

3.1.2 Greenhouse Gas Emissions

Preface

On October 29, 2014, and after recirculation of the project's Draft EIR, Division One of the Fourth District Court of Appeal issued its decision in *Sierra Club v. County of San Diego*, Case No. D064243, 2014 WL 6657169. In its decision, the Fourth District held that the County of San Diego (County) did not prepare an adequate Climate Action Plan, nor complete the environmental review required by CEQA for adoption of that plan. In light of this litigation, the County is no longer implementing its *Guidelines for Determining Significance – Climate Change (2013 Guidelines)*. Therefore, the greenhouse gas (GHG) emissions analysis provided in this section has been revised and no longer utilizes the *2013 Guidelines* to determine the significance of the project's GHG emissions. This subchapter has been revised to present a multi-faceted evaluation of the project's GHG emissions. For clarity purposes, this subchapter is provided without tracked changed edits to allow ease of review. An edited version is available on the County of San Diego Department of Planning & Development Services website.

Overview

This subchapter includes a discussion of applicable plans, policies and regulations, existing conditions, identification and justification of significance criteria, and a determination of whether GHG emission impacts are considered significant for purposes of CEQA. This analysis is based on: (i) the requirements of CEQA and the CEQA Guidelines; (ii) the 2006 Global Warming Solutions Act, including the California Air Resources Board's (CARB) *Climate Change Scoping Plan: A Framework for Change (Scoping Plan)*, the 2011 Final Supplement to the *Scoping Plan*, and the *First Update to the Climate Change Scoping Plan: Building on the Framework (First Update)*; (iii) the County of San Diego's *2015 GHG Guidance: Recommended Approach to Addressing Global Climate Change in CEQA Documents (2015 GHG Guidance)*; (iv) the Sacramento Metropolitan Air Quality Management District's (SMAQMD) *CEQA Guide*; (v) the County of San Diego's General Plan; (vi) the 2008 Sustainable Communities and Climate Protection Act, including the San Diego Association of Governments' (SANDAG) *2050 Regional Transportation Plan/Sustainable Communities Strategy (2050 RTP/SCS)*; and (vii) Executive Orders S-3-05 and B-30-15. The complete GHG technical report is included in this EIR as Appendix O.

3.1.2.1 Existing Conditions

Causes of Global Climate Change

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated, interacting natural factors that include volcanic eruptions which spew gases and particles into the atmosphere, the amount of water, vegetation, and ice covering the earth's surface, subtle changes in the earth's orbit, and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth

has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

GHGs influence the amount of heat that is trapped in the earth's atmosphere and thus play a critical role in determining the earth's surface temperature. Outgoing infrared radiation is absorbed by GHGs, resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on earth. With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, and biofuels, as well as the creation of GHG-emitting substances not found in nature. Such human activities have increased atmospheric GHG levels in excess of natural ambient concentrations. This has led to a trend of warming of the earth's atmosphere and oceans, with corresponding effects on global circulation patterns and climate.

Greenhouse Gases of Primary Concern

There are numerous GHGs, both naturally occurring (i.e., biogenic) and manmade (i.e., anthropogenic). Table 3.1-1 summarizes some of the most common. Each GHG has variable atmospheric lifetime and global warming potential (GWP).

**TABLE 3.1-1
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES (YEARS)
OF COMMON GHGs**

Gas	Atmospheric Lifetime	100-year GWP	20-year GWP	500-year GWP
Carbon dioxide (CO ₂)	50–200	1	1	1
Methane (CH ₄)	12 ± 3	21	56	6.5
Nitrous oxide (N ₂ O)	120	310	280	170
HFC-23	264	11,700	9,100	9,800
HFC-32	5.6	650	2,100	200
HFC-125	32.6	2,800	4,600	920
HFC-134a	14.6	1,300	3,400	420
HFC-143a	48.3	3,800	5,000	1,400
HFC-152a	1.5	140	460	42
HFC-227ea	36.5	2,900	4,300	950
HFC-236fa	209	6,300	5,100	4,700
HFC-43-10mee	17.1	1,300	3,000	400
CF ₄	50,000	6,500	4,400	10,000
C ₂ F ₆	10,000	9,200	6,200	14,000
C ₃ F ₈	2,600	7,000	4,800	10,100
C ₄ F ₁₀	2,600	7,000	4,800	10,100
c-C ₄ F ₈	3,200	8,700	6,000	12,700
C ₅ F ₁₂	4,100	7,500	5,100	11,000
C ₆ F ₁₄	3,200	7,400	5,000	10,700
SF ₆	3,200	23,900	16,300	34,900

SOURCE: Appendix O, Table 1.
GWP = global warming potential.

The atmospheric lifetime of a GHG is the average time the molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. The potential of a gas to trap heat and warm the atmosphere is measured by its GWP. The reference gas for establishing GWP is carbon

dioxide, which—as shown in Table 3.1-1—consequently has a GWP of 1. As an example, methane, while having a shorter atmospheric lifetime than carbon dioxide, has a 100-year GWP of 21, which means that it has a greater global warming effect than carbon dioxide on a molecule-by-molecule basis. For purposes of reporting GHG emissions, all GHGs are converted to a common factor and reported as CO₂ equivalent (CO₂E).

Although there are dozens of GHGs, state law defines GHGs as the following seven compounds: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃). (Health & Safety Code, §38505(g).) Of these gases, CO₂, CH₄, and N₂O are produced by both biogenic and anthropogenic sources, and are the GHGs of primary concern in this analysis. The remaining gases occur as the result of industrial processes, such as refrigeration, aluminum production, semiconductor manufacture, and insulation in electric power transmission and distribution equipment, and are not of primary concern to this analysis.

Effects of Global Climate Change

Globally, climate change has the potential to impact numerous environmental resources through anticipated, though uncertain, impacts related to future air temperatures and precipitation patterns.

There is general scientific consensus that global climate change will increase the frequency of heat extremes, heat waves, and heavy precipitation events. Other likely direct effects include an increase in the areas affected by drought and by floods, an increase in tropical cyclone activity, a rise in sea level, and recession of polar ice caps. Global temperature increases, therefore, may have significant negative impacts on ecosystems, natural resources, and human health. Ecosystem structure and biodiversity would be compromised by temperature increases and associated climatic and hydrological disturbances. The availability and quality of potable water resources may be compromised by increased salinization of groundwater due to sea-level rises, decreased supply in semi-arid and arid locations, and poorer water quality arising from increased water temperatures and more frequent floods and droughts. These impacts on freshwater systems, in addition to the effects of increased drought and flood frequencies, can reduce crop productivity and the food supply.

In addition to compromising food and water resources, there are other means through which climatic changes associated with global warming can affect human health and welfare. Warmer temperatures can cause more ground-level ozone, a pollutant that causes eye irritation and respiratory problems. Ranges of infectious diseases will likely increase and some areas will face greater incidences of illness and mortality associated with increased flooding and drought events.

According to CARB, some of the potential California-specific impacts of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. To protect the state's public health and safety, resources, and economy, the California Natural Resources Agency—in coordination with other state agencies—has updated the *2009 California Climate Adaptation Strategy* that is titled, *Safeguarding California: Reducing Climate Risk*. The final *Safeguarding California* plan is dated July 2014, and provides policy

guidance for state decision makers relative to climate risks in nine sectors: agriculture; biodiversity and habitat; emergency management; energy; forestry; ocean and coastal ecosystems and resources; public health; transportation; and water. It also identifies policies for reducing GHG emissions and accelerating the transition to a clean-energy economy through reductions in emissions, readiness, and continued research.

Project Site GHG Emissions

Current sources of on-site GHG emissions are associated with vehicle use, energy use, water use, area sources (landscaping and other equipment use, stoves and fireplaces) and waste disposal practices of existing land uses. The project site is presently occupied primarily by agricultural uses, with single-family homes scattered throughout the 608 acres at very low density.

Given the types of agricultural operations on-site (i.e., mostly orchard crops, some row crops, no livestock, or rice cultivation), current emissions of GHGs are mostly associated with off-road agricultural vehicles such as mowers, sprayers, tractors, balers, and tillers. Smaller amounts of GHGs are associated with fertilizer application and soil management. Conservatively, the agricultural emissions were not reported for on-site existing sources and uses due to the difficulty in securing reliable data.

Emissions due to the existing residential uses were quantified for year 2008, as shown in Table 3.1-2.

**TABLE 3.1-2
ANNUAL ESTIMATED GHG EMISSIONS
FOR EXISTING USES**

Project Emission Sources	2008 Existing Emissions (MTCO ₂ E)
Construction	--
Vehicles	392.54
Energy Use	95.26
Area Sources	52.70
Water Use	11.49
Solid Waste	11.75
TOTAL	563.74

SOURCE: Appendix O, Table 6.

Regulatory Framework

The following is a summary of the most applicable aspects of the regulatory framework concerning global climate change and GHG emissions. Additional details are included in Appendix O.

Federal

U.S. EPA Authority to Regulate GHGs

In *Massachusetts v. Environmental Protection Agency* (2007) 549 U.S. 497, the U.S. Supreme Court held that the U.S. Environmental Protection Agency (U.S. EPA) has

authority under the Clean Air Act to regulate CO₂ emissions if those emissions pose an endangerment to the public health or welfare.

In 2009, the U.S. 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 GHG emissions. These findings provide the basis for adopting national regulations to mandate GHG emission reductions under the Clean Air Act.

To date, the U.S. EPA has exercised its authority to regulate mobile sources that reduce GHG emissions via the control of vehicle manufacturers, as discussed immediately below.

Corporate Average Fuel Economy Standards

The federal Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the U.S. While the standards had not changed since 1990, as part of the Energy and Security Act of 2007, the CAFE standards were increased for new light-duty vehicles to achieve the equivalent of 35 miles per gallon (mpg) by 2020. Most recently, in October 2012, the U.S. EPA and National Highway Traffic Safety Administration (NHTSA) issued a final rule for new light-duty vehicles for model years 2017 to 2025 to achieve an equivalent of 54.5 mpg. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the U.S. EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO₂ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the U.S. EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines.¹

Energy Independence and Security Act

The Energy Independence and Security Act of 2007 facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy

¹The emission reductions attributable to the regulations for medium- and heavy-duty trucks were not included in the project’s emissions inventory due to the difficulty in quantifying the reductions. Excluding these reductions results in a more conservative (i.e., higher) estimate of emissions for the project.

conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;

- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the U.S. EPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

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

State

Executive Order S-3-05 2010, 2020 and 2050 Statewide GHG Emission Goals

This 2005 Executive Order (EO) proclaims that California is vulnerable to the impacts of global climate change, including increased temperatures that could reduce the Sierra Nevada’s snowpack, further exacerbate California’s air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established the following GHG emission reduction goals for the state of California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels;
- by 2050, reduce GHG emissions to 80 percent below 1990 levels.

This EO also directed the secretary of the California Environmental Protection Agency to oversee the efforts made to reach these goals, and to prepare biannual reports on the progress made toward meeting the goals and on the impacts to California related to global warming. The first such Climate Action Team Assessment Report was produced in March 2006 and has been updated every two years thereafter.

Of note, in adopting Assembly Bill 32, discussed below, the Legislature did not adopt the 2050 horizon-year goal from the EO; and, in the last legislative session, the Legislature rejected legislation to enact the EO’s 2050 goal.²

²See *Cleveland National Forest Foundation v. SANDAG* (2014) 231 Cal.App.4th 1056, 1096 (California Supreme Court, granted review on March 11, 2015); *Professional Engineers in Cal. Government v. Schwarzenegger* (2010) 50 Cal.4th 989, 1015; and see OPR, *Guide to the California State Executive Branch* (Oct. 2004), p. 8.

Assembly Bill 32 - California Global Warming Solutions Act of 2006

In response to EO S-3-05, the California Legislature passed Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, and thereby enacted Sections 38500–38599 of the California Health and Safety Code. The heart of AB 32 is its requirement that CARB establish an emissions cap and adopt rules and regulations that reduce statewide GHG emissions to 1990 levels by 2020. AB 32 also required CARB to adopt a plan by January 1, 2009 indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

2008 Scoping Plan and 2014 First Update

As directed by AB 32, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change (Scoping Plan)*, which identifies the main strategies California will implement to achieve the GHG reductions necessary to reduce forecasted business as usual (BAU) emissions in 2020 to the state's historic 1990 emissions level.

In 2008, as part of its adoption of the *Scoping Plan*, CARB estimated that annual statewide GHG emissions were 427 MMTCO₂E in 1990 and would reach 596 MMTCO₂E by 2020 under a BAU condition. To achieve the mandate of AB 32, CARB determined that a 169 MMTCO₂E (or approximately 28.5 percent) reduction in BAU emissions was needed by 2020. (The 2020 emissions estimate used in the *Scoping Plan* was developed using pre-recession data and reflects GHG emissions expected to occur in the absence of any reduction measures in 2010.)

