

SECTION 4.5: GREENHOUSE GAS EMISSIONS

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SECTION 4.5: GREENHOUSE GAS EMISSIONS

This section of the subsequent environmental impact report (SEIR) documents potential impacts associated with greenhouse gas (GHG) emissions and plans for reducing GHG emissions that would occur as a result of the project.

The information in this section is based primarily on the *Air Quality Modeling Analysis US Gypsum Company—Southwest Plant* (Trinity Consultants 1999) (see Appendix C-1, “Air Quality Modeling Analysis”), the analysis provided in the 2019 SEIS, and other publicly available sources related to air quality.

4.5.1 Environmental Setting

This section discusses GHGs and climate change issues to provide a context for the analysis of project impacts associated with GHG emissions. It also provides a discussion of the actions and phenomena that contribute to climate change and puts into context global, national, and state emissions of GHGs. The term “climate change” is often used interchangeably with the term “global warming;” however, “climate change” is the preferred term because it helps convey that there are other changes in addition to rising temperatures (NAS 2005).

4.5.1.1 Climate Change Background

The Greenhouse Effect and Greenhouse Gases

GHGs trap heat in the atmosphere. Principal GHGs include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), O₃, and water vapor (H₂O). Some GHGs, such as CO₂, CH₄, and N₂O, occur naturally and are emitted into the atmosphere through natural processes and human activities. Of these gases, CO₂ and CH₄ are emitted in the greatest quantities from human activities. Man-made GHGs, which have a much greater heat-absorption potential than CO₂, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃), are associated with certain industrial products and processes. The major GHGs emitted by human activities remain in the atmosphere for periods ranging from decades to centuries; therefore, it is expected that atmospheric concentrations of GHGs will continue to rise over the next few decades (EPA 2020d).

Human activity has been increasing the concentration of GHGs in the atmosphere (mostly carbon dioxide from combustion of coal, oil, and gas, and a few other trace gases). Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels, with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.

A warming trend from anthropogenic emissions, or human activity, from the pre-industrial period to the present is predicted to persist for centuries to millennia and continue to cause further long-term changes in the climate system, such as sea level rise, with associated impacts. Climate models project robust differences in regional climate characteristics between present-day and global warming of 1.5°C, and between 1.5°C and 2°C. These differences include increases in mean temperature in most land and ocean regions, hot extremes in most inhabited regions, heavy precipitation in several regions, and the probability of drought and precipitation deficits in some regions (IPCC 2018).

The effect each GHG has on climate change is measured as a combination of the volume or mass of its emissions, plus the potential of a gas or aerosol to trap heat in the atmosphere, known as its global warming potential (GWP), and is expressed as a function of how much warming would be caused by the same mass of CO₂. Thus, GHG emissions are typically measured in terms of pounds or tons of “carbon dioxide equivalent” (CO₂e).

Contributions to Greenhouse Gas Emissions

Global

Anthropogenic GHG emissions worldwide in 2010 totaled approximately 44,542 million metric tons of carbon dioxide equivalent (MMT_{CO₂e}) (CAIT 2014). The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by the associated GWP, such that MMT_{CO₂e} = (million) metric tons of a GHG) x (GWP of the GHG). For example, the GWP for methane is 21. This means that emissions of 1 million metric tons of methane are equivalent to emissions of 21 million metric tons of CO₂. Six countries—China, the U.S., the Russian Federation, India, Japan, and Brazil—and the European Community accounted for approximately 66 percent of the total global emissions, approximately 28,943 MMT_{CO₂e} (CAIT 2014). Anthropogenic GHG emissions worldwide in 2011 totaled approximately 43,816 MMT_{CO₂e}.

United States

In 2012, the United States produced 6,676 million metric tons (MMT) of CO₂ (EPA 2020b). The primary GHG emitted by human activities in the United States was CO₂, representing approximately 81 percent of total GHG emissions. The largest source of CO₂, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 93 percent of the CO₂ emissions. Since 1990, gross U.S. greenhouse gas emissions have increased by 3.7 percent. From year to year, emissions can rise and fall due to changes in the economy, the price of fuel, and other factors. In 2018, U.S. greenhouse gas emissions increased compared to 2017 levels. The increase in CO₂ emissions from fossil fuel combustion was a result of multiple factors, including increased energy use due to greater heating and cooling needs due to a colder winter and hotter summer in 2018 compared to 2017 (EPA 2020d).

State of California

According to the 2019 GHG inventory data compiled by California Air Resources Board (CARB) for the California Greenhouse Gas Inventory for 2000—2017, California emitted 424 MMT_{CO₂e} of GHGs, including emission resulting from out-of-state electrical generation (CARB 2019). The primary contributors to GHG emissions in California are transportation, industry, electric power production from both in-state and out-of-state sources, agriculture, and other sources, which include commercial and residential activities. These primary contributors to California’s GHG emissions and their relative contributions in 2017 are presented in Table 4.5-1, “GHG Sources in California.”

**Table 4.5-1
 GHG Sources in California**

Source	Percent of Total ¹
Agriculture	7.6%
Commercial Uses	3.6%
Electricity Generation	14.7% ²
Industrial Uses	21.1%
Recycling and Waste	2.1%

Source	Percent of Total ¹
Residential Uses	6.1%
Transportation	40.1%
High GWP Substances	4.7%
Total³	100%

Source: CARB 2019

Notes:

1. Percentage of total has been rounded.
2. Includes emissions associated with imported electricity, which account for 44.07 MMT CO₂e annually.
3. Totals may not sum due to rounding.

Potential Effects of Human Activity on Climate Change

Globally, climate change has the potential to impact numerous environmental resources though uncertain impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. Estimated global warming from human activity is currently increasing at 0.2°C (likely between 0.1°C and 0.3°C) per decade due to past and ongoing emissions (IPCC 2018).

The 2014 *Safeguarding California: Reducing Climate Risk* report prepared by the California Natural Resources Agency (CNRA) identified anticipated impacts to California due to climate change through extensive modeling efforts. The Intergovernmental Panel on Climate Change’s Working Group II Report, *Climate Change 2007: Impacts, Adaptation and Vulnerability*, also describes anticipated impacts on a global scale. Collectively, the two reports indicate general climate changes in California may include the following events:

- Increasing evaporation;
- Rearrangement of ecosystems as species and ecosystems shift northward and to higher elevations;
- Increased frequency, duration, and intensity of conditions conducive to air pollution formation (particularly ozone);
- Reduced precipitation, changes to precipitation and runoff patterns, reduced snowfall (precipitation occurring as rain instead of snow), earlier snowmelt, decreased snowpack, and increased agricultural demand for water;
- Increased experiences of heat waves;
- Increased growing season and increased growth rates of weeds, insect pests and pathogens;
- Inundation by sea level rise, and exacerbated shoreline erosion; and
- Increased incidents and severity of wildfire events and expansion of the range and increased frequency of pest outbreaks (CNRA 2014 and IPCC 2007).

The changes described above are based on the results of several models prepared under different climatic scenarios; therefore, discrepancies may occur between projections and interpretations.

