Air Quality and Greenhouse Gas Emissions Analysis Technical Report for the Campo Wind Project with Boulder Brush Facilities County of San Diego, California

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~~DECEMBER 2019~~SEPTEMBER 2020

Printed on 30% post-consumer recycled material.

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
AB	Assembly Bill
ANFO	ammonium nitrate/fuel oil
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officer's Association
CARB	California Air Resources Board
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	methane
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CPUC	California Public Utilities Commission
DPM	diesel particulate matter
EIR	environmental impact report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
GHG	greenhouse gas
GWP	global warming potential
HFC	hydrofluorocarbon
HRA	health risk assessment
IPCC	Intergovernmental Panel on Climate Change
kV	kilovolts
MMT	million metric ton
MT	metric tons
MW	megawatt
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
O&M	operations and maintenance
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
PDF	project design feature

Acronym/Abbreviation	Definition
PFC	perfluorocarbon
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to 10 microns
$PM_{2.5}$	particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
ppb	parts per billion
ppm	parts per million
RAQS	Regional Air Quality Strategy
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_x	sulfur oxides
T-BACT	toxics best available control technology
TAC	toxic air contaminants
VOC	volatile organic compound

EXECUTIVE SUMMARY

The purpose of this technical report is to assess the potential air quality and greenhouse gas (GHG) emissions impacts associated with implementation of the proposed Campo Wind Project with Boulder Brush Facilities (Project). This report provides the detailed California Environmental Quality Act (CEQA) analysis of the Project in support of the Environmental Impact Report prepared by the County of San Diego (County). The Bureau of Indian Affairs is the Lead Agency for the Project under the National Environmental Policy Act and has prepared an Environmental Impact Statement (EIS) for the Project.

Project Overview

The Project consists of both the Campo Wind Facilities that would be located on land within the Campo Band of Diegueño Missions Indians Reservation (Reservation) Boundary; and the Boulder Brush Facilities that would be located on adjacent private lands under County jurisdiction, within the Boulder Brush Boundary. Collectively, the Reservation Boundary and Boulder Brush Boundary comprise the Project Area.

The Project as a whole would consist of the development, financing, construction, operation, maintenance and, ultimately the decommissioning of a renewable wind energy generation Project, except for the switchyard and incoming/outgoing connection lines components that would be owned and operated by San Diego Gas & Electric (SDG&E). The Project would consist of 60 wind turbines, three permanent meteorological towers, six temporary meteorological towers, a temporary concrete batch plant for use during construction, a temporary equipment staging and parking area for use during construction, an operations and maintenance facility, water collection and septic systems, access roads, an electrical collection and communications system, an approximately 8.5-mile-long generation transmission (gen-tie) line, a collector substation, a high-voltage substation, and a switchyard to interconnect the Project to the existing SDG&E Sunrise Powerlink.

Impact Analysis Summary

This air quality impact analysis evaluates the potential for significant adverse impacts to air quality due to Project construction and operational emissions. Impacts were evaluated for their significance, in part, based on the County's mass daily criteria air pollutant thresholds of significance (County of San Diego 2007). Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. Criteria air pollutants include ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an

aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. Pollutants that are evaluated include volatile organic compounds (VOCs), oxides of nitrogen (NO_x), CO, sulfur oxides (SO_x), PM_{10}, and $PM_{2.5}$. VOCs and NO_x are important because they are precursors to O_3.

Estimated maximum daily operational emissions generated by the Project at full build-out from area, energy, and mobile emission sources were calculated using California Emissions Estimator Model (CalEEMod) Version 2016.3.2 (CAPCOA 2017).[1] Operational year 2021 was assumed upon construction completion.

Air Quality Plan Consistency

In the County's General Plan, the land use designation for the Boulder Brush Boundary is Rural Lands 80 (RL-80) (County of San Diego 2011a). The Boulder Brush Boundary is zoned General Rural (S92) by the County of San Diego Zoning Map (County of San Diego 2017a). Minor and major impact utilities are allowed with approval of a use permit (County of San Diego 2017b). Major impact services and utilities (e.g., wind energy facilities) and minor impact utilities (e.g., electrical distribution substations) are defined under Sections 1350 and 1355 of the County Zoning Ordinance. The Boulder Brush Facilities require approval of a Major Use Permit from the County but would not require a change in land use designation or zoning. The County's General Plan and zoning do not cover land within the Reservation Boundary.

The Project would employ approximately 10 to 12 operational employees. This level of employment is well within the employment assumptions for the Boulder Brush Facilities alone; therefore, the Project would not be in exceedance of the employment assumed in the State Implementation Plan (SIP) and Regional Air Quality Strategy (RAQS). The Project would not result in regional growth that is not accounted for within the RAQS; thus, at a regional level, it is consistent with the underlying growth forecasts in the SIP and RAQS. The Project would be considered consistent with the RAQS and impacts would result in a **less-than-significant impact**.

Cumulative Impacts

With project design features (PDFs) incorporated to minimize emissions, maximum daily Project construction emissions would exceed the construction thresholds for NO_x. PDF-AQ-1 would limit VOC, CO, and NO_x emissions with implementation of Tier 4 Final off-road equipment. PDF-AQ-2 would limit fugitive dust from earthmoving activities. PDF-AQ-3 and PDF-AQ-4 would reduce emissions from blasting and rock-crushing activities. San Diego Air Pollution Control District Rule 67.0.1 would limit the VOC content of paint and other finishes used during the architectural

[1] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development projects.

coating phase through implementation of PDF-AQ-5. Mitigation measures M-AQ-1 through M-AQ-5, together with PDF-AQ-1 through PDF-AQ-5, would be implemented to reduce emissions of NO_x. With mitigation, the Project construction emissions would not exceed daily significance thresholds for any criteria air pollutant. Cumulative construction and operational emissions were found to be less than significant when considering the Project in combination with other existing and foreseeable future projects in the Project Vicinity. Following implementation of M-AQ-1 through M-AQ-5, cumulative construction emissions would be **less than significant**.