In 2011, CARB revised its 2020 BAU projections to account for the economic downturn and to account for laws that had taken affect but were not included in the 2008 calculations. With respect to the new economic data alone, CARB determined that the economic downturn reduced the 2020 BAU by 55 MMTCO₂E; as a result, achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 percent (not 28.5) from the 2020 BAU. Further, CARB determined that implementation of Pavley I and the Initial RPS (as defined below) accounted for reductions of 26 MMTCO₂E and 12 MMTCO₂E, respectively; as a result, achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 15.8 percent (not 28.5). Given the refined 2020 forecast of 507 MMTCO₂E per year, CARB determined statewide GHG emissions would need to be reduced by 80 MMTCO₂E (or 15.8 percent of 507 MMTCO₂E) by 2020 in order to reach the 1990 emission levels per AB 32. The updated emissions projections and targets were incorporated into the *Scoping Plan* that was approved in 2011.

Most recently, in 2014, CARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework (First Update)*.³ The stated purpose of the *First Update* is to “highlight[] California’s success to date in reducing its GHG emissions and lay[] the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050.”⁴ The *First Update* found

³Health & Safety Code section 38561(h) requires CARB to update the *Scoping Plan* every five years.

⁴CARB, *First Update*, p. 4, May 2014.

that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the State realizes the expected benefits of existing policy goals.⁵

In conjunction with the *First Update*, CARB identified “six key focus areas comprising major components of the state’s economy to evaluate and describe the larger transformative actions that will be needed to meet the state’s more expansive emission reduction needs by 2050.”⁶ Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The *First Update* identifies key recommended actions for each sector that will facilitate achievement of the 2050 reduction goal.

Based on CARB’s research efforts, it has a “strong sense of the mix of technologies needed to reduce emissions through 2050.”⁷ Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

As part of the *First Update*, CARB recalculated the state’s 1990 emissions level using more recent global warming potentials identified by the Intergovernmental Panel on Climate Change. Using the recalculated 1990 emissions level and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15 percent (instead of 28.5 or 15.8 percent) from the BAU conditions.

The *First Update* included a strong recommendation from CARB for setting a mid-term statewide GHG emissions reduction target. CARB specifically recommended that the mid-term target be consistent with: (i) the United States’ pledge to reduce emissions 42 percent below 2005 levels (which translates to a 35 percent reduction from 1990 levels in California); and (ii) the long-term policy goal of reducing emissions to 80 percent below 1990 levels by 2050. However, to date, there is no legislative authorization for a post-2020 GHG reduction target, and CARB has not established such a target.

The *First Update* discusses new residential and commercial building energy efficiency improvements, specifically identifying progress towards zero net energy buildings by 2020 for residential buildings and 2030 for commercial buildings, as an element of meeting mid-term and long-term GHG reduction goals. The *First Update* expresses CARB’s commitment to working with the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) to facilitate further achievements in building energy efficiency.

⁵CARB, *First Update*, p. 34, May 2014.

⁶CARB, *First Update*, p. 6, May 2014.

⁷CARB, *First Update*, p. 32, May 2014.

The original 2008 *Scoping Plan* and the 2014 *First Update* represent important milestones in California's efforts to reduce GHG emissions statewide. The law also requires the *Scoping Plan* to be updated every five years. The *Scoping Plan* process, as stated, is also thorough and encourages public input and participation.

For example, the original *Scoping Plan* (2008) was introduced through four workshops held between November 2007 and April 2008. A draft *Scoping Plan* was released for public review and comment in June 2008, followed by more workshops in July and August 2008. The proposed *Scoping Plan* was released in October 2008 and considered at the Board's December 2008 hearing. In August 2011, after litigation, the initial *Scoping Plan* was re-approved by the Board, and was supported by the Final Supplement to the Scoping Plan Functional Equivalent Document.

In June 2013, CARB held a kick-off public workshop in Sacramento to discuss the development of the *First Update* to the 2008 Scoping Plan, public process, and overall schedule. In July 2013, subsequent regional workshops were held, which provided forums to discuss region-specific issues, concerns, and priorities. In addition, CARB accepted and considered informal stakeholder comments and reconvened the Environmental Justice Advisory Committee to advise and provide recommendations on the development of the *First Update*. In October 2013, CARB released a discussion draft of the update for public review and comment; held a public workshop on the *First Update*; and provided an update to the Board. In addition, over 115 comment letters were submitted on the discussion draft. In February 2014, CARB released the draft proposed *First Update*, and held a Board meeting discussion that included opportunities for stakeholder feedback and public comment. In March 2014, CARB released the Appendix F Environmental Analysis, including the 45-day public comment notice, the Appendix B Status of Scoping Plan Measures, and the Appendix C Focus Group Working Papers. In May 2014, CARB released the *First Update* and staff's written responses to comments received on the draft and final environmental assessments; the Board also approved the *First Update*, along with the finalized environmental documents.

Senate Bill 375 – 2008 Sustainable Communities and Climate Protection Act

Senate Bill (SB) 375, the 2008 Sustainable Communities and Climate Protection Act, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's Regional Transportation Plan (RTP).

SANDAG is the San Diego region's MPO. SANDAG completed and adopted its 2050 RTP/SCS in October 2011, the first such plan in the state that included a SCS. CARB's targets for the SANDAG region call for a 7 percent reduction in GHG emissions per capita from automobiles and light duty trucks compared to 2005 levels by 2020, and a 13 percent reduction by 2035. (The reduction targets are to be updated every eight years, but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets.) As stated by SANDAG, the

strategy set forth in the 2050 RTP/SCS is to “focus housing and job growth in the urbanized areas where there is existing and planned infrastructure, protect sensitive habitat and open space, invest in a network that gives residents and workers transportation options that reduce GHG emissions, promote equity for all, and implement the plan through incentives and collaboration.” In November 2011, CARB - by resolution – accepted SANDAG’s GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB’s 2020 and 2035 GHG emission reduction targets for the region.

After SANDAG’s 2050 RTP/SCS was adopted, a lawsuit was filed by the Cleveland National Forest Foundation and others. On November 24, 2014, and after recirculation of the project’s Draft EIR, Division One of the Fourth District Court of Appeal issued its decision in *Cleveland National Forest Foundation v. SANDAG*, Case No. D063288. In its decision, the Fourth District affirmed the trial court decision that SANDAG abused its discretion when it certified the EIR for the 2050 RTP/SCS because it did not adequately analyze and mitigate GHG emission levels after year 2020. The 2050 RTP/SCS EIR complied with CARB’s AB 32-related GHG reduction target through 2020, but the EIR found that plan-related emissions would substantially increase after 2020 and through 2050. The majority of the Fourth District in the *Cleveland National* decision found SANDAG’s EIR deficient because, although the EIR used three significance thresholds authorized by CEQA Guidelines section 15064.4(b), it did not assess the 2050 RTP/SCS’s consistency with the 2050 GHG emissions goal identified in EO S-03-05, which the majority construed as “state climate policy.” The Fourth District did not require the set aside of SANDAG’s 2050 RTP/SCS itself. In March 2015, the California Supreme Court granted SANDAG’s petition for review of the Fourth District’s decision (Case No. S223603), and the matter currently is pending before the state’s highest court.

Pursuant to Government Code Section 65080(b)(2)(K), a sustainable communities strategy does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a city’s or county’s land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.⁸

Executive Order B-30-15 – 2030 Statewide GHG Emission Goal

This EO, issued on April 29, 2015, established an interim GHG emission reduction goal for the state of California: by 2030, reduce GHG emissions to 40 percent below 1990 levels. This EO also directed all state agencies with jurisdiction over GHG-emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05 (see discussion above). Additionally, the EO directed CARB to update its AB 32-mandated Scoping Plan (see discussion above) to address the 2030 goal. Therefore, in the coming months, CARB is expected to develop statewide inventory projection data for 2030, as well as commence its efforts to identify reduction strategies capable of securing emission reductions that allow for achievement of the EO’s new interim goal.

⁸CARB, *First Update*, p. ES-4, May 2014. See also Gov. Code, § 65080(b).

Other GHG Reduction Strategies

The majority of the *Scoping Plan's* GHG reduction strategies are directed at the two sectors with the largest GHG emissions contributions: transportation and electricity generation. The GHG reduction strategies for these sectors involve statutory mandates affecting vehicle or fuel manufacture, public transit, and public utilities. The reduction strategies employed by CARB are designed to reduce emissions from existing sources as well as future sources. The most relevant are outlined in the following sections.

AB 1493 - Light-duty Vehicle GHG Emissions Standards

AB 1493 enacted July 2002, directed CARB to adopt vehicle standards that lowered GHG emissions from passenger vehicles and light-duty trucks to the maximum extent technologically feasible, beginning with the 2009 model year. CARB adopted these regulations (termed "Pavley I") as a discrete early action measure pursuant to AB 32, and estimates that full implementation of Pavley I will reduce GHG emissions from California passenger vehicles by about 26 MMTCO₂E.

CARB has also adopted a second phase of the Pavley regulations, originally termed "Pavley II" but now called the Low Emission Vehicle III" (LEV III) Standards or Advanced Clean Cars (ACC) Program, that covers model years 2017 to 2025. CARB estimates that LEV III will reduce vehicle GHGs by an additional 4.0 MMTCO₂E for a 2.4 percent reduction over Pavley I. These reductions come from improved vehicle technologies such as smaller engines with superchargers, continuously variable transmissions, and hybrid electric drives. On August 7, 2012, the final regulation for the adoption of LEV III became effective.

It is expected that Pavley I and LEV III regulations will reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016, while improving fuel efficiency and reducing motorists' costs (CARB 2013).

Low Carbon Fuel Standard

An executive order (EO S-01-07) signed in 2007 directed that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through a Low Carbon Fuel Standard (LCFS).

CARB adopted the LCFS as a discrete early action measure pursuant to AB 32 in April 2009. The LCFS is a performance standard with flexible compliance mechanisms intended to incentivize the development of a diverse set of clean low-carbon transportation fuel options. Its aim is to accelerate the availability and diversity of low-carbon fuels such as biofuels, electricity, and hydrogen by taking into consideration the full life cycle of GHG emissions.

In 2013, an ethanol company obtained a court order compelling CARB to remedy substantive and procedural defects under CEQA of the LCFS adoption process.⁹ However, the court allowed implementation of the LCFS to continue pending correction

⁹*POET, LLC v. CARB* (2013) 217 Cal.App.4th 1214.

of the identified defects. Consequently, this analysis assumes that the LCFS will remain in effect during construction and operation of the project.

Renewables Portfolio Standard

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "Initial RPS"), the goal has been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, SB 2 (1X) codified California's 33 percent RPS goal.¹⁰ Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.

The RPS is included in the *Scoping Plan's* list of GHG reduction measures to reduce energy sector emissions. It is designed to accelerate the transformation of the electricity sector through such means as investment in the energy transmission infrastructure and systems to allow integration of large quantities of intermittent wind and solar generation. Increased use of renewables would decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector. In 2008, as part of the *Scoping Plan*, CARB estimated that full achievement of the RPS would decrease statewide GHG emissions by 21.3 MMTCO₂E. In 2011, CARB revised this number upwards to 24.0 MMTCO₂E.

Tire Pressure Program

CARB's Tire Pressure Regulation took effect in September 2010. The purpose of this regulation is to reduce GHG emissions from vehicles operating with under inflated tires by inflating them to the recommended tire pressure rating. Automotive service providers must meet the regulation's following requirements:

- Check and inflate each vehicle's tires to the recommended tire pressure rating, with air or nitrogen, as appropriate, at the time of performing any automotive maintenance or repair service.
- Indicate on the vehicle service invoice that a tire inflation service was completed and the tire pressure measurements after the service were performed.
- Perform the tire pressure service using a tire pressure gauge with a total permissible error no greater than + two pounds per square inch.
- Have access to a tire inflation reference that is current within three years of publication.

¹⁰On January 28, 2015, Assembly Member Eduardo Garcia introduced AB 197, which – if enacted – would require an electrical corporation or local publicly-owned electric utility to adopt a long-term procurement strategy to achieve a target of procuring 50 (not 33) percent of its electricity products from eligible renewable energy resources by December 31, 2030.

- Keep a copy of the service invoice for a minimum of three years, and make the vehicle service invoice available to CARB, or its authorized representative upon request.

