO_2e$ (5,140 annually). Once construction is complete, the generation of these GHG emissions would cease.

Operational GHG Emissions

BIG construction would generate temporary construction GHG emissions associated with demolition, grading, and construction. Additionally, operational emissions would occur over the life of BIG. GHG emissions would result from direct sources such as BIG generated vehicular traffic, locomotive activity, cargo handling equipment, on-site combustion of natural gas, and operation of any landscaping equipment. Operational GHG emissions would also result from indirect sources, such as off-site generation of electrical power, the energy required to convey water to, and wastewater from BIG, the emissions associated with solid waste generated from BIG, and any fugitive refrigerants from air conditioning or refrigerators. BIG construction would generate temporary construction GHG emissions associated with demolition, grading, and construction. In addition to operational GHG emissions, BIG is designed to eliminate thousands of truck trips a day from the nation's roads and highways. Because of these direct GHG emissions reductions, BIG would result in a net GHG emissions reduction under the

unmitigated BIG condition for each of the analysis years. See **Table 5.8-12: BIG GHG Emission** for a summary of BIG's net GHG emissions.

Table 5.8-12: BIG GHG Emissions

Emissions Source	2028 $MTCO_2e$[7]	2033 $MTCO_2e$[7]	2048 $MTCO_2e$[7]
Unmitigated Construction Amortized over 30 Years	8,385	8,385	8,385
Locomotives (within BIG Site Boundary)			
Mainline (Without BIG)[1]	21,719	24,010	29,979
Mainline (With BIG)[2, 3]	13,817	15,035	19,267
Net Mainline (Through BIG)	-7,902	-8,973	-10,712
BIG Lead Tracks	4,110	4,642	4,847
BIG Block Swap Yard	3,671	4,062	6,171
BIG Intermodal Facility	294	389	444
BIG Maintenance	222	227	299
Locomotives Within BIG Site Boundary Subtotal	**395**	**346**	**1,049**
On-Road Mobile Sources			
Passenger Cars	29,909	35,272	36,880
Trucks	17,048	19,008	20,030
On-Road Mobile Source Subtotal	**46,957**	**54,280**	**56,911**
Equipment, Area, and Energy Sources			
Equipment (including generators)	52,097	52,323	52,670
Area and Energy Sources	70,675	64,605	42,829
Solar Farm	-9,423	-7,369	0
Rooftop Solar – Code Compliance	-2,237	-1,749	0
Equipment, Area, and Energy Source Subtotal	**111,111**	**107,810**	**95,499**
Rail Corridor Emissions			
California Rail Corridor Emissions - Without BIG	853,389	916,397	1,158,807
California Rail Corridor Emissions - With BIG	890,796	971,385	1,217,579
Net Corridor Emissions in California[4]	*37,408*	*54,987*	*58,772*
Corridor Emissions Outside California[5]	115,529	157,860	179,451
Net National Network TMT Reduction[6]	-325,664	-376,761	-372,415
Total BIG Unmitigated Operational Emissions	**-14,265**	**-1,477**	**19,267**
Total Unmitigated Construction and Operational Emissions (BIG and Corridor)	**-5,880**	**6,907**	**27,652**
Existing Barstow Yard Switcher Replacement	-522	-522	-522
Net Unmitigated BIG GHG Emissions with Existing Barstow Yard Switcher Replacement	**-6,403**	**6,385**	**27,130**
Exceed Zero Net Increase Threshold Without Mitigation	**No**	**Yes**	**Yes**

Table 5.8-12: BIG GHG Emissions			
Reductions from Mitigation Measures			
Air Quality Construction Mitigation Reduction	-3,244	-3,244	-3,244
Air Quality Operational Mitigation Reduction	-49,986	-50,213	-50,041
Energy Mitigation Reduction	-5,942	-4,647	0
Net Mitigated BIG GHG Emissions	**-65,575**	**-51,719**	**-26,155**
Exceed Zero Net Increase Threshold With Mitigation	**No**	**No**	**No**

$MTCO_2e$ = metric tons of carbon dioxide equivalents, BIG = Barstow International Gateway; TMT = truck miles traveled

Note:
[1] Mainline (Without BIG) locomotive emissions represent the trains that travel on the existing mainlines today within the future BIG footprint.
[2] Mainline (With BIG) locomotive emissions represent the trains that pass through BIG's footprint without stopping at the Block Swap or Intermodal Facility.
[3] Mainline (with BIG) includes BIG Dedicated Fleet, which represents locomotive emissions from dedicated fleet of Tier 4 locomotives traveling on the west leads to the Intermodal Facility.
[4] EnSafe, 2025 (see **Appendix 5.3 BIG-1 [Appendix B]**). Net corridor emissions on the mainline from the Ports to the west leads, and from the east leads to the California Border (does not include the BIG footprint).
[5] Net corridor emissions on the mainline (i.e., train emissions from additional containers moved by train instead of truck) from the California border to eastern destinations (See **Appendix 5.3 BIG-1**).
[6] See **Appendix 5.3 BIG-1.**
[7] Totals may not add up due to rounding.

Source: Kimley-Horn, 2025.

BIG would result in direct GHG emissions reductions of 23,511 $MTCO_2e$ by 2048. According to the U.S. EPA's Greenhouse Gas Equivalencies Calculator, 23,511 $MTCO_2e$ is equivalent to the emissions from 56,433 barrels of oil consumed. BIG includes using dedicated Tier 4 locomotives to transport cross-dock intermodal containers from the Ports to BIG's intermodal facility, Tier 4 switcher locomotives, the retirement of all existing switcher locomotives at the existing Barstow classification yard and the addition of six Tier 4 switcher locomotives,[14] and increasing the renewable diesel composition within the BNSF's existing Southern California fueling sites and use electric cargo handling equipment (i.e., electric rail mounted gantry cranes, chassis stacking forklifts, forklifts, top pick/side loaders, and electric hostlers).

Air quality mitigation (see **Section 5.3: Air Quality**) would include **MM BIG AQ-4**, which requires construction to use renewable diesel fuel and **MM BIG AQ-8**, which requires renewable diesel for rubber-tired gantry (RTG) cranes which also minimize operational GHG emissions. Additionally, **MM BIG AQ-9** limits truck idling, **MM BIG AQ-10** requires the use of Tier 4 backup generators, and **MM BIG AQ-11** and **MM BIG AQ-12** requires truck efficiency measures per CARB's Carl Moyer Program and U.S. EPA's Smart Way Program. **MM BIG AQ-13** requires the use of electric landscape equipment. **MM BIG AQ-14** requires future EV charging infrastructure. Additionally, BIG would be required to implement **MM BIG EN-1** and **MM BIG EN-2** discussed below to reduce impacts related to energy consumption. These mitigation measures require additional on-site electricity generation beyond Title 24 compliance; and constructing buildings to CALGreen Code Tier 2 standards.

As shown in **Table 5.8-12**, BIG implementation would result in net reductions in GHG emissions. Therefore, mitigation measures to reduce GHG emissions are not required. However, BIG would implement the

[14] Only six Tier 4 switcher locomotives are needed to fully replace the 15 existing Tier 0/0+/1+ switcher locomotives due to improved reliability, advanced traction control, and better power/improved torque with Tier 4 switchers.

following mitigation to reduce impacts related to air quality and energy**: MM BIG AQ-3** through **MM BIG AQ-5, MM BIG AQ-8** through **MM BIG AQ-10, MM BIG AQ-13**, **MM BIG AQ-14,** and **MM BIG EN-1** through **MM BIG EN-2.** As shown in **Table 5.8-12**, BIG implementation would result in net reductions in GHG emissions. Additional mitigation is not required

Laws, Ordinances, and Regulations

LOR GHG-1 Require diesel powered construction equipment to turn off when not in use per California Code of Regulations (CCR), Title 13, § 2449.

LOR GHG-2 BIG shall be designed in accordance with the applicable Title 24 Energy Efficiency Standards for Nonresidential Buildings (CCR, Title 24, Part 6). These standards are updated, nominally every three years, to incorporate improved energy efficiency technologies and methods. The Building Official, or designee shall ensure compliance prior to the issuance of each building permit. The Title 24 Energy Efficiency Standards (§ 110.10) require buildings to be designed to have 15 percent of the roof area "solar ready" that will structurally accommodate later installation of rooftop solar panels. If future building operators pursue providing rooftop solar panels, they will submit plans for solar panels prior to occupancy.

LOR GHG-3 BIG shall be designed in accordance with the applicable CALGreen Code (24 CCR, Part 11). The Building Official, or designee shall ensure compliance prior to the issuance of each building permit. These requirements include, but are not limited to:

- Design buildings to be water efficient. Install water-efficient fixtures in accordance with CALGreen Code, Part 11, § 5.303.
- Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with CALGreen Code, Part 11, § 5.408.1.
- Provide storage areas for recyclables and green waste and adequate recycling containers located in readily accessible areas in accordance with CALGreen Code, Part 11, § 5.410.
- To facilitate future installation of electric vehicle supply equipment (EVSE), nonresidential construction shall comply with CALGreen Code, Part 11, § 5.106.5.3 (nonresidential EV charging).

Impact 5.8-1: BIG: Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.8-1: BIG Mitigation Measures: No mitigation is required.

Impact 5.8-1: BIG Level of Significance After Mitigation: Less than significant impact would occur.

Impact 5.8-2 ***Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gas emissions?***

Proposed General Plan

Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan and SCAG's RTP/SCS. The consistency analyses with these plans are presented below.

2022 CARB Scoping Plan

CARB's latest Scoping Plan (2022 Scoping Plan) outlines the State's strategies to reduce GHG emissions in accordance with the targets established under AB 32, SB 32, and AB 1279. The 2022 Scoping Plan is applicable to State agencies and is not directly applicable to cities/counties and individual projects. However, new regulations adopted by the State agencies result in GHG emissions reductions at the local level. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that would affect a local jurisdiction's emissions inventory from the top down.

Statewide strategies to reduce GHG emissions include the LCFS, California Appliance Energy Efficiency regulations, California RPS, changes in the standards, and other early action measures as necessary to ensure the State is on target to achieve the GHG emissions reduction goals of AB 32, SB 32, and AB 1279. In addition, new developments are required to comply with the current Building Energy Efficiency Standards and CALGreen Code. In addition, as explained above, the CARB 2022 Scoping Plan expands on prior Scoping Plans and recent legislations, such as AB 1279, by outlining a technologically feasible, cost-effective, and equity-focused path to achieve the State's climate target of reducing anthropogenic GHG emissions to 85 percent below 1990 levels and achieving carbon neutrality by 2045 or earlier (CARB, 2022a). To achieve carbon neutrality by 2045, the 2022 Scoping Plan contains GHG reductions, technology, and clean energy mandated by statutes, reduction of short-lived climate pollutants, and mechanical CO_2 capture and sequestration actions.

The proposed General Plan GHG emissions shown in **Table 5.8-10** include reductions associated with statewide strategies that have been adopted since AB 32. Projects accommodated under the proposed General Plan would comply with these GHG emissions reduction measures since they are statewide strategies. Although, the Scoping Plan itself is not directly applicable to the proposed General Plan, **Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies** is provided to evaluate consistency of the proposed General Plan to the GHG-reducing strategies from the 2022 Scoping Plan and ensure that the City implements measures needed on a local level to support the State's GHG reduction efforts. As shown in the table, the proposed General Plan may conflict with the NWL actions and strategies pertaining to croplands due to the anticipated potential loss of farmlands. Therefore, the proposed General Plan may conflict with the 2022 Scoping Plan and impacts would be potentially significant.

