3.12 Climate Change

A Greenhouse Gas (GHG) Analysis Report has been prepared by HELIX (2019a). This section summarizes information from this study, which is included in its entirety in Appendix M of this EIR.

3.12.1 Regulatory Framework

All levels of government have some responsibility for the protection of air quality, and each level (international, Federal, State, and regional/local) has specific responsibilities relating to GHG regulation.

3.12.1.1 *Federal*

The U.S. Supreme Court ruled on April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency*, that carbon dioxide (CO_2) is an air pollutant, as defined under the CAA, and that the USEPA has the authority to regulate GHG emissions. After a thorough examination of the scientific evidence and careful consideration of public comments, the USEPA announced on December 7, 2009 that GHGs threaten the public health and welfare of the American people. This action was a prerequisite to finalizing the USEPA's final GHG emissions standards for light-duty vehicles, which were jointly proposed by USEPA and the Department of Transportation's National Highway Safety Administration. The standards were established on April 1, 2010 for 2012 through 2016 model year vehicles and on October 15, 2012 for 2017 through 2025 model year vehicles.

Mandatory Reporting Rule of GHGs

On January 1, 2010, the USEPA started, for the first time, requiring large emitters of heat-trapping emissions to begin collecting GHG data under a new reporting system. This program covers approximately 85 percent of the nation's GHG emissions and applies to roughly 10,000 facilities. Fossil fuel and industrial GHG suppliers, motor vehicle and engine manufacturers, and facilities that emit GHGs equivalent to 25,000 MT or more of CO_2 (CO_2e) per year will be required to report GHG emissions data to the USEPA annually. This reporting threshold is equivalent to the annual GHG emissions from approximately 4,600 passenger vehicles.

Corporate Average Fuel Economy Standards

The USEPA and the National Highway Transportation Safety Administration (NHTSA) have been working together on developing a national program of regulations to reduce GHG emissions and to improve fuel economy of light-duty vehicles. The USEPA established the first-ever national GHG emissions standards under the CAA, and the NHTSA established Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. On August 2, 2018, the agencies released a notice of proposed rulemaking—the Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule). The purpose of the SAFE Vehicles Rule is "to correct the national automobile fuel economy and greenhouse gas emissions standards to give the American people greater access to safer, more

affordable vehicles that are cleaner for the environment." The direct effect of the rule is to eliminate the standards that were put in place to gradually raise average fuel economy for passenger cars and light trucks under test conditions from 37 miles per gallon in 2020 to 50 miles per gallon in 2025. By contrast, the new SAFE Vehicles Rule freezes the average fuel economy level standards indefinitely at the 2020 levels. The new SAFE Vehicles Rule also results in the withdraw of the waiver previously provided to California for that State's GHG and zero emissions vehicle (ZEV) programs under section 209 of the CAA. The combined USEPA GHG standards and NHTSA CAFE standards resolve previously conflicting requirements under both Federal programs and the standards of the State of California and other states that have adopted the California standards.

Prevention of Significant Deterioration/Title V GHGs Tailoring Rule

GHG emissions from the largest stationary sources were, for the first time, covered by the PSD and Title V Operating Permit Programs beginning on January 2, 2011. USEPA's GHG Tailoring Rule, issued in May 2010, established a common sense approach to permitting GHG emissions under PSD and Title V. The rule set initial emission thresholds, known as Steps 1 and 2 of the Tailoring Rule, for PSD and Title V permitting based on CO_2e emissions. Step 3 of the GHG Tailoring Rule, issued on June 29, 2012, continued to focus GHG permitting on the largest emitters by retaining the permitting thresholds that were established in Steps 1 and 2. In addition, the Step 3 rule improved the usefulness of plantwide applicability limitations (PALs) by allowing GHG PALs to be established on CO_2e emissions, in addition to the already available mass emissions PALs, and to use the CO_2e-based applicability thresholds for GHGs provided in the "subject to regulation" definition in setting the PAL on a CO_2e basis. The rule also revised the PAL regulations to allow a source that emits or has the potential to emit at least 100,000 tons per year of CO_2e, but that has minor source emissions of all other regulated NSR pollutants, to apply for a GHG PAL while still maintaining its minor source status.