4.5.2 Regulatory Setting

Climate change has recently become widely recognized as a threat to the global climate, economy, and population. As a result, the climate change regulatory setting—at the federal, state and local level—is

complex and evolving. This section identifies key legislation, executive orders, and seminal court cases related to climate change that are germane to the project's GHG emissions.

4.5.2.1 Federal

In 2002, President George W. Bush set a national policy goal of reducing the GHG emission intensity (tons of GHG emissions per million dollars of gross domestic product) of the U.S. economy by 18% by 2012. The goal did not establish any binding reduction mandates. Rather, the United States Environmental Protection Agency (EPA) began to administer a variety of voluntary programs and partnerships with GHG emitters in which the EPA partners with industries that produce and utilize synthetic gases to reduce emissions of particularly potent GHGs.

The Bush Administration's approach to addressing climate change was challenged in *Massachusetts et al. v. Environmental Protection Agency*, 549 U.S. 497 (2007). In this decision, the U.S. Supreme Court held that the EPA was authorized by the Clean Air Act to regulate CO₂ emissions from new motor vehicles. The Court did not mandate that the EPA enact regulations to reduce GHG emissions but found that the only instances in which the EPA could avoid taking action were if it found that GHGs do not contribute to climate change or if it offered a "reasonable explanation" for not determining that GHGs contribute to climate change.

On December 7, 2009, the EPA issued an endangerment finding under the Clean Air Act, concluding that GHGs threaten the public health and welfare of current and future generations and that motor vehicles contribute to greenhouse gas pollution. These findings provide the basis for adopting new national regulations to mandate GHG emission reductions under the federal Clean Air Act.

The following four sections summarize EPA's recent regulatory activities with respect to various types of GHG sources.

Stationary Sources

Mandatory Greenhouse Gas Reporting Rule

Congress passed the Consolidated Appropriations Act of 2008 (HR 2764) in December 2007, which includes provisions requiring the establishment of mandatory GHG reporting requirements. On September 22, 2009, EPA issued a final rule to require reporting of GHG emissions from all sectors of the United States economy. Fossil fuel and industrial GHG suppliers, motor vehicle and engine manufacturers, and facilities that emit 25,000 metric tons or more of CO_{2e} per year are required to report GHG emissions data to EPA annually. The first annual reports for the largest emitting facilities, covering calendar year 2010, were submitted to EPA in 2011. This program covers approximately 85 percent of the nation's GHG emissions and applies to roughly 10,000 facilities. USEPA's reporting system provides a better understanding of GHG sources and will guide development of the best possible policies and programs to reduce emissions. The data also allows the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost-effective methods to reduce emissions in the future.

Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule

The Clean Air Act established the Prevention of Significant Deterioration (PSD) and Title V programs, which apply to stationary sources that emit certain levels of regulated air pollutants (generally those pollutants for which USEPA has established ambient air quality standards and their precursors or has established emission standards). The PSD applicability thresholds are up to 250 tons per year (tpy) of an attainment pollutant, while the Title V applicability thresholds are up to 100 tpy of a regulated air

pollutant. On June 3, 2010, EPA published a final rule that tailors the applicability criteria that determine whether stationary sources and modification projects become subject to permitting requirements for GHG emissions under the PSD and Title V programs of the Clean Air Act (tailoring rule). Under the tailoring rule, only the largest sources of GHGs (i.e., those responsible for 70 percent of the GHG pollution from stationary sources) would be subject to these GHG permitting requirements.

In 2014, the U.S. Supreme Court issued its decision in *Utility Air Regulatory Group v. EPA* (No. 12-1146), finding that the U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a permit pursuant to the “Clean Air Act’s Prevention of Significant Deterioration” or “Title V” operating permit programs. The Court also held that PSD permits that are otherwise required (based on emissions of other pollutants) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology (BACT). The U.S. EPA’s Greenhouse Gas Reporting Program requires facilities that emit 25,000 MTCO_{2e} or more of GHG to report their GHG emissions to the U.S. EPA to inform future policy decisionmakers (EPA 2020f).

Mobile Sources

EPA and NHTSA Joint Rulemaking for Vehicle Standards

In response to the Massachusetts v. EPA U.S. Supreme Court ruling discussed above, the Bush Administration issued an Executive Order on May 14, 2007, directing the EPA, the Department of Transportation (DOT), and the Department of Energy (DOE) to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law. EISA reinforces the energy reduction goals for federal agencies put forth in Executive Order 13423, as well as introduces more aggressive requirements. The three key provisions enacted are the Corporate Average Fuel Economy Standards, the Renewable Fuel Standard (RFS), and the appliance/lighting efficiency standards. The law includes an increased Corporate Average Fuel Economy (CAFE) standard of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020. EPA (2020e). On March 31, 2020, the National Highway and Traffic Safety Administration (NHTSA) and EPA finalized CAFE and carbon dioxide emissions standards for model years 2021-2026 (NHSTA 2020).

On June 30, 2009, the EPA granted a waiver for California for its greenhouse gas emission standards for motor vehicles. In August 2016, the USEPA and the NHTSA adopted Phase 2 of the Heavy-Duty Vehicle National Program. Phase 2 aims to set performance-based standards that would be met through wider deployment of existing and advanced technologies. For diesel engines, the proposed standards began for model year 2018 engines and phased in through 2027. Phase 2 is expected to reduce GHG emissions by an additional 10 percent.

However, EPA withdrew the waiver on September 19, 2019, and announced “The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program.” NHTSA also proposed regulatory text implementing its statutory authority to set nationally applicable fuel economy standards that made explicit that California’s programs would also be preempted under NHTSA’s authorities. The SAFE Vehicles Rule sets fuel economy and carbon dioxide standards that increase 1.5% in stringency each year from model years 2021 through 2026. These standards apply to both passenger cars and light trucks (NHSTA 2020). However, California and twenty-three other states and the Cities of Los Angeles and New York have challenged the legality of the SAFE program in federal court.

Additional GHG Rules and Policies

In addition to the rules and regulations developed with respect to stationary and mobile sources, discussed above, other federal developments have aimed to reduce GHGs from other sources, including land use activities.

Energy Independence and Security Act

On December 19, 2007, President Bush signed the Energy Independence and Security Act of 2007 (EISA). Among other key measures, the Act would do the following, which would aid in the reduction of national GHG emissions:

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

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of “green jobs.”

Partnership for Sustainable Communities

On June 16, 2009, the DOT, US Department of Housing and Urban Development, and USEPA announced the creation of the Partnership for Sustainable Communities (Partnership). The Partnership was formed to help improve access to affordable housing and transportation choices, and to lower transportation costs while protecting the environment. In order to achieve these goals, the Partnership agencies have and will continue to incorporate the following six livability principles into federal funding programs, policies and legislative proposals:

- Provide more transportation choices.
- Promote equitable, affordable housing.
- Enhance economic competitiveness.
- Support existing communities.
- Coordinate and leverage federal policies and investment.
- Value communities and neighborhoods.