Maximum daily Project operational emissions would not exceed the operational thresholds for VOCs, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. Thus, cumulative operational impacts would be **less than significant** and no mitigation is required.

Exposure of Sensitive Receptors

Carbon Monoxide Hotspots

For California Department of Transportation facilities, LOS D or better is considered acceptable in the San Diego region. With the addition of Project traffic, the study intersections are calculated to operate acceptably at level of service (LOS) D or better during AM and PM peak hours. Therefore, the Project would not exceed the County's screening threshold and would not result in a CO hotspot and would not have the potential to result in CO emissions that when totaled with the ambient concentrations would exceed a 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm; therefore impacts would be **less than significant**.

Similarly, operation of the Project would not expose sensitive receptors to localized high concentrations of CO or contribute traffic volumes to intersections that would cause a CO hotspot. Traffic volumes and levels of service during operation would not exceed County thresholds; therefore, impacts would be **less than significant**.

Toxic Air Contaminants

During Project construction, impacts related to cancer risk and chronic hazard index from diesel particulate matter emissions, which is a toxic air contaminant (TAC), would be above the County's thresholds for cancer risk during construction activities for the Project; therefore, impacts would be potentially significant. With implementation of M-AQ-1 and PDF-AQ-1, impacts related to cancer risk and chronic hazard index would be below the County's thresholds during construction activities; therefore, impacts would be **less than significant**.

The Project does not propose any major operational sources of TAC emissions. Additionally, the Project would not be located next to a major source of TAC or high-volume roadway. As such, the

Project would not result in substantial TAC emissions that may affect nearby receptors. Impacts would be **less than significant**.

Other Emissions

Potential odors produced during Project construction would be attributable to emissions of diesel fumes and other odors typically associated with construction activities (e.g., architectural coating and asphalt paving). These odors would disperse rapidly from the Project Site and generally occur at magnitudes that would not affect substantial numbers of people. Therefore, impacts associated with odors during construction would be **less than significant**.

Also, the Project would not include land uses that are known to generate objectionable odors, such as wastewater treatment plants, landfills, or other industrial sources. Although odor impacts are unlikely, the Boulder Brush Facilities would be required to comply with the County's odor policies enforced by the San Diego Air Pollution Control District, including Rule 51, in the event a nuisance complaint occurs, and County Zoning Code Section 6318, which prohibits nuisance odors and identifies enforcement measures to reduce odor impacts to nearby receptors. Therefore, impacts associated with objectionable odors would be **less than significant**.

Greenhouse Gas Emissions Impact Analysis Summary

This GHG emissions analysis evaluates the potential for the Project to generate GHG emissions during construction and operation that may have a significant impact on the environment, and the potential for the Project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Principal GHGs regulated under state and federal law include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). GHG emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e), which accounts for the weighted global warming potential factors for CH_4 and N_2O. Estimated annual emissions generated by the Project from area, energy, mobile, solid waste, and water/wastewater emissions sources; sequestered carbon; and amortized Project construction and decommissioning emissions were calculated using CalEEMod Version 2016.3.2 (CAPCOA 2017), consistent with the San Diego Air Pollution Control District guidance.[2]

The significance criteria used to evaluate the Project's GHG emissions impacts are based on the recommendations provided in Appendix G of the CEQA Guidelines:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

[2] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development Projects.

- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Based on the 2017 Scoping Plan, this report uses a net zero threshold to determine whether the Project would generate GHG emissions that may have a significant impact on the environment. This report also examines the Project's consistency with Senate Bill (SB) X1 2, SB 350, SB 100, the County General Plan, the County's Strategic Energy Plan.

~~This report includes the Project's consistency with the County's Climate Action Plan (CAP).~~

The Boulder Brush Facilities would not require a change in land use designation or zoning within the Boulder Brush Boundary; and, therefore, would be consistent with the growth projections and land use assumptions made in the ~~CAP and the~~ County of San Diego's 2011 General Plan. When considering Project operations, the Project would produce more carbon-free energy than the emissions resulting from Project construction and operation. The Project would avoid approximately 1,756,500 MT CO_2e over its lifetime. The Project is also consistent with applicable plans, policies, and regulations adopted to reduce GHG emissions, including SB X1 2, SB 350, and SB 100, and County General Plan Strategy A-3. The Project also supports the County's Strategic Energy Plan. Moreover, for informational purposes, the Project's amortized construction emissions, loss of carbon sequestration, amortized decommissioning emissions, and operational emissions would be 929 MT CO_2e per year, or 27,878 MT CO_2e over a 30-year lifetime. Therefore, the Project would make a **less than significant** contribution to significant cumulative climate change impacts.

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1 INTRODUCTION

1.1 Report Purpose and Scope

The purpose of this technical report is to assess the potential air quality and greenhouse gas (GHG) emissions impacts associated with implementation of the Campo Wind Project with Boulder Brush Facilities (Project). This report was prepared for the County of San Diego (County) under the California Environmental Quality Act (CEQA).

This introductory chapter provides a description of the Project and the Project location. Chapter 2, Air Quality, describes the air quality–related environmental setting, regulatory setting, existing air quality conditions, thresholds of significance, and analysis methodology, and presents an air quality impact analysis. Chapter 3, Greenhouse Gas Emissions, follows the same format as Chapter 2 and similarly describes the GHG emissions-related environmental setting, regulatory setting, existing climate change conditions, thresholds, and analysis methodology, and presents a GHG emissions impact analysis. Chapter 4, References Cited, includes a list of the references cited. Chapter 5, List of Preparers, includes a list of those who prepared this technical report.

1.2 Regional and Local Setting

The Project consists of both the Campo Wind Facilities, located on land within the Campo Band of Diegueño Mission Indians Reservation (Reservation) Boundary under the jurisdiction of the Bureau of Indian Affairs, and the Boulder Brush Facilities located on adjacent private lands within the Boulder Brush Boundary under the jurisdiction of the County in southeastern San Diego County, adjacent to the community of Live Oak Springs and in the vicinity of the communities of Campo and Jacumba (see Figure 1, Project Location). Within the Reservation Boundary, the Campo Corridor extends from the Manzanita Indian Reservation boundary to the north, to 0.25 miles north of the California/Mexico international border to the south. Interstate 8 and State Route 94 cross the Reservation east to west, and Church Road connects Interstate 8 to State Route 94 on the Reservation. Old Highway 80 provides access to Live Oak Springs from Interstate 8 and State Route 94.