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
Transportation Technology Sector	
• Achieve 100 percent ZEV sales of light duty vehicles by 2035 and medium heavy duty vehicle by 2040. • Achieve 20 percent zero-emission target for the aviation sector. • Develop a rapid and robust network of ZEV refueling infrastructure to support needed transition to ZEVs. • Ensure that the transition of ZEV technology is affordable for low income households and communities of color, and meets the needs of communities and small business. • Prioritize incentive funding for heavy-duty ZEV technology deployment in regions of the state with the highest concentrations of harmful criteria and TAC emissions. • Promote private investment in the transition to ZEV technology, undergirded by regulatory certainty such as infrastructure credits in the Low Carbon Fuel Standard for hydrogen and electricity and hydrogen station grants from the CEC's Clean Transportation Program pursuant to EO B-48-18. • Evaluate and continue to offer incentives similar to those through FARMER, Carl Moyer, the Clean Fuel Reward Program, the Community Air Protection Program, the Low Carbon Transportation, including CORE. Where feasible, prioritize and increase funding for clean transportation equity programs. • Continue and accelerate funding support for ZEVs and refueling infrastructure through 2030 to ensure the rapid transformation of the transportation sector.	**No Conflict.** The City does not have the authority to require the adoption of electric or zero emission vehicles by future residents and employees. The ACC II regulation supports this goal and serves as the primary mechanism for accelerating adoption of light-duty ZEVs. The ACT regulation is also designed to help with the transition to ZE Class 2b to Class 8 medium and heavy-duty vehicles. Refueling infrastructure is a crucial component of transforming transportation technology. Future development facilitated by adoption of the proposed General Plan would be required to comply with City and CALGreen Code requirements regarding the number of EV-ready and EV-capable parking spaces to support ZEVs and PHEVs. Additionally, the proposed General Plan includes Policy OSC-8.3 which supports coordination with regional, State, and federal agencies to plan for and encouraging funding, and installation of facilities that support the clean fueling of automobiles, public transit, electric bikes, and medium- and heavy-duty trucks. As such, the proposed General Plan would not conflict with implementation of this strategy. As with the Light Duty Vehicle sector, a number of incentive programs support this transition, such as the Hybrid and ZE Truck and Bus Voucher Incentive Project (HVIP) with implementation of standards under the ACC II Program and HVIP consistent with reduction of GHG emissions under AB 1279. GHG emissions generated by passenger, truck, and bus vehicular travel as a result of future development facilitated by adoption of the proposed General Plan would benefit from the above regulations and programs, and mobile source emissions would be reduced with implementation. Therefore, the proposed General Plan would not conflict with actions under the transportation technology sector.
Transportation Fuels Sector	
• Accelerate the reduction and replacement of fossil fuel production and consumption in California. • Incentivize private investment in new zero-carbon fuel production in California. • Incentivize the transition of existing fuel production and distribution assets to support deployment of low and zero-carbon fuels while protecting public health and the environment. • Invest in the infrastructure to support reliable refueling for transportation such as electricity and hydrogen refueling.	**No Conflict.** The City does not have the authority to regulate the carbon content of transportation fuels sold or used in the City. EO N-79-20 calls on State agencies to support the transition of existing fuel production facilities away from fossil fuels and directs that this transition also protect and support workers, public health, safety, and the environment. Actions and strategies implemented by State agencies would support the reduction in GHG emissions generated by passenger, truck, and bus vehicular travel from future development facilitated by adoption of the proposed General Plan. Therefore, the

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
• Evaluate and propose, as needed, changes to strengthen the Cap-and-Trade Program. • Initiate a public process focused on options to increase the stringency and scope of the LCFS: - Evaluate and propose accelerated carbon intensity targets pre-2030 for LCFS. - Evaluate and propose further declines in LCFS post-2030 carbon intensity targets to align with this 2022 Scoping Plan. - Consider integrating opt-in sectors into the program. - Provide capacity credits for hydrogen and electricity for heavy-duty fueling. • Monitor for and ensure that raw materials used to produce low-carbon fuels or technologies do not result in unintended consequences	proposed General Plan would not conflict with actions in the transportation fuels sector.
VMT and TMT Sector	
• Achieve a per capita VMT reduction of at least 25 percent below 2019 levels by 2030 and 30 percent below 2019 levels by 2045. • Reimagine new roadway projects that decrease VMT in a way that meets community needs and reduces the need to drive. • Invest in making public transit a viable alternative to driving by increasing affordability, reliability, coverage, service frequency, and consumer experience. • Implement equitable roadway pricing strategies based on local context and need, reallocating revenues to improve transit, bicycling, and other sustainable transportation choices • Expand and complete planned networks of high quality active transportation infrastructure. • Channel the deployment of autonomous vehicles, ride-hailing services, and other new mobility options toward high passenger-occupancy and low VMT impact service models that complement transit and ensure equitable access for priority populations. • Streamline access to public transportation through programs such as the California Integrated Travel Project. • Ensure alignment of land use, housing, transportation, and conservation planning in adopted regional plans, such as RTP/ SCS, regional housing needs assessments, and local plans (e.g., general plans, zoning, and local transportation plans), and develop tools to support implementation of these plans.	**No Conflict.** Managing total demand for transportation energy by reducing the miles people need to drive on a daily basis is also critical as the State aims for a sustainable transportation sector in a carbon neutral economy. VMT reductions will play an indispensable role in reducing overall transportation energy demand and achieving the state's climate, air quality, and equity goals. CARB did not set regulatory limits on VMT in the 2022 Scoping Plan because the authority to reduce VMT largely lies with state, regional, and local transportation, land use, and housing agencies, along with the Legislature and its budgeting choices. While these actions and strategies apply to state and local agencies, SB 375 requires SCAG to direct the development of the RTP/SCS for the region. The proposed General Plan would be consistent with the RTP/SCS goal to adapt to a changing climate and to support an integrated regional development pattern. The proposed General Plan includes policies that would contribute to minimizing overall VMT and TMT, and thus fuel usage associated with the proposed General Plan area. For example, Circulation Element policies such as Policies CM-2.1, CM-2.2, CM-2.5, CM-2.6, and CM-2.7 would support improving the pedestrian and bicycle network infrastructures. Policy CM-2.4 would support increasing transit service. Also, Policy CM-2.10 would promote transportation demand management strategies to reduce household and employment passenger car VMT. Additionally, Land Use Element Policies LU-2.1 and LU-3.2 focus on creating a balanced mix of land uses and walkable areas. Overall, these Circulation Element and Land Use Element policies would contribute towards reducing single passenger car vehicle trips, which would

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
• Accelerate infill development and housing production at all affordability levels in transportation-efficient places, with a focus on housing for lower income residents.	reduce VMT and mobile-source emissions. Moreover, as illustrated in **Table 5.15-14** in **Section 5.15: Transportation** of this Draft EIR, the land use pattern envisioned by the proposed General Plan would result in a decrease of per capita total VMT and TMT from 43.3 under the cumulative 2048 No Project scenario to 35.4 under the cumulative 2048 Plus Project scenario, representing an approximately 18-percent reduction. The land use pattern envisioned by the proposed General Plan would result in per capita total VMT and TMT reductions when compared to future No Project conditions by advancing more efficient land use and circulation patterns, such as locating employment and housing closer together to reduce reliance on vehicular transport. Furthermore, as discussed in further detail under Impact 5.13-1 in **Section 5.13: Population and Housing**, of this Draft EIR, buildout of the proposed General Plan would improve the jobs-housing ratio and provide opportunities to both live and work within the proposed General Plan area rather than commuting to other areas.
Clean Electricity Grid Sector	
• Use long-term planning processes (Integrated Energy Policy Report, IRP, CAISO Transmission Planning Process, AB 32 Climate Change Scoping Plan) to support grid reliability and expansion of renewable and zero-carbon resource and infrastructure deployment. • Complete systemwide and local reliability assessments across CAISO and other balancing authority areas, using realistic assumptions for land use, build rates, statewide and distribution system level constraints, and energy needs. Such assessments should be completed before state agencies update their electricity sector GHG targets. • Prioritize actions to mitigate impacts to electricity reliability and affordability and provide sufficient flexibility in the state's decarbonization roadmap for adjustments as may be needed. • Facilitate long lead-time resource development through the IRP and the SB 100 interagency process and through technology development and demonstration funding that includes resources such as long-duration energy storage and hydrogen production.	**No Conflict**. Decarbonizing the electricity sector depends on both using energy more efficiently and replacing fossil-fueled generation with renewable and zero carbon resources, including solar, wind, energy storage, geothermal, biomass, and hydroelectric power. The RPS Program and the Cap-and-Trade Program continue to incentivize dispatch of renewables over fossil generation to serve State demand. SB 100 increased RPS stringency to require 60 percent renewables by 2030 and for California to provide 100 percent of its retail sales of electricity from renewable and zero-carbon resources by 2045. Furthermore, SB 1020 has added interim targets to SB 100's policy framework to require renewable and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent of all electricity retail sales by 2040; establish a planning goal of at least 20 gigawatts of offshore wind by 2045; and that State agencies plan for an energy transition that avoids the need for new fossil gas capacity to meet California's long-term energy goals. California also continues to advance its appliance and building energy efficiency standards to reduce growth in electricity consumption and meet the SB 350 goal to double statewide energy efficiency savings in electricity and fossil gas end uses by 2030. Increased transportation and building electrification and continued policy commitment to behind-the-meter solar and storage will continue to drive growth of microgrids and other distributed energy resources (DER). Continued transition

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
• Continue coordination between energy agencies and energy proceedings to maximize opportunities for demand response. • Continue to explore the benefits of regional markets to enhance decarbonization, reliability, and affordability. • Address resource build-out challenges, including permitting, interconnection, and transmission network upgrades. • Explore new financing mechanisms and rate designs to address affordability. • Per SB 350, double statewide energy efficiency savings in electricity and fossil gas end uses by 2030, through a combination of energy efficiency and fuel substitution actions. • Per SB 100 and SB 1020, achieve 90 percent, 95 percent, and 100 percent renewable and zero-carbon retail sales by 2035, 2040, and 2045, respectively. • Evaluate and propose, as needed, changes to strengthen the Cap-and-Trade Program. • Target programs and incentives to support and improve access to renewable and zero-carbon energy projects (e.g., rooftop solar, community-owned or controlled solar or wind, battery storage, and microgrids) for communities most at need, including frontline, low-income, rural, and indigenous communities. • Prioritize public investments in zero-carbon energy projects to first benefit the most overly burdened communities affected by pollution, climate impacts, and poverty.	to renewable and zero-carbon electricity resources will enable electricity to become a zero-carbon substitute for fossil fuels. To reach the 2045 target, the State will need to quadruple its current level of wind and solar capacity. This transformation will drive investments in a large fleet of generation and storage resources but will also require significant transmission to accommodate these new capacity additions. Resources such as storage and demand-side management are essential to maintain reliability with high concentrations of renewables. Hydrogen produced from renewable resources and renewable feedstocks can serve a dual role as a low-carbon fuel for existing combustion turbines or fuel cells, and as energy storage for later use. While these actions and strategies apply to State and local agencies, the proposed General Plan would support SB 100's goals since future development facilitated by adoption of the proposed General Plan would utilize the renewable energy provided by the regulated entities, e.g., SCE. Future development facilitated by adoption of the proposed General Plan would use electricity consistent with the requirements of SB 100. The proposed General Plan would comply with this action/strategy as the proposed General Plan area is within the SCE service area and future development accommodated by the proposed General Plan would be required to comply with CALGreen Code and Title 24 energy efficiency standards. As such, the proposed General Plan would be consistent with SB 100. As required under SB 350, doubling of the energy efficiency savings from final end uses of retail customers by 2030 would primarily rely on the existing suite of building energy efficiency standards under CCR, Title 24, Part 6 and utility-sponsored programs such as rebates for high-efficiency appliances, HVAC systems, and insulation. The proposed General Plan also includes Policy OSC-8.1, which promotes the use of renewable energy sources for the construction and operation of public and private sector development. Additionally, Policy OSC-8.1 calls for pursuing strategies that would conserve energy as the preferred mechanisms to reducing energy needs, while Policies OSC-8.4 and S-2.8 call for encouraging and pursuing funding for improvements to existing residential and nonresidential buildings consistent with the latest State building code requirements for indoor air quality; energy efficiency; energy storage; disaster and severe weather resilience; and solar power.
Sustainable Manufacturing and Buildings Industry Sector	
• Maximize air quality benefits using the best available control technologies for stationary	**No Conflict.** Fossil gas is the primary gaseous fossil fuel used to produce heat at industrial facilities, as well as in