3.12.1.2 *California*

California Code of Regulations, Title 24, Part 6

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels.

The Title 24 standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 update to the standards went into effect on January 1, 2020. The Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The most significant efficiency improvements to the residential standards include improvements for attics, walls, water heating, and lighting. The standards are divided into three basic sets. First, there is a basic set of mandatory requirements that apply to all buildings. Second, there is a set of performance standards – the energy budgets – that vary by climate zone (of which there are 16 in California) and building type; thus, the standards are tailored to local conditions. Finally, the third set constitutes an alternative to the performance standards, which is a set of prescriptive packages that are basically a recipe or a checklist compliance approach.

California Code of Regulations, Title 24, Part 11

The California Green Building Standards Code (CALGreen Code; 24 CCR, Part 11) is a code with mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools, and hospitals) throughout California. The current version of the code went into effect on January 1, 2017. The code is Part 11 of the California Building Standards Code in Title 24 of the CCR. Workshops are currently being held for the next triennial update of the CALGreen Code.

The development of the CALGreen Code is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction.

Executive Order S-3-05

On June 1, 2005, EO S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. In an effort to avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

Assembly Bill 32 – Global Warming Solution Act of 2006

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that the CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG reduction targets with those of leading international governments, including the 28 nation European Union. California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050.

Senate Bill 32

As a follow up to AB 32 and in response to EO B-30-15, SB 32 was passed by the California legislature in August 2016 and signed by Governor Brown in September 2016 to codify the EO's California GHG reduction target of 40 percent below 1990 levels by 2030.

Assembly Bill 197

A condition of approval for SB 32 was the passage of AB 197. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and the establishment a legislative committee to make recommendations about CARB programs to the legislature.

Assembly Bill 1493 – Vehicular Emissions of GHGs

AB 1493 (Pavley) requires that CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to merge its rules with the Federal CAFE rules for passenger vehicles. In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars.

Assembly Bill 75

AB 75 was passed in 1999 and mandates State agencies to develop and implement an integrated waste management plan to reduce GHG emissions related to solid waste disposal. In addition, the bill mandates that community service districts providing solid waste services report the disposal and diversion information to the appropriate city, county or regional jurisdiction. Since 2004, the bill requires diversion of at least 50 percent of the solid waste from landfills and transformation facilities, and submission to the California Department of Resources Recycling and Recovery (CalRecycle; formerly known as California Integrated Waste Management Board) of an annual report describing the diversion rates.

Assembly Bill 341

In 2011, the State legislature enacted AB 341, increasing the diversion target to 75 percent statewide. AB 341 also requires the provision of recycling service to commercial and residential facilities that generate four cubic yards or more of solid waste per week. In addition, multi-family apartments with five or more units are also required to implement a recycling program. The final regulation was approved by the Office of Administrative Law on May 7, 2012, and went into effect on July 1, 2012.

Executive Order S-01-07

Executive Order S-01-07 was signed by Governor Schwarzenegger on January 18, 2007 and directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. It orders that a Low Carbon Fuel Standard

(LCFS) for transportation fuels be established for California, and directs CARB to determine whether an LCFS can be adopted as a discrete early action measure pursuant to AB 32. The CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in 2010. It was expected to result in a reduction of 15 MMT CO_2e by 2020 (based on the original 2008 Scoping Plan estimates). On December 29, 2011, District Judge Lawrence O'Neill in the Eastern District of California issued a preliminary injunction blocking CARB from implementing LCFS for the remainder of the *Rocky Mountain Farmers Union* litigation. Plaintiffs argued that the LCFS is unconstitutional because it violates the interstate commerce clause, which was intended to stop states from introducing laws that would discriminate against businesses located in other states.