1.3 Project Description

The Project consists of both the Campo Wind Facilities that would be located on land within the Reservation Boundary; and the Boulder Brush Facilities that would be located on adjacent private lands under County jurisdiction, within the Boulder Brush Boundary. Collectively, the Reservation Boundary and Boulder Brush Boundary comprise the Project Area. Throughout this document, the term “On-Reservation” refers to anything within the Reservation Boundary while the term “Off-Reservation” refers to anything outside of the Reservation Boundary. The term “Project Vicinity” refers to the Project Area plus surrounding areas.

The Campo Wind Facilities, which would consist of 60 wind turbines and associated infrastructure, would be located within a corridor of approximately 2,200 acres of land (Campo Corridor) within the approximately 16,000-acre Reservation. The Boulder Brush Facilities, which would consist of the Off-Reservation gen-tie line and related facilities to connect energy generated by the Project to the existing San Diego Gas & Electric Company (SDG&E) Sunrise Powerlink, would be located within a corridor of approximately 320 acres of land (Boulder Brush Corridor) within the approximately 2,000-acre Boulder Brush Boundary. Collectively, the Campo Corridor and the Boulder Brush Corridor comprise the approximately 2,520-acre Project Site. Project disturbances associated with the construction of the Campo Wind Facilities within the Campo Corridor are expected to be approximately 800 acres, and Project disturbances associated with the construction of the Boulder Brush Facilities within the Boulder Brush Corridor are expected to be approximately 130 acres.

Land within the Boulder Brush Boundary is within the permitting jurisdiction of the County. The Boulder Brush Facilities would require approval of a Major Use Permit from the County.

The Project as a whole would consist of the development, financing, construction, operation, maintenance and, ultimately the decommissioning of a renewable wind energy generation Project, except for the switchyard and incoming/outgoing connection lines components that would be owned and operated by SDG&E. The Project would consist of 60 wind turbines, three permanent meteorological towers, six temporary meteorological towers, a temporary concrete batch plant for use during construction, a temporary equipment staging and parking area for use during construction, an operations and maintenance facility, water collection and septic systems, access roads, an electrical collection and communications system, an approximately 8.5-mile-long gen-tie line, a collector substation, a high-voltage substation, and a switchyard to interconnect the Project to the existing SDG&E Sunrise Powerlink (see Figure 2, Project Layout). The Project is anticipated to operate for the term of the Campo Lease and any renewal extension (approximately 30 years, at minimum), after which it would be decommissioned, except for the SDG&E-owned and operated switchyard and connection lines to Sunrise Powerlink, which would not be decommissioned.

Table 1 provides a summary of the components common to all build alternatives.

Table 1
Summary of Project Components

Project Component	Description
Boulder Brush Facilities	
Off-Reservation Gen-Tie Line	Approximately 3.5 miles of the approximately 8.5-mile-long, overhead 230 kV gen-tie line that would transmit the electricity from the Campo Wind Facilities to the Off-Reservation high-voltage substation and switchyard

Table 1
Summary of Project Components

Project Component	Description
High-Voltage Substation	The high-voltage substation would receive the electric energy transmitted from the Campo Wind Facilities along the 230 kV gen-tie line and convert it up to the 500 kV voltage via a 230 kV to 500 kV transformer before transmitting it onward to the adjacent switchyard.
500kV Switchyard and Connection to the Existing SDG&E Sunrise Powerlink	The switchyard would interconnect the Project to the existing Sunrise Powerlink by a ring bus design with three 500 kV breakers, a control house, and a fenced-in graveled area. The connection to the Sunrise Powerlink would be made through incoming and outgoing connection lines to be constructed by SDG&E that would effectively route the power through the ring bus, and the Project's point of interconnection would be at an open position on that same bus.
Access Roads	Where feasible, new access roads used to access the Boulder Brush Facilities within the Boulder Brush Corridor would be located in areas of prior disturbance. An approximately 3.5-mile-long and up to 30-foot-wide new paved access road from the Boulder Brush Facilities site entrance to the high-voltage substation and switchyard would be constructed. Approximately 2.6 miles of this paved access road would run parallel and adjacent to a portion of the proposed Off-Reservation gen-tie line and would also serve as access to approximately 24 Off-Reservation gen-tie line pole structures. The approximately eight remaining Off-Reservation gen-tie line pole structures would be accessed by approximately 4 miles of improved decomposed granite roads, of which 2.8 miles would be located in areas of prior disturbance.
Defensible Space (Fuel Modification Zones)	A permanent, paved access road would be constructed to provide access to the high-voltage substation and switchyard. This new paved access road would be a minimum of 20 feet in width and maximum of 30 feet in width, with 20 feet of fuel modification on each side of the road. An approximately 20-foot-wide fuel modification zone would be maintained on either side of the on-site unpaved access roads.
Campo Wind Facilities	
Wind Turbines	The Project would include 60 wind turbines within the Campo Corridor on the Reservation. Turbines would be arranged in accordance with applicable industry siting recommendations for optimum energy production and minimal land disturbance.
Access Roads	Where feasible, the existing network of On-Reservation permanent roads would be used to access the Campo Wind Facilities during construction. In addition to the existing roads, additional roads would be constructed on the Reservation to provide access and circulation. Access road layout would involve approximately 15 miles of new On-Reservation roads. All of these roads are anticipated to be used for access to the Campo Wind Facilities over the life of the Project. Existing roads would be improved to accommodate construction equipment delivery and access. It is anticipated that approximately 15 miles of existing roads would need to be temporarily widened up to 40 feet during construction and reduced to 24 feet after construction. Likewise, the width of the new roads would be up to 40 feet during construction and reduced to 24 feet after construction. Access roads to the gen-tie line pole structures would be 16 feet.