Since 2009, the Partnership awarded more than \$4 billion in grants to support livability investments, provided recommendations for the sustainable siting of federal facilities, and participated in various forums to encourage sustainable housing and transportation strategies. Going forward, the Partnership plans to continue to work with existing grantees to encourage economic growth and implementation of livability principles and leverage off of these efforts to provide additional communities with lessons

learned from these experiences, as well as improving the federal government's ability to provide additional communities with more streamlined access to Partnership programs (EPA 2014).

CEQ NEPA Guidelines on GHGs

On June 26, 2019, the Council on Environmental Quality (CEQ) published draft guidance on how National Environmental Policy Act (NEPA) analysis and documentation should address greenhouse gas (GHG) emissions and climate change. It recommends agencies attempt to quantify a proposed action's projected direct and reasonably foreseeable indirect GHG emissions when the amount of those emissions is substantial enough to warrant quantification, and when it is practicable to quantify them using available data and GHG quantification tools. When an agency determines that the tools, methods, or data inputs necessary to quantify a proposed action's GHG emissions are not reasonably available, or it otherwise would not be practicable, the agency should include a qualitative analysis and explain its basis for determining that quantification is not warranted.

The draft guidance provides reporting tools and instructions on how to assess the effects of climate change. The draft guidance does not apply to land and resource management actions, nor does it propose to regulate greenhouse gases. The CEQ extended the comment period on the draft guidance, which was scheduled to close on July 26, 2019, for 31 days until August 26, 2019. Although CEQ has not yet issued final guidance, various NEPA documents are beginning to incorporate the approach recommended in the draft guidance (CEQ 2019).

4.5.2.2 State

California has adopted various administrative initiatives and enacted legislation relating to climate change, much of which sets aggressive goals for GHG emissions reductions within the state. However, none of this legislation provides definitive direction regarding the treatment of climate change in environmental review documents prepared under CEQA. In particular, the amendments to the CEQA Guidelines do not require or suggest specific methodologies for performing an assessment or thresholds of significance, and do not specify greenhouse gas reduction mitigation measures. Instead, the CEQA amendments continue to rely on lead agencies to choose methodologies and make significant determinations based on substantial evidence, as discussed in further detail below. Consequently, no State agency has promulgated binding regulations for analyzing GHG emissions, determining their significance, or mitigating any significant effects in CEQA documents.

The discussion below provides a brief overview of CARB and Office of Planning and Research (OPR) documents and of the primary legislation that relates to climate change that may affect the emissions associated with the proposed project. It begins with an overview of the primary regulatory acts that have driven GHG regulation in California, which underlie many of the GHG rules and regulations that have been developed.

Executive Order S-3-05 (Statewide GHG Targets)

California Executive Order S-03-05 (June 1, 2005) mandates a reduction of GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050. Although the 2020 target is the core of AB 32, and has effectively been incorporated into AB 32, the 2050 target remains the goal of the Executive Order only.

Assembly Bill 32 and Senate Bill 32 (Statewide GHG Reductions)

The California Global Warming Solutions Act of 2006, Assembly Bill (AB) 32, was signed into law in September 2006 after considerable study and expert testimony before the Legislature. The law instructs CARB to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The Act directed CARB to set a GHG emission limit of approximately 28.5% below “business-as-usual” predictions of year 2020 GHG emissions, based on 1990 levels, to be achieved by December 31, 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner and required CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions. SB 32 and Executive Order B-30-15 requires the state to reduce emissions by 40 percent below 1990 levels by 2030.

On December 11, 2008, CARB adopted the initial Scoping Plan to achieve the goals of AB 32. The Scoping Plan established an overall framework for the measures that would be adopted to reduce California’s GHG emissions. CARB determined that achieving the 1990 emission level would require a reduction of GHG emissions of approximately 29% below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as “business as usual”). The 2008 Scoping Plan evaluated opportunities for sector-specific reductions, integrated all CARB and Climate Action Team early actions and additional GHG reduction measures by both entities, identified additional measures to be pursued as regulations, and outlined the role of a cap-and-trade program. In a report prepared on September 23, 2010, CARB indicated 40 percent of the reduction measures identified in the Scoping Plan had been secured. Although the cap-and-trade program began on January 1, 2012 (after CARB completed a series of activities dealing with the registration process, compliance cycle, and tracking system), covered entities did not have an emissions obligation until 2013.

In July 2011, CARB revised its “business as usual” GHG emission estimate for 2020, in order to account for the recent economic downturn in its emission projections. The estimate presented in the scoping plan (596 million metric tons CO_{2e}) was based on pre-recession, 2007 data from the Integrated Energy Policy Report. CARB also updated the projected “business as usual” 2020 GHG emissions to 545 million metric tonnes CO_{2e} at this time. The Scoping Plan was reapproved in August 2011 with the program’s environmental documentation.

On February 10, 2014, CARB released the public draft of the “First Update to the Scoping Plan.” “The First Update” built upon the 2008 Scoping Plan with new strategies and recommendations and identified opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. “The First Update” defined CARB’s climate change priorities over the next five years and set the groundwork to reach post-2020 goals set forth in Executive Orders S-3-05 and B-16-12. It also highlighted California’s progress toward meeting the 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. “The First Update” evaluated how to align the State’s long-term GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. “The First Update” to the Scoping Plan was approved by the Board on May 22, 2014 (CARB 2020).

The second update to the scoping plan, the *2017 Climate Change Scoping Plan* update (CARB 2017), was adopted by CARB in December 2017. The primary objective for the *2017 Climate Change Scoping Plan* is to identify the measures required to achieve the mid-term GHG reduction target for 2030 (i.e., reduce emissions by 40 percent below 1990 levels by 2030) established under Executive Order B-30-15 and SB 32. The 2017 Climate Change Scoping Plan identifies an increased need for coordination among State, Regional, and local

governments to realize the potential for GHG emissions reductions that can be gained from local land use decisions. It notes that emissions reductions targets set by more than one hundred local jurisdictions in the State could result in emissions reductions of up to 45 MMTCO₂e and 83 MMTCO₂e by 2020 and 2050, respectively. To achieve these goals, the 2017 Scoping Plan Update includes a recommended plan-level efficiency threshold of six metric tons or less per capita by 2030 and no more than two metric tons by 2050. The major elements of the 2017 Climate Change Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero emission vehicle (ZEV) buses and trucks;
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030);
- Implementation of SB 350, which expands the Renewable Portfolio Standard (RPS) to 50 percent and doubles energy efficiency savings by 2030;
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks;
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing CH₄ (methane) and hydrocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030;
- Continued implementation of SB 375;
- Post-2020 Cap-and-Trade Program that includes declining caps;
- 20 percent reduction in GHG emissions from refineries by 2030; and
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink (CARB 2017).

Energy Conservation Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, of the California Code of Regulations [CCR], known as "Title 24") were established in 1978 in response to a legislative mandate to reduce California's energy consumption. Since that time, Title 24 has undergone several revisions. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards, referred to as "CALGreen." The California Green Building Standards Code (Title 24, proposed Part 11) was adopted as part of the California Building Standards Code (24 CCR). Part 11 which adopts certain mandatory standards for residential and nonresidential development and imposes a number of requirements on California buildings, including those with respect to planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and indoor environmental quality. The California Green Building Standards Code also contains a variety of voluntary measures, which local governments can choose to require, and which would enable buildings to qualify for special recognition. In part, the purpose of the California Green Building Code is to reduce greenhouse gas emissions from buildings.