In January 2012, however, the CARB appealed that decision to the Ninth Circuit Court of Appeals (Ninth Circuit), and then moved to stay the injunction pending resolution of the appeal. On April 23, 2012, the Ninth Circuit granted the CARB's motion for a stay of the injunction while it continues to consider CARB's appeal of the lower court's decision. On September 18, 2013, the Ninth Circuit reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause. Therefore, the LCFS enforcement injunction has been removed, and CARB is continuing to implement the LCFS statewide.

Senate Bill 350

Approved by Governor Brown on October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard eligible resources, including solar, wind, biomass, and geothermal. In addition, large utilities are required to develop and submit Integrated Resource Plans to detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions, and increase the use of clean energy.

Senate Bill 97 – CEQA: GHG Emissions

In August 2007, Governor Schwarzenegger signed into law SB 97 – CEQA: GHG Emissions, stating: "This bill advances a coordinated policy for reducing GHG emissions by directing the Office of Planning and Research (OPR) and the Resources Agency to develop CEQA guidelines on how State and local agencies should analyze, and when necessary, mitigate GHG emissions." Specifically, SB 97 requires the OPR to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, including but not limited to, effects associated with transportation or energy consumption. The Resources Agency certified and adopted the guidelines on December 31, 2009. The new CEQA guidelines provide the lead agency with broad discretion in determining what methodology is used in assessing the impacts of GHG emissions in the context of a particular project. This guidance is provided because the methodology for assessing GHG emissions is expected to evolve over time. The OPR guidance also states that the lead agency can rely on qualitative or other performance-based standards for estimating the significance of GHG emissions, although the new CEQA Guidelines did not establish a threshold of significance.

Senate Bill 375

SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing.

3.12.1.3 *California GHG Programs and Plans*

California Air Resources Board: Scoping Plan

On December 11, 2008, CARB adopted a Scoping Plan (CARB 2008b), as directed by AB 32. The Scoping Plan proposes a set of actions designed to reduce overall GHG emissions in California to the levels required by AB 32. Measures applicable to development projects include those related to energy-efficiency building and appliance standards, the use of renewable sources for electricity generation, regional transportation targets, and green building strategy. Relative to transportation, the Scoping Plan includes nine measures or recommended actions related to reducing vehicle miles traveled and vehicle GHGs through fuel and efficiency measures. These measures would be implemented statewide rather than on a project-by-project basis.

The CARB released the First Update to the Climate Change Scoping Plan in May 2014 to provide information on the development of measure-specific regulations and to adjust projections in consideration of the economic recession (CARB 2014a). To determine the amount of GHG emission reductions needed to achieve the goal of AB 32 (i.e., 1990 levels by 2020) CARB developed a forecast of the AB 32 Baseline 2020 emissions, which is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. CARB estimated the AB 32 Baseline 2020 to be 509 MMT CO_2e. The Scoping Plan's current estimate of the necessary GHG emission reductions is 78 MMT CO_2e (CARB 2014b). This represents an approximately 15.32 percent reduction. The CARB is forecasting that this would be achieved through the following reductions by sector: 25 MMT CO_2e for energy; 23 MMT CO_2e for transportation; 5 MMT CO_2e for high-global warming potential (GWP) GHGs, and 2 MMT CO_2e for waste. The remaining 23 MMT CO_2e would be achieved through Cap-and-Trade Program reductions. This reduction is flexible; if CARB receives new information and changes the other sectors' reductions to be less than expected, the agency can increase the Cap-and-Trade reduction (and vice versa).

In response to EO B-30-15 and SB 32, all State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the Scoping Plan to reflect the 2030 target and, therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue driving down emissions. CARB is moving forward with a second update to the Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The 2017 Climate Change Scoping Plan Update, Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target, was released in proposed final form on November 30, 2017 and approved on December 14, 2017.

3.12.1.4 *Local Policies and Plans: County of San Diego*

County of San Diego General Plan

The County's General Plan, adopted in 2011, provides guiding principles designed to balance future growth, conservation, and sustainability. The General Plan aims to balance the need for infrastructure, housing and economic vitality, while maintaining and preserving unique community, agricultural areas, and extensive open space (County 2011). The General Plan contains goals and policies specific to reducing GHG emissions, including: efficient and compact growth and development; increasing energy efficiency and use of renewable energy sources; increasing recycling; and improving access to sustainable transportation (County 2018).