Million Solar Roofs Program

The Million Solar Roofs Program is one of CARB's GHG-reduction measures identified in the *Scoping Plan* to reduce energy sector emissions. The Million Solar Roofs Program was created by SB 1 in 2006 and includes the CPUC's California Solar Initiative and CEC's New Solar Homes Partnership. It requires publicly owned utilities to adopt, implement, and finance solar-incentive programs to lower the cost of solar systems and help achieve the goal of installing 3,000 megawatts of new solar capacity by 2020. Achievement of the program's goal is expected to equate to a reduction of 1.1 MMTCO₂E.

Solid Waste Sources

The California Integrated Waste Management Act of 1989, as modified by AB 341, requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows: (1) diversion of 25 percent of all solid waste by January 1, 1995, through source reduction, recycling, and composting activities; (2) diversion of 50 percent of all solid waste on and after January 1, 2000; and (3) diversion of 75 percent of all solid waste on or after 2020, and annually thereafter. The California Department of Resources Recycling and Recovery (CalRecycle) is required to develop strategies, including source reduction, recycling, and composting activities, to achieve the 2020 goal.

CalRecycle published a discussion document, entitled *California's New Goal: 75 Percent Recycling*, which identified concepts that would assist the State in reaching the 75 percent goal by 2020. Subsequently, in October 2013, CalRecycle released a revised concept list, entitled *Update on AB 341 Legislative Report: Statewide Strategies to Achieve the 75 Percent Goal by 2020*.

Title 24 - California Building Code

The California Code of Regulations (CCR), Title 24, is referred to as the California Building Code, or CBC. It consists of a compilation of several distinct standards and codes related to building construction including, plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility, and so on. Of particular relevance to GHG reductions are the CBC's energy efficiency and green building standards as outlined below.

Title 24, Part 6—Energy Efficiency Standards. Title 24, Part 6, of the CCR contains the Energy Efficiency Standards or California Energy Code. The most recent version of the

Title 24, Part 6 standards is the 2013 Energy Code (2013 Title 24), which became effective on July 1, 2014.¹¹

The Energy Code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. The Energy Code is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available and incentives in the form of rebates and tax breaks are provided on a sliding scale for buildings achieving energy efficiency above the minimum standards.

The Title 24 Energy Code governs energy consumed by major building envelope systems such as space heating and cooling, ventilation, water heating, and some aspects of the fixed lighting system. Non-building energy use, "plug-in" energy use (such as appliances, equipment, electronics, and plugin lighting), are independent of building design and not subject to Title 24.

New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC. The compliance reports must demonstrate a building's energy performance through use of CEC-approved energy performance software that shows iterative increases in energy efficiency given the selection of various heating, ventilation, and air conditioning (HVAC); sealing; glazing; insulation; and other components related to the building envelope. The *Scoping Plan* includes an Energy Efficiency GHG reduction measure that, among other things, calls for increased building and appliance energy efficiency through new standards and programs. In the Scoping Plan, CARB projects that approximately 26.3 MMTCO₂E of GHGs could be reduced statewide through expanded energy efficiency programs, including updates to Title 24's energy efficiency standards.

Title 24, Part 11—California Green Building Standards. The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of commercial and low-rise residential buildings, state-owned buildings, schools, and hospitals. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory requirements and may also adopt the Green Building Standards with amendments for stricter requirements.

¹¹The CEC recently opened the public process and rulemaking proceedings for adoption of the 2016 Title 24 standards, which the CEC anticipates will be proposed for adoption in 2015 and have an effective date of January 1, 2017. In addition, as discussed later in this section, the CEC, in conjunction with the CPUC, has adopted a goal that all new residential and commercial construction achieve zero net energy by 2020 and 2030, respectively. See e.g., CPUC, *California's Zero Net Energy Policies and Initiatives*, Sept. 18, 2013, accessed at <http://www.cpuc.ca.gov/NR/rdonlyres/C27FC108-A1FD-4D67-AA59-7EA82011B257/0/3.pdf>. It is expected that achievement of the zero net energy goal will occur via revisions to the Title 24 standards.

The mandatory standards require:

- 20 percent mandatory reduction in indoor water use relative to specified baseline levels;
- 50 percent construction/demolition waste diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Requirements for low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards.

The voluntary standards require:

- Tier I—15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, cool/solar reflective roof; and
- Tier II—30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, cool/solar reflective roof.

Similar to the compliance reporting procedure described above for demonstrating energy code compliance in new buildings and major renovations, compliance with the CALGreen water reduction requirements must be demonstrated through completion of water use reporting forms for new low-rise residential and non-residential buildings. The water use compliance form must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CALGreen or a reduced per-plumbing-fixture water use rate.

The *Scoping Plan* also includes a Green Building Strategy with the goal of expanding the use of green building practices to reduce the carbon footprint of new and existing buildings. Consistent with CALGreen, the *Scoping Plan* recognized that GHG reductions would be achieved through buildings that exceed minimum energy-efficiency standards, decrease consumption of potable water, reduce solid waste during construction and operation, and incorporate sustainable materials. Green building is thus a vehicle to achieve the *Scoping Plan's* statewide electricity and natural gas efficiency targets, and lower GHG emissions from waste and water transport sectors.

In the *Scoping Plan*, CARB projects that an additional 26 MMTCO₂E could be reduced through expanded green building. However, this reduction is not counted toward the BAU 2020 reduction goal to avoid any double counting, as most of these reductions are accounted for in the electricity, waste, and water sectors. Because of this, CARB has assigned all emissions reductions that occur because of green building strategies to other sectors for meeting AB 32 requirements, but will continue to evaluate and refine the emissions from this sector.

The 2013 CALGreen went into effect on January 1, 2014; however, affected energy provisions of the 2013 CALGreen, Part 11, Title 24 were not implemented until July 1, 2014.

Local (County of San Diego)

General Plan

The County's General Plan incorporates smart growth and land planning principles intended to reduce vehicle miles traveled, and thus a reduction of GHGs. The General Plan aims to accomplish this by locating future development within and near existing infrastructure. For a complete discussion of the project's consistency with all General Plan policies, refer to Appendix W.

Climate Action Plan

To comply with the 2011 adopted County General Plan EIR Mitigation Measure CC1.2, Preparation of a CAP, the County developed and approved the County's Climate Action Plan (CAP) in June 2012 to address issues of growth and global climate change. Specifically, the County CAP was designed to mitigate the impacts of global climate change and achieve meaningful GHG reductions by implementing goals and strategies within the County, consistent with AB 32, EO S-3-05, and to provide a mechanism that subsequent projects within the County may use as a means to address GHG impacts under CEQA.

The County CAP provides a baseline GHG inventory and BAU projections (i.e., future anticipated conditions if no CAP was implemented), leading to GHG emissions reduction targets for 2020 and 2035; and GHG reduction measures and actions for both the community and local government.

After the County's CAP was adopted, a lawsuit was filed. On October 29, 2014, and after recirculation of the project's Draft EIR, Division One of the Fourth District Court of Appeal issued its decision in *Sierra Club v. County of San Diego*, Case No. D064243, 2014 WL 6657169. In its decision, the Fourth District held that the County failed to prepare an adequate CAP, and did not to complete the environmental review required by CEQA for adoption of that CAP. In light of the litigation concerning the County's CAP, this GHG analysis does not rely on the County's CAP.

Statewide Inventory Data

CARB performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million metric tons of CO₂ equivalent (MMTCO₂E). Table 3.1-3 shows the estimated statewide GHG emissions for the years 1990, 2008, and 2012.

**TABLE 3.1-3
CALIFORNIA GHG EMISSIONS BY SECTOR IN 1990, 2008 AND 2012**

Sector	1990 ¹ Emissions in MMTCO ₂ E (% total) ²	2008 ³ Emissions in MMTCO ₂ E (% total) ²	2012 Emissions in MMTCO ₂ E (% total) ²
Sources			
Agriculture	23.4 (5%)	33.88 (7%)	37.86 (7%)
Commercial	14.4 (3%)	15.56 (3%)	14.20 (3%)
Electricity Generation	110.6 (26%)	120.14 (25%)	95.09 (19%)
High GWP	--	11.48 (2%)	18.41 (3%)
Industrial	103.0 (24%)	89.27 (18%)	89.16 (21%)
Recycling and Waste	--	6.69 (1%)	8.49 (2%)
Residential	29.7 (7%)	29.03 (6%)	28.09 (7%)
Transportation	150.7 (35%)	177.16 (37%)	167.38 (38%)
Forestry (Net CO ₂ flux) ⁴	-6.69	--	--
Not Specified	1.27	--	--
TOTAL⁴	426.6	483.22	456.68

SOURCE: Appendix O, Table 4.

¹1990 data was retrieved from the CARB 2007 source.

²Percentages may not total 100 due to rounding.

³2008 and 2014 data was retrieved from the CARB 2014a source.

⁴Reported emissions for key sectors. The inventory totals for 2008 and 2012 did not include Forestry or Not Specified sources.

As shown in Table 3.1-3, statewide GHG source emissions totaled approximately 427 MMTCO₂E in 1990, 483 MMTCO₂E in 2008, and 457 MMTCO₂E in 2012. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. While CARB has adopted multiple GHG emission reduction measures, the effect of those reductions will not be seen until around 2015. According to CARB, most of the reductions since 2008 have been driven by economic factors (recession), previous energy efficiency actions, and the renewable portfolio standard. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

The forestry sector is unique because it not only includes emissions associated with harvest, fire, and land use conversion (sources), but also includes removals of atmospheric CO₂ (sinks) by photosynthesis, which is then bound (sequestered) in plant tissues. Estimates of CO₂ uptake and GHG emissions by processes occurring on forest, range, and other land types, such as urban forests, are not included in the current inventories as new research and analyses methods are required to better understand forest sector carbon accounting and the fundamental processes associated with sequestration and emissions.

Project Design Features and Regulatory Compliance Measures

Project design features have been incorporated into the project to reduce GHG emissions, as described further below. These design features include Specific Plan policies and performance measures, as well as a compact, walkable, mixed-use project design, consistent with LU 1.2 of the Land Use Element of the General Plan. Additionally, the project must comply with regulatory compliance measures that will serve to reduce the project's GHG emissions. The following discussion identifies the

project design features and regulatory compliance measures that have been quantified and applied to the project’s GHG emissions inventory.

Specific Plan Policies and Performance Measures

The project includes a number of design features that would have the effect of reducing potential GHG emissions associated with construction, energy use, area sources, water demand, and waste disposal. These project design features are consistent with all applicable General Plan policies for reducing GHG emissions. For a complete discussion of the project’s consistency with all General Plan policies, refer to Appendix W. The benefits of these design features in reducing GHG emissions has been quantified and demonstrated in Appendix O.

1. Construction

Project-related construction activities shall use a minimum of Tier III U.S. EPA/CARB-certified construction equipment for the majority of construction equipment used, during the entire construction period.

2. Energy Conservation

The project includes the following performance measures related to energy use.

A. Exceed 2008 Title 24 energy efficiency standards by 30 percent

The project will be required to comply with the applicable Title 24, Part 6, energy efficiency standards at the time of building permit issuance. At a minimum, however, all phases of project development subject to Title 24 shall exceed the 2008 Title 24 standards by a minimum of 30 percent.

Note that the current 2013 Title 24 standards became effective on July 1, 2014. However, this project design feature references an increase in energy efficiency relative to the 2008 Title 24 standards because CalEEMod (the model used to estimate project-related GHG emissions) calculates energy emissions using the 2008 standards. The 2013 standards have been estimated to achieve an overall percent increase in residential and non-residential energy efficiencies over the 2008 standards (CEC 2013). Table 3-1.4 identifies the estimated increase in electricity and natural gas efficiencies the 2013 standards would achieve over the 2008 standards.

**TABLE 3-1.4
2013 TITLE 24 STANDARDS:
SUMMARY OF OVERALL INCREASES IN ENERGY EFFICIENCY
RELATIVE TO THE 2008 STANDARDS**

Structure	Electricity	Natural Gas
Single-Family Residential	36.4%	6.5%
Multiple-Family Residential	23.3%	3.8%
Non-Residential	21.8%	16.8%

B. Install high-efficiency lighting

The project will install high-efficiency public street and area lighting to achieve an overall minimum 15 percent lighting energy reduction. (Area lighting is defined to include any common space lighting (e.g., parks, sidewalks, landscaping) that is not regulated by the Title 24 standards).

C. Install high-efficiency appliances in residential uses

The project will install Energy Star appliances (including clothes washers, dish washers, fans, and refrigerators) in 95 percent of the single-family, mixed-use residential, and senior community residential uses. Additionally, Energy Star, or equivalent, ventilation fans would be installed in the proposed hotel.