Table 1
Summary of Project Components

Project Component	Description
Electrical Collection and Communication System	The turbines would be connected to the collector substation through a 34.5 kV underground Electrical Collection and Communication System (ECCS) within the Reservation.
Collector Substation	The underground ECCS would be routed to the new collector substation centrally located within the Campo Corridor on the Reservation. The collector substation would contain the main transformer for the Project and circuit breakers for each of the underground ECCS circuits. Electricity at 34.5 kV from the wind turbines would flow into the circuit breakers, be transformed by the transformer to 230 kV, and would then be conducted for delivery via the gen-tie line.
O&M Facility	An O&M facility would be located within one of the two temporary central staging areas within the Campo Corridor on the Reservation. The facility would include a 1.5-acre parking and equipment storage area and a pre-engineered structure. The O&M facility would contain monitoring and control equipment. Amenities at the O&M facility would include a main building with offices, spare parts storage, restrooms, a shop area, outdoor parking facilities, a turnaround area for larger vehicles, outdoor lighting, and gated access with partial or full perimeter fencing.
Meteorological Towers	Up to six, temporary meteorological towers and up to three permanent meteorological towers would be constructed within the Campo Corridor on the Reservation to monitor and record weather conditions and to perform power performance testing of the wind turbines.
Water Collection and Septic Systems	The O&M facility would have an operational water demand of approximately 210 gallons per day for the sanitary functions associated with personnel.
Temporary Concrete Batch Plant for Use during Construction	A temporary concrete batch plant would be established within the Campo Corridor on the Reservation to mix the necessary concrete for foundations of the turbines, meteorological towers, substations, transmission poles, and the O&M facility.
Temporary Staging and Parking Areas for Use during Construction	Two central temporary staging areas within the Campo Corridor on the Reservation of approximately 20 acres total would be established for construction-management facilities, materials and equipment storage, and worker parking.
On-Reservation Gen-Tie Line	The Project includes an approximately 8.5-mile 230 kV gen-tie line, originating at the collector substation and terminating at the high-voltage substation. An approximately 5-mile long segment of the gen-tie line, including approximately 42 support poles, fiber-optic ground wire attachment for lightning protection and internal communications would be located within the Campo Corridor on the Reservation, as part of the Campo Wind Facilities.

1.4 Project Design Features

The following air quality project design features (PDFs) would be included as part of the Project.

Construction

PDF-AQ-1 Prior to the Campo Band of Diegueño Mission Indians' (Tribe) approval of any construction-related permits, the lessee or its designee shall place the following requirements on all plans, which shall be implemented during each construction phase to minimize VOC, CO, and NO_x emissions:

a. Prior to the commencement of any construction activities, the lessee or its designee shall provide evidence to the Tribe that for off-road equipment with engines rated at 75 horsepower or greater, no construction equipment shall be used that is less than Tier 4 Final. An exemption from these requirements may be granted by the Tribe in the event that the applicant documents that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant emissions are achieved from other construction equipment. Before an exemption may be considered by the Tribe, the applicant shall be required to demonstrate that three construction fleet owners/operators in the San Diego region were contacted and that those owners/operators confirmed Tier 4 Final equipment could not be located within the San Diego region.

b. Vehicles in loading and unloading queues shall not idle for more than 5 minutes and shall turn their engines off when not in use to reduce vehicle emissions.

c. All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.

d. The use of electrical or natural gas-powered construction equipment shall be employed where feasible, including forklifts and other comparable equipment types.

PDF-AQ-2 **Fugitive Dust Control**. The Developer or its designee shall implement the following measures to minimize fugitive dust (PM_{10} and $PM_{2.5}$):

a. A non-toxic dust control agent shall be used on the grading areas or watering shall be applied at least three times daily.

b. Grading areas shall be stabilized as quickly as possible.

c. Chemical stabilizer shall be applied, a gravel pad shall be installed, or the last 100 feet of internal travel path within the construction site shall be paved prior to public road entry and for all haul roads.

d. Wheel washers shall be installed adjacent to the apron for tire inspection and washing prior to vehicle entry on public roads.

e. Visible track-out into traveled public streets shall be removed with the use of sweepers, water trucks, or similar method within 30 minutes of occurrence.

f. Sufficient perimeter erosion control shall be provided to prevent washout of silty material onto public roads.

g. Unpaved construction site egress points shall be graveled to prevent track-out.

h. Construction access points shall be wet-washed at the end of the workday if any vehicle travel on unpaved surfaces has occurred.

i. Transported material in haul trucks shall be watered or treated.

j. All soil disturbance and travel on unpaved surfaces shall be suspended if winds exceed 25 miles per hour.

k. On-site stockpiles of excavated material shall be covered.

l. A 15 mile per hour speed limit on unpaved surfaces shall be enforced.

m. Construction traffic control plans shall route delivery and haul trucks required during construction away from sensitive receptor locations and congested intersections to the extent feasible. Construction Traffic Control plans shall be finalized and approved prior to issuance of grading permits.

PDF-AQ-3 The following measures shall be implemented for the Boulder Brush Facilities to reduce fugitive dust emissions (PM_{10} and $PM_{2.5}$) associated with blasting and rock-crushing activities:

a. During blasting activities, the construction contractor shall implement measures to control fugitive dust, including exhaust ventilation, blasting cabinets and enclosures, vacuum blasters, drapes, water curtains, or wet blasting. Watering methods, such as water sprays and water applications, shall be implemented during blasting, rock crushing, cutting, chipping, sawing, or any activity that would release dust particles to reduce fugitive dust emissions.

b. During rock crushing transfer and conveyance activities, material shall be watered prior to entering the crusher. Crushing activities shall not exceed an

opacity limit of 20% (or Number 1 on the Ringelmann Chart) as averaged over a 3-minute period in any period of 60 consecutive minutes. A qualified opacity observer shall monitor opacity from crushing activities once every 30 days while crushers are employed on site. Water sprayers, conveyor belt enclosures, or other mechanisms shall be employed to reduce fugitive dust generated during transfer and conveyance of crush material.