The General Plan addresses AB 32 and climate change and provides an extensive list of policies designed to reduce GHG emissions and adapt to current climate change related impacts. Strategies listed to mitigate and reduce GHG emissions include: reduce vehicle trips, gasoline and energy consumption; improve energy efficiency by decreasing non-renewable energy consumption and generation; increase generation and use of renewable energy sources; reduce water consumption and waste generation; improve solid waste reuse and recycle and composting programs; promote landscapes designed to sequester CO2; and preserve open space and agricultural lands. Adaptive strategies designed to prevent, and mitigate current climate change impacts, include the following: reduce wildfire and flood risk; conserve water during water shortages; promote agricultural lands to support local food production; and provide education and leadership (County 2018).

County of San Diego Climate Action Plan

In February 2018, the County adopted a long-term programmatic CAP that outlines the actions the County will undertake to achieve its proportional share of state GHG emission reductions to be compliant with AB 32 and EO S-3-05 (County 2018). The CAP will ensure that new developments incorporate more sustainable design standards and applicable GHG reduction measures (County 2018).

Appendix A of the CAP includes a project-level CAP Consistency Review Checklist (Checklist) that may be used to demonstrate a project's consistency with the General Plan growth projections, land use assumptions, and applicable CAP measures. The purpose of the Checklist is to, in conjunction with the CAP, provide a streamlined review process for proposed new development projects that are subject to discretionary review and trigger environmental review pursuant to CEQA.

The Checklist contains GHG reduction measures that are required to be implemented on a project-by project basis to ensure that GHG reduction activities identified in the CAP that are applicable to new developments are appropriate applied. The inclusion of these GHG reduction measures in new developments would assist the County in meeting its GHG emissions reduction targets.. Implementation of the measures would ensure that new development is consistent with the CAP strategies identified to achieve GHG reduction targets. Projects that are consistent with the CAP, as determined through use of the Checklist, may rely on the CAP for the cumulative impacts analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in the Checklist to the extent

feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP.

SANDAG: San Diego Forward: The Regional Plan

The Regional Plan (SANDAG 2015) is the long-range planning document developed to address the region's housing, economic, transportation, environmental, and overall quality-of-life needs. The Regional Plan establishes a planning framework and implementation actions that increase the region's sustainability and encourage "smart growth while preserving natural resources and limiting urban sprawl." The Regional Plan encourages the regions and the County to increase residential and employment concentrations in areas with the best existing and future transit connections, and to preserve important open spaces. The focus is on implementation of basic smart growth principles designed to strengthen the integration of land use and transportation.

3.12.2 Existing Conditions

3.12.2.1 *Worldwide and National GHG Inventory*

In 2013, total GHG emissions worldwide were estimated at 48,257 million metric tons (MMT) of CO_2e emissions (World Resource Institute 2017). The U.S. contributed the second largest portion (13 percent) of global GHG emissions in 2013. The total U.S. GHG emissions was 6,213 MMT CO_2e in 2013, of which 82 percent was CO_2 emission (World Resource Institute 2017). On a national level, approximately 27 percent of GHG emissions were associated with transportation and about 38 percent were associated with electricity generation (World Resource Institute 2017).

3.12.2.2 *State GHG Inventories*

The CARB performed statewide inventories for the years 1990 to 2017 (Table 3.12-1, *California GHG Emissions by Sector*). The inventory is divided into six broad sectors of economic activity: agriculture, commercial, electricity generation, industrial, residential and transportation.