D. Use of smart meters

Project design shall include the installation of Smart Meters. These meters provide utility customers with access to detailed energy use and cost information, pricing programs based on peak energy demand, and the ability to program home appliances and devices to respond to energy use preferences based on cost, comfort, and convenience. However, because there is no guidance available on how to reliably quantify the GHG emission reduction benefits attributable to the use of smart meters, this design feature was not incorporated into the project's GHG inventory.

E. Installation of on-site solar/photovoltaic systems

The project will install 2,000 kilowatts (kW) of on-site solar/photovoltaic systems, which are estimated to produce 3,400,000 kW hours of electricity, or approximately 22 percent of the project's total electricity needs at build-out. In order to achieve this total photovoltaic energy production volume, the project shall produce or cause to be produced renewable electricity by one of the following methods to be determined by the applicant: (1) installation of the equivalent of one photovoltaic (i.e., solar) power system no smaller than 2 kW on 500 single-family homes, and a photovoltaic power system(s) no smaller than 1,000 kW on 90,000 square feet of non-residential roof area; or (2) the installation of the equivalent of one photovoltaic (i.e., solar) power system no smaller than 2 kW on 1,000 single-family homes

The actual capacity and/or conversion efficiency of the photovoltaic panels may alter the actual number of roofs or non-residential roof space requirements to meet the annual 3,400,000 kWh requirement at project build-out.

3. Area Sources

The project includes the following performance measures related to area sources.

A. Install only natural gas (no wood) fireplaces in residential uses

All fireplaces installed in residential uses must be natural gas or equivalent non-wood burning fireplaces.

B. Electric landscaping equipment

The project requires that only electric-powered landscaping equipment be used on property managed by the homeowners' association (HOA). For purposes of this analysis, it was conservatively assumed that only 5 percent of the landscaping equipment would be electric-powered.

4. Water Conservation

The project includes the following performance measure related to water conservation that will additionally conserve energy use.

A. Reduce potable water consumption

All phases of project development shall be designed to achieve a minimum 20 percent reduction in indoor/potable water demand and a 20 percent reduction in outdoor water use.

5. Waste Diversion/Recycling

The project includes the following performance measure related to reducing solid waste disposal.

A. Reduce waste disposal/institute recycling and composting services

The project will achieve a 20 percent reduction in waste disposal, relative to the waste disposal rates identified by CalRecycle and used in CalEEMod, through the siting of an on-site recycling facility.

B. Specific Plan Siting and Design Measures

In addition to the above performance measures, the design, mix of uses, and mobility network of the project have the effect of reducing potential GHG emissions associated with vehicle use. The benefits of these project design aspects in reducing vehicle miles traveled and GHG emissions have been quantified and demonstrated in the vehicle emissions discussion in Appendix O.

6. Vehicle Miles Traveled

The project Specific Plan includes the following locational design features related to a 5.9 percent reduction in vehicle miles traveled. Please see Appendix O for more details on this calculation.

A. Mixed-use development

The project proposes to provide residential and resident-serving commercial and civic uses in a pedestrian-oriented mixed-use community where one does not currently exist. The non-residential uses include neighborhood-serving retail and restaurant uses, an elementary/middle school, church site,

recreation center, neighborhood park, and a recycling center. All of these uses are to be provided within one-half mile of residential uses.

B. Walking and biking opportunities

The project proposes to provide a network of pedestrian and bicycle paths, in a complete and interconnected network, where currently there are very limited bicycling and pedestrian facilities.

C. Existing Regulations

In addition to the Specific Plan policies, performance measures, and project design features, the project's GHG emissions would be reduced as a result of several existing statewide regulations: Pavley I and II (the latter of which also is sometimes referred to as LEV III or ACC), the LCFS, the RPS, and the Tire Pressure Program. These regulations mandate improved vehicle engine design and low-carbon vehicle fuels that will reduce GHG emissions associated with newer model vehicles, while the RPS promotes diversification of the state's electricity supply and decrease reliance on fossil fuel energy sources. The benefits of these regulations in reducing the project's vehicle and energy GHG emissions have been quantified and demonstrated in the vehicle and energy emissions discussion in Appendix O.

3.1.2.2 Analysis of Project Impacts and Determination of Significance

Appendix G Guidelines for Determination of Significance

A significant global climate change impact would occur if implementation of the proposed project would do the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.¹²

Rationale for Selection of Guidelines

The significance criteria for global climate change are based on Appendix G of the CEQA Guidelines. The first criterion requires evaluation of whether the project's GHG emissions would significantly impact the environment either directly or indirectly, while the second criterion requires evaluation of the Project's potential to conflict with any applicable plans, policies or regulations adopted to reduce GHG emissions.

¹²An assessment of the project's potential to conflict with applicable goals and policies of the County's General Plan Update, including those relating to global climate change and GHG emissions, is provided in Appendix W of this EIR.

It also should be mentioned that, in the context of CEQA, “GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.”¹³

Methodologies

To evaluate the project’s significance relative to the two significance criteria identified above, seven different methodologies are used. Methodology 1 discloses the increase in GHG emissions due to project implementation with respect to existing conditions. Methodologies 2 through 4 provide a quantitative analysis of the project’s consistency with AB 32, and each of those three methodologies provides a separate and independent ground for the AB 32-related significance determination. Methodologies 5 and 6 provide a qualitative analysis of the project’s compliance with applicable plans and policies for reduction of GHG emissions. In accordance with CEQA Guidelines sections 15064.4(b)(1) and 15125(a), this section:

- (1) Identifies the numeric incremental increase in GHG emissions attributable to the project, compared to GHG emissions resulting from on-site existing conditions.

In accordance with CEQA Guidelines section 15064.4(b)(2)-(3), this section analyzes the project’s consistency with AB 32. Utilization of AB 32 (and specifically Health & Safety Code section 38550) as a benchmark for determining the significance of the Project’s GHG emissions for purposes of CEQA has been affirmed by California courts (e.g., *Friends of Oroville v. City of Oroville* (2013) 219 Cal.App.4th 832; *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal.App.4th 327). In order to assess consistency with AB 32, the analysis considers:

- (2) The County’s *2015 GHG Guidance*, which requires at least a 16 percent reduction from the “unmitigated” condition for impacts to be less than significant;
- (3) The Sacramento Metropolitan Air Quality Management District’s *CEQA Guide*, which requires at least a 21.7 percent reduction from the “no action taken” (NAT) condition for impacts to be less than significant;¹⁴ and
- (4) CARB’s *2008 Scoping Plan*, which identifies a 28.5 percent reduction from the 2020 BAU condition as necessary for California to achieve the GHG emissions reduction mandate of AB 32.¹⁵

¹³CAPCOA, *CEQA & Climate Change*, p. 35, January 2008. See also SMAQMD, *CEQA Guide*, p. 6-1, November 2014 [SMAQMD has concluded that “from the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative”]; SJVAPCD, *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA*, p. 4, December 17, 2009 [SJVAPCD has concluded that the “effects of project specific GHG emissions are cumulative”].

¹⁴SMAQMD, *CEQA Guide*, p. 6-12, November 2014 [SMAQMD’s guidance “provides that a 21.7 percent reduction of GHG emissions is adequate mitigation and shows consistency with AB 32 and [CARB] Scoping Plan GHG reduction goals”].

In accordance with CEQA Guidelines Section 15064.4(b)(3), this section:

- (5) Analyzes the project's consistency with the County of San Diego's General Plan Goals and Policies intended to reduce GHG emissions;
- (6) Analyzes the project's consistency with SB 375, including SANDAG's 2050 RTP/SCS; and
- (7) Evaluates whether the project's post-buildout GHG emissions trajectory would impede the attainment of the 2030 and 2050 GHG reduction goal identified in EO B-30-15 and EO S-3-05, respectively.

Rationale for Selection of Methodologies

Methodology 1 discloses the extent to which the project may increase GHG emissions as compared to the existing environmental setting, which is identified as a factor that the lead agency should consider pursuant to CEQA Guidelines section 15064.4(b)(1).

Methodologies 2 and 3 compare the proposed project's reduction in CO₂e emissions to percentage reductions targets identified by the County of San Diego and SMAQMD via reference to CARB's August 2011 Final Supplement to the *Scoping Plan*. Utilization of these percentage reduction targets allows the analysis to consider whether the project would impede attainment of AB 32's emissions reduction mandate that the state return to its 1990 emissions level by 2020, which remains the only legislatively mandated statewide mandate. (Neither the County nor SMAQMD utilize the lower 15 percent reduction target identified in CARB's *First Update* because that target is based on the latest GWPs developed by the Intergovernmental Panel on Climate Change; and, those GWPs have not been integrated into the GHG modeling tools used in this analysis (i.e., CalEEMod).)

Methodology 4 compares the proposed project's reduction in CO₂e emissions to the percentage reduction target identified by CARB in its 2008 *Scoping Plan* as necessary to allow for achievement of AB 32's emissions reduction mandate, as described above relative to Methodologies 2 and 3. Utilization of the 2008 *Scoping Plan*'s percentage reduction target is conservative as CARB has recently updated its analysis (see the *First Update*) and determined that a 15 percent (not the 28.5 percent reduction identified in the *Scoping Plan*) is required in the statewide emissions level to achieve the mandate of AB 32.

Methodology 5 considers the Project's potential to conflict with an applicable plan — the County of San Diego's General Plan— as that planning document contains various

¹⁵See also SJVAPCD, *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA*, p. 4, December 17, 2009 [SJVAPCD's guidance provides that, "in order to be determined to have a less than significant individual and cumulative impact on global climate changes, such projects must be determined to have reduced or mitigated GHG emissions by 29%, consistent with GHG emission reduction targets established in [CARB's] AB 32 Scoping Plan"].

goals, policies and objectives related to the reduction of GHG emissions and global climate change.

Methodology 6 considers the project's potential to conflict with an applicable plan — SANDAG's 2050 RTP/SCS — adopted for the purpose of reducing GHG emissions at the regional level from passenger vehicles pursuant to SB 375, which is identified as a factor that the lead agency should consider pursuant to CEQA Guidelines section 15064.4(b)(3).

As discussed further below, the California Supreme Court currently is considering whether EIRs are required to assess consistency with EOs in order to comply with CEQA.¹⁶ In an exercise of caution, Methodology 7 considers the project's potential to conflict with the interim (2030) and horizon-year (2050) statewide GHG reduction policy goals set forth in two EOs.

Modeling Program and Parameters

For purposes of evaluating the project's consistency with AB 32 (Methodologies 2 through 4), the project's GHG emissions in 2020 were estimated using CalEEMod for the following sources: (1) construction activity; (2) vehicle use; (3) energy use (electricity and natural gas); (4) area sources (fireplaces and landscaping equipment); (5) water use; and, (6) solid waste. While full build-out of the project would likely occur after 2020, the year 2020 was used for modeling full build-out emissions in order to analyze the worst case scenario and highest project emissions as emissions in future years would be lower.

Table 3.1-5 provides a detailed overview of the different modeling assumptions utilized to assess the significance of the project's GHG emissions relative to Methodologies 2 through 4 described above. Reference to Appendix O, including should be made for further information on the technical parameters of the analysis.

For purposes of evaluating the project's potential to conflict with two Executive Orders that identify statewide GHG reduction goals for 2030 and 2050 (Methodology 7), a mobile source (i.e., vehicles) emissions model released by CARB in December 2014 was used to estimate project-related vehicle emissions in 2030 and 2050. Additional modeling adjustments also were made to energy use and solid waste assumptions that are described below.

¹⁶See case information webpage for California Supreme Court's consideration of *Cleveland Nat'l Forest Foundation v. SANDAG* (Case No. S223603), available at http://appellatecases.courtinfo.ca.gov/search/case/mainCaseScreen.cfm?dist=0&doc_id=2096944&doc_no=S223603 and accessed May 29, 2015.