CALGreen contains both mandatory and voluntary measures. For non-residential land uses there are 39 mandatory measures including, but not limited to exterior light pollution reduction, wastewater reduction by 20 percent, and commissioning (i.e., bringing into operation and ensuring quality) of projects over 10,000 square feet. Two tiers of voluntary measures apply to non-residential land uses, for a total of 36 additional elective measures.

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2019 standards, which were adopted May 9, 2018, and went into effect on January 1, 2020, improve upon existing standards, focusing on three key areas: proposing new requirements for installation of solar photovoltaics for newly constructed low-rise residential buildings; updating current ventilation and Indoor Air Quality (IAQ) requirements; and extending Title 24 Part 6 to apply to healthcare facilities. The 2019 standards also propose several smaller improvements in energy efficiency, such as lighting controls and improvements for water heating systems.

Mobile Sources

Senate Bill 375 (Sustainable Communities and Climate Protection Act)

In January 2009, California SB 375, known as the Sustainable Communities and Climate Protection Act, went into effect. SB 375 provides for a new planning process to coordinate land use planning, regional transportation plans, and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 includes provisions for streamlined CEQA review for some infill projects such as transit-oriented development. SB 375 also requires Metropolitan Planning Organizations (MPOs) relevant to the project area (including the Association of Bay Area Governments [ABAG]) to incorporate a "sustainable communities strategy" (SCS) in their regional transportation plans (RTPs) that will achieve GHG emission reduction targets set by CARB. The applicable SCS for the project area is called Plan Bay Area 2040 (see Section 4.5.2.4, "Local").

The SCS is a growth strategy in combination with transportation policies that will show how the MPO will meet its GHG reduction target. If the SCS cannot meet the reduction goal, an Alternative Planning Strategy may be adopted that meets the goal through alternative development, infrastructure, and transportation measures or policies.

In August 2010, CARB released the proposed GHG reduction targets for the MPOs to be adopted in September 2010. The proposed reduction targets for the Bay Area region were seven percent by the year 2020 and 15 percent by the year 2035. On February 15, 2011, CARB's Executive Officer approved the final targets. CARB filed a Notice of Decision two days later on February 17, 2011.

SB 375 also required CARB to appoint a Regional Targets Advisory Committee (RTAC) by January 31, 2009, to recommend factors for CARB to consider and methodologies for it to use in setting GHG emission reduction targets for each region. The RTAC must include representation from the League of California Cities, the California State Association of Counties,

MPOs, developers, planning organizations, and other stakeholders. In January 2009, CARB appointed 21 members to the RTAC, from a variety of constituencies. On September 29, 2009, the RTAC released its recommendations to CARB, representing a key step in the establishment of regional targets for inclusion in sustainable community strategies. The RTAC recommendations focus largely on the manner

in which CARB staff should interact with various stakeholders during the target-setting process, and how staff should use empirical studies and modeling in establishing regional GHG targets.

Senate Bill 743

Traditionally, transportation impacts have been evaluated pursuant to CEQA by examining whether the project is likely to cause automobile delay at intersections and congestion on nearby individual highway segments, and whether this delay will exceed a certain amount (this is known as Level of Service or LOS analysis). SB 743, which was signed into law in 2013, initiated an update to the CEQA Guidelines to change how lead agencies evaluate transportation impacts, with the goal of better measuring the actual transportation-related environmental impacts, including greenhouse gas emissions, of any given project.

According to the Legislature: "New methodologies under the California Environmental Quality Act [were] needed for evaluating transportation impacts that are better able to promote the state's goals of reducing greenhouse gas emissions and traffic-related air pollution, promoting the development of a multimodal transportation system, and providing clean, efficient access to destinations."

Starting on July 1, 2020, agencies analyzing the transportation impacts of new projects must look at a metric known as vehicle miles traveled (VMT) instead of LOS. VMT measures how much actual auto travel (additional miles driven) a proposed project would create on California roads. If the project adds excessive car travel onto roads, the project may cause a significant transportation impact.

Agencies have used VMT as a concept and metric for some time. Prior to SB 743, VMT was already being used in CEQA to study other potential impacts such as greenhouse gas, air quality, and energy impacts.

Assembly Bill 1493 (Mobile Source Reductions)

AB 1493 required CARB to adopt regulations by January 1, 2005, to reduce GHG emissions from noncommercial passenger vehicles and light-duty trucks of model year 2009 and after. The bill required the California Climate Action Registry (CCAR) to develop and adopt protocols for the reporting and certification of GHG emissions reductions from mobile sources for use by CARB in granting emission reduction credits. The bill authorized CARB to grant emission reduction credits for reductions of GHG emissions prior to the date of the enforcement of regulations, using model year 2000 as the baseline for reduction.

In 2004, CARB applied to the EPA for a waiver under the Federal Clean Air Act to authorize implementation of these regulations. The waiver request was formally denied by the EPA in December 2007. In January 2008, the State Attorney General filed a lawsuit against the EPA challenging the denial of California's request for a waiver to regulate and limit GHG emissions from these vehicles. In January 2009, President Barack Obama issued a directive to the EPA to reconsider California's request for a waiver, which the EPA granted on June 30, 2009, as discussed further below. As part of this waiver, the EPA specified that CARB may not hold a manufacturer liable or responsible for any noncompliance caused by emission debits generated by the manufacturer for the 2009 model year. The waiver was later withdrawn on September 19, 2019, under the "SAFE Vehicles Rule Part One: One National Program," discussed above. As noted above, the withdrawal of the waiver and implementation of SAFE are currently undergoing suit by California and several other states and cities.

Low Carbon Fuel Standard (LCFS)

Executive Order S-01-07 (January 18, 2007) requires a 10% or greater reduction (from current transportation fuels) in the average fuel carbon intensity for CARB-regulated transportation fuels in California. CARB identifies the Low Carbon Fuel Standard as a Discrete Early Action item under AB 32, and the final resolution (09 31) was issued on April 23, 2009. CARB is currently in the process of updating its Carbon Intensity Lookup Tables to add new pathways to calculate emissions from fuel sources.

CEQA Guidelines**Senate Bill 97 (CEQA Guidelines)**

SB 97 required OPR to prepare amended CEQA Guidelines for submission to the CNRA regarding GHG analysis and feasible mitigation of the effects of GHG emissions as required by CEQA. The CNRA was required to certify and adopt these revisions to the State CEQA Guidelines by January 1, 2010. These amendments became effective as of March 18, 2010. The adoption of SB 97 and subsequent CEQA amendments are widely recognized as confirmation that lead agencies are required to include an analysis of climate change impacts in CEQA documents.

CEQA Amendments

Pursuant to SB 97, OPR developed proposed amendments to the CEQA Guidelines (CEQA Amendments) for the feasible mitigation of GHG emissions and their effects, which it first submitted to the Secretary of the CNRA on April 13, 2009. After a public review and comment period, on December 30, 2009, the CNRA adopted the CEQA Amendments, which became effective on March 18, 2010.