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
sources in communities most in need, including frontline, low-income, disadvantaged, rural, and tribal communities. • Prioritize alternative fuel transitions first in communities most in need, including frontline, low-income, disadvantaged, rural, and tribal communities. • Invest in research and development and pilot projects to identify options to reduce materials and process emissions along with energy emissions in California's industrial manufacturing facilities, leveraging programs like the CEC's Electric Program Investment Charge (EPIC). • Evaluate and propose, as needed, changes to strengthen the Cap-and-Trade Program. • Support electrification with changes to industrial rate structures. • Develop infrastructure for CCS and hydrogen production to reduce GHG emissions where cost-effective and technologically feasible non-combustion alternatives are not available. • Implement SB 905. • Establish markets for low-carbon products and recycled materials using Buy Clean California Act and other mechanisms relying on robust data. • Develop a net-zero cement strategy to meet SB 596 targets for the GHG intensity of cement use in California. • Continue to leverage energy-efficiency programs, including the U.S. DOE's ENERGY STAR program, U.S. DOE's Superior Energy Performance program, and ISO 50001. • Evaluate and continue to offer incentives to install energy efficiency and renewable energy technologies through programs such as CPUC decisions as part of rulemaking R.19-09-009393 and the CEC's Food Production Investment Program (FPIP) and EPIC programs. • Leverage low-carbon hydrogen programs, including the Bipartisan Infrastructure Law, for regional hydrogen hubs, hydrogen electrolysis, and hydrogen manufacturing and recycling. • Evaluate the role of hydrogen in meeting GHG emission reductions, including policy recommendations regarding the use of hydrogen in California as required by SB 1075[B].	residential and commercial buildings. Gaseous fossil fuel use can be displaced by four primary alternatives: zero-carbon electricity, solar thermal heat, hydrogen, and biogas/biomethane. The 2022 Scoping Plan reduces dependence on fossil gas in the industrial and building sectors by transitioning substantial energy demand to alternative fuels. Combustion of fossil gas, other gaseous fossil fuels, and solid fossil fuels provide energy to meet three broad industry needs: electricity, steam, and process heat. Non-combustion emissions result from fugitive emissions and from the chemical transformations inherent to some manufacturing processes. About 20 percent of the GHG emissions from the industrial sector are non-combustion emissions. Decarbonizing industrial facilities depends upon displacing fossil fuel use with a mix of electrification, solar thermal heat, biomethane, low- or zero-carbon hydrogen, and other low carbon fuels to provide energy for heat and reduce combustion emissions. Emissions also can be reduced by implementing energy efficiency measures and using substitute raw materials that can reduce energy demand and some process emissions. Some remaining combustion emissions and some non-combustion CO_2 emissions can be captured and sequestered. This sector has a continuing demand for fossil gas due to lack of non-combustion technologically feasible or cost-effective alternatives for certain industrial sectors. Microgrids powered by renewable resources and with battery storage are emerging as a key enabler of electrification and decarbonization at industrial facilities. While these actions and strategies apply to State and local agencies, each future project developed under the proposed General Plan would be required to comply with applicable EPA, CARB and MDAQMD emissions standards, rules, and regulations regarding fossil fuel use as well as conduct their own applicable CEQA analysis that would determine significance based on the individual project specifics. Moreover, new development envisioned by the proposed General Plan would be subject to the applicable version of the Energy Code and CALGreen Code that are in effect at the time permit applications are submitted. As discussed in Section 5.8.2, the Energy Code increasingly requires construction to improve the efficiency of and increases the incorporation of renewable energy and energy storage technology into the design of proposed buildings. The CALGreen Code additionally provides standards for incorporating EV charging infrastructure for new off-street parking, among other energy efficiency and resource conservation measures. As such, the proposed General

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
• Address cost barriers to promote low-carbon fuels for hard-to-electrify industrial applications.	Plan would not conflict with actions in the sustainable manufacturing and buildings industry sector.
Sustainable Manufacturing and Buildings Building Sector	
• Prioritize California's most vulnerable residents with the majority of funds in the new $922 million Equitable Building Decarbonization program, created through the 2022–2023 state budget. This would include residents in frontline, low-income, disadvantaged, rural, and tribal communities. This program is dedicated to a statewide direct-install building retrofit program for low-income households to replace fossil fuel appliances with electric appliances, energy-efficient lighting, and building insulation and sealing while also coordinating reductions in gas infrastructure in specific geographic areas. • Achieve three million all-electric and electric-ready homes by 2030 and seven million by 2035 with six million heat pumps installed statewide by 2030. • Expand incentive programs to support the holistic retrofit of existing buildings, especially for vulnerable communities. • Ensure that incentive programs prioritize energy affordability and tenant protections, promote affordable and low-income household retrofits that improve habitability and reduce expenses, protect and empower small landlords and homeowners, address overlooked consumer groups, and pair decarbonization with other critically needed renovation efforts to ensure that buildings support human health and are climate- and weather-resistant. • End fossil gas infrastructure expansion for newly constructed buildings. • Evaluate and propose, as needed, changes to strengthen the Cap-and-Trade Program. • Strengthen California's building standards to support ZE new construction. • Develop building performance standards for existing buildings. • Adopt a ZE standard for new space and water heaters sold in California beginning in 2030, as specified in the 2022 State Strategy for the State Implementation Plan. • Expand use of low-GWP refrigerants within buildings.	**No Conflict**. Achieving carbon neutrality must include transitioning away from fossil gas in residential and commercial buildings and will rely primarily on advancing energy efficiency while replacing gas appliances with non-combustion alternatives. This transition must include the goal of trimming back the existing gas infrastructure, so pockets of gas-fueled residential and commercial buildings do not require ongoing maintenance of the entire limb for gas delivery. Blending low carbon fuels such as hydrogen and biomethane into the pipeline further displaces fossil gas. Pipeline safety and reliability must be evaluated to accommodate low-carbon fuels. This transition is achieved when all new buildings constructed include non-combustion appliances, and appliances in existing buildings are replaced at the end of their useful life with non-combustion alternatives. While these actions and strategies apply to State and local agencies, as stated above, each future project developed under the proposed General Plan would be required to comply with applicable U.S. EPA, CARB and MDAQMD emissions standards, rules, and regulations regarding fossil fuel use as well as conduct their own applicable CEQA analysis that would determine significance based on the individual project specifics. Furthermore, the proposed General Plan includes Policy OSC-8.1, which promotes the use of renewable energy sources for the construction and operation of public and private sector development. In addition, it also includes Policy OSC-8.2, which encourages upgrading existing buildings to incorporate design elements, building materials, orientation, and fixtures that improve environmental sustainability, and Policy S-2.8, which calls for encouraging and pursuing funding for improvements to existing residential and nonresidential buildings consistent with the latest State building code requirements for indoor air quality; energy efficiency; energy storage; disaster and severe weather resilience; and solar power.

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
• Support electrification with changes to utility rate structures and by promoting load management programs. • Increase funding for incentive programs and expand financing assistance programs focused on existing buildings and appliance replacements. • Expand consumer education efforts to raise awareness and stimulate the adoption of decarbonized buildings and appliances, especially in vulnerable communities. • Implement biomethane procurement targets for investor-owned utilities as specified in SB 1440 (Hueso, Chapter 739, Statutes of 2018) to reduce GHG emissions in remaining pipeline gas and reduce methane emissions from organic waste.	
Carbon Dioxide Removal (CDR) and Capture Sector	
• Implement SB 905. • Convene a multi-agency Carbon Capture and Sequestration (CCS) Group comprised of federal, state, and local agencies to engage with environmental justice advocates, tribes, academics, researchers, and community representatives to identify the current status, concerns, and outstanding questions concerning CCS, and develop a process to engage with communities to understand specific concerns and consider guardrails to ensure safe and effective deployment of CCS. • Iteratively update the CARB CCS Protocol with the best available science and implementation experience. • Incorporate CCS into other sectors and programs beyond transportation where cost-effective and technologically feasible options are not currently available and to achieve the 85 percent reduction in anthropogenic sources below 1990 levels as called for in AB 1279. • Evaluate and propose, as appropriate, financing mechanisms and incentives to address market barriers for CCS and CDR. • Evaluate and propose, as appropriate, the role for CCS in cement decarbonization (SB 596) and as part of hydrogen production pathways (SB 1075). • Support carbon management infrastructure projects through core CEC research,	**No Conflict**. The deployment of CDR to counterbalance hard-to-abate residual emissions is unavoidable if net zero CO_2 or GHG emissions are to be achieved. Modeling shows that emissions from the AB 32 GHG Inventory sources will continue to persist even if all fossil related combustion emissions are phased out. These residual emissions must be compensated for to achieve carbon neutrality wither with CDR, which includes both sequestration in NWL and mechanical approaches like direct air capture, CCS, which is carbon capture from anthropogenic point sources involves capturing carbon from a smokestack of an emitting facility, or direct air capture, which captures carbon directly from the atmosphere. While these actions and strategies apply to State and local agencies, the proposed General Plan is a land use development planning project that would not conflict with measures to increase carbon dioxide removal and capture.

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
development, and demonstration (RD&D) programs. • Continue to explore carbon capture applications for producing or leveraging zero-carbon power for reliability needs as part of SB 100. • Consider carbon capture infrastructure when developing hydrogen roadmaps and strategy, especially for non-electrolysis hydrogen production. • Evaluate and streamline permitting barriers to project implementation while protecting public health and the environment. • Explore options for how local air quality benefits can be achieved when CCS is deployed. • Explore opportunities for CCS and CDR developers to leverage existing infrastructure, including subsurface infrastructure. • Explore permitting options to allow for scaling the number of sources at carbon sequestration hubs.	
SLCPs (Non-Combustion Gases) Dairy and Livestock CH_4 Sector	
• Install state-of-the-art anaerobic digesters that maximize air and water quality protection, maximize biomethane capture, and direct biomethane to sectors that are hard to decarbonize or as a feedstock for energy. • Increase alternative manure management projects, including but not limited to conversion to "solid," "dry," or "scrape" manure management; installation of a compost-bedded pack barn; an increase in the time animals spend on pasture; and implementation of solid-liquid separation technology into flush manure management systems. • Implement enteric fermentation strategies that are cost-effective, scientifically proven, safe for animal and human health, and acceptable to consumers, and that do not impact animal productivity. Provide financial incentives for these strategies as needed. • Accelerate demand for dairy and livestock product substitutes such as plant-based or cell-cultured dairy and livestock products to achieve reductions in animal populations. • In consideration of the pace of deployment of CH_4mitigation strategies and the scale of complementary incentives, consider regulation	**Not Applicable**. Short-Lived Climate Pollutants (SLCP) include black carbon, CH_4, and fluorinated gases. HFCs are the fastest growing source of GHG emissions, primarily driven by their use to replace ozone-depleting substances and an increased demand for cooling and refrigeration. Dairy and livestock are the largest source of CH_4 emissions followed by landfills. Black Carbon, soot, comes primarily from transportation, specifically heavy-duty vehicles followed by fuel combustion for residential, commercial, and industrial applications. The proposed General Plan would not conflict with SLCP dairy and livestock CH_4 sector actions in the 2022 Scoping Plan. The proposed General Plan is a broad-based land use development planning project that does not include dairy or livestock facilities; therefore, this strategy is not applicable. Further, there are not any diary or livestock facilities in the City.

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
development to ensure that the 2030 target is achieved, assuming the conditions outlined in SB 1383 are met.	
SLCPs (Non-Combustion Gases) Landfill CH_4 Sector	
• Maximize existing infrastructure and expand it to reduce landfill disposal, with strategies including composting, anaerobic digestion, co-digestion at wastewater treatment plants, and other non-combustion conversion technologies. • Expand markets for products made from organic waste, including through recognition of the co-benefits of compost, biochar, and other products. • Recover edible food to combat food insecurity. • Invest in the infrastructure needed to support growth in organic recycling capacity. • Utilize existing digesters at wastewater treatment facilities to rapidly expand food waste digestion capacity. • Direct biomethane captured from landfills and organic waste digesters to sectors that are hard to decarbonize. • Implement improved technologies and best management practices at composting and digestion operations. • Reduce emissions from landfills through improvements in operational practices, lower permeability covers, advanced collection systems, and technologies to utilize landfill gas. • Leverage advances in remote sensing capabilities to quickly pinpoint large methane sources and mitigate leaks, improve understanding of the factors that lead to better capture efficiency, and explore new technologies and practices that can reliably improve methane control at landfills.	**No Conflict**. SB 1383 has a 75 percent organic waste disposal reduction target below the 2013 baseline by 2030. The State did not achieve the 50 percent reduction in organic waste disposal below 2014 levels by 2020. The CPUC approved a decision in February 2022 implementing the biomethane procurement program, which will require investor-owned utilities by 2025 to procure 17.6 billion cubic feet (BCF) of biomethane produced from organic wastes to support the landfill disposal reduction and SLCP target and reduce fossil gas reliance for residential and commercial customers. Organic waste will also be reduced by measure to remove edible food from the stream. Emissions can also be reduced by improvements in operational practices at landfills including lower permeability covers, advanced landfill gas collection systems, and increased monitoring to detect and repair leaks. The proposed General Plan would not conflict with SLCP landfill CH_4 sector actions in the 2022 Scoping Plan. The proposed General Plan is a land use development planning project that does not include landfill development. Additionally, proposed Policy PFS-1.8 focuses on providing a solid waste management system that meets or exceeds State recycling and waste diversion mandates while providing cost-effective disposal of waste for residents, businesses, and institutions.
SLCPs (Non-Combustion Gases) Upstream Oil and Gas CH_4 Sector	
• Mitigate emissions from leaks by regular leak detection and repair (LDAR) surveys at all facilities. • Replace high-emitting equipment with ZE alternatives wherever feasible. • Have CARB and CalGEM lead a Task Force to identify and address methane leaks from oil infrastructure near communities. • Pursuant to SB 1137, develop leak detection and repair plans for facilities in health protection zones, implement emission	**Not Applicable**. California is currently on track to achieve a 41 percent reduction in CH_4emission from oil and gas production by 2025 relative to 2013. To meet the 2030 target, regulatory requirements to further reduce intentional venting of fossil gas from equipment are needed. While these actions and strategies apply to State and local agencies, the proposed General Plan is a land use planning project that would not involve oil and gas production; therefore, this strategy is not applicable.