**TABLE 3.1-5
COMPARISON OF ASSESSMENT METHODOLOGIES**

Source	County 2015 GHG Guidance		SMAQMD CEQA Guide		2008 Scoping Plan Method	
	“Unmitigated”	“Mitigated”	NAT Scenario	Proposed Project	BAU Condition	Proposed Project
<u>Construction</u>	<u>Construction emissions amortized over 20 years and added to operational emissions.</u>	<u>Same as the “Unmitigated” project.</u>	<u>Construction emissions are amortized over a 25-year life time for non-residential and a 40-year life time for residential. Construction emissions are assessed separately from operation emissions and are not considered in the 2020 or any other future emission scenarios.</u>	<u>Same as the NAT scenario.</u>	<u>Construction emissions amortized over 30 years and added to operational emissions.</u>	<u>Same as the BAU condition.</u>
<u>Vehicles</u>	<u>Vehicle emissions include the effects of Pavley I. CalEEMod includes the effects of Pavley I as well as LCSF. The effects of LCSF were removed from the modeling results by increasing total emissions by 10 percent.</u>	<u>Vehicle emissions account for Pavley I, LEV III, LCFS, and the Tire Pressure Program, as well as project design features such as mixed-use development and increase in walking and biking, which achieve a 5.9 percent reduction in VMT.</u>	<u>Emissions do not include the reductions provided by state regulations. SMAQMD provides detailed guidance to alter the CalEEMod emission factors for all vehicle classes to remove the effects of Pavley I and LCSF.</u>	<u>Vehicle emissions account for Pavley I, LEV III, LCFS, and the Tire Pressure Program, as well as project design features, which accounted for a 5.9 percent reduction in VMT.</u>	<u>Vehicle emissions do not include the reductions provided by state regulations. The CalEEMod user manual provides guidance to alter the CalEEMod emission factors for specific vehicle classes (light duty autos, light duty trucks, and medium duty vehicles only) to remove the effects of Pavley I and LCSF.</u>	<u>Vehicle emissions account for Pavley I, LEV III, LCFS, and the Tire Pressure Program, as well as project design features, which accounted for a 5.9 percent reduction in VMT.</u>

**TABLE 3.1-5
COMPARISON OF ASSESSMENT METHODOLOGIES
(continued)**

Source	County 2015 GHG Guidance		SMAQMD CEQA Guide		2008 Scoping Plan Method	
	“Unmitigated”	“Mitigated”	NAT Scenario	Proposed Project	BAU Condition	Proposed Project
Energy	<u>The “unmitigated” project includes Title 24 2008, Part 6 standards. Additionally, a 14.7 percent reduction in electricity-related emissions is applied to account for the GHG emission factors reported in 2006 by SDG&E and the 20 percent reported in 2010.</u>	<u>Energy emissions include increased energy efficiency (30 percent over 2008 Title 24, Part 6 standards.) An additional 13 percent reduction of “unmitigated” electricity-related emissions to account for the difference between the 20 percent RPS in 2010 and the final requirement of RPS in 2020 of 33 percent. Energy emissions also take into account the solar photovoltaic systems, and Energy Star appliances.</u>	<u>The NAT emissions account only for state laws in effect in 2006. Thus, energy emissions are based on 2005 Title 24, Part 6 standards. No change was applied to energy intensity factors in accordance with the SMAQMD CEQA Guide.</u>	<u>Project energy emissions include the increase in energy efficiency by 30 percent over Title 24 2008, Part 6 standards, the solar photovoltaic systems, Energy Star appliances. Additionally, to account for the effects of RPS, SDG&E energy intensity factors are recalculated following SMAQMD CEQA Guide guidance.</u>	<u>Energy emissions are based on 2005 Title 24, Part 6 standards. No reductions were applied to energy emission factors.</u>	<u>Energy emissions include increased energy efficiency (30 percent over 2008 Title 24, Part 6 standards.) An additional 27.4 percent reduction over the BAU condition to account for the difference between the percent of RPS achieved in 2006 and the final requirement of RPS in 2020 of 33 percent. Energy emissions also take into account the solar photovoltaic systems, and Energy Star appliances.</u>
Area	<u>Area source emissions are calculated using a standard mix of wood-burning fireplaces as defined by SDAPCD and 180 wood-burning days per year. No fireplaces were included in the congregate care facility.</u>	<u>All parameters are the same as under the “Unmitigated” project, except all fire places are required to be natural gas. Additionally, electric landscaping equipment would be required for all HOA managed properties. For modeling purposes, this is assumed as 5 percent of all landscaping equipment.</u>	<u>Area source emissions are calculated using a standard mix of wood-burning fireplaces as defined by SDAPCD and 180 wood-burning days per year. No fireplaces were included in the congregate care facility.</u>	<u>All parameters are the same as under the NAT emissions, except all fire places are required to be natural gas. Additionally, electric landscaping equipment would be required for all HOA managed properties. For modeling purposes this is assumed as 5 percent of all landscaping equipment.</u>	<u>Area source emissions are calculated using a standard mix of wood-burning fireplaces as defined by SDAPCD and 180 wood-burning days per year. No fireplaces were included in the congregate care facility.</u>	<u>All parameters are the same as under the BAU condition, except all fire places are required to be natural gas. Additionally, electric landscaping equipment would be required for all HOA managed properties. For modeling purposes this is assumed as 5 percent of all landscaping equipment.</u>

**TABLE 3.1-5
COMPARISON OF ASSESSMENT METHODOLOGIES
(continued)**

Source	County 2015 GHG Guidance		SMAQMD CEQA Guide		2008 Scoping Plan Method	
	“Unmitigated”	“Mitigated”	NAT Scenario	Proposed Project	BAU Condition	Proposed Project
Water	<u>The “unmitigated” project is based on the state laws in effect at the time of application. Therefore, the emission estimates include the effects of RPS on water use and energy intensity.</u>	<u>Emissions include the project design feature of achieving a 20 percent reduction in indoor and outdoor water use. Additionally, the GHG emissions associated with the energy consumption used to supply the water has reduced by 13 percent to account for the remaining effects of RPS on the energy grid.</u>	<u>The NAT condition is based on state laws in effect in 2006. Thus, emissions do not include the effects of RPS beyond 5.6 percent, which was the percent reported in 2006.</u>	<u>Emissions include the project design feature of achieving a 20 percent reduction in indoor and outdoor water use. Additionally, the GHG emissions were reduced by 27.4 percent to account for the remaining effects of RPS on the energy grid since 2006.</u>	<u>The NAT condition is based on state laws in effect in 2006. Thus, emissions do not include the effects of RPS beyond 5.6 percent, which was the percent reported in 2006.</u>	<u>Emissions include the project design feature of achieving a 20 percent reduction in indoor and outdoor water use. Additionally, the GHG emissions associated with the energy consumption used to supply the water has reduced by 13 percent to account for the remaining effects of RPS on the energy grid.</u>
Solid Waste	<u>Emissions were calculated using CalEEMod default parameters, which are based on CalRecycle waste generation rates.</u>	<u>Emissions take into account a 20 percent reduction in standard waste generation rates that would result from construction of a RF and green waste drop-off center.</u>	<u>Emissions were calculated using CalEEMod default parameters, which are based on CalRecycle waste generation rates.</u>	<u>Emissions take into account a 20 percent reduction in standard waste generation rates that would result from construction of a RF and green waste drop-off center.</u>	<u>Emissions were calculated using CalEEMod default parameters, which are based on CalRecycle waste generation rates.</u>	<u>Emissions take into account a 20 percent reduction in standard waste generation rates that would result from construction of a RF and green waste drop-off center.</u>

Methodology 1: Comparison of Project Emissions to the Existing Condition

As shown in Table 3.1-6, the existing land uses emissions are calculated at 563.7 MTCO₂E in 2008, and the project emissions are quantified at 32,982.8 – 33,806.9 MTCO₂E in 2020. Therefore, the GHG emissions from the project would be greater than the existing emissions, increasing emissions on the project site over and above existing conditions by 32,419.08 – 33,243.2 MTCO₂E.

**TABLE 3.1-6
ANNUAL ESTIMATED GHG EMISSIONS
FOR EXISTING USES AND PROJECT (MTCO₂E)**

Source	Existing Emissions	County 2015 GHG Guidance		SMAQMD CEQA Guide		2008 Scoping Plan	
		2020 Project Emissions	Increase	2020 Project Emissions	Increase	2020 Project Emissions	Increase
Construction		567.1	567.1	348.0	348.0	378.1	378.1
Vehicles	392.5	22,299.4	21,906.8	22,299.4	21,906.8	22,299.4	21,906.8
Energy Use	95.3	5,443.8	5,348.6	5,437.2	5,341.9	5,443.8	5,348.6
Area	52.7	2,757.5	2,704.8	2,757.5	2,704.8	2,757.5	2,704.8
Water Use	11.5	1,766.3	1,754.8	1,515.9	1,504.4	1,766.3	1,754.8
Solid Waste	11.8	972.9	961.1	972.9	961.1	972.9	961.1
TOTAL	563.7	33,806.9	33,243.2	33,330.82	32,767.08	33,617.9	33,054.1

SOURCE: Appendix O, Table 15.

While the project would result in an obvious change to the existing GHG emissions from the project site, because climate change is occurring on a global scale, it is not meaningfully possible to quantify the scientific effect of new GHG emissions caused by a single project or whether a project’s net increase in GHG emissions, when coupled with other activities in the region, is cumulatively considerable.¹⁷ Indeed, there is no scientific or regulatory consensus regarding what particular quantity of GHG emissions is considered significant, and there remains no applicable, adopted numeric threshold for assessing the significance of a project’s emissions. Furthermore, the global scale of climate change makes it difficult to assess the significance of a single project, particularly one designed to accommodate anticipated population growth.¹⁸ Indeed,

¹⁷SMAQMD, *CEQA Guide*, pp. 6-9 to 6-10, November 2014 [the SMAQMD has “recognize[d] ... that there is no known level of emissions that determines if a single project will substantially impact overall GHG emission levels in the atmosphere”]; SJVAPCD, *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA*, p. 3, December 17, 2009 [the SJVAPCD has concluded that “existing science is inadequate to support quantification of impacts that project specific GHG emissions have on global climatic change”].

¹⁸See e.g., Council on Environmental Quality, *Revised Draft Guidance on the Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in NEPA Reviews*, p. 2, December 2014 [“Climate change is a particularly complex challenge given its global nature and inherent interrelationships among its sources, causation, mechanisms of action, and impacts ...”].

unlike criteria pollutants, GHG emissions and climate change are not localized effects, and their magnitude cannot be quantified locally.¹⁹

Also, it should be noted that “AB 32 demonstrates California’s commitment to reducing GHG emissions and the state’s associated contribution to climate change, without intent to limit population or economic growth within the state.”²⁰ As a result, there are negative policy implications arising from the utilization of a uniform numeric threshold because of its potential to conflict with projected population and economic growth. Indeed, CEQA is not a policy tool to control population or economic growth, and, the future residents and occupants of development enabled by this project would exist and live somewhere else even if this project were not approved.²¹

In summary, this numeric increase of approximately 32,419.08 – 33,243.2 MTCO₂E per year, alone, is not a sufficiently informative or reliable indicator of the significance of the project’s GHG emissions.

Methodology 2: County’s 2015 GHG Guidance (16 Percent Reduction Target)

The County’s 2015 GHG Guidance includes a screening level of 900 MTCO₂E to determine the need for additional analysis of project emissions. Because the project’s net increase in emissions would be greater than the screening level, as demonstrated by the analysis provided under Methodology 1 above, further analysis with respect to the County’s 2015 GHG Guidance is provided below.

Specifically, in accordance with the County’s 2015 GHG Guidance, this methodology considers whether the “mitigated” project, inclusive of its PDFs, would achieve a 16 percent reduction from the “unmitigated” condition whereby the project is not proposed and designed utilizing the same PDFs. As shown in Table 3.1-7, the “unmitigated” project without its PDFs would emit approximately 42,681.2 MTCO₂E per year, whereas the “mitigated” project with its PDFs would emit approximately 33,806.9 MTCO₂E per year. This amounts to a 20.8 percent reduction, which exceeds the County’s 16 percent

¹⁹See e.g., CAPCOA, *CEQA & Climate Change*, p. 22, January 22 “[U]nlike criteria pollutants where individual districts are characterized by varying levels of pollutant concentrations and source types, [GHG emissions] and their attendant climate change ramifications are a global problem and, therefore, may suggest a uniform approach to solutions that ensure both progress and equity.”]

²⁰MAQMD, *CEQA Guide*, p. 6-19, November 2014.

²¹CAPCOA, *CEQA & Climate Change*, p. 73, January 2008 “[A] land development project, such as a specific plan, does not necessarily create ‘new’ emitters of GHG, but would theoretically accommodate a greater number of residents in the state. Some of the residents that would move to the project could already be California residents, while some may be from out of state (or would ‘take the place’ of in-state residents who ‘vacate’ their current residences to move to the new project). Some also may be associated with new births over deaths (net population growth) in the state. The out-of-state residents would be contributing new emissions in a statewide context, but would not necessarily be generating new emissions in a global context.”]

reduction target. Therefore, the project's GHG emissions would be consistent with AB 32 and impacts would be less than significant.