The CEQA Amendments for Greenhouse Gas Emissions state in Section 15064.4(a) that lead agencies should “make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions. The CEQA Amendments note that an agency may identify emissions by either selecting a “model or methodology” to quantify the emissions or by relying on “qualitative analysis or other performance-based standards.” Section 15064.4(b) provides that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment:

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

In addition, Section 15064.7(c) of the CEQA Amendments specifies that “[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.” Similarly, the revision to CEQA Appendix G, “Environmental Checklist Form,” which is often used as a basis for lead agencies’ selection of significance thresholds, does not prescribe specific thresholds. Rather, Appendix G asks whether the project would conflict with a plan, policy or regulation adopted to reduce GHG emissions; or generate GHG emissions that would significantly affect the environment, indicating that the determination of what is a significant effect on the environment should be left to the lead agency.

Accordingly, the CEQA Amendments do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Amendments emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA.

The CEQA Amendments indicate that lead agencies should consider all feasible means, supported by substantial evidence and subject to monitoring and reporting, of mitigating the significant effects of GHG emissions. As pertinent to the project, these potential mitigation measures, set forth in Section 15126.4(c), may include (1) measures in an existing plan or mitigation program for the reduction of GHG emissions that are required as part of the lead agency's decision; (2) reductions in GHG emissions resulting from a project through implementation of project design features; (3) off-site measures, including offsets, to mitigate a project's emissions; and (4) carbon sequestration measures.

Among other things, the CNRA noted in its Public Notice for these changes that impacts of GHG emissions should focus on the cumulative impact on climate change. The Public Notice states:

While the Proposed Amendments do not foreclose the possibility that a single project may result in greenhouse gas emissions with a direct impact on the environment, the evidence before [CNRA] indicates that in most cases, the impact will be cumulative. Therefore, the Proposed Amendments emphasize that the analysis of greenhouse gas emissions should center on whether a project's incremental contribution of greenhouse gas emissions is cumulatively considerable.

Thus, the CEQA Amendments continue to make clear that the significance of greenhouse gas emissions is most appropriately considered on a cumulative level.

Other State GHG Activities

Executive Order S-13-08

On November 14, 2008, Governor Schwarzenegger issued Executive Order S-13-08 instructing California agencies to assess and prepare for the impacts of rising sea level associated with climate change. Rising sea levels could have devastating effects on California's infrastructure, such as threatening the state's water supply, highways, and airports. Pursuant to S-13-08, by June 30, 2009, the CNRA must have assessed California's vulnerability to climate change impacts and outlined solutions to climate change problems. The CNRA released the 2009 Climate Adaptation Strategy on August 3, 2009. The report summarizes the latest science on how climate change could impact the state and provides recommendations on how to manage against those threats in seven sector areas. The report is to be reviewed every two years.

Executive Order S-13-08 also required the CNRA to request that the National Academy of Sciences (NAS) convene an independent panel to complete the first California Sea Level Rise Assessment Report by December 1, 2010. In October 2010, the Sea-Level Rise Task Force of the Coastal and Ocean Working Group of the California Action Team released the State of California Sea-Level Rise Interim Guidance Document. The final report from the National Academy of Sciences, *Sea-Level Rise for the Coasts of California, Oregon, and Washington*, was released in June 2012. The final report was updated in 2013, and again in 2017 in response to Governor Brown's Executive Order B-30-15, establishing a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030. The current 2017

version of the report is published under the name *Rising Seas in California: An Update on Sea-Level Rise Science*. The updated guidance incorporates new information presented in the NAS Report to reflect recent advances in ice loss science and projections of sea-level rise.

Renewable Power Requirements

A major component of California's Renewable Energy Program is the Renewable Portfolio Standard (RPS) established under SBs 1078 (Sher), 107 (Simitian), and 2X (Simitian). Under the RPS, certain retail sellers of electricity are required to increase the amount of renewable energy each year by at least one percent until they reach twenty percent by December 31, 2010, with a final goal of 33 percent by 2020. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from the project because electricity production from renewable sources is generally considered "carbon neutral." For the purposes of this analysis, it is assumed that the production of electricity from these renewable sources does not produce any net emissions of CO₂.

Vehicle Emissions Standards/Improved Fuel Economy

AB 1493 (Pavley) and the Low Carbon Fuel Standard (LCFS) is a clean-car standard that reduces GHG emissions from new passenger vehicles (light duty auto–medium duty vehicle [LDAMDV]) from 2009 through 2016 and is anticipated to reduce GHG emissions from passenger vehicles by 30% in 2016. The LCFS requires a reduction of 2.5% in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10% by 2020.

For on-road vehicle CO₂ emissions, California Emissions Estimator Model (CalEEMod) applies AB 1493 and LCFS reductions to the appropriate vehicle classes for scenario years 2011 and after, based on CARB's EMFAC model and associated post processors.

4.5.2.3 Regional

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the regional planning agency for Imperial, Los Angeles, Orange, Riverside, San Bernadino, and Ventura counties, and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated metropolitan planning organization (MPO) for the Southern California region and is the largest MPO in the U.S. SCAG prepared the 2020 Regional Transportation Plan/Sustainable Communities Strategy (2020 RTP/SCS), which includes policies, strategies, and projects for advancing the region's mobility, economy, and sustainability through 2040. The RTP serves as a long-range transportation plan that is developed and updated by SCAG every four years, providing a vision for the development of transportation facilities throughout the region based on growth forecasts and economic trends over a 20-year period. The SCS expands upon transportation strategies in the RTP to analyze growth patterns.

and establish future land use strategies that aid the region in meeting its GHG reduction targets. The SCS does not mandate future land use policies for local jurisdictions, but rather provides a foundation of regional policy upon which local governments can build. On September 3, 2020, SCAG's Regional Council unanimously voted to approve and fully adopt Connect SoCal (2020–2045 Regional Transportation Plan/Sustainable Communities Strategy), and the addendum to the Connect SoCal Program Environmental Impact Report. Connect SoCal is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a

more sustainable growth pattern. It charts a path toward a more mobile, sustainable and prosperous region by making connections between transportation networks, between planning strategies and between the people whose collaboration can improve the quality of life for Southern Californians. Connect SoCal outlines more than \$638 billion in transportation system investments through 2045. It 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.

4.5.2.4 Local

Imperial County

Imperial County Regional Climate Action Plan

The Imperial County Regional Climate Action Plan identifies GHG reduction strategies and measures that would be implemented on a regional level as well as jurisdiction-specific measures that are intended to reduce local GHG emissions in unincorporated Imperial County as well as each of the incorporated cities within the County.

Imperial County Air Pollution Control District

The Imperial County Air Pollution Control District (ICAPCD) is the regulatory agency responsible for air quality in the Imperial Valley region. ICAPCD regulates emission sources and ensures regional compliance with State and federal regulations. ICAPCD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emission sources, and enforces such measures through educational programs or fines, when necessary. ICAPCD is directly responsible for reducing emissions from stationary, mobile, and indirect sources. The ICAPCD has not established formal quantitative or qualitative GHG emissions thresholds through a public rulemaking process. However, the ICAPCD has adopted the federal Prevention of Significant Deterioration (PSD) and Title V GHG air permitting requirements by reference for stationary sources in Regulation IX in Rules 900 and 903, which are described below.