PDF-AQ-4 To reduce emissions of NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$, all Campo Wind Facilities phases involving blasting shall conform to the following requirements:

a. Each blasting event shall employ approximately 1.2 tons of ammonium nitrate/fuel oil (ANFO).

b. Blasting activities shall be restricted to not more than two blasts per day.

c. All blasting shall be performed by a blast contractor and blasting personnel licensed to operate in the County.

PDF-AQ-5 **Construction Architectural Coating Limits**. The Campo Wind Facilities shall comply with the following volatile organic compound (VOC) content limits for architectural coatings during construction for residential and non-residential and uses: 50 grams per liter VOC for interior surfaces and 100 grams per liter VOC for exterior coatings.

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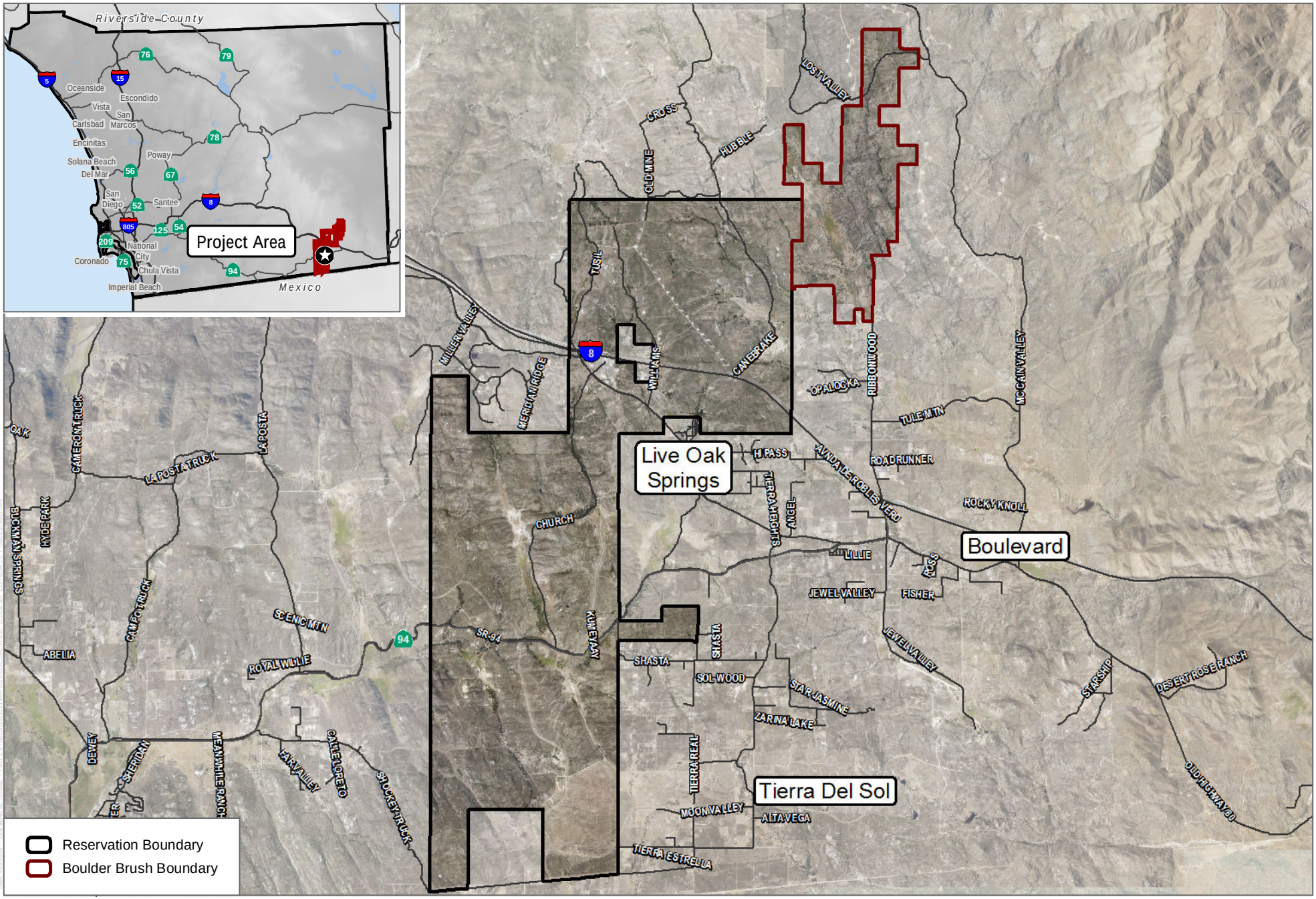