**TABLE 3.1-7
ANNUAL ESTIMATED GHG EMISSIONS
– COUNTY 2015 GHG GUIDANCE (MTCO₂E)**

Source	"Unmitigated" Project	"Mitigated" Project 2020	Percent Reduction
Vehicles	26,845.4	22,299.4	16.9%
Energy	8,330.1	5,443.81	34.0%
Area	3,185.2	2,757.5	13.4%
Water	2,537.2	1,766.3	30.4%
Solid Waste	1,216.1	972.9	20.0%
<i>Operational Emissions</i>	<i>42,114.1</i>	<i>33,239.8</i>	<i>20.9%</i>
<i>Construction Emissions</i>	<i>567.1</i>	<i>567.1</i>	<i>0.0%</i>
TOTAL EMISSIONS	42,681.2	33,806.9	20.8%

SOURCE: Appendix O, Tables 17 & 21.

Methodology 3: SMAQMD's CEQA Guide (21.7 Percent Reduction Target)

SMAQMD's *CEQA Guide*, page 6-12, provides that a 21.7 percent reduction in GHG emissions from CARB's "no action taken" condition is substantial evidence of consistency with AB 32. As shown in Table 3.1-8, the project would emit approximately 33,330.9 MTCO₂E per year, whereas the "no action taken" condition would emit approximately 48,532.4 MTCO₂E per year. This amounts to a 31.3 percent reduction, which exceeds SMAQMD's 21.7 percent reduction target. Therefore, the project's GHG emissions would be consistent with AB 32 and impacts would be less than significant.

**TABLE 3.1-8
ANNUAL ESTIMATED GHG EMISSIONS
– SMAQMD CEQA GUIDE (MTCO₂E)**

Source	No Action Taken 2020	Project 2020	Percent Reduction
Vehicles	31,657.1	22,299.4	29.6%
Energy	9,588.3	5,437.2	43.3%
Area	3,185.2	2,757.5	13.4%
Water	2,537.7	1,515.9	40.3%
Solid Waste	1,216.1	972.9	20.0%
Construction Emissions	348.0	348.0	0.0%
TOTAL	48,532.4	33,330.9	31.3%

SOURCE: Appendix O, Tables 18 & 22.

Methodology 4: CARB's 2008 Scoping Plan (28.5 Percent Reduction Target)

CARB's 2008 *Scoping Plan* identifies that a 28.5 percent reduction in GHG emissions from the 2020 BAU condition will allow California to attain the GHG emissions reduction mandate of AB 32. As shown in Table 3.1-9, the project would emit approximately 33,617.9 MTCO₂E per year, whereas the BAU condition would emit approximately 48,030.6 MTCO₂E per year. This amounts to a 30.0 percent reduction, which exceeds

the *Scoping Plan's* 28.5 percent reduction target. Therefore, the project's GHG emissions would be consistent with AB 32 and impacts would be less than significant.

**TABLE 3.1-9
ANNUAL ESTIMATED GHG EMISSIONS
– 2008 SCOPING PLAN (MTCO₂E)**

Source	BAU 2020	Project 2020	Percent Reduction
Vehicles	31,125.3	22,299.4	29.6%
Energy	9,588.3	5,443.8	43.3%
Area	3,185.2	2,757.5	13.4%
Water	2,537.7	1,766.3	40.3%
Solid Waste	1,216.1	972.9	20.0%
<i>Operational Emissions</i>	<i>47,652.5</i>	<i>33,239.8</i>	<i>30.7%</i>
<i>Construction Emissions</i>	<i>378.1</i>	<i>378.8</i>	<i>0.0%</i>
Total Emissions	48,030.6	33,617.9	30.0%

SOURCE: Appendix O, Tables 19 & 23.

Methodology 5: County of San Diego's General Plan

A detailed compilation of the project's consistency with the applicable General Plan goals and policies is included as an attachment to the EIR (see General Plan Consistency Analysis as Appendix W). The following discussion, however, highlights the project's consistency with relevant GHG policies of the Conservation and Open Space Element.

COS-14.2 Villages and Rural Villages. Incorporate a mixture of uses within Villages and Rural Villages that encourage people to walk, bicycle, or use public transit to reduce air pollution and GHG emissions.

The project would develop Town and Neighborhood Centers with high-intensity land uses and pedestrian-oriented circulation that would be surrounded by less dense and intense land uses, accommodating future growth in a compact and sustainable footprint. Trips to Escondido or Temecula would be reduced by the project's inclusion of commercial uses on-site, including an appropriately-scaled general store planned for the Village Town Center.

COS-14.3 Require design of residential subdivisions and nonresidential development through "green" and sustainable land development practices to conserve energy, water, open space, and natural resources.

The project is designed to meet the LEED for Neighborhood Development Certification or an equivalent program, and encourages sustainability through green neighborhood practices incorporated into the project's Specific Plan or as a part of the various accompanying Tentative and Final Maps, Site Plans, Landscape Plans and EIR Technical Appendices that would be adopted as a part of the project. As previously discussed, the project also includes, among other features, a Recycling Facility and Water Reclamation Facility; use of solar energy; and, drought tolerant landscaping and state-of-the-art water conservation irrigation systems.

COS-14.4 Sustainable Technology and Projects. Require technologies and projects that contribute to the conservation of resources in a sustainable manner, that are compatible with community character, and that increase the self-sufficiency of individual communities, residents, and businesses.

The project is designed to meet the LEED for Neighborhood Development Certification or an equivalent program, and incorporates renewable on-site electricity generation, facilities for collection and separation of recyclable discards, use of recycled water, and energy conserving appliances and plumbing fixtures in homes. The project is designed to encourage non-automotive movement throughout the community including walking and bicycling for individual communities, residents, and businesses. The Town Center, school, parks, private recreation facility and institutional site all contribute to the development of a sense of community.

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.

Please see the discussion of the Specific Plan's policies and performance measures above, which highlights the project's incorporation of renewable energy and other green technologies that serve to reduce project-related GHG emissions.

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.

Construction equipment utilized during project build-out would be Tier III, or higher, except where such equipment is not commercially and feasibly available.

COS-15.1 Design and Construction of New Buildings. Require that new buildings be designed and constructed in accordance with "green building" programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHGs and toxic air contaminants.

The Specific Plan requires orderly and sensitive design, and in particular, green building design and construction that maximizes energy efficiency, minimizes air pollution, and includes substantial solid waste recycling.

COS-15.4 Title 24 Energy Standards. Require development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.

All project buildings will meet all applicable energy standards at time of building permit issuance, and — at a minimum — will exceed the 2008 Title 24 standards by 30%.

COS-16.3 Low-Emissions Vehicles and Equipment. Require County operations and encourage private development to provide incentives (such as priority parking) for the use of low- and zero-emission vehicles and equipment to improve air quality and reduce GHG emissions. [Refer also to Policy M- 9.3 (Preferred Parking) in the Mobility Element.]

The project would provide “clean air” parking spaces consistent with the County’s policies and the requirements of State law (e.g., Title 24 2013, Section 5.106.5.2, requires a percentage of parking spaces be dedicated to clean air vehicles depending on the total number of spaces provided).

COS-17.1 Reduction of Solid Waste Materials. Reduce greenhouse gas emissions and future landfill capacity needs through reduction, reuse, or recycling of all types of solid waste that is generated. Divert solid waste from landfills in compliance with State law.

The project would comply with all requirements of State law and facilitate reduction, reuse and recycling through its provision of an on-site Recycling Facility.

COS-17.6 Recycling Containers. Require that all new land development projects include space for recycling containers.

The project will include space for recycling containers in mixed-use, commercial and public use areas.

COS-19.1 Sustainable Development Practices. Require land development, building design, landscaping, and operational practices that minimize water consumption.

The project includes a comprehensive Water Conservation Plan that requires development, building design, landscaping, and operational practices that minimize water consumption. The project’s General Use and Performance Standards include constructing all new buildings to install water saving technologies that reduce water consumption by 20 percent, such as low flow showerheads and faucets, as well as high-efficiency appliances in new homes, including washers, dish washers, fans, refrigerators. A MUP for an onsite Wastewater Treatment Facility is processed concurrently with this project. Accordingly, the project would be designed with dual piping to use recycled water for irrigation of all community area landscaping. Irrigation of private yards for single family homes will be designed to support drought-tolerant vegetation. State-of-the-art irrigation controllers will be required that match water use to plant type and weather conditions.

Methodology 6: SB 375 and SANDAG’s 2050 RTP/SCS

At the regional level, SANDAG’s 2050 RTP/SCS is an applicable plan adopted for the purpose of reducing GHGs. As previously discussed, SB 375 requires the regional transportation plan for regions of the state with a MPO to adopt an SCS, as part of its regional transportation plan, to achieve certain goals for the reduction of GHG emissions from automobiles and light trucks in a region. CARB’s adopted targets for the region’s MPO, SANDAG, include a 7 percent per capita reduction in emissions by 2020 and a 13 percent per capita reduction by 2035. SANDAG’s 2050 RTP/SCS is expected to result in regional per capita GHG emission reductions of 14 percent by 2020 and 13 percent by 2035, thereby reaching the goals established by CARB. The elements of the 2050 RTP/SCS that contribute to the GHG reductions are large investments in transit, new light rail and bus rapid transit services and transportation system management. CARB issued EO G-11-114, stating its acceptance of the GHG quantification determination in the 2050 RTP/SCS, and acknowledging that the plan, if implemented, would meet the targets that CARB established for the region for 2020 and 2035.

SANDAG identified performance metrics and trends to explain and confirm the GHG reduction benefits of the 2050 RTP/SCS, while recognizing a projected increase of 400,000 new residences and 500,000 new jobs in the region. These include assumptions that 80 percent of new housing would be located within a half-mile of transit stations by 2035, and 64 percent of all housing would be within a half-mile of transit stations due to expanding transit systems. The 2050 RTP/SCS also assumed 21 percent of the new housing and 14 percent of the new jobs would not occur within the Urban Area Transit Strategy Study Area where the greatest investments in public transit are being made. While the project site was not identified for development in the 2050 RTP/SCS's 2020 and 2035 forecasted development pattern maps, the project would be in-line with the SCS GHG benefits as the project would support and/or provide a range of housing types, services and jobs in a compact pattern of development located within a half-mile (10-minute walk) from at least seven diverse neighborhood assets such as retail, services, civic facilities and jobs. This in turn, would reduce the size of required infrastructure improvements and the number and length of automobile trips. Additionally, the project trip lengths would be shorter from the project site than from within the Valley Center Community as identified in the County General Plan and SCS; specifically, the project's estimated average vehicular trip length is 7.6 miles, which is over a half-mile lower than the rest of the Valley Center community. (See subchapter 2.3 [Transportation/Traffic] and Appendix E to the EIR for additional information on the project's comparative trip lengths.)

The project also requires less roadway infrastructure because of its compact design, which locates housing in close vicinity to commercial and public services, and its location one quarter mile from a regional transportation corridor, the I-15. Of note, the 2050 RTP lists the I-15 as a Regional Transit Corridor in 2020 and 2035. The 2050 RTP increases the transit role of the I-15, and lists the I-15 as a High Quality Transit Corridor in 2050, which is defined to have major transit stops with 15-minute peak period services.

Based on the project's emissions inventory data, the "mitigated" project would achieve a 16.9 percent reduction of vehicle emissions in 2020 and a 37.1 percent reduction in 2030, when compared to the "unmitigated" project. These vehicle emissions were modeled in CalEEMod for the proposed project's land uses and includes the same vehicles classes as those used in the SCS and to derive the SB 375 targets.

Additionally, for purposes of SB 375's underlying policy goals, it is important to recognize that the proposed project contains a balanced mix of residential, commercial, civic, recreational, and public facilities, all of which — when viewed from an integrated perspective — reduce the amount of vehicle miles traveled and corresponding GHG emissions. Specifically, the project's mix of land uses enables the project to reduce vehicle miles traveled by approximately 5.9 percent based on CAPCOA guidance, consistent with the policy objectives of SB 375. The project's mix of uses relatedly allows for the project to capture approximately 22 percent of all daily vehicle trips, keeping those trips on the project site. (See subchapter 2.3 [Transportation/Traffic] and Appendix E to the EIR for additional information on the project's internal trip capture rate.) Further, because the mix of land uses is coupled with an integrated pathway and trail plan, and traffic calming features, the pedestrian experience of the residents of and visitors to the proposed project will be beneficial and encourage non-vehicular travel, consistent with SB 375.

Finally, as demonstrated by Table 3.1-10, the proposed project is consistent with all applicable goals and policies of the 2050 RTP/SCS.