As shown in Table 3.12-1, statewide GHG source emissions totaled 431 MMT CO_2e in 1990, 471 MMT CO_2e in 2000, 449 MMT CO_2e in 2010, and 424 MMT CO_2e in 2017. According to data from the CARB, it appears that statewide GHG emissions peaked in 2004 and are now beginning to decrease (CARB 2017a). Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

A San Diego regional emissions inventory that was prepared by the University of San Diego School of Law, Energy Policy Initiative Center (EPIC) took into account the unique characteristics of the region. Its 2014 emissions inventory update for San Diego is duplicated in Table 3.12-2, *San Diego County GHG Emissions by Sector in 2014*. The sectors included in this inventory are somewhat different from those in the statewide inventory.

According to the County of San Diego 2014 GHG Inventory and Projections prepared by the EPIC in 2017, the unincorporated areas of San Diego County emitted 3.21 MMT of CO_2e emissions in 2014. The largest contributor of GHGs in San Diego County was the on-road transportation category, which comprised 45 percent (1.46 MMT CO_2e) of the total amount. The second highest

contributor was the electricity category, which contributed 0.76 MMT CO_2e, or 24 percent of the total. Together, the on-road transportation and electricity categories comprised 69 percent of the total GHG emissions for the County. The remaining amount was contributed by natural gas and propane consumption, off-road transportation, waste, agriculture, water and wastewater.

Similar to the statewide emissions, transportation-related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

3.12.2.3 *On-site GHG Inventory*

The existing Project site is currently vacant. There are no current significant sources of on-site GHG emissions. Natural vegetation and soils temporarily store carbon as part of the terrestrial carbon cycle. Carbon is assimilated into plants as they grow and then dispersed back into the environment when they die. Soil carbon accumulates from inputs of plants, roots and other living components of the soil ecosystem (i.e., bacteria, worms, etc.). Soil carbon is lost through biological respiration, erosion and other forms of disturbance. The existing GHG emissions are likely to be negligible.

Table 3.12-1
CALIFORNIA GHG EMISSIONS BY SECTOR
(MMT CO_2e)

Sector	1990	2000	2010	2017
Agriculture and Forestry	18.9 (4%)	31.0 (7%)	33.7 (8%)	32.4 (8%)
Commercial	14.4 (3%)	14.1 (3%)	20.1 (4%)	23.3 (5%)
Electricity Generation	110.5 (26%)	105.4 (22%)	90.6 (20%)	62.6 (15%)
Industrial	105.3 (24%)	105.8 (22%)	101.8 (23%)	101.1 (24%)
Residential	29.7 (7%)	31.7 (7%)	32.1 (7%)	30.4 (7%)
Transportation	150.6 (35%)	183.2 (39%)	170.2 (38%)	174.3 (41%)
Unspecified Remaining	1.3 (<1%)	0.0 (0%)	0.0 (0%)	0.0 (0%)
TOTAL	**430.7**	**471.1**	**448.5**	**424.1**

Source: CARB 2017a
[1] Percentages may not total 100 due to rounding.
[2] GWP=global warming potential; includes ozone-depleting substance substitute use, electricity grid losses, and semiconductor manufacturing.
MMT = million metric tons; CO_2e = carbon dioxide equivalent

Table 3.12-2
SAN DIEGO COUNTY GHG EMISSIONS BY SECTOR IN 2014

Sector	2014 Emissions in MMT CO_2e (% total)[1]
On-Road Transportation	1.46 (45%)
Electricity	0.76 (24%)
Solid Waste	0.34 (11%)
Natural Gas Consumption	0.29 (9%)
Agriculture	0.16 (5%)
Water	0.13 (4%)
Off-Road Transportation	0.04 (1%)
Wastewater	0.02 (1%)
Propane	0.01 (<0.5%)
TOTAL	**3.21**

Source: USD EPIC 2017. County of San Diego 2014 Greenhouse Gas Inventory and Projections. Prepared by the University of San Diego School of Law, Energy Policy Initiative Center (EPIC), and available online at https://www.sandiegocounty.gov/content/dam/sdc/pds/advance/cap/publicreviewdocuments/PostBOSDocs/CAP%20Appendix%20A%20%20-%202014%20Inventory%20and%20Projections.pdf.
[1] Percentages may not total 100 due to rounding.
MMT = million metric tons; CO_2e = carbon dioxide equivalent