SOURCE: SANGIS 2017

DUDEK

0 1 2 Miles

FIGURE 1

Project Location

Campo Wind Project with Boulder Brush Facilities

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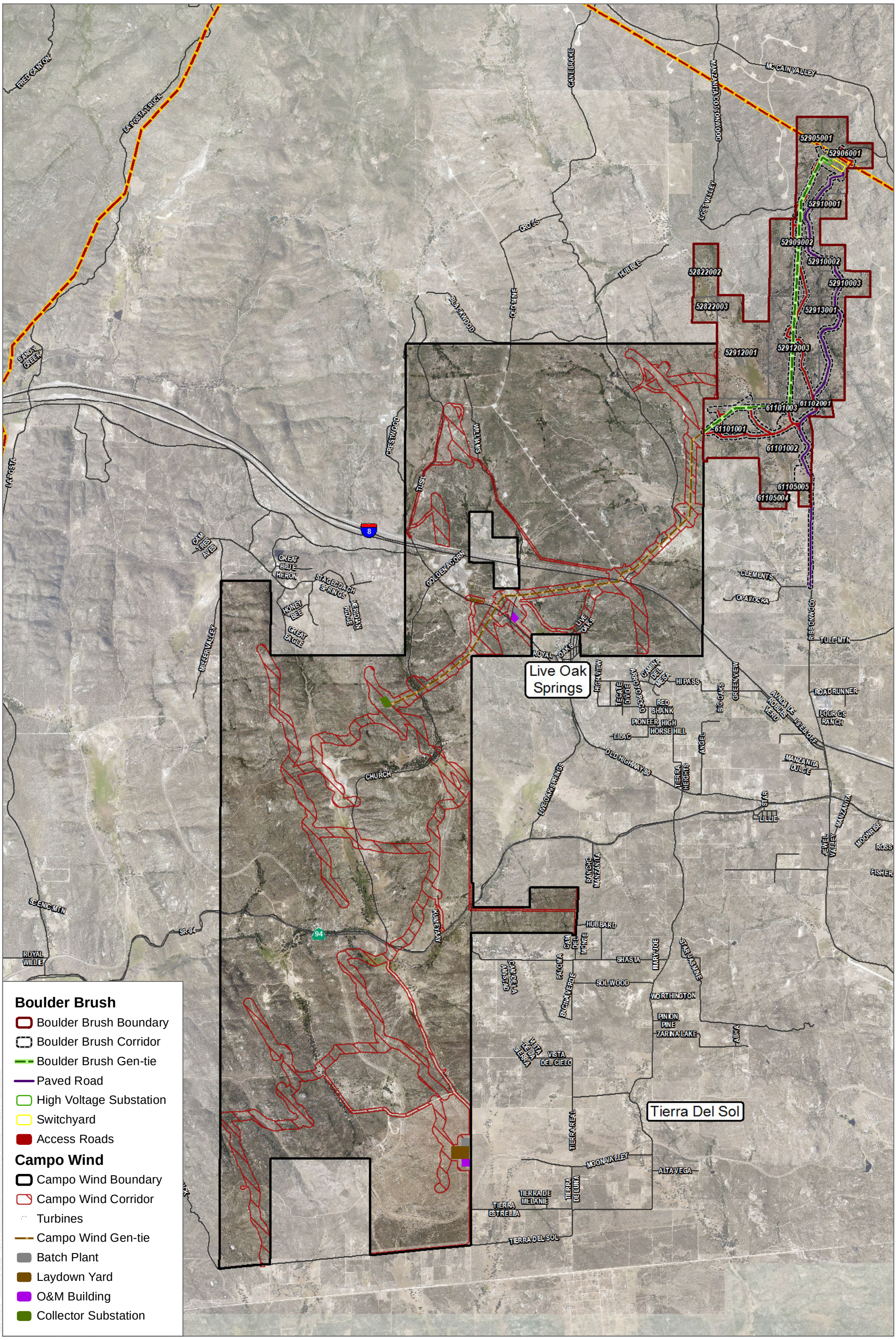

SOURCE: SANGIS 2017

DUDEK

0 2,000 4,000 Feet

FIGURE 2

Project Layout

Campo Wind Project with Boulder Brush Facilities

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2 AIR QUALITY

2.1 Existing Conditions

The approximately 2,520-acre Project Site is located in southeastern San Diego County, California. The Project consists of both the Campo Wind Facilities that would be located on Reservation land within the Reservation Boundary under the jurisdiction of the Bureau of Indian Affairs, and the Boulder Brush Facilities that would be located on adjacent private lands under the land use and permitting jurisdiction of the County within the Boulder Brush Boundary.

The Campo Wind Facilities would be located within the approximately 2,200 acres Campo Corridor inside the Reservation Boundary. The Bureau of Indian Affairs is the Lead Agency for the Project under the National Environmental Policy Act (NEPA) and has prepared an Environmental Impact Statement (EIS) for the Project (BIA 2019).

The Boulder Brush Facilities would be located within the approximately 320-acre Boulder Brush Corridor inside the Boulder Brush Boundary. Collectively, the Campo Corridor and the Boulder Brush Corridor comprise the approximately 2,520-acre Project Site.

The Project is located within the San Diego Air Basin (SDAB). The SDAB, one of 15 air basins that geographically divide California, lies in the southwest corner of California. The SDAB comprises the entire San Diego region and covers approximately 4,260 square miles.

2.1.1 Meteorological and Topographical Conditions

The primary factors that determine air quality are the locations of air pollutant sources and the amount of pollutants emitted. Meteorological and topographical conditions, however, are also important. Factors such as wind speed and direction, air temperature gradients and sunlight, and precipitation and humidity interact with physical landscape features to determine the movement and dispersal of air pollutants. Meteorological and topographical factors that affect air quality in the SDAB are described below.[3]

Regional Climate and Meteorological Conditions

The climate of the San Diego region, as in most of Southern California, is influenced by the strength and position of the semi-permanent high-pressure system over the Pacific Ocean, known

[3] The discussion of meteorological and topographical conditions of the SDAB is based on information provided in the SDAPCD 2016 Monitoring Plan (SDAPCD 2017a), the County of San Diego Guidelines for Determining Significance – Air Quality (County of San Diego 2007), the County of San Diego General Plan Update EIR (County of San Diego 2011), and the CARB Recommended Area Designation for the 2010 Federal Sulfur Dioxide Standard (CARB 2011).

as the Pacific High. This high-pressure ridge over the West Coast often creates a pattern of late-night and early-morning low clouds, hazy afternoon sunshine, daytime onshore breezes, and little temperature variation year-round. The SDAB is characterized as a Mediterranean climate with dry, warm summers and mild, occasionally wet winters. Average temperature ranges (in °F) from the mid-40s to the high 90s, with an average of 201 days warmer than 70°F. The SDAB experiences 9 to 13 inches of rainfall annually, with most of the region's precipitation falling from November through March, with infrequent (approximately 10%) precipitation during the summer. El Niño and La Niña patterns have large effects on the annual rainfall received in San Diego, where San Diego receives less than normal rainfall during La Niña years.