**TABLE 3.1-10
CONSISTENCY ANALYSIS WITH THE GOALS AND POLICY OBJECTIVES OF
SANDAG'S 2050 RTP/SCS**

Goal	Policy Objectives	Consistency Analysis
Mobility		
<p>The transportation system should provide the general public and those who move goods with convenient travel options. The system also should operate in a way that maximizes productivity. It should reduce the time it takes to travel and the costs associated with travel.</p>	<p>Tailor transportation improvements to better connect people with jobs and other activities</p>	<p><i>Consistent.</i> The project's circulation plan facilitates interconnectivity between the project's residential and nonresidential land uses, including retail, office and recreational uses.</p>
	<p>Provide convenient travel choices including transit, intercity and high speed trains, driving, ridesharing, walking, and biking</p>	<p><i>Consistent.</i> The project encourages non-vehicular modes of transportation through the inclusion of pedestrian and bike paths. The project's transportation demand management program also would provide the means, resources and incentives for carpooling and ridesharing. Finally, the project would reserve a transit site stop in the town center. (See, e.g., EIR, Table 1-3.)</p>
	<p>Preserve and expand options for regional freight movement</p>	<p><i>Not Applicable.</i> The project does not propose regional freight movement, and does not impair SANDAG's ability to preserve and expand movement options.</p>
	<p>Increase the use of transit, ridesharing, walking and biking in major corridors and communities</p>	<p><i>Consistent.</i> For all of the reasons discussed above, the project would facilitate the use of the identified non-vehicular modes of transportation in the community.</p>
	<p>Provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations</p>	<p><i>Not Applicable.</i> The project does not impair the ability of SANDAG to work with the identified jurisdictions to better connect the San Diego region with other areas.</p>

**TABLE 3.1-10
CONSISTENCY ANALYSIS WITH THE GOALS AND POLICY OBJECTIVES OF
SANDAG'S 2050 RTP/SCS**

Goal	Policy Objectives	Consistency Analysis
Reliability		
The transportation system should be reliable. Travelers should expect relatively consistent travel times, from day to day, for the same trip and mode of transportation.	Employ new technologies to make travel more reliable and convenient	<i>Not Applicable.</i> The project does not impair SANDAG's ability to employ new technologies to improve travel reliability and convenience.
	Manage the efficiency of the transportation system to improve traffic flow	<i>Not Applicable.</i> The project does not impair SANDAG's ability to manage the efficiency of the transportation system.
System Preservation and Safety		
The transportation system should be well maintained to protect the public's investments in transportation. It also is critical to ensure a safe regional transportation system.	Keep the region's transportation system in a good state of repair	<i>Consistent.</i> The project would contribute fair-share payments to significantly impacted roadway facilities to the extent required by law, so as to keep the transportation system in a good state of repair.
	Reduce bottlenecks and increase safety by improving operations	<i>Consistent.</i> The project would contribute fair-share payments to address significant impacts relating to congestion along roadway facilities to the extent required by law.
	Improve emergency preparedness within the regional transportation system	<i>Consistent.</i> As discussed in Table 1-3 of the EIR, the project would include the adoption of an emergency evacuation plan, and the provision of educational materials.
Social Equity		
The transportation system should be designed to provide an equitable level of transportation services to all segments of the population.	Create equitable transportation opportunities for all populations regardless of age, ability, race, ethnicity, or income	<i>Consistent.</i> The project is designed to provide a range of housing and lifestyle opportunities on an equitable, non-discriminatory basis.
	Ensure access to jobs, services, and recreation for populations with fewer transportation choices	<i>Consistent.</i> The project will provide access to jobs, services and recreation on an equitable, non-discriminatory basis.
Healthy Environment		
The transportation system should promote environmental sustainability and foster efficient development patterns that optimize travel, housing, and employment choices. The system should encourage growth away from rural areas	Develop transportation improvements that respect and enhance the environment	<i>Consistent.</i> The environmental impacts of the transportation improvements proposed by the project are studied in the Draft REIR and, to the extent significant impacts have been identified, feasible mitigation has been identified.

**TABLE 3.1-10
CONSISTENCY ANALYSIS WITH THE GOALS AND POLICY OBJECTIVES OF
SANDAG'S 2050 RTP/SCS**

Goal	Policy Objectives	Consistency Analysis
and closer to existing and planned development.	Reduce greenhouse gas emission from vehicles and continue to improve air quality in the region	<i>Consistent.</i> The project's GHG emissions would not impair the State of California's ability to achieve the emissions reduction mandate established by AB 32, and would be less than significant.
	Make transportation investments that result in healthy and sustainable communities	<i>Consistent.</i> The project is designed to achieve LEED-ND certification (or equivalent), and will facilitate non-vehicular modes of transportation, thereby reducing vehicle miles traveled and emissions.
Prosperous Economy		
The transportation system should play a significant role in raising the region's standard of living.	Maximize the economic benefits of transportation investments	<i>Not Applicable.</i> The project does not impair the ability of SANDAG to maximize the benefits of its investments.
	Enhance the goods movement system to support economic prosperity	<i>Not Applicable.</i> The project does not impair the ability of SANDAG to enhance the goods movement system.

SOURCE: SANDAG, 2050 RTP/SCS, Table 2.1.

In summary, the proposed project would not conflict with the objectives of SB 375 and the 2050 RTP/SCS. Potential impacts associated with plans or policies would thus be less than significant.

Methodology 7: Executive Orders B-30-15 and S-3-05

At the state level, EOs S-3-05 and B-30-15 were issued by the state's Executive Branch for the purpose of reducing GHG emissions.

EO S-3-05's goal to reduce statewide GHG emissions to 1990 levels by 2020 was codified by the Legislature's adoption of AB 32. As analyzed above (see Methodologies 2 through 4), the project is consistent with AB 32. Therefore, the project does not conflict with that component of this EO.

EO S-3-05 also established a statewide goal to reduce GHG emissions to 80 percent below 1990 levels by 2050. This goal, however, was not codified by the Legislature. Similarly, EO B-30-15's goal to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030 is not codified by the Legislature.

Because the 2030 and 2050 goals are an expression of executive policy (and not adopted legislative or regulatory action), there is an ongoing debate regarding their relevance to and force-and-effect under CEQA. Some environmental organizations and

community groups contend that individual projects must achieve the reduction goals identified in the two EOs. However, others note that the EOs establish statewide reduction goals that cannot be achieved in a vacuum by cities and counties and individual projects within the jurisdiction of those agencies; rather, achievement of the reduction goals will depend on a coordinated effort amongst federal, state, regional and local agencies to secure emission reductions from existing and new emission sources.²² Importantly, the ongoing debate regarding the application of the EOs to CEQA is currently pending before the California Supreme Court; which is considering whether EIRs must to assess consistency with EOs in order to comply with CEQA.²³

In light of the legal uncertainty associated with the application of the EOs to CEQA, this EIR considers whether the project has the potential to conflict with the statewide GHG reduction goals articulated in the EOs. The subsequent analysis does so, but at the same time recognizes that:

- (1) The EOs establish statewide reduction goals, not project-level reduction goals;
- (2) No agency with subject matter expertise has translated these statewide goals into project-level goals;
- (3) Additional regulatory action from CARB, the state agency with expertise in the subject area, and other public agencies (primarily at the state level) will be required to facilitate achievement of the reduction goals due to the number of emission sources that are not under the direct control of local agencies (counties and cities) or project applicants;
- (4) Forecasting pursuant to CEQA Guidelines section 15144 is required in order to estimate project-related emissions 15 and 35 years from now;²⁴ and
- (5) CEQA does not demand perfection from lead agencies but good faith efforts, which is a particularly appropriate standard in this arena due to the ever-changing regulatory and scientific framework pertaining to global climate change and GHGs.

²²For example, when AB 32 was enacted, the California Legislature recognized that atmospheric GHG concentrations could only be stabilized through national and international actions, and that the state's "far-reaching effects" would result from "encouraging other states, the federal government, and other countries to act." (Health and Safety Code § 38501(d)-(e).)

²³See case information webpage for California Supreme Court's consideration of *Cleveland Nat'l Forest Foundation v. SANDAG* (Case No. S223603), available at http://appellatecases.courtinfo.ca.gov/search/case/mainCaseScreen.cfm?dist=0&doc_id=2096944&doc_no=S223603 and accessed May 29, 2015.

²⁴In accordance with CEQA Guidelines section 15144, this analysis "use[s] its best efforts to find out and disclose all it reasonably can" by relying on policy declarations and planning documents of the state's executive and legislative branches in order to forecast the project's potential emissions in future years.

In an effort to assess the project's potential to conflict with the 2030 and 2050 statewide reduction goals of the two EOs, reference is made in this analysis to the Association of Environmental Professionals' (AEP) draft whitepaper, titled *Beyond 2020: The Challenge of Greenhouse Gas Reduction Planning by Local Governments in California*. In its draft whitepaper, the AEP concluded that utilizing the EO's 2050 goal as a "de facto" significance threshold is "impractical" for cities and counties absent the California Legislature's adoption of a post-2020 GHG reduction target, as well as CARB's enactment of a plan of action (akin to the *Scoping Plan*) to achieve that target. This conclusion was rendered, in part, based on AEP's finding that "local jurisdictions cannot on their own develop feasible plans to deliver jurisdiction-level emission reduction all the way to the 2050 goal because the effort to change the economic activity and technology in use will require the action of the federal and State governments, as well as the financial ability (through market means or government funding) to implement the necessary changes."²⁵

Because of the limitations on local action identified in the draft white paper, the AEP recommended the establishment of a "substantial progress" significance criterion for purposes of CEQA, whereby the inquiry focuses on whether a project would impede substantial progress toward long-term GHG targets adopted by the Legislature. Per the AEP, a significance determination rendered pursuant to CEQA for long-term GHG targets "should be based on consistency with 'substantial progress' along a post-2020 trajectory, but should not be based on meeting the 2050 target." CEQA Guidelines section 15064.4(a)(2) affirms the discretion of lead agencies to utilize qualitative analysis when assessing the significance of a project's GHG emissions. Therefore, in lieu of delineating a precise quantitative metric for determining whether a project would impede substantial progress, the AEP recommended that the inquiry focus on "whether local action and project mitigation results in reasonable local fair-share GHG reductions over time, showing substantial progress toward the long-term State reduction [goals]."²⁶

With that framework in place, studies have shown that, in order to meet the 2050 target, aggressive technologies in the transportation and energy sectors, including electrification

²⁵ AEP, *Beyond 2020: The Challenge of Greenhouse Gas Reduction Planning by Local Governments in California*, dated March 16, 2015. This draft whitepaper is incorporated by reference and available for public review upon reasonable request to the County.

Although the AEP's draft whitepaper preceded EO B-30-15, some of the observations made in the draft whitepaper apply equally to that EO's interim 2030 goal. For example, as to the 2050 goal, the AEP noted that state action would be required to facilitate the desired emission reductions. State agency action also is required for many post-2020 emission reduction strategies identified by CARB that would allow for achievement of the 2030 goal. (See, e.g., CARB, First Update, pp. 94-99 [Table 6: Summary of Recommended Actions by Sector – note "Lead Agency" column data], May 2014.)

²⁶ Ibid. (Delineating a precise quantitative metric to demonstrate "substantial progress" is not desirable or practicable at this time because CARB has not prepared statewide GHG inventory projections for 2030 and 2050 that could be used to identify percentage reduction targets in a manner akin to CARB's 2008 Scoping Plan evaluation for AB 32 (see Methodologies 2 through 4 above).)

and the decarbonization of fuel, will be required. In its *Scoping Plan*, CARB acknowledged that the “measures needed to meet the 2050 target are too far in the future to define in detail.”²⁷ In the *First Update*, CARB generally described the type of activities required to achieve the 2050 goal: “energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately.”²⁸ Relatedly, CARB’s *First Update* “lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050,”²⁹ and many of the emission reduction strategies recommended by CARB would serve to reduce the project’s post-2020 emissions level to the extent applicable by law.³⁰

- **Energy Sector:** Continued improvements in California’s appliance and building energy efficiency programs and initiatives, such as the state’s zero net energy building goals, would serve to reduce the project’s emissions level.³¹ More specifically, the CEC currently anticipates adopting the 2016 Title 24 standards in 2015, and assigning those standards with an effective date of January 1, 2017.³² Further, both the CEC and CPUC remain committed to their goal that all new residential construction in California achieve zero net energy standards by 2020.³³

Given the phasing projections for the project, it is likely that a subsequent, more rigorous iteration of the Title 24 standards will apply to the project at the time of building permit issuance. For example, the project’s residential units likely will be subject to — at a minimum — the 2016 Title 24 standards. Additionally, it is estimated that approximately 60 to 70 percent of the project’s residential units will be constructed *after* 2020, indicating those units likely will achieve zero net energy standards to the extent required by law. The GHG emission and energy savings associated with those standards have not been quantified at this time because the savings are unknown.

²⁷CARB, *Scoping Plan*, p. 117, December 2008.

²⁸CARB, *First Update*, p. 32, May 2014.