ICAPCD Rule 900

ICAPCD Rule 900 provides procedures for issuing permits to operate for industrial projects that are subject to Title V of the federal Clean Air Act Amendments of 1990 (Major Sources) of emissions, which is defined as a source that exceeds 100 tons per year of any regulated pollutant, including GHG emissions.

ICAPCD Rule 903

ICAPCD Rule 903 applies to any stationary source that would have the potential to emit hazardous air pollutants (HAPs). Rule 903 provides a de minimis emissions level of 20,000 tons of CO_{2e} per year, where if a stationary source produces less emissions than the de minimis emissions levels, the source is exempt from the Rule 903 recordkeeping and reporting requirements.

Imperial County Regional Active Transportation Plan

The Imperial County Regional Active Transportation Plan incorporates existing plans and studies, including the Imperial County Safe Routes to School Regional Master Plan and Imperial County Bicycle Master Plan, into a comprehensive regional active transportation plan. The Active Transportation Plan includes six goals aimed at improving active transportation (i.e., walking and bicycling) improvements throughout the unincorporated County (Imperial County 2018). These goals are: (1) Improved Access,

(2) Network Connectivity, (3) Safety, (4) Increase Active Transportation Travel Within Each Community, (5) Health, and (6) Equity.

Imperial County General Plan

The goals, objectives, and policies in the *Imperial County General Plan* are intended to inform decision makers, the general public, public agencies, and those doing business in the County of the County's position on land use-related issues and to provide guidance for day-to-day decision-making. The following objectives and policies contained within the *Imperial County General Plan Conservation Element* pertain to air quality and the proposed project:

Conservation and Open Space Element

Goal 7: The County shall actively seek to improve the quality of air in the region.

Objective 7.1: Ensure that all projects and facilities comply with current Federal, state, and local requirements for attainment of air quality objectives.

Objective 7.2: Develop management strategies to mitigate fugitive dust. Cooperate with all Federal, State and local agencies in the effort to attain air quality objectives.

Objective 7.4: Enforce and monitor environmental mitigation measures relating to air quality.

San Diego County

San Diego County Climate Action Plan

On September 30, 2020, the County of San Diego Board of Supervisors voted to set aside its approval of the County's 2018 Climate Action Plan (2018 CAP) and related actions because the Final SEIR (2018 CAP SEIR) was found to be out of compliance with CEQA. In response to this Board action, staff are currently preparing a CAP Update to revise the 2018 CAP and correct the items identified by the court within the Final 2018 CAP SEIR that were not compliant.

The overall objective of the CAP Update is to reduce GHG emissions generated from activities within the unincorporated county and GHG emissions generated by County facilities and operational activities throughout the county, including facilities and operations located within incorporated cities, to meet or exceed GHG reduction goals under State laws.

The CAP Update may consider strategies and reduction measures, and supporting efforts organized under the same five categories as the 2018 CAP:

- Built Environment & Transportation
- Energy
- Solid Waste
- Water and Waste Water
- Agriculture and Conservation

Pending adoption of a new CAP, the County will continue to implement the 26 GHG reduction measures and sustainability initiatives/programs identified in the 2018 CAP to reduce GHG emissions as part of its ongoing commitment to the environment and to meet the State's 2030 reduction target.

San Diego County General Plan

The goals and policies of the *San Diego County General Plan* provide direction to future growth and development in the county. The following goals and policies from the *San Diego County General Plan Conservation Element* relate to air quality and apply to proposed actions at the Viking Ranch Restoration Site and Old Kane Springs Road Preservation Site, located in unincorporated San Diego County.

Conservation and Open Space Element

Goal COS-14: Sustainable Land Development. Land use development techniques and patterns that reduce emissions of criteria pollutants and GHGs through minimized transportation and energy demands, while protecting public health and contributing to a more sustainable environment.

Policy COS-14.8: Minimize Air Pollution. Minimize land use conflicts that expose people to significant amounts of air pollutants.

Policy COS-14.9: Significant Producers of Air Pollutants. Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.

Policy COS-14.10: Low-Emission Construction Vehicles and Equipment. Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.

Policy COS-14.11: Native Vegetation. Require development to minimize the vegetation management of native vegetation while ensuring sufficient clearing is provided for fire control.

Goal COS-15: Sustainable Architecture and Buildings. Building design and construction techniques that reduce emissions of criteria pollutants and GHGs, while protecting public health and contributing to a more sustainable environment.

Policy COS-15.6: Design and Construction Methods. Require development design and construction methods to minimize impacts to air quality.

San Diego County Air Pollution Control District

The San Diego County APCD (SDAPCD) is responsible for regulating stationary sources of air emissions in the San Diego Air Basin (SDAB). The SDAPCD Rules and Regulations establish emission limitations and control requirements for stationary sources, based on their source type and magnitude. The SDAPCD and the San Diego Association of Governments are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The San Diego County RAQS was initially adopted in 1991 and is periodically updated to reflect updated information on air quality, emission trends, and new feasible control measures. The most recent update was adopted in March 2023 (SDAPCD 2023).

The RAQS includes all feasible control measures that can be implemented for the reduction of O₃ precursor emissions. To be consistent with the RAQS, a project must conform to emission growth factors outlined in the plan. Control measures for stationary sources proposed in the RAQS and adopted by the SDAPCD are incorporated into the SDAPCD Rules and Regulations. SDAPCD has also developed the air basin's input to the SIP. The SIP includes the SDAPCD's plans and control measures for attaining the O₃ NAAQS. The SIP is also updated on a triennial basis. SDAPCD developed its 2020 Eight-Hour Ozone Attainment Plan for San Diego County, which provides plans for attaining and maintaining the 8-hour NAAQS for O₃ (San Diego County APCD 2020). A Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard was adopted by the SDAPCD in 2012 but has not yet been approved by the USEPA (SDAPCD 2012). The SDAB is designated attainment or unclassified for the remaining criteria air pollutants.

4.5.3 Analysis Methodology and Significance Criteria

The following sections discuss the methods for evaluating project emissions of greenhouse gases.

4.5.3.1 Significance Criteria

CEQA Guidelines Appendix G

Appendix G of the CEQA Guidelines identifies the following impact issues in Greenhouse Gas Emissions tables of the Appendix G Environmental Checklist, asking whether the project would:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Imperial County GHG Thresholds of Significance

ICAPCD does not have established quantitative or qualitative GHG emissions thresholds through a public rulemaking process. However, the ICAPCD has adopted the federal Prevention of Significant Deterioration (PSD) and Title V GHG air permitting requirements by reference for stationary sources in Regulation IX in Rules 900 and 903, as described in Section 4.5.2.4, above. Rule 903 provides a de minimis emissions level of 20,000 tons of CO_{2e} per year for stationary sources. In the absence of a formally adopted emissions threshold for land development projects, this de minimis emissions level is used as a provisional threshold for projects in Imperial County.