The interaction of ocean, land, and the Pacific High maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). The winds tend to blow onshore in the day and offshore at night. Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

The favorable climate of San Diego also works to create air pollution problems. Sinking, or subsiding air from the Pacific High, creates a temperature inversion known as a subsidence inversion, which acts as a "lid" to vertical dispersion of pollutants. Weak summertime pressure gradients further limit horizontal dispersion of pollutants in the mixed layer below the subsidence inversion. Poorly dispersed anthropogenic emissions combined with strong sunshine leads to photochemical reactions that result in the creation of ozone (O_3) at this surface layer. In addition, light winds during the summer further limit ventilation.

In the fall months, the SDAB is often impacted by Santa Ana winds, which are the result of a high-pressure system over the Nevada and Utah regions that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean. The Santa Ana winds are powerful and can blow the SDAB's pollutants out to sea. However, a weak Santa Ana can transport air pollution from the South Coast Air Basin and greatly increase O_3 concentrations in the San Diego area.

Atmospheric oscillation results in the offshore transport of air from the Los Angeles region to the San Diego County. This often produces high O_3 concentrations, as measured at air pollutant monitoring stations within San Diego County. The transport of air pollutants from Los Angeles to San Diego can also occur within the stable layer of the elevated subsidence inversion, where high levels of O_3 are transported.

Site-Specific Meteorological Conditions

The local climate in western San Diego County is characterized as semi-arid with consistently mild, warmer temperatures throughout the year. The average summertime high temperature in the region is approximately 74°F, with highs approaching 76°F in August on average. The average wintertime low temperature is approximately 49°F, although record lows have approached 48°F in January. Average precipitation in the local area is approximately 10 inches per year, with the bulk of precipitation falling between December and March (WRCC 2017).

Topographical Conditions

Topography in the San Diego region varies greatly, from beaches in the west to mountains and desert in the east; much of the topography in between consists of mesa tops intersected by canyon areas. Along with local meteorology, topography influences the dispersal and movement of pollutants in the SDAB. Mountains to the east prohibit dispersal of pollutants in that direction and help trap pollutants in inversion layers.

The topography of the SDAB also drives pollutant levels, and the SDAB is classified as a "transport recipient," whereby pollutants are transported from the South Coast Air Basin to the north and, when the wind shifts direction, from Tijuana, Mexico, to the south.

2.1.2 Pollutants and Effects

2.1.2.1 Criteria Air Pollutants

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and state standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include O_3, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM_{10}), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns ($PM_{2.5}$), and lead. These pollutants, as well as toxic air contaminants (TACs), are discussed in the following paragraphs.[4] In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

[4] The descriptions of each of the criteria air pollutants and associated health effects are based on the EPA's Criteria Air Pollutants (EPA 2016a) and the CARB Glossary of Air Pollutant Terms (CARB 2016a).

Ozone. O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly oxides of nitrogen (NO_x) and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric ozone) and at the Earth's surface in the troposphere (ozone).[5] The O_3 that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2013). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

Nitrogen Dioxide. NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO), which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2016a).

Carbon Monoxide. CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the Project location, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant

[5] The troposphere is the layer of the Earth's atmosphere nearest to the surface of the Earth. The troposphere extends outward about 5 miles at the poles and about 10 miles at the equator.

that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide. SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with particulate matter, SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can also yellow plant leaves and erode iron and steel.

Particulate Matter. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Coarse particulate matter (PM_{10}) consists of particulate matter that is 10 microns or less in diameter and is about 1/7 the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. Fine particulate matter ($PM_{2.5}$) consists of particulate matter that is 2.5 microns or less in diameter and is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$

and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the blood stream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$ (EPA 2009).

Lead. Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead.

Volatile Organic Compounds. Hydrocarbons are organic gases that are formed from hydrogen and carbon and sometimes other elements. Hydrocarbons that contribute to formation of O_3 are referred to and regulated as VOCs (also referred to as reactive organic gases). Combustion engine exhaust, oil refineries, and fossil-fueled power plants are the sources of hydrocarbons. Other sources of hydrocarbons include evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint.

The primary health effects of VOCs result from the formation of O_3 and its related health effects. High levels of VOCs in the atmosphere can interfere with oxygen intake by reducing the amount of available oxygen through displacement. Carcinogenic forms of hydrocarbons, such as benzene, are considered TACs. There are no separate health standards for VOCs as a group.

2.1.2.2 Non-Criteria Air Pollutants

Toxic Air Contaminants. A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a TAC. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as landfills. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC.

Valley Fever. Coccidioidomycosis, more commonly known as "Valley Fever," is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. When fungal spores are present, any activity that disturbs the soil, such as digging, grading, or other earth-moving operations, can cause the spores to become airborne and thereby increase the risk of exposure. The ecologic factors that appear to be most conducive to survival and replication of the spores are high summer temperatures, mild winters, sparse rainfall, and alkaline sandy soils.

Valley Fever is not considered highly endemic to San Diego. Per the San Diego County Health and Human Services Agency, the 10-year average (2008–2017) for Coccidioidomycosis cases in the County of San Diego is 4.5 cases per 100,000 people per year. The Project is wholly contained within the 91917 zip code. For the 91917 zip code, there were only two cases of Coccidioidomycosis between 2008 and 2017, which is too few cases for an incidence rate to be calculated (Nelson 2018). Statewide incidences in 2016 were 13.7 per 100,000 people (CDPH 2017).

Even if present at a site, earth-moving activities may not result in increased incidence of Valley Fever. Propagation of *Coccidioides immitis* is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells. *Coccidioides immitis* spores can be released when filaments are disturbed by earth-moving activities, although receptors must be exposed to and inhale the spores to be at increased risk of developing Valley Fever. Moreover, exposure to *Coccidioides immitis* does not guarantee that an individual will become ill—approximately 60% of people exposed to the fungal spores are asymptomatic and show no signs of an infection (USGS 2000).