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
detection system standards, and provide public access to emissions data. • Minimize emissions from equipment that must vent fossil gas by design (e.g., fossil gas-powered compressors). • Install vapor collection systems on high-emitting equipment. • Phase out venting and routine flaring of associated gas (gas produced as a by-product during oil production). • Implement continuous ambient monitoring at fossil gas underground storage facilities to quickly detect large CH_4 sources. • Reduce pipeline and compressor blowdown emissions. • Leverage advances in remote sensing capabilities to quickly pinpoint large CH_4 sources and mitigate leaks.	
SLCPs (Non-Combustion Gases) Hydrofluorocarbons Sector	
• Expand the use of very low- or no-GWP technologies in all HFC end-use sectors, including emerging sectors, like heat pumps for applications other than space conditioning, to maximize the benefits of building decarbonization. • Convert large HFC emitters such as existing refrigeration systems to the lowest practical GWP technologies. • Prioritize small-scale and independent grocers serving priority populations in addressing existing "banks" of high-GWP refrigerants. • Improve recovery, reclamation, and reuse of refrigerants by limiting sales of new or virgin high-GWP refrigerants and requiring the use of reclaimed refrigerants where appropriate. • Assist low-income and disadvantaged communities in obtaining low-GWP space conditioning units to protect vulnerable communities from heat stress and wildfire smoke. • Accelerate technology transitions in California and the U.S. overall by collaborating with international partners committed to taking action on HFCs under the Kigali Amendment to the Montreal Protocol; this includes addressing barriers to adoption of very low- or no-GWP refrigerant technologies such as high upfront costs, shortage of trained technicians, and lag	**No Conflict**. New targeted measures are needed to reduce HFCs, primarily from high-GWP refrigerants, to meet 2045 requirements. HFC emissions from new and existing sources need to be addressed in tandem with building decarbonization efforts to maximize reductions. The adoption of low-GWP refrigerants must occur in parallel with building decarbonization efforts. The sales prohibitions on newly produced refrigerants set forth in SB 1206 and the national/international HFC phasedown will help in reducing HFC emissions from existing equipment by restricting the supply of and increasing the value of existing high-GWP HFCs. While these actions and strategies apply to State and local agencies, the proposed General Plan would be consistent with SLCP hydrofluorocarbons sector actions in the 2022 Scoping Plan. These regulations would be applicable to future development facilitated by adoption of the proposed General Plan to the extent that new development would use these regulated compounds in accordance with regulations. Any such future development would be required to comply with applicable regulations from this CARB SLCP reduction strategy, with respect to adopted limits on the use of regulated compounds for refrigeration uses. Therefore, the proposed General Plan would not conflict with this strategy.

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
in updating safety standards and building codes.	
SLCPs (Non-Combustion Gases) Anthropogenic Black Carbon Sector	
• Reduce fuel combustion commensurate with state's climate and air quality programs, particularly from reductions in transportation emissions and agricultural equipment emissions. • Invest in residential wood smoke reduction.	**No Conflict**. Under current strategies, anthropogenic black carbon from transportation is expected to be reduced by over 60 percent in 2030. Continued reductions in combustion emissions across all sectors from both the State's climate and air quality programs will also reduce anthropogenic black carbon emissions. While these actions and strategies apply to State and local agencies, the proposed General Plan would be consistent with SLCP anthropogenic black carbon sector actions in the 2022 Scoping Plan. The proposed General Plan includes policies that would contribute in minimizing overall VMT, and thus fuel usage associated with the proposed General Plan area. For example, Circulation Element policies such as Policies CM-2.1, CM-2.2, CM-2.5, CM-2.6, and CM-2.7 would support improving the pedestrian and bicycle network infrastructures. Policy CM-2.4 would support increasing transit service. Also, Policy CM-2.10 would promote transportation demand management strategies to reduce household and employment passenger car VMT. Additionally, Land Use Element Policies LU-2.1 and LU-3.2 focus on creating a balanced mix of land uses and walkable areas. Overall, these Circulation Element and Land Use Element policies would contribute towards reducing single passenger car vehicle trips, which would reduce VMT and mobile-source emissions. Furthermore, as discussed in further details under **Impact 5.13-1** in **Section 5.13: Population and Housing**, of this Draft EIR, buildout of the proposed General Plan would improve the jobs-housing ratio and provide opportunities to both live and work within the proposed General Plan area rather than commuting to other areas.
NWL: Strategies for all NWL	
• Implement AB 1757 and SB 27. • Implement the Climate Smart Strategy. • Accelerate the pace and scale of climate smart action, consistent with the management levels identified above, as part of a collective effort between federal, state, private, nonprofit, and individual land managers. • Prioritize and practice equity, including through meaningful community engagement and prioritizing implementation of nature-based solutions that benefit the communities most vulnerable to climate change.	**No Conflict**. AB 1757 calls for the development of an ambitious range of targets for the NWL sector to be integrated into the Scoping Plan and other State policies. SB 27 directed CARB to establish CO_2 removal targets for 2030 and beyond. In response to EO N-82-20 and AB 1757, the proposed target for NWL for 2045 is a -4 percent change in total carbon stock from 2014. These actions and strategies apply to State agencies and are not directly related to future development facilitated by adoption of the proposed General Plan. However, the proposed General Plan includes Goal OSC-2, which focuses on the preservation of the desert environment through the responsible management of natural open

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
• Advance multi-benefit, collaborative, landscape-level approaches that engage communities and landowners, and incorporate adaptive management. • Consult and partner with California Native American tribes to increase co-management and tribal management authority; restore, protect, and enhance natural cultural resources, traditional foods, and cultural landscapes; respect tribal sovereignty; and support tribes' implementation of tribal expertise and Traditional Ecological Knowledge and cultural easements. • Leverage existing innovative financial and market mechanisms, and explore new ones, between the public, private, and philanthropic sectors to secure funding of climate smart land management. • In partnership with communities, tribes, and the private sector, expand and develop new infrastructure for manufacturing and processing of climate smart agricultural and biomass products. • Leverage and support technical assistance providers such as the UC Cooperative Extension and California's 98 Resource Conservation Districts, that have track records of providing technical assistance to local landowners and implementing agriculture, forestry, natural resource management, and restoration projects across the state. • Establish and expand mechanisms that ensure NWL are protected from land conversion and parcelization (e.g., conservation easements or Williamson Act), in line with the strategies outlined in CNRA's Pathways to 30x30 California. Pair land conservation projects with management plans that increase carbon sequestration, where feasible. • Increase opportunities for private and philanthropic investments in nature-based climate solutions, utilizing existing voluntary and compliance carbon markets, existing state and local programs, and the California Carbon Sequestration and Climate Resiliency Project Registry established pursuant to SB 27. • Expand monitoring and tracking of management actions and outcomes consistent with the tracking and monitoring	spaces. Policies under Goal OSC-2 includes Policy OSC-2.1 calls for coordination with public agencies and nongovernmental entities to create permanent open space areas that protect natural resources, Policy OSC-2.3 which focuses the pursuit of land swaps in order to grow responsibly and sustainably manage and conserve open space and natural resource areas, and Policy OSC-2.2, which encourages new residential developments to cluster housing units to reduce consumption of undeveloped land, maximize open space, and preserve natural and scenic resources. The proposed General Plan also includes Goal OSC-5, which focuses on preservation and conservation of the desert ecosystem and regional biological diversity through sustainable practices in open space design and management. This goal includes Policy OSC-5.2, which involves coordination with public and nongovernmental agencies to protect biological resources through the establishment, restoration, and conservation of high-value habitat areas and support of proactive assemblage of lands to protect high-value biological resources and facilitate development through private or public mitigation banking or other appropriate conservation measures. Goal OSC-5 also includes Policy OSC-5.5, which would require new development projects to minimize impacts to existing high-value habitat and protected wildlife to the extent practicable and revegetation of disturbed natural habitat areas with native or drought-tolerant noninvasive naturalized species. Overall, the proposed General Plan would not interfere, impede, or conflict with NWL strategies for all NWL actions under the 2022 Scoping Plan.

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
recommendations of the Climate Smart Strategy.	
NWL: Forest Shrublands and Chaparral	
• Accelerate the pace and scale of climate-smart forest management to at least 2.3 million acres annually by 2025, in line with the climate-smart management strategies identified in this Scoping Plan, the NWL Climate Smart Strategy, and the Wildfire and Forest Resilience Action Plan. • Establish and expand mechanisms that ensure forests, shrublands, and grasslands are protected from land conversion and that support ongoing, rather than one-time, management actions. • In collaboration with state and local agencies, accelerate the deployment of long-term carbon storage from waste woody biomass residues resulting from climate-smart management, including storage in durable wood products, underground reservoirs, soil amendments, and other mediums. • Expand infrastructure to facilitate processing of biomass resulting from climate-smart management. • Expand permit streamlining in collaboration with state and local agencies to accelerate implementation of climate-smart forest management while protecting natural resources.	**No Conflict**. California is covered by 27 percent forests and 31 percent shrubland and chaparral. Climate smart management can help make forests more resilient to climate change and less prone to catastrophic wildfire. Climate-smart management in shrublands and chaparral face can provide protection for threatened communities and natural resources. As discussed above, these actions and strategies apply to State agencies and not directly related to future development accommodated under the proposed General Plan. Additionally, as discussed, the proposed General Plan includes goals and policies that cover the preservation and conservation of desert environment. The proposed General Plan would not interfere, impede, or conflict with strategies on any NWL where forests, shrublands, and chaparral occur under the 2022 Scoping Plan.
Natural Working Lands: Grasslands	
• Establish and expand mechanisms that ensure grasslands are protected from land conversion/parcelization and that support ongoing, rather than one-time, management actions that improve carbon sequestration. • Deploy grassland management strategies, like prescribed grazing, compost application, and other regenerative practices, to support soil carbon sequestration, biodiversity, and other ecological improvements. • Increase adoption of compost production on farms and application of compost in appropriate grassland settings for improved vegetation and carbon storage, and to deliver waste diversion goals through nature-based solutions.	**No Conflict**. California is covered by 9 percent grasslands. The protection of grasslands provides an opportunity to reduce sprawl and complement VMT reduction strategies. Climate smart strategies can increase grassland resilience to climate change by improving species diversity and maintaining or increasing soil carbon stocks. As discussed above, these actions and strategies apply to State agencies and not directly related to future development accommodated under the proposed General Plan. Additionally, as discussed, the proposed General Plan includes goals and policies that cover the preservation and conservation of the desert environment. The proposed General Plan would not interfere, impede, or conflict with strategies on any NWL where grasslands occur under the 2022 Scoping Plan.

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
NWL: Croplands	
• Accelerate the pace and scale of healthy soils practices to 80,000 acres annually by 2025, conserve at least 8,000 acres of annual crops annually, and increase organic agriculture to 20 percent of all cultivated acres by 2045. • Utilize the recommendations included in CDFA's Farmer and Rancher-Led Climate Change Solutions report to accelerate the deployment of healthy soils practices, organic farming, and climate-smart agriculture practices. • Establish or expand financial mechanisms that support ongoing deployment of healthy soils practices and organic agriculture. • Support strategies that achieve co-benefits of safer, more sustainable pest management practices and the health and preservation of ecosystems, such as implementing the California Department of Pesticide Regulation's (DPR's) Sustainable Pest Management Work Group recommendations. • Conduct research on the intersection of pesticides, soil health, GHGs, and pest resiliency via a multi-agency effort with DPR, CDFA, and CARB. • Conduct outreach and education to develop and facilitate the increased adoption of safer, more sustainable pest management practices and tools; reduce the use of harmful pesticides; promote healthy soils; improve water and air quality; and reduce public health impacts. • In collaboration with state and local agencies, accelerate the deployment of alternatives to agricultural burning that increase long-term carbon storage from waste agricultural biomass, including storage in durable wood products, underground reservoirs, soil amendments, and other mediums. • Work across state agencies to reduce regulatory and permitting barriers around some healthy soils practices (e.g., composting), where appropriate. • Utilize innovative agriculture energy use and carbon monitoring and planning tools to reduce on-farm GHG emissions from energy and fertilizer application or to increase carbon storage, as well as to promote on-farm energy production opportunities.	**No Conflict.** Climate smart practices can maintain or increase the climate resilience of cropland productivity through improved soil conditions and increased pollinator habitat. As discussed above, these actions and strategies apply to State agencies and not directly related to future development accommodated under the proposed General Plan. As addressed in **Impact 5.2-1** in **Section 5.2: Agriculture and Forestry Resources**, implementation of the proposed General Plan has the potential to result in the conversion or loss of Agricultural Land through the annexation of the City's SOI. Therefore, the proposed General Plan would interfere, impede, or conflict with strategies on any NWL where croplands occur under the 2022 Scoping Plan.