San Diego County GHG Thresholds of Significance

In response to AB 32, the California Air Pollution Control Officers Association (CAPCOA) white paper titled "CEQA & Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act," provides a current methodology used for jurisdictions across the state to identify a screening level for GHG emissions (CAPCOA 2008). The CAPCOA guidance states that projects should be screened to determine if their associated GHG emissions exceed 900 MT CO_{2e}.

Because the County has not developed its own numeric GHG significance threshold, it utilizes the interim screening threshold of 900 MT CO_{2e} per year in accordance with the CAPCOA white paper. The screening level does not indicate impact significance; rather, it is intended to be used to screen out smaller projects that

do not generate substantial amounts of GHG emissions and allows regulatory and discretionary actions to focus on the more significant sources of GHG emissions. If a project exceeds this threshold, a climate change analysis would need to be completed to analyze any potential project specific impacts. The CAPCOA white paper suggests that projects that emit less than 900 MT CO₂e per year would not likely be considered cumulatively considerable and would not interfere with the ability of the state to achieve its GHG reduction targets.

4.5.3.2 Methodology

Quarry, Well No. 3, and Associated Pipeline

The GHG emissions analysis for the Quarry expansion project is based on a comparison of the emissions estimated in the 2008 EIR/EIS and those estimated in the 2019 SEIS. Construction and operation emissions were assessed in accordance with EPA and ICAPCD air quality regulations using CARB's Off-Road Emissions Model, CARB Off-Road Diesel Tier Emission Factors, and Off-Road and On-Road Mobile Source Emissions' Factors (EMFAC per SCAQMD website).

Viking Ranch Restoration Site

The GHG emissions related to restoration of the Viking Ranch site were calculated using the CalEEMod Version 2022.1.1.4 using the project details, including construction equipment, provided in Chapter 2, "Project Description." The CalEEMod printouts for the Viking Ranch site are provided as Appendix C-3, "Estimated Air Quality Emissions—Viking Ranch."

Old Kane Springs Road Preservation Site

GHG emissions were not calculated for the Old Kane Springs Road Preservation Site as no construction activities will be carried out and operational emissions would be limited to occasional maintenance activities and would be negligible.

4.5.4 Project Impacts and Mitigation Measures

4.5.4.1 2008 EIR/EIS Impact Analysis

The 2006 Draft EIR/EIS did not evaluate Greenhouse Gas (GHG) Emissions because this was not yet identified as a topic that requires evaluation in Appendix G, Environmental Checklist Form, of the CEQA Guidelines. However, the 2008 Final EIR/EIS provided an analysis of GHG emissions in response to public comments on the 2006 Draft EIR/EIS. The 2008 Final EIR/EIS notes that USG has taken specific actions to track, report and certify GHG emissions. In November 2006, USG voluntarily joined the California Climate Action Registry (CCAR), a group of distinguished public and private sector organizations taking demonstrated leadership on climate change. USG was the first building materials manufacturer to participate in this program. As a member, USG has worked with the CCAR to develop an annual GHG emission tracking, reporting and certification protocol, that USG is applying to all of its facilities, including the Project. In particular, USG is certifying its GHG emissions data for the facility with the CCAR.

The Plant and Quarry, as well as associated activities, have used a variety of fuels over time for mobile sources, powering the Plant and for Quarry operations. Under the CCAR emission reporting regime, direct emissions of GHG are generated at the USG Expansion/Modernization Project from sources that are owned or controlled by USG, and include stationary combustion (e.g., plant burner and emergency generators) and mobile combustion sources (e.g., company owned off-road equipment and vehicles). Additionally, the USG

Expansion/Modernization Project accounts for indirect GHG emissions, which are generated by sources owned or controlled by other entities. These indirect sources are primarily from fossil fuel combustion at third party power plants. GHG emissions are typically measured in terms of pounds or tons of “carbon dioxide equivalent” (CO₂e). The following estimates of GHG emissions were provided:

Maximum *direct* GHG emissions CO₂e associated with the USG Expansion/Modernization Project in comparison with the baseline year of 1998 are as follows: During the 1998 baseline, the facility generated approximately 72,200 tons of CO₂e per year. The proposed action will result in about 110,000 tons of CO₂e per year, which represents an increase of approximately 37,800 tons of CO₂e per year, from business as usual.

Maximum *indirect* GHG emissions CO₂e associated with the USG Expansion/Modernization Project from the baseline year of 1998 are as follows: During the 1998 baseline, the facility generated approximately 14,000 tons of CO₂e per year. The Proposed action will generate approximately 23,700 tons of CO₂e per year, which represents an increase of approximately 9,700 tons of CO₂e per year, from business as usual.

The 2008 Final EIR/EIS notes that while USG Expansion/Modernization Project may emit up to a maximum of approximately 47,500 tons of additional (above baseline) CO₂e emissions per year (assuming business as usual) from both direct and indirect sources, the USEPA estimates 2005 national CO₂e emissions of 7,260.4 teragrams (i.e., million metric tons). Thus, the project’s CO₂e emission increases represent less than 0.0000654 percent of the national CO₂e loading, and an even smaller percentage of the worldwide CO₂e loading. Consequently, the 2008 Final EIR/EIS concludes that it is not anticipated that the individual effect of the project’s GHG emissions on the environment will be significant.

With regard to the USG Expansion/Modernization Project’s cumulative contribution to GHG emissions, the 2008 Final EIR/EIS acknowledges that the project may emit up to a maximum approximately 47,500 tons additional CO₂e emission per year above baseline for both direct and indirect sources, but states that this increase could be below reasonably anticipated thresholds of significance (though none existed at the time of the 2008 EIR/EIS), even when considered cumulatively. Further, since the demand for wallboard remains strong, it is stated that no project alternative would lead to more wallboard production outside of California, perhaps in other states or countries with little or no emission controls when compared to California’s requirements. Since California is globally acknowledged as having among the most stringent energy efficiency and emission control requirements, wallboard production outside California would generate more GHG emissions. Additionally, transportation of the products into California (whether by truck, rail, or ship) would produce even more GHG emissions from the burning of fuel associated with product transportation. On this point, USG has determined that “transportation of gypsum board accounts for over 10 percent of the embodied energy,” associated with the product. Thus, the no project alternative would have greater environmental impacts than the emissions from the project.

Despite the limited potential impacts due to increased GHG emissions identified in the 2008 Final EIR/EIS, the following mitigation measure was identified to substantially lessen the potential for the project to result in cumulative impacts on climate change:

Mitigation Measure 1: USG has already acquired approximately \$1.6 million in emission credits for the Project to meet applicable air quality standards. Similarly, to the extent necessary, USG will

acquire recognized carbon credits to offset the project's increased GHG emissions.