²⁹CARB, *First Update*, p. 4, May 2014. See also *id.* at pp. 32–33 [recent studies show that achieving the 2050 goal will require that the “electricity sector will have to be essentially zero carbon; and that electricity or hydrogen will have to power much of the transportation sector, including almost all passenger vehicles”].

³⁰CARB, *First Update*, Table 6: Summary of Recommended Actions by Sector, pp. 94–99, May 2014.

³¹CARB, *First Update*, pp. 37–39, 85, May 2014.

³²See CEC, “2016 Standards Update Schedule” (April 29, 2015; available at http://www.energy.ca.gov/title24/2016standards/schedule/2016_Standards_Update_Schedule.pdf and accessed May 29, 2015).

³³See California Zero Net Energy Residential website, available at <http://www.californiaznehomes.com/#!about/cdtl> and accessed May 29, 2015.

Nevertheless, the assumption that all of the project's residential units will be constructed to achieve a 30 percent increase in efficiency over the 2008 Title 24 standards is conservative and serves to over-estimate GHG emissions in future years.

In addition to continued improvements in the state of California's building code, additions to California's renewable resource portfolio would reduce the project's emissions.³⁴ For purposes of the post-2020 analysis presented below, the emission reduction benefits of achieving a 50 percent RPS by 2030 has been quantified as a 17 percent increase over RPS in 2020.

Governor Brown's 2015 inaugural address identified the achievement of a 50 percent RPS by 2030 as one of three cornerstone goals for his continuing climate policy objectives.³⁵ Relatedly, CARB identified the expansion of California's renewable resources as an important component of the GHG reduction program outlined in its *First Update*, citing third-party studies concluding that the maximum penetration of renewable energy sources in California could be as high as 74 to 80 percent by 2050.³⁶ After Governor Brown's address, in February 2015, California Senators DeLeon and Leno introduced SB 350, which seeks to codify the goal identified by Governor Brown through a number of amendments to the Health and Safety Code referred to as the Clean Energy and Pollution Reduction Act of 2015. In summary, assuming achievement of the 50 percent RPS in 2030 pursuant to CEQA's forecasting provision is appropriate in light of Governor Brown's inclusion of its achievement within his climate policy; CARB's desire to expand renewable resources pursuant its *First Update*; the California Legislature's pending consideration of legislation that would codify the 50 percent RPS if adopted; and, the availability of studies demonstrating that achievement of the 50 percent RPS is economically and environmentally advantageous, as well as technically feasible.

- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the project's emissions level.³⁷ In addition, it is expected that these types of advancements will occur through coordinated federal (U.S. EPA and NHTSA) and state

³⁴CARB, *First Update*, pp. 40-41, May 2014.

³⁵Transcript: Governor Jerry Brown's January 5, 2015 Inaugural Address, <http://www.latimes.com/local/political/la-me-pc-brown-speech-text-20150105-story.html#page=1>, accessed May 29, 2015.

See also Strategen, "Impact Analysis: Governor Brown's 2030 Energy Goals," released on May 11, 2015, http://www.strategen.com/storagealliance/sites/default/files/White%20Papers/Strategen_2030_Governor_Goals.pdf, accessed May 29, 2015 [concludes that achievement of the 50 percent RPS is economically sound, environmentally beneficial, and achievable].

³⁶ CARB, *First Update*, Appendix C, p. 33, May 2014.

³⁷CARB, *First Update*, pp. 55-56, May 2014.

(CARB) regulatory action, as well as through roadway and transit improvements undertaken at the state, regional and local levels. Relatedly, California's Executive Branch has established a goal to cut the petroleum use in cars and trucks by half by 2030.³⁸

For purposes of the post-2020 analysis below, the new EMFAC2014 model developed by CARB has been used to quantify project-related mobile source emissions in 2030 and 2050.³⁹ That model cannot anticipate future regulatory standards that are needed to de-carbonize California's transportation system and vehicle fleet, but represents the best available information at this time.

- **Water Sector:** The project's emissions level will be reduced as a result of further desired enhancements to water conservation technologies.⁴⁰ The GHG emission savings associated with those conservation technologies have not been quantified at this time because the savings are unknown. However, for purposes of the post-2020 analysis, the effects of the RPS would affect the GHG emissions associated with the electricity used in water conveyance. Therefore, as discussed in connection with the "Energy Sector" above, the project's post-2020 emissions estimates assume an additional 17 percent reduction based on an increased RPS of 50 percent by 2030.
- **Waste Management Sector:** Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the project's emissions level.⁴¹ For purposes of the post-2020 analysis below, the emission reduction benefits of California's policy goal that not less than 75 percent of solid waste generated be source reduced, recycled or composted by the year 2020 — as expressed in Public Resources Code section 41780.01(a) — have been quantified.⁴²

³⁸Transcript: Governor Jerry Brown's January 5, 2015 Inaugural Address, <http://www.latimes.com/local/political/la-me-pc-brown-speech-text-20150105-story.html#page=1>, accessed May 29, 2015.

³⁹The EMFAC2014 model was released by CARB to the public on December 30, 2014, and "represents [CARB's] current understanding of motor vehicle travel activities and their associated emission levels." For more information on EMFAC2014, please see <http://www.arb.ca.gov/msei/categories.htm>; accessed May 29, 2015.

Additionally, for information disclosure purposes, Appendix O quantifies project-related mobile source emissions in 2030 and 2050 using CalEEMod. That information has not been repeated here because EMFAC2014 represents the most current state-of-the-art model developed by the state agency with expertise in the subject area for purposes of estimating mobile source-related GHG emissions.

⁴⁰CARB, *First Update*, p. 65, May 2014.

⁴¹CARB, *First Update*, p. 69, May 2014.

⁴²CARB, *First Update*, pp. 66-67, May 2014 ["This legislation set a clear mandate to achieve more significant waste reductions by 2020, setting a goal that 75 percent of the solid waste generated be reduced, recycled, or composed b 2020. ... Meeting the AB

A recent study shows that California's existing and proposed regulatory framework will allow the state to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 60 percent below 1990 levels by 2050. Even though this study did not provide an exact regulatory and technological roadmap to achieve the 2050 goal, it demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the study could allow the state to meet the 2050 goal.⁴³ Another recent report similarly concluded that California could achieve a 38 percent reduction in statewide GHG emissions from the 1990 levels by 2030 if the identified reduction strategies were subject to early deployment.⁴⁴

As shown above, the state's Executive Branch has expressed goals to secure reductions in GHG emissions and be at the "forefront" in efforts to reduce GHG emissions.⁴⁵ However, the course that will be charted to achieve the 2030 and 2050 statewide reduction goals is still being determined by the California Legislature and relevant regulatory agencies, most particularly CARB. Further, due to the technological shifts anticipated and the unknown parameters of the regulatory framework in 2030 and 2050, available GHG models and the corresponding technical analyses are subject to limitations for purposes of quantitatively estimating the project's emissions in 2030 and 2050.

Nonetheless, for purposes of this analysis, the project's GHG emissions in 2030 and 2050 were estimated in order to identify the emissions trend for the project in 2020, 2030 and 2050. Based on that modeling, as summarized below, the project's GHG emissions will steadily decrease with time as the state's existing and planned regulatory objectives are implemented and achieved:

- County's *2015 GHG Guidance* (Methodology 2 Calculation): Estimated project emissions in 2020 are 33,806.9 MTCO₂E; in 2030, those emissions would decrease to 27,539.9 MTCO₂E (35.5 percent reduction), and, in 2050, those emission would decrease further to 25,773.8 (39.6 percent reduction) (see Appendix O, Table 21).

341 75 percent recycling goal is the best path forward to maximizing GHG emission reductions from the Waste Management Sector and putting California on the path for even greater GHG emission reductions in the future. In the future, net zero GHG emissions are achievable in a mid-term time frame. By 2050, direct GHG emissions from waste sector activities could be reduced by 25 percent, creating a net negative GHG footprint for the waste sector."].

⁴³Greenblatt, Jeffrey, *Energy Policy*, "Modeling California Impacts on Greenhouse Gas Emissions" (*Vol. 78, pp. 158-172*).

⁴⁴Energy + Environmental Economics, "Summary of the California State Agencies' PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios" (April 6, 2015; available at https://ethree.com/documents/E3_Project_Overview_20150406.pdf and accessed May 29, 2015).

⁴⁵EO B-30-15 states that California is at the "forefront" of global and national efforts to reduce GHG emissions."

- SMAQMD's *CEQA Guide* (Methodology 3 Calculation): Estimated project emissions in 2020 are 32,982.8 MTCO₂E; in 2030, those emissions would decrease to 26,765.7 MTCO₂E (44.5 percent reduction), and, in 2050, those emission would decrease further to 24,999.6 (48.1 percent reduction) (see Appendix O, Table 22).
- CARB's 2008 *Scoping Plan* (Methodology 4 Calculation): Estimated project emissions in 2020 are 33,617.88 MTCO₂E; in 2030, those emissions would decrease to 27,123.1 MTCO₂E (43.5 percent reduction), and, in 2050, those emission would decrease further to 25,357.0 (47.2 percent reduction) (see Appendix O, Table 23).

In accordance with CEQA Guidelines section 15144, which recognizes that preparing an EIR necessarily involves some degree of forecasting, the emission reductions identified for the project in 2030 and 2050 are a result of: (i) application of CARB's EMFAC2014 model; (ii) achievement of a 50 percent RPS by 2030; and, (iii) achievement of the 75 percent solid waste diversion goal by 2030, ten years later than the 2020 target year identified by AB 341/Public Resources Code section 41780.01(a). Conservatively, no other regulatory or technological advancements (e.g., zero net energy buildings) were assumed.

Arguably, whether the project would conflict with or impede substantial progress towards the statewide reduction goals established by EO B-30-15 for 2030 and by EO S-3-05 for 2050 cannot be reasonably determined at this time because no statutes or regulations have been adopted to translate these goals into comparable, scientifically-based emission reduction targets. In other words, rendering a significance determination relative to these two EOs would be speculative because they establish goals 15 and 35 years into the future; no agency with subject matter expertise has adopted regulations to achieve these statewide goals at the project-level level; and, available models cannot presently quantify all project-related emissions in those future years.

Nonetheless, because of the ongoing controversy regarding the application of these two EOs in the context of CEQA and the strong interest in California's post-2020 climate policy, this analysis renders a determination as to whether the project would conflict with or impede substantial progress towards the statewide reduction goals established by EO B-30-15 for 2030 and by EO S-3-05 for 2050. As illustrated above, the project exceeds the percentage reduction targets identified under three separate methodologies for achievement of AB 32's 2020 reduction mandate (see Methodologies 2 through 4)⁴⁶, evidencing that the project does more than its "fair share" for purposes of 2020 and is on the right track for purposes of post-2020 emission reductions. Further, as presented in the modeling summary above the project's 2020 emissions totals represent the maximum emissions inventory for the project at full build-out, please see Appendix O for additional details. Project emissions would continue to decline from 2030 through at

⁴⁶Under Methodology 2, the project achieves a 20.8 percent reduction when only a 16 percent reduction is required; under Methodology 3, the project achieves a 31.3 percent reduction when only a 21.7 percent reduction is required; and, under Methodology 4, the project achieves a 30.0 percent reduction when only a 28.5 percent reduction is required.

least 2050 based on currently available models and regulatory forecasting. Given the reasonably anticipated and demonstrated decline in project emissions once fully constructed and operational, the project is in line with the GHG reductions needed to achieve the EOs' interim (2030) and horizon-year (2050) goals. Said differently, and consistent with the AEP's recommended criterion, the project would not impede substantial progress toward long-term GHG goals. As such, although there is some uncertainty as discussed above, the project's impacts with respect to EO B-30-15 and EO S-3-05 are expected to be less than significant.

3.1.2.3 Conclusion

As discussed above, the project's incremental increase in GHG emissions relative to the existing environmental condition is not a reliable indicator of the project's significance (Methodology 1). The project achieves the percentage reduction targets of the County's *2015 GHG Guidance*, SMAQMD's *CEQA Guide*, and CARB's *2008 Scoping Plan* and, therefore, is consistent with AB 32 (Methodologies 2 through 4). The project also would not conflict with the General Plan's Goals or Policies intended to reduce GHG emissions (Methodology 5), SB 375 or SANDAG's *2050 RTP/SCS*, the purpose of which is to secure GHG emission reductions from passenger vehicles at the regional level (Methodology 6), or EO B-30-15's interim-year (2030) goal and EO S-3-05's horizon-year (2050) goal to secure additional emission reductions at the statewide level (Methodology 7). In summary, each of the methodologies considered in this analysis demonstrates that the project's GHG emissions and impacts on global climate change would be **less than significant** with implementation of the above-identified project design features and regulatory measures.

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