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
NWL: Wetlands	
• Restore 60,000 acres of Delta wetlands annually by 2045 to reduce CH_4 emissions from wetlands and reverse the resulting subsidence. • Identify and prioritize wetland restoration efforts around climate vulnerable communities. • Leverage other funding and institutions to support wetland restoration projects, including land trusts, local funding, federal funding, and private and philanthropic funding to support wetlands restoration projects. • Work across state agencies to reduce regulatory and permitting barriers around wetland restoration projects, where appropriate.	**No Conflict**. Wetlands are hotspots for diversity, contain considerable carbon in the soil, are critical to the States' water supply, and protect upland areas from flooding due to sea level rise and storms. Climate smart strategies to restore and protect wetlands can reduce GHG emissions while simultaneously improving the climate resilience of surrounding areas and improving the water quality and yield for the State. As discussed above, these actions and strategies apply to State agencies and not directly related to future development accommodated under the proposed General Plan. As discussed in greater detail in **Section 5.10: Hydrology and Water Quality**, Chapter 15.14, Stormwater and Urban Runoff Pollution Control, of the Barstow Code is intended to protect and enhance the quality of watercourses, water bodies, and wetlands within the City consistent with the federal Clean Water Act, California Porter-Cologne Water Quality Control Act, and Municipal National Pollution Discharge Elimination System Permit. Chapter 15.14 of the Barstow Code ensures optimal water quality by reducing pollutants in stormwater discharges to the maximum extent practicable, regulating illicit connections and illicit discharges and thereby reducing the level of contamination of stormwater and dry weather runoff into the MS4, and regulating non-stormwater discharges to the MS4. Projects in the SOI would be subject to the City's regulations upon incorporation. Future development facilitated by the proposed General Plan would be subject to the above local ordinances that would serve to reduce potential impacts to wetlands. Therefore, the proposed General Plan would not interfere, impede, or conflict with strategies on any NWL where wetlands occur under the 2022 Scoping Plan.
NWL: Developed Lands	
• Increase urban forestry investment annually by 200 percent, relative to business as usual. • Increase public awareness of urban forest benefits and, where appropriate, prioritize irrigation of trees over lawns. • Provide technical assistance and resources to disadvantaged communities to implement community urban greening projects to provide equitable access to the benefits of urban greening projects. • Work with state and local agencies to expand technical assistance for and enforcement of the defensible space requirements of Public	**No Conflict**. Developed lands include urban, suburban, and rural areas, as well as transportation and supporting infrastructure. The vegetation within cities and communities are all part of developed lands. This vegetation provides numerous benefits to surrounding areas, including carbon storage, air and water filtration, reduced urban heat island effect, and access to nature, Climate smart strategies to protect and expand the urban forests, landscaping, green spaces, parks, and associated vegetation can increase their climate resilience and the benefits Californians derive from them. Urban forests have a significant potential to sequester carbon. The proposed General Plan includes Policy OSC-7.3, which

Table 5.8-13: Consistency with Applicable CARB Scoping Plan GHG Reduction Strategies	
Actions and Strategies	**Consistency Analysis**
Resource Code 4291[C] to reduce wildfire risk to homes and structures.	directs for incorporating and preserving mature and specimen trees that are native and drought tolerant at gateways and landmarks. In addition, Policy OSC-7.2 would require the use of native and drought-tolerant landscaping in the public realm and encourage private property to use only native and drought-tolerant landscaping, which would generally help reduce the generation of wildfire fuels by reducing the prevalence of dead and dried vegetation during drought and high heat events. As discussed in greater detail in **Section 5.9: Hazards, Hazardous Materials and Wildfire,** the proposed General Plan would include Policies S-1.1 Hazard planning, S-1.2 Mutual aid, S-1.3 Building design and location, S-1.4 Utility hardening, S-1.5 Water for fire protection, S-2.1 Resilient public facilities, S-2.2 Emergency response operations plan, S-2.3 Cooperative hazard management and recovery, and S-2.4 Community emergency preparation, which would reduce wildfire risks and enforce locally applicable defensible space measures for future development facilitated by the proposed General Plan. Overall, the proposed General Plan would not interfere, impede, or conflict with NWL strategies related to development lands under the 2022 Scoping Plan.
NWL: Vegetated Lands	
• Establish and expand mechanisms that ensure sparsely vegetated lands are protected from land conversion, prioritizing those areas most vulnerable to climate change and loss.	**No Conflict**. Vegetated lands include deserts, beaches, dunes, bare rock, and areas covered in ice and snow. Vegetated lands provide limited carbon storage, but nonetheless, are important for open space, unique habitats, and recreational opportunities. As discussed above, these actions and strategies apply to State agencies and not directly related to future development accommodated under the proposed General Plan. As discussed in **Section 5.4: Biological Resources**, the proposed General Plan includes Policies OSC-5.1 through OSC-5.7 that would require measures be implemented in development facilitated by the proposed General Plan that support the preservation and conservation of the local desert environment and wildlife habitat. The proposed General Plan would not interfere, impede, or conflict with strategies on any NWL where vegetated lands occur under the 2022 Scoping Plan.

Notes:
[A] Senate Bill 596 (SB 596) requires CARB to develop a comprehensive strategy for the cement sector in California to achieve net zero GHG emissions by 2045.
[B] Senate Bill 1075 (SB 1075) requires CARB to evaluate the use of hydrogen in decarbonization efforts and develop subsequent policy recommendations.
[C] Public Resources Code 4291 defines property owners' responsibilities for managing vegetation fuels to reduce urban wildfire risk.

Source: CARB, 2022.

The proposed General Plan would conflict with the NWL actions and strategies pertaining to croplands due to the anticipated loss of farmlands. Implementation of **MM GP AG-1** would reduce the loss of farmland to the extent feasible. However, it would not fully avoid or reduce the conversion of farmland to nonagricultural uses. Therefore, the proposed General Plan would still conflict with the 2022 Scoping Plan as it pertains to the NWL strategies regarding croplands. Therefore, **Impact 5.8-2: General Plan** as it pertains to the consistency with the 2022 Scoping Plan would remain significant and unavoidable.

SCAG's Connect SoCal

The Connect SoCal Plan does not require that local general plans, proposed projects, or zoning be consistent with the SCS, but provides incentives for consistency to governments and developers. The purpose of the 2024–2050 RTP/SCS is to achieve the regional per capita GHG reduction targets for the passenger vehicle and light-duty truck sector established by CARB pursuant to SB 375. SCAG's Program EIR for the 2024–2050 RTP/SCS, certified on May 7, 2020, states that "[e]ach [MPO] is required to prepare an SCS as part of their RTP in order to meet these GHG emissions reduction targets by aligning transportation, land use, and housing strategies with respect to [SB] 375" (SCAG 2024). The 2024–2050 RTP/SCS seeks improved mobility and accessibility, which is defined as "the ability to reach desired destinations with relative ease and within a reasonable time, using reasonably available transportation choices" (SCAG 2024) The 2024–2050 RTP/SCS seeks to implement a strategy that "alleviates development pressure in sensitive resource areas by promoting compact, focused infill development in established communities with access to high-quality transportation" (SCAG 2024). Furthermore, the 2024–2050 RTP/SCS includes "more compact, infill, walkable and mixed-use development strategies to accommodate new region's growth" and "accommodate increases in population, households, employment, and travel demand" (SCAG 2024). Moreover, the 2024–2050 RTP/SCS states that while "[t]ransportation emissions are most prevalent relative to all other sectors in California and specifically in the SCAG region," the RTP/SCS would focus "growth in existing urban regions and opportunity areas, where transit and infrastructure are already in place. Locating new growth near bikeways, greenways, and transit would increase active transportation options and the use of other transit modes, thereby reducing number of vehicle trips and trip lengths and associated emissions" (SCAG 2024).

As discussed in **Table 5.11-3: SCAG 2024-2050 RTP/SCS Goal Consistency Analysis** in **Section 5.11: Land Use and Planning**, the proposed General Plan would not conflict with the 2024-2050 RTP/SCS policies. In general, the proposed General Plan includes various Circulation Element and Land Use Element policies that would support reducing single passenger car VMT and on-road mobile-source emissions.

As discussed in **Impact 5.15-2** of **Section 5.15: Transportation**, according to the project-level VMT assessment, implementing the land use and circulation elements of the proposed General Plan is expected to reduce Origin-Destination (O-D) VMT per service population (VMT/SP) by approximately 20.6 percent compared to the current 2015 General Plan, significantly improving transportation efficiency. The cumulative VMT assessment indicates that implementing the land use and circulation elements of the proposed General Plan would reduce boundary VMT/SP by approximately 18.2 percent compared to the current General Plan, suggesting fewer pass-through trips under the proposed General Plan. The proposed General Plan would not conflict with or interfere with SCAG's ability to implement the regional strategies in 2024-2050 RTP/SCS, and no significant impacts would occur.

Impact 5.8-2: General Plan: Level of Significance Before Mitigation: Potentially Significant Impact.

Impact 5.8-2: General Plan: Mitigation Measures: MM GP-AG-1.

Impact 5.8-2: General Plan: Level of Significance After Mitigation: Significant and Unavoidable Impact.

Barstow International Gateway

BIG is a transformative rail yard project that has been specifically called out as needed by the State Transportation Agency in the most recent State Rail Plan (Caltrans 2024). BIG will change the paradigm of goods movement in California by effectuating a mode shift from over-the-road trucking to the rail transport away from dense populations centers.

Connect SoCal

GHG emissions resulting from development-related mobile sources are the most potent source of GHG emissions, and therefore BIG comparison to Connect SoCal an appropriate indicator of whether BIG would inhibit the post-2020 GHG reduction goals promulgated by the State. BIG's consistency with the Connect SoCal 2020 (2020 - 2045 RTP/SCS) goals are addressed in **Table 5.8-14: Connect SoCal 2020 Consistency – BIG** and **Table 5.8-15: Applicable Goals of Connect SoCal 2024 - BIG.**

Table 5.8-14: Connect SoCal 2020 Consistency – BIG

SCAG Goals	Compliance
GOAL 1: Encourage regional economic prosperity and global competitiveness.	**No Conflict.** BIG is proposed as an international gateway consisting of an intermodal rail yard, block swap yard, and transload facilities that would contribute to regional and local economic prosperity.
GOAL 2: Improve mobility, accessibility, reliability, and travel safety for people and goods.	**No Conflict.** Connect SoCal notes that thoughtfully locating freight delivery facilities and logistics centers can reduce heavy-duty truck travel and the impact of goods movement on communities.[1] BIG would improve goods movement and supply chain efficiency by transporting more containers with trains to reduce approximately 1,715 daily truck trips and approximately 217,824,523 annual TMT from the national network in 2028 (with greater truck trip reductions in future years) (**Appendix 5.15**). BIG is anticipated to reduce heavy-duty truck TMT by providing an intermodal facility closer to unit origins than currently exists. The reduction in transloading truck trips would directly improve mobility, accessibility, reliability, and travel safety for people and goods by reducing the number of heavy-duty trucks on the road.
GOAL 3: Enhance the preservation, security, and resilience of the regional transportation system.	**No Conflict.** BIG is anticipated to reduce heavy-duty truck TMT by providing an intermodal facility closer to unit origins than currently exists. BIG would reduce 1,715 daily truck trips and approximately 217,824,523 TMT from the national network in 2028 (with greater truck trip reductions in future years) (**Appendix 5.15**), which would reduce roadway congestion and improve regional transportation system operations. BIG would directly achieve the Connect SoCal vision of providing freight enhancements, expanded rail yards, modernized terminals, and truck bottleneck relief.