The air quality section of the 2008 EIR/EIS also provided the following mitigation measures to limit exhaust emissions from mobile equipment at the Quarry. These measures would also reduce emission of GHGs during project implementation:

Mitigation Measure 3.6-1a: *USG shall ensure all equipment is maintained and tuned according to manufacturer's specifications.*

Mitigation Measure 3.6-1b: *USG shall schedule production activities to minimize daily equipment operations and idling trucks.*

Mitigation Measure 3.6-1c: *USG shall comply with all existing and future California Air Resources Board (CARB) and ICAPCD regulations related to diesel-fueled trucks and equipment, which may include: (1) meeting more stringent engine emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low or ultra-low sulfur diesel fuel; and (4) use of alternative fuels or equipment.*

4.5.4.2 2019 SEIS Impact Analysis

In accordance with the Council on Environmental Quality's (CEQ) NEPA-implementing regulations in place at the time of its preparation, the 2019 SEIS did not evaluate greenhouse gas emissions or climate change and no additional mitigation measures were provided.

4.5.4.3 Substantial Project Changes

Project Revisions

The proposed Quarry expansion, and the proposed Well No. 3 and associated pipeline, are substantially in the same location and same configuration as the features that were evaluated in the 2008 EIR/EIS. Therefore, any minor revisions would not create a new or increase a significant impact related to GHG emissions. However, the restoration of the Viking Ranch site and preservation of the Old Kane Springs Road site are proposed in response to mitigation required by the 2019 SEIS, and these are new actions under the proposed project.

Changed Circumstances

GHG emissions must now be discussed under current CEQA Guidelines. With regard to ICAPCD requirements, in 2011, ICAPCD amended Rule 903 to add GHGs to the list of regulated pollutants. Rule 903 applies to any stationary source that would have the potential to emit air contaminants equal to or in excess of the threshold for a major source of regulated air pollutants. As part of the revised rule, stationary sources that exceed the de minimis emissions level of 20,000 tons of CO₂e per year in a 12-month period would need to meet recordkeeping and reporting requirements.

New Information

No new information of substantial importance is available that was not known and could not have been known with the exercise of reasonable diligence at the time the 2008 EIR/EIS was adopted. Furthermore, the effect of GHG emissions is not new information under CEQA Guidelines Section 15162(a)(3) that was not known

and could not have been known during the prior environmental evaluations (see e.g., *Citizens for Responsible Equitable Environmental Development v. City of San Diego*, 196 Cal.App.4th 515, 524 (2011)).

4.5.4.4 Subsequent Environmental Analysis

Impact 4.5-1: Greenhouse Gas Emissions Generated by Project Activities Could Have a Significant Impact on Global Climate Change

Quarry, Well No. 3, and Associated Pipeline

ICAPCD does not have established quantitative or qualitative GHG emissions thresholds through a public rulemaking process. However, the ICAPCD has adopted the federal Prevention of Significant Deterioration (PSD) and Title V GHG air permitting requirements by reference for stationary sources in Regulation IX in Rules 900 and 903, as described in Section 4.5.2.4, above. Rule 903 provides a de minimis emissions level of 20,000 tons of CO_{2e} per year for stationary sources. In the absence of a formally adopted emissions thresholds for land development projects, this de minimis emissions level is used as a provisional threshold for projects in Imperial County.

Quarry operations and construction of proposed Well No. 3 and the associated pipeline would result in the emission of GHGs associated primarily with heavy equipment operation. The 2019 SEIS included updated emissions estimates for the proposed project, including Quarry operations and construction of Well No. 3 and the associated pipeline. These emissions estimates are summarized in Table 4.5-2, “Proposed Project Estimated GHG Emissions,” and are provided in detail in Appendix C-2, “SEIS Air Emissions Estimates.” As shown, Quarry operations and pipeline construction emissions would not exceed ICAPCD’s de minimis threshold for GHG emissions.

**Table 4.5-2
 Proposed Project Estimated GHG Emissions**

Emissions Source	Total Annual CO_{2e} Emissions (MTCO_{2e})¹
Quarry Operations (Mobile Equipment)	8,312.5
Pipeline Construction (Mobile Equipment)	127.2
Total Annual CO _{2e} Emissions	8,439.7
ICAPCD Threshold	20,000
Exceed Threshold?	No

Source: BLM 2019 (Appendix N)

Notes:

1. Metric tons of CO₂ equivalent

It should be noted that pipeline construction emissions would be temporary with construction activities limited to one year, after which time total project GHG emissions would be reduced. Project emissions are further reduced through implementation of 2008 EIR/EIS Mitigation Measure 1 which requires USG to acquire recognized carbon credits to offset the project’s increased GHG emissions. For these reasons, the project would not significantly contribute to global climate change and this impact would be less than significant.

Level of Significance Before Mitigation: Less than significant.

Mitigation Measures: *Implement the following existing mitigation measures (see Section 4.5.4 for the full text of each measure):*

- *2008 EIR/EIS:*
 - *Mitigation Measure 3.6-1a*
 - *Mitigation Measure 3.6-1b*
 - *Mitigation Measure 3.6-1c*
 - *Mitigation Measure 1*

Level of Significance After Mitigation: Less than significant.

Viking Ranch Restoration Site

Because San Diego County has not developed its own numeric GHG significance threshold, it utilizes an interim screening threshold of 900 MT CO₂e per year based on the CAPCOA white paper (see Section 4.5.4.2, above).

The proposed restoration of the Viking Ranch site would result in temporary GHG emissions associated primarily with construction equipment operation. Emissions were estimated using the CalEEMod Version 2022.1.1.4 (see Appendix C-3) at an annual maximum of 880 MT CO₂e. Thus, the estimated annual project emissions would not exceed SDAPCD's screening thresholds of 900 MT CO₂e. This indicates that restoration of the Viking Ranch site would not generate a substantial amount of GHG emissions, and this impact would be less than significant.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Old Kane Springs Road Preservation Site

No construction or development is proposed on the Old Kane Springs site. Operational GHG emissions, associated with occasional maintenance vehicle trips, would be negligible and are not evaluated further here.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Impact 4.5-2: Consistency with Applicable GHG Plans, Policies, or Regulations

Quarry, Well No. 3, and Associated Pipeline

As demonstrated in this section, the proposed project would not exceed Imperial County's established significance threshold for GHG emissions. Implementation of mitigation measures from the 2006 Draft EIR/EIS (Mitigation Measures 3.6-1a through 3.6-1c) and 2008 Final EIR/EIS (Mitigation Measure 1) would further reduce or offset project GHG emissions. As demonstrated in Section 4.1, "Air Quality," the project would be consistent with the applicable air quality plans as well as the Imperial County General Plan and would not exceed development or population growth projections for the region. Thus, the project would be consistent with applicable GHG plans, policies, and regulations.

Level of Significance: Less than significant.

Mitigation Measures: None required.

Offsite Mitigation Sites

San Diego County does not currently have an adopted climate action plan. However, GHG emissions at the offsite mitigation sites would be limited to temporary construction emissions at the Viking Ranch site. As demonstrated in this section, these construction emissions would not exceed the applicable San Diego County significance threshold. Upon completion of restoration activities, operational emissions at both the Viking Ranch and Old Kane Springs sites would be limited to occasional maintenance truck trips and would be negligible. The project would not result in any development, population growth, or a significant increase in vehicle miles traveled. Thus, the project would be consistent with applicable GHG plans, polices, and regulations.

Level of Significance: Less than significant.

Mitigation Measures: None required.