Table 5.8-14: Connect SoCal 2020 Consistency – BIG	
SCAG Goals	**Compliance**
GOAL 4: Increase person and goods movement and travel choices within the transportation system.	**No Conflict.** By 2045 SCAG anticipates that the goods movement system will include bold new freight enhancements, including new and expanded rail yards, additional main line railroad tracks, improved and modernized port terminals and truck bottleneck relief projects, including dedicated truck lanes. BIG would improve goods movement efficiency and reduce transload truck trips. BIG is anticipated to reduce heavy-duty truck TMT by providing an intermodal facility closer to unit origins than currently exists. BIG would directly achieve the Connect SoCal vision of providing freight enhancements, expanded rail yards, modernized terminals, and truck bottleneck relief.
GOAL 5: Reduce greenhouse gas emissions.	**No Conflict.** Connect SoCal notes that infrastructure improvements that create greater system efficiency would reduce emissions. Reducing air quality emissions is addressed through cleaner and more efficient operation of vehicles, largely by modifying or replacing the existing regional fleet of goods movement equipment (e.g., locomotives, cargo handling equipment, ocean going vessels and commercial harbor craft) with cleaner technologies or efficiency improvements. BIG's reduction in heavy-duty truck TMT, improvement in goods movement, ZE cargo handling equipment, ZE yard trucks/electric hostlers, Tier 4 locomotives, idling reduction technology, and use of renewable diesel RTG cranes help address the regional attainment objectives identified by SCAG. Therefore, as a result of net reductions in GHG emissions, BIG would be consistent with this goal.
GOAL 6: Support healthy and equitable communities	**No Conflict.** Healthy and equitable communities typically include affordable housing, parks, quality schools, a thriving economy, environmental quality, access to healthy food, and connected transportation systems. BIG proposes a new goods movement facility that would have regional efficiencies and includes electric cargo handling equipment and electric hostler to reduce GHG emissions. Mitigation measures in **Appendix 5.3 BIG-1** and this analysis would minimize construction and operational GHG emissions by requiring clean construction equipment and operational locomotives and RTG cranes powered by renewable diesel. Additionally, as identified in **Appendix 5.3 BIG-1**, the population risk burden is well below standards. BIG would support the local and regional economy and would not conflict with the surrounding community's ability to access healthy food, quality schools, affordable housing, or connected transportation system.
GOAL 7: Adapt to a changing climate and support an integrated regional development pattern and transportation network.	**No Conflict.** BIG proposes an international gateway that would operate as a comprehensive and sustainable transportation hub. BIG would efficiently move goods through use of trains, which would reduce heavy-duty truck travel, and through use of clean technologies at the rail yard (i.e., ZE cargo handling equipment and ZE hostlers). Therefore, BIG would not conflict with this goal.

Table 5.8-14: Connect SoCal 2020 Consistency – BIG	
SCAG Goals	**Compliance**
GOAL 8: Leverage new transportation technologies and data-driven solutions that result in more efficient travel.	**No Conflict.** As identified in **Section 3.0**, BIG proposes the following transportation technologies to result in more efficient travel: • Containers would be loaded, unloaded, and transported from trains using electric hostlers at the intermodal facility and transload warehouse center for BIG. Electric hostlers would use private roads between the intermodal facility and transload warehouse center . This would reduce the amount of heavy-duty truck trips in Southern California as containers would arrive at BIG by train directly from the Ports, and be transloaded at BIG, instead of trucked to warehouses in the Los Angeles and Inland Empire areas or moved by heavy-duty truck out of state. • Each transload warehouse for BIG would include EV charging stations. • BIG would utilize renewable diesel-powered RTG cranes.
Goal 10: Promote conservation of natural and agricultural lands and restoration of habitats.	**No Conflict.** A California Land Evaluation and Site Assessment was conducted to determine if BIG's conversion of approximately 327 acres of Important Farmland to a non-agricultural use would result in a significant impact. The Land Evaluation and Site Assessment determined that the conversion of 327 acres of Important Farmland to non-agricultural use would result in a less than significant. Therefore, while BIG would convert agricultural lands, this would not result in a significant environmental impact based on Land Evaluation and Site Assessment findings. As discussed in **Appendix 5.4 BIG-1: Biological Resources Technical Report**, BIG would remove ten ornamentally planted Joshua trees during BIG construction. **MM BIO BIG-33** requiring weed control and delineation of BIG work limits to prevent work in un-surveyed areas would lessen BIG's potential construction impacts on western Joshua Tree individuals outside the construction work limits and habitat, but impacts from removal of individuals would remain potentially significant. **MM BIO-7** requires an Incidental Take Permit under the Western Joshua Tree Conservation Act for any removed western Joshua trees. With **MM BIO-7** incorporated, BIG's potentially significant construction impacts on western Joshua tree would be less than significant. Suitable habitat for Desert Tortoise, Southwestern Willow Flycatcher, Western Yellow-billed Cuckoo, Swainson's Hawk, Mohave ground squirrel, Western Burrowing Owl, Mojave Fringe-toed Lizard, American badger and desert kit fox, and bats that occurs in the BIG footprint, would be directly impacted due to harassment, injury, damage, or removal, which would conflict with this goal to conserve natural lands. **MM BIG BIO-33** requires fencing that prevents BIG construction from impacting areas beyond the analyzed footprint and security fencing would lessen BIG's potential direct and indirect construction impacts. **MM BIO-1** requires worker awareness training for special status species avoidance; **MM BIO-2** requires approval of designated biologists and biological monitors; **MM BIO-3** requires work stoppage for biological resources; **MM BIO-4** requires vehicle traffic restrictions;

Table 5.8-14: Connect SoCal 2020 Consistency – BIG	
SCAG Goals	**Compliance**
	MM BIO-33 requires the delineation of construction work limits to prevent inadvertent disturbance to areas outside the delineated construction work areas; **MM BIO-38** requires the preparation of a Desert Native Plan Salvage Plant; **MM BIO-8** requires nighttime lighting restrictions; **MM BIO-9** requires entrapment avoidance; **MM BIO-10** requires proper trash and debris disposal; **MM BIO-11** requires proper dead wildlife disposal; **MM BIO-12** prohibits domestic dogs on site; **MM BIO-15** requires common raven avoidance; **MM BIO-19** includes equipment use restrictions; and **MM BIO-13** through **MM BIO-18**, **MM BIO-20** through **MM BIO-27**, and **MM BIO-36** require clearance surveys, avoidance and relation measures, and compensatory habitat mitigation for affected species; see **Appendix 5.4 BIG-1**. Therefore, with mitigation incorporated, this conflict would not result in a significant environmental impact.
Note: [1]From Connect SoCal, pg. 46	
Source: Southern California Association of Governments (SCAG). (2020). *Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal).*	

Table 5.8-15: Applicable Goals of Connect SoCal 2024 - BIG	
SCAG Goals	**Compliance**
Mobility: Build and maintain an integrated multimodal transportation network.	
Support investments that are well-maintained and operated, coordinated, resilient and result in improved safety, improved air quality and minimized greenhouse gas emissions.	**No Conflict.** BIG would not conflict with its implementation. As discussed above, BIG would be constructed in accordance with Title 24 of the California Building Standards Code – Energy Efficiency Standards. Further, BIG would be constructed according to the 2022 CALGreen standards, which includes water conserving plumbing fixtures and fittings, electric heat pump technology. Furthermore, Connect SoCal notes that infrastructure improvements that create greater system efficiency would reduce GHG emissions. Reducing air quality emissions is addressed through cleaner and more efficient operation of vehicles, largely by modifying or replacing the existing regional fleet of goods movement equipment (e.g., locomotives, cargo handling equipment, ocean going vessels and commercial harbor craft) with cleaner technologies or efficiency improvements. BIG's reduction in heavy-duty truck TMT, improvement in goods movement, ZE cargo handling equipment, ZE yard trucks/electric hostlers, Tier 4 locomotives, idling reduction technology, and use of renewable diesel RTG cranes help address the regional attainment objectives identified by SCAG. Therefore, as a result of net reductions in GHG emissions, BIG would be consistent with this goal.
Ensure that reliable, accessible, affordable, and appealing travel options are readily available, while striving to enhance equity in the offerings in high-need communities.	**No Conflict.** BIG proposes a new goods movement facility that would have regional efficiencies and includes electric cargo handling equipment and electric hostler to reduce GHG emissions. Mitigation measures in **Appendix 5.3 BIG-1** and this analysis would minimize construction and operational GHG emissions by requiring clean

Table 5.8-15: Applicable Goals of Connect SoCal 2024 - BIG	
SCAG Goals	**Compliance**
Support planning for people of all ages, abilities, and backgrounds.	construction equipment and operational locomotives and RTG cranes powered by renewable diesel. Additionally, as identified in **Appendix 5.3 BIG-1**, the population risk burden is well below standards. BIG would support the local and regional economy and would not conflict with the surrounding community's ability to access healthy food, quality schools, affordable housing, or connected transportation system**.**
Communities: Develop, connect, and sustain communities that are livable and thriving.	
Create human-centered communities in urban, suburban and rural settings to increase mobility options and reduce travel distances.	**No Conflict.** BIG proposes a new goods movement facility that would have regional efficiencies. BIG would support the local and regional economy and would not conflict with the surrounding community's mobility options.
Environment: Create a healthy region for the people of today and tomorrow.	
Develop communities that are resilient and can mitigate, adapt to and respond to chronic and acute stresses and disruptions, such as climate change.	**No Conflict**. BIG is anticipated to reduce heavy-duty truck TMT by providing an intermodal facility closer to unit origins than currently exists. BIG would reduce 1,715 daily truck trips and approximately 217 million TMT from the national network in 2028 (with greater truck trip reductions in future years), which would reduce roadway congestion and improve regional transportation system operations**.**
Integrate the region's development pattern and transportation network to improve air quality, reduce greenhouse gas emissions and enable more sustainable use of energy and water.	
Conserve the region's resources.	**No Conflict.** BIG's reduction in heavy-duty truck TMT, improvement in goods movement, ZE cargo handling equipment, ZE yard trucks/electric hostlers, Tier 4 locomotives, idling reduction technology, and use of renewable diesel RTG cranes result in reduced use of non-renewable diesel fuel. In addition, BIG would include the development of a solar farm and rooftop solar (through code compliance and implementation of **MM BIG EN-1**). Therefore, BIG would be consistent with this goal**.**
Economy: Support a sustainable, efficient and productive regional economic environment that provides opportunities for all residents.	
Improve access to jobs and educational resources.	**No Conflict.** BIG would consist of a rail yard with intermodal block swap yards, and a transload facility. By the year 2045, SCAG projects total employment for the County at 1,064,000. Of the estimated 15,700 new jobs (direct, indirect, and induced) attributable by BIG, 11,000 would be within the projected increase in jobs within the County. Therefore, BIG would provide development in the region that is consistent with the growth projections in Connect SoCal. BIG would support the local and regional economy and would not conflict with the surrounding community's ability to access jobs or quality schools. BIG would not conflict with this goal.
Advance a resilient and efficient goods movement system that supports the economic vitality of the	**No Conflict.** BIG is anticipated to reduce heavy-duty truck TMT by providing an intermodal facility closer to unit origins than currently exists. BIG would reduce 1,715 daily truck trips and approximately 217 million TMT from the national network in 2028 (with greater truck trip

Table 5.8-15: Applicable Goals of Connect SoCal 2024 - BIG	
SCAG Goals	**Compliance**
region, attainment of clean air and quality of life for our communities.	reductions in future years), which would reduce roadway congestion and improve regional transportation system operations. BIG would directly achieve the Connect SoCal vision of advancing a resilient and efficient goods movement system that supports the economic vitality of the region.
1. Southern California Association of Governments, Connect SoCal (2024 – 2050 Regional Transportation Plan/Sustainable Communities Strategy), 2024; 2. *Sierra Club v. County of Fresno* (Dec. 24, 2018) 6 Cal.5th 502.	
Source: Kimley-Horn, 2025.	

The goals stated in the Connect SoCal were used to determine consistency with the planning efforts previously stated. The overarching vision of the SCAG RTP, Connect SoCal, includes emerging technologies and transportation innovations aimed at relieving congestion, while reducing emissions. According to the Goods Movement Technical Report of Connect SoCal, the efficient movement of goods is an important driver of the economy and directly contributes to the needs for every business and resident in the SCAG region. As shown in **Table 5.8-14** and **Table 5.8-15,** BIG would not conflict with Connect SoCal goals by improving regional goods movement efficiency, reducing regional heavy-duty truck traffic, and result in direct reductions of GHG emissions. Therefore, BIG would not result in any significant impacts or interfere with SCAG's ability to achieve the region's post-2020 mobile source GHG reduction targets.

CARB Scoping Plan Consistency

The California State Legislature adopted AB 32 in 2006. AB 32 focuses on reducing GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) to 1990 levels by the year 2020. Pursuant to the requirements in AB 32, CARB adopted the *Climate Change Scoping Plan* (Scoping Plan) in 2008, which outlines actions recommended to obtain that goal. The Scoping Plan provides a range of GHG reduction actions that include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as the cap-and-trade program, and an AB 32 implementation fee to fund the program.

2022 Scoping Plan

Adopted December 15, 2022, CARB's *2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) sets a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels by 2045 in accordance with AB 1279. To achieve AB 1279's targets, the 2022 Scoping Plan relies on existing and emerging fossil fuel alternatives and clean technologies, as well as carbon capture and storage. Specifically, the 2022 Scoping Plan focuses on ZE transportation; phasing out use of fossil gas use for heating homes and buildings; reducing chemical and refrigerants with high GWP; providing communities with sustainable options for walking, biking, and public transit; displacement of fossil-fuel fired electrical generation through use of renewable energy alternatives (e.g., solar arrays and wind turbines); and scaling up new options such as green hydrogen. The 2022 Scoping Plan sets one of the most aggressive approaches to reach carbon neutrality in the world. Unlike the 2017 Scoping Plan, CARB no longer includes a numeric per capita threshold and instead advocates for compliance with a local GHG reduction strategy (i.e., CAP) consistent with CEQA Guidelines § 15183.5.

The key elements of the 2022 CARB Scoping Plan focus on transportation. Specifically, the 2022 Scoping Plan aims to rapidly move towards ZE transportation (i.e., electrifying cars, buses, trains, and trucks), which constitutes California's single largest source of GHGs. The regulations that impact the transportation sector are adopted and enforced by CARB on vehicle manufacturers and are outside the jurisdiction and control of local governments. The 2022 Scoping Plan accelerates development of new regulations as well as amendments to strengthen regulations and programs already in place. However, on June 12, 2025, President Trump formally nullified California's ACT regulation, ACC II program, and Heavy-Duty Omnibus regulation, as discussed below.

Statewide strategies to reduce GHG emissions in the latest 2022 Scoping Plan include implementing SB 100, which would achieve 100 percent clean electricity by 2045. In addition, the State includes numerous plans and policies that would contribute to reducing BIG's GHG emissions. These include the following:

- **CARB's ACT Regulation**: Adopted in June 2020, CARB's ACT Regulation requires truck manufacturers to transition from diesel trucks and vans to electric ZE trucks beginning in 2024. By 2045, every new truck sold in California is required to be ZE. The ACT Regulation accelerates the transition of ZE medium-and heavy-duty vehicles from Class 2b to Class 8. The Trump administration has asked Congress to use its powers under the Congressional Review Act to reverse the Biden administration's approval of California's ACT rule (as well as the ACC II program and Heavy-Duty Omnibus regulation). The ACT rule was disapproved by Congressional Resolution H.J. Res 87. California currently has no authority to implement the ACT.
- **EO N-79-20 and ZEV Action Plan**: EO N-79-20 establishes the goal for all new passenger cars and trucks, as well as all drayage/cargo trucks and off-road vehicles and equipment, sold in California, will be ZE by 2035 and all medium and heavy vehicles will be ZE by 2045. It also directs CARB to develop and propose rulemaking for passenger vehicles and trucks, medium-and heavy-duty fleets where feasible, drayage trucks, and off-road vehicles and equipment "requiring increasing volumes" of new ZEVs "towards the target of 100 percent." The goals of this EO are incorporated into the ACC II rule, which has been disapproved by Congressional Resolution H.J. Res 88. California currently has no authority to implement these EOs.
- **CARB's Mobile Source Strategy:** CARB's Mobile Source Strategy takes an integrated planning approach to identify the level of transition to cleaner mobile source technologies needed to achieve all of California's targets by increasing the adoption of ZEV buses and trucks.
- **CARB's Sustainable Freight Action Plan:** The Sustainable Freight Action Plan which improves freight system efficiency, utilizes near- ZE technology, and deployment of ZEV trucks. This Plan applies to all heavy-duty trucks accessing BIG and may include existing heavy-duty trucks or new heavy-duty trucks that are part of the statewide goods movement sector.
- **CARB's Emissions Reduction Plan for Ports and Goods Movement:** CARB's Emissions Reduction Plan for Ports and Goods Movement identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories.
- **In-Use Off-Road Diesel-Fueled Fleets Regulation.** CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation reduces emissions from in-use (existing) off-road heavy-duty diesel vehicles in

California. CARB is currently proposing amendments to this regulation to further reduce emissions. The Proposed Amendments would reduce emissions by requiring that fleets phaseout operation of their oldest and highest emitting off road diesel vehicles, prohibiting the addition of high emitting vehicles to a fleet, and requiring the use of R99 or R100 renewable diesel[15] in off road diesel vehicles.

- **Clean Off-Road Fleet Voucher Incentive Program**. CARB's Clean Off-Road Equipment Voucher Incentive Project is intended to accelerate deployment of advanced technology in the off-road sector by providing a streamlined way for fleets to access funding that helps offset the incremental cost of such technology.
- **Low Carbon Transportation Investments and the Air Quality Improvement Program**. This program provides mobile source incentives to reduce GHG, criteria pollutant, and TAC emissions through the deployment of advanced technology and clean transportation in the light-duty and heavy-duty sectors. Low Carbon Transportation Investments are supported by Cap-and-Trade auction proceeds.
- **Clean Miles Standard and Incentive Program**. The Clean Miles Standard and Incentive Program requires CARB to adopt and for the CPUC to implement annual GHG reduction targets consistent with the ZEV Action Plan.
- **Transport Refrigeration Unit (TRU) Regulation**. Beginning December 31, 2022, the TRU regulation requires newly-manufactured truck TRUs, trailer TRUs, and domestic shipping container TRUs are required to use a refrigerant with a GWP less than or equal to 2,200, or no refrigerant at all. Note that CARB withdrew its waiver request for this ZE TRU component of the TRU regulation.

The analysis of BIG's consistency with the 2022 Scoping Plan's GHG emission reduction strategies (Table 2-1 of the 2022 Scoping Plan) with mitigation incorporated is presented in **Table 5.8-16: BIG Consistency with Applicable CARB Scoping Plan Actions** and **Table 5.8-17: Project Consistency with Scoping Plan Actions for NWL Sectors.**

Table 5.8-16: BIG Consistency with Applicable CARB Scoping Plan Actions

Scoping Plan Sector	Scoping Plan Action	Statutes, Executive Orders, Other Direction, Outcome	Project Consistency
GHG Emissions Reductions	40% below 1990 levels by 2030; carbon neutrality by 2045	SB 32: Reduce statewide GHG emissions. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory	**No Conflict.** BIG would improve goods movement efficiency and reduce transload truck trips. BIG is anticipated to reduce heavy-duty truck VMT by providing an intermodal facility closer to unit origins than currently exists. BIG's reduction in heavy-duty truck VMT, improvement in goods movement, ZE cargo handling equipment, ZE yard trucks/electric hostlers, Tier 4 locomotives, idling reduction technology, and use of

[15] Renewable diesel is a transportation fuel produced from non-petroleum renewable sources, including vegetable oils and animal fats. Renewable diesel is chemically the same as diesel, but it is made of recently living biomass.

Table 5.8-16: BIG Consistency with Applicable CARB Scoping Plan Actions			
Scoping Plan Sector	**Scoping Plan Action**	**Statutes, Executive Orders, Other Direction, Outcome**	**Project Consistency**
			renewable diesel RTG cranes help address statewide GHG emissions reduction goals. Therefore, as a result of net reductions in GHG emissions, BIG would be consistent with this goal.
Smart Growth/VMT	VMT per capita reduced 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045	SB 375: Reduce demand for fossil transportation fuels, reduce emissions of GHGs, and improve air quality.	**No Conflict.** Pursuant to SB 375, CARB has set regional targets to work towards achieving GHG emissions reductions from changed land use patterns and improved transportation. Each MPO must prepare an SCS that will reduce GHG emissions to achieve these regional targets. Connect SoCal notes that thoughtfully locating freight delivery facilities and logistics centers can reduce heavy-duty truck travel and the impact of goods movement on communities. BIG would improve goods movement and supply chain efficiency by transporting more containers with trains to reduce approximately 1,715 daily truck trips and approximately 217,824,523 TMT from the national network in 2028 and greater reductions in future years. BIG is anticipated to reduce heavy-duty truck VMT by providing an intermodal facility closer to unit origins than currently exists. The reduction in transloading truck trips would directly improve mobility, accessibility, reliability, and travel safety for people and goods by reducing the number of heavy-duty trucks on the road.
Light-duty Vehicle ZEVs	100% of Light-duty Vehicle sales are ZEV by 2035.	EO N-79-20: Reduce demand for fossil transportation fuels, reduce emissions of GHGs, and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory.	**No Conflict.** BIG's reduction in heavy-duty truck TMT, improvement in goods movement, ZE cargo handling equipment, ZE yard trucks/electric hostlers, Tier 4 locomotives, idling reduction technology, and use of renewable diesel RTG cranes help address statewide GHG emissions reduction goals.
Truck ZEVs	100% of medium-duty vehicle/heavy-duty vehicle sales	EO N-79-20: Reduce demand for fossil transportation fuels,	**No Conflict.** This measure applies to medium and heavy vehicles that operate in the State. BIG would not conflict with

Table 5.8-16: BIG Consistency with Applicable CARB Scoping Plan Actions			
Scoping Plan Sector	**Scoping Plan Action**	**Statutes, Executive Orders, Other Direction, Outcome**	**Project Consistency**
	are ZEV by 2040 (AB 74 University of California Institute of Transportation Studies report).	reduce emissions of GHGs, and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory.	implementation of this measure. Medium and heavy vehicles associated with BIG construction and operation would be required to comply with this regulation's requirements and enforced through inspection and registration. BIG's reduction in heavy-duty truck VMT, improvement in goods movement, ZE cargo handling equipment, ZE yard trucks/ electric hostlers, Tier 4 locomotives, idling reduction technology, and use of renewable diesel RTG cranes help address statewide GHG emissions reduction goals. Note California currently has no authority to implement the ACF and ACT programs and rules supporting EO N-79-20.
Aviation	20% of aviation fuel demand is met by electricity (batteries) or hydrogen (fuel cells) in 2045. Sustainable aviation fuel meets most of the rest of the aviation fuel demand that has not already transitioned to hydrogen batteries.	Reduce demand for petroleum aviation fuel and reduce GHGs. AB 197: direct emission reductions for sources covered by the AB 32 Inventory.	**No Conflict.** This measure applies to aviation fuel demand. BIG would not directly result in the use of aviation fuel. BIG would not conflict with implementation of this measure.
Freight and Passenger Rail	100% of passenger and other locomotive sales are ZEV by 2030. 100% of line haul locomotive sales are ZEV by 2035. Line haul and passenger rail rely primarily on hydrogen fuel cell technology, and others primarily utilize electricity.	Reduce demand for petroleum fuels, reduce emissions of GHGs, and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory.	**No Conflict.** This is a statewide measure that cannot be implemented by an individual development project or Lead Agency. Scoping plan actions related to State passenger locomotives are not applicable to BIG.

Table 5.8-16: BIG Consistency with Applicable CARB Scoping Plan Actions

Scoping Plan Sector	Scoping Plan Action	Statutes, Executive Orders, Other Direction, Outcome	Project Consistency
Oil and Gas Extraction	Reduce oil and gas extraction operations in line with petroleum demand by 2045.	Reduce emissions of GHGs and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory.	**No Conflict.** This is a statewide measure that cannot be implemented by an individual development project or Lead Agency.
Electricity Generation	Sector GHG target of 38 $MMTCO_2e$ in 2030 and 30 $MMTCO_2e$ in 2035. Retail sales load coverage. 20 gigawatts of offshore wind by 2045. Meet increased demand for electrification without new fossil gas-fired resources.	SB 350 and SB 100: Reduce emissions of GHGs and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory.	**No Conflict.** This is a statewide measure that cannot be implemented by an individual development project or Lead Agency. However, BIG would include the construction and operation of a 21 MW solar farm to provide renewable energy for BIG. Further, buildings constructed within the BIG footprint would be required to allow for solar roof areas. Therefore, BIG would support implementation of this action.
New Residential and Commercial Buildings	All electric appliances beginning 2026 (residential) and 2029 (commercial), contributing to 6 million heat pumps installed statewide by 2030.	Reduce demand for fossil gas, reduce emissions of GHGs, and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory.	**No Conflict.** BIG would be an all-electric development that would not require the use of natural gas and would thereby support the goal of phasing out fossil fuels for heating homes and buildings. Additionally, transload warehouses would not include any natural gas connections.
Construction Equipment	25% of energy demand electrified by 2030 and 75% electrified by 2045.	Reduce demand for fossil energy, reduce emissions of GHGs, and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory.	**No Conflict.** This is a statewide measure that cannot be implemented by an individual development project or Lead Agency. All off-road diesel-powered construction equipment utilized during BIG construction would meet CARB Tier 4 Final off-road emissions standards, renewable diesel fuel would be used for all heavy-duty diesel-fueled construction equipment and heavy diesel trucks, and all on-road truck utilized for construction would have an average fleet mix of equipment model year 2010 or

Table 5.8-16: BIG Consistency with Applicable CARB Scoping Plan Actions			
Scoping Plan Sector	**Scoping Plan Action**	**Statutes, Executive Orders, Other Direction, Outcome**	**Project Consistency**
			newer. Therefore, BIG would support implementation of this action.
Combined Heat and Power	Facilities retire by 2040.	Reduce demand for fossil energy, reduce emissions of GHGs, and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory.	**No Conflict.** BIG proposes an international gateway that would operate as a comprehensive and sustainable transportation hub. BIG would efficiently move goods through use of trains, which would reduce heavy-duty truck travel, and through use of clean technologies at the rail yard (i.e., ZE cargo handling equipment and ZE hostlers). Combined heat and power is not appropriate.
Low Carbon Fuels for Transportation	Biomass supply is used to produce conventional and advanced biofuels, as well as hydrogen.	Reduce demand for petroleum fuel, reduce emissions of GHGs, and improve air quality. AB 197: direct emissions reductions for sources covered by the AB 32 Inventory.	**No Conflict.** This measure applies to transportation fuels utilized by vehicles in California. BIG would not conflict with implementation of this measure. Motor vehicles associated with construction and operation of BIG would utilize low carbon transportation fuels as required under this measure. Additionally, **MM BIG AQ-4** and **MM BIG AQ-8** in **Appendix 5.3 BIG-1** require the use of renewable diesel for construction equipment and operational RTG cranes, which is a low carbon fuel. In addition, BIG would increase the renewable diesel composition within the Ports' existing fueling site from 1 percent to 10 percent, improving emissions of all BNSF trains fueling at the Ports.
Non-combustion CH_4 Emissions	Increase landfill and dairy digester CH_4 capture. Some alternative manure management deployed for smaller dairies. Moderate adoption of enteric strategies by 2030. Divert 75% of organic waste from landfills by 2025. Oil and gas fugitive CH_4 emissions	SB 1383: Reduce short-lived climate pollutants.	**No Conflict.** BIG would not conflict with implementation of these actions. BIG is required to achieve the recycling mandates via compliance with the CALGreen code.

Table 5.8-16: BIG Consistency with Applicable CARB Scoping Plan Actions			
Scoping Plan Sector	**Scoping Plan Action**	**Statutes, Executive Orders, Other Direction, Outcome**	**Project Consistency**
	reduced 50% by 2030 and further reductions as infrastructure components retire in line with reduced fossil gas demand.		

Table 5.8-17: Project Consistency with Scoping Plan Actions for NWL Sectors			
Scoping Plan Sector	**Scoping Plan Action**	**Statutes, Executive Orders, Other Direction, Outcome**	**Project Consistency**
Developed Lands	Increase urban forestry investment by 200% above current levels and utilize tree watering that is 30% less sensitive to drought. Establish defensible space that accounts for property boundaries.	Increase urban tree canopy and shade cover. Reduce heat island effects and support water infrastructure. Reduce fire risk via defensible space. AB 2251 (Calderon, Chapter 186, Statutes of 2022): Increase urban tree canopy 10% by 2035. Target increased in response to AB 2251 and Governor Newsom's direction on CO_2 removal targets in his July 2022 letter.	**No Conflict.** These strategies are intended to direct local jurisdictions' actions. BIG would not conflict with implementation of this measure.
Sparsely Vegetated Lands	Land conversion at 50% of the Reference Scenario land conversion rate.	Reduce the rate of land conversion to more GHG-intensive land uses.	**No Conflict.** BIG is located on Sparsely Vegetated Lands. It is noted that Sparsely Vegetated Lands have the lowest potential for GHG reductions, the lowest rate for social cost of carbon, and the highest average cost per metric ton of reduced CO_2e according to the Scoping Plan. The Scoping Plan recommends cutting land conversion of deserts and sparsely vegetated landscapes by at least 50 percent annually from current levels,

Table 5.8-17: Project Consistency with Scoping Plan Actions for NWL Sectors			
Scoping Plan Sector	**Scoping Plan Action**	**Statutes, Executive Orders, Other Direction, Outcome**	**Project Consistency**
			starting in 2025. Although BIG would convert Sparsely Vegetated Lands BIG's sensitive species' habitat mitigations (**MM BIO-1** through **MM BIO-36**) would help preserve Sparsely Vegetated Lands; see **Appendix 5.4 BIG-1**.

BIG would be consistent with Connect SoCal, the CARB Scoping Plan, and would be required to comply with existing regulations, including applicable measures from the proposed General Plan (discussed below). BIG would be directly affected by the outcomes of applicable regulations and requirements (vehicle trips and energy consumption would be less carbon intensive due to statewide compliance with future LCFS amendments and increasingly stringent RPS.

As indicated above, GHG reductions are also achieved as a result of State of California energy and water efficiency requirements. These efficiency improvements correspond to reductions in secondary GHG emissions. For example, in California, most electricity is derived from natural gas combustion. Therefore, energy saving measures, such as Title 24, reduce GHG emissions from the power generation facilities by reducing load demand.

The 2022 Scoping Plan would continue to implement SB 375. GHGs would be further reduced through the Cap-and-Trade Program carbon pricing and SB 905. SB 905 requires CARB to create the Carbon Capture, Removal, Utilization, and Storage Program to evaluate, demonstrate, and regulate CO_2 removal projects and technology.

Conclusion. BIG's energy and mobile source GHG emissions would be reduced with implementation of the 2022 Scoping Plan measures described above. GHG emissions would decline in the future due to statewide measures discussed above (including the reduction in fuels' carbon content, CARB's Mobile Source Strategy, fuel efficiency standards, etc.), as well as cleaner technology, fleet turnover, and use of renewable diesel. Connect SoCal 2024 is also expected to help California reach its GHG reduction goals, with reductions in per capita transportation emissions of 19 percent by 2035.

BIG implementation would result in improvements in goods movement and supply chain efficiency by transporting more containers with trains to reduce heavy-duty truck trips, which would primarily occur in the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Management District (South Coast AQMD). The South Coast AQMD identifies goods movement activities as a challenge for cleaning air for the 17 million residents in the South Coast Air Basin. The South Coast AQMD's 2022 AQMP includes Transportation Control Measures and Reasonably Available Control Measures that BIG would help implement. For example, Measure 7.19 involves programs to encourage goods movement by rail and indicates that this is being implemented by CARB. Additionally, Measure 7.20 aims to divert heavy-duty trucks from nonattainment areas (i.e., requiring pass-through heavy-duty trucks to choose routes away from the SCAG region). BIG would transport more containers with trains instead of heavy-duty trucks to

reduce approximately 1,715 daily truck trips and approximately 217,824,523 TMT from the national network in 2028 (with greater truck trip reductions in future years), which would achieve this measure that South Coast AQMD has otherwise determined not to be feasible; see **Appendix 5.15 BIG-1**.

According to the Goods Movement Technical Report of Connect SoCal, the efficient movement of goods is an important driver of the economy and directly contributes to the needs for every business and resident in the SCAG region. BIG would improve goods movement and supply chain efficiency. BIG is anticipated to reduce heavy-duty truck VMT by providing an intermodal facility closer to unit origins than currently exists. The reduction in transloading truck trips would directly improve mobility, accessibility, reliability, and travel safety for people and goods by reducing the number of heavy-duty trucks on the road, which would also reduce overall GHG emissions.

In addition to improving goods movement efficiency and removing existing and future truck trips, BIG also includes electric cargo handling equipment and electric hostlers. These would reduce GHG emissions.

As noted above, **Section 5.3: Air Quality** includes mitigation measures that would minimize construction and operational GHG emissions by requiring the use of renewable diesel fuel for off-road construction equipment, clean on-road construction vehicles, and the use of renewable diesel for RTG cranes during operations. Implementation of mitigation would provide reductions in GHG emissions and would be consistent with GHG emissions reduction planning.

At this time, it is not possible to quantify the GHG emissions savings from future regulatory measures that have not yet been developed; nevertheless, it can be anticipated that BIG operations would benefit from applicable measures are enacted to meet State GHG reduction goals. BIG would not interfere with SCAG's ability to achieve the region's post-2020 mobile source GHG reduction targets; see **Table 5.8-14**. Additionally, BIG GHG emissions would be indirectly reduced through the implementation of various Scoping Plan measures, such as the LCFS, vehicle emissions standards, building energy efficiency standards, market-based mechanisms (such as the cap-and-trade program) and the RPS. BIG would not impede the State's progress towards carbon neutrality by 2045 under the 2022 Scoping Plan as BIG will comply will statewide strategies, plans, and policies to reduce GHG emissions; see **Table 5.8-14**. BIG would be required to comply with applicable current and future regulatory requirements promulgated through the 2022 Scoping Plan. As such, BIG would not conflict with any other state-level regulations pertaining to GHGs.

BIG would implement the mitigation measures listed above to reduce its contribution to GHG emissions and to ensure it does not conflict with or impede implementation of reduction goals identified in AB 32, SB 32, AB 1279, and other strategies to help reduce GHGs. In addition, BIG would also be subject to all applicable regulatory requirements, which would also reduce BIG GHG emissions. Therefore, BIG would not conflict with any applicable plan, program, policy, or regulation related to the reduction of GHG emissions. BIG would not impede implementation of the Scoping Plan, or conflict with the policies of the Scoping Plan or any other GHG reduction plan. Therefore, impacts would be less than significant with the implementation of mitigation measures.

Impact 5.8-2: BIG: Level of Significance Before Mitigation: Less than Significant Impact.

Impact 5.8-2: BIG Mitigation Measures: No mitigation is required. Refer to **MM BIG AQ-3** through **MM BIG AQ-5**, **MM BIG AQ-8** through **MM BIG AQ-10**, **MM BIG AQ-13**, and **MM BIG AQ-14**, in EIR Section 5.3: Air Quality. Also refer to **MM BIG EN-1** and **MM BIG EN-2** in **Section 5.6: Energy**.

Impact 5.8-2: BIG Level of Significance After Mitigation: Less than Significant.

5.8.3 SIGNIFICANT UNAVOIDABLE IMPACTS

Proposed General Plan

The proposed General Plan would result in a significant unavoidable impact concerning **Impact 5.8-1: General Plan** and **Impact 5.8-2: General Plan** (2022 Scoping Plan). However, the proposed General Plan would be consistent with the goals of SCAG's Connect SoCal.

The proposed General Plan would increase GHG emissions by 68,755 $MTCO_2e$/yr (30 percent) from existing levels. This increase would exceed MDAQMD's significance threshold of 90,718 $MTCO_2e$/yr and would not achieve the GHG reduction targets of AB 1279. Implementation of Mitigation Measure GP GHG-1 would ensure that the City prepares a CAP to achieve the State's carbon neutrality goal set by AB 1279. **MM GP GHG-1** would also ensure that the City is tracking and monitoring the City's GHG emissions. However, given the growth in population and employment within the City and the magnitude of GHG emissions reductions needed to achieve the GHG reduction target, GHG emissions are considered significant and unavoidable.

The proposed General Plan would conflict with the NWL actions and strategies in the CARB's Scoping Plan pertaining to croplands due to the anticipated loss of farmlands. Implementation of **MM GP AG-1** would reduce the loss of farmland to the extent feasible. However, it would not fully avoid or reduce the conversion of farmland to nonagricultural uses. Therefore, the proposed General Plan would still conflict with the 2022 Scoping Plan as it pertains to the NWL strategies regarding croplands. Therefore, **Impact 5.8-2: General Plan** as it pertains to the consistency with the 2022 Scoping Plan would remain significant and unavoidable.

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BIG would result in less than significant impacts with regard to the generation of GHG emissions and GHG reduction planning.

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