Diesel Particulate Matter. Diesel particulate matter (DPM) is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. More than 90% of DPM is less than 1 micrometer in diameter (about 1/70th the diameter of a human hair), and thus is a subset of $PM_{2.5}$ (CARB 2016b). DPM is typically composed of carbon particles ("soot," also called black carbon) and numerous organic compounds, including over 40 known cancer-causing organic substances. Examples of these chemicals include polycyclic aromatic hydrocarbons, benzene, formaldehyde, acetaldehyde, acrolein, and 1,3-butadiene (CARB 2016b). CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM) (17 CCR 93000) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70% of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with DPM, CARB adopted a diesel risk reduction plan in 2000 (CARB 2000). Because it is part of $PM_{2.5}$, DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure. These effects include premature death; hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma; increased respiratory symptoms; and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies (CARB 2016b). Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly who often have chronic health problems.

Odorous Compounds. Odors are generally regarded as an annoyance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be perfectly acceptable to another (e.g., coffee roaster). An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. Known as odor fatigue, a person can become desensitized to almost any odor, and

recognition may only occur with an alteration in the intensity. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

2.2 Regulatory Setting

2.2.1 Federal Regulations

Federal regulations are applicable to the Boulder Brush Facilities and to the Campo Wind Facilities.

2.2.1.1 Criteria Air Pollutants

The federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. EPA is responsible for implementing most aspects of the CAA, including setting the National Ambient Air Quality Standards (NAAQS) for major air pollutants, setting hazardous air pollutant standards, approving state attainment plans, setting motor vehicle emissions standards, setting stationary source emissions standards and approving permits, providing acid rain control measures, implementing stratospheric O_3 protection, and providing enforcement provisions.

NAAQS are established by the EPA for "criteria pollutants" under the CAA, which are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The CAA requires the EPA to reassess the NAAQS at least every 5 years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State Implementation Plan (SIP) that demonstrates how those areas will attain the standards within mandated timeframes. The NAAQS is presented in Table 2.

Table 2
National Ambient Air Quality Standards

Pollutant	Averaging Time	National Standards[a]	
		Primary[b,c]	*Secondary*[b]
O_3	8 hours	0.070 ppm (137 μg/m³)[d]	Same as Primary Standard[d]
NO_2[e]	1 hour	0.100 ppm (188 μg/m³)	Same as Primary Standard
	Annual Arithmetic Mean	0.053 ppm (100 μg/m³)	
CO	1 hour	35 ppm (40 mg/m³)	None
	8 hours	9 ppm (10 mg/m³)	
SO_2[f]	1 hour	0.075 ppm (196 μg/m³)	—
	3 hours	—	0.5 ppm (1,300 μg/m³)
	24 hours	0.14 ppm (for certain areas)[e]	—
	Annual	0.030 ppm (for certain areas)[e]	—

Table 2
National Ambient Air Quality Standards

Pollutant	Averaging Time	National Standards[a]	
		Primary[b,c]	*Secondary*[b]
PM_{10}[g]	24 hours	150 μg/m³	Same as Primary Standard
$PM_{2.5}$[g]	24 hours	35 μg/m³	Same as Primary Standard
	Annual Arithmetic Mean	12.0 μg/m³	15.0 μg/m³
Lead[h,i]	Calendar Quarter	1.5 μg/m³ (for certain areas)[h]	Same as Primary Standard
	Rolling 3-Month Average	0.15 μg/m³	

Source: CARB 2016a.

Notes: μg/m³ = micrograms per cubic meter; mg/m³= milligrams per cubic meter; ppm = parts per million by volume; O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

a National standards (other than O_3, NO_2, SO_2, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m³ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

b On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 parts per billion (ppb). The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

c On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m³ to 12.0 μg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m³, as was the annual secondary standard of 15 μg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m³ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

d On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

e To attain the national 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

f On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the national 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment of the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

g On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m³ to 12.0 μg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m³, as was the annual secondary standard of 15 μg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 μg/m³ were also retained. The form of the annual primary and secondary standards is the annual mean averaged over 3 years.

h CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

i The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 μg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

Federal General Conformity Rule

The portion of the Project under federal control is subject to the General Conformity Rule (40 CFR, Part 51, Subpart W). The General Conformity Rule implements Section 176(c) of the federal CAA, which requires that a federal agency ensure conformity with an approved SIP for air emissions generated by an agency action. Conformity determinations for federal actions are required for each pollutant where the total of direct and indirect emissions in a nonattainment or maintenance area caused by a federal action equaling or exceeding any of the specified annual rates, referred to as de minimis thresholds. The Project is located within the SDAB, which is in nonattainment for O_3 and a maintenance area for CO; therefore, the de minimis thresholds for VOCs, NO_X, and CO apply. The relevant de minimis thresholds for SDAB are identified in Table 3. If a Project's emissions exceed the de minimis thresholds for CO, NO_X, or VOCs, the Project would be considered to have an adverse effect related to O_3.

Table 3
Federal De Minimis Levels for San Diego Air Basin

Pollutant	Threshold (Tons per Year)
VOC	100
NO_x	100
CO	100

Source: 40 CFR Part 93.153(b)(2).
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide.

Tribal Regulations

In the 1990 revision of the CAA, Congress recognized that Native American tribes have the authority to implement air pollution control programs. The EPA's Tribal Authority Rule gives tribes the ability to develop air quality management programs, write rules to reduce air pollution, and implement and enforce their rules within tribal lands. While state and local agencies are responsible for all CAA requirements, tribes may develop and implement only those parts of the CAA that are appropriate for their lands. The EPA provides technical assistance and resources to help tribes build their program capacity. The EPA also implements the CAA requirements on tribal lands through programs such as the Federal Rules for Reservations, Title V permits, and air toxics rules.

Initially, the General Conformity Rule of 1993 did not specifically identify the roles of Native American tribes in the General Conformity process or the connection between the regulations and Tribal Implementation Plans. In the revised 2011 regulations, the EPA has specifically identified tribal agencies as stakeholders in the conformity process to ensure that in a nonattainment or

maintenance area, federal actions conform to the air quality plans established in the applicable SIP or Tribal Implementation Plan. In addition, the revised regulations also clarify that federal actions must conform to any applicable Tribal Implementation Plan. The Reservation is in attainment for all criteria pollutants. The Tribe and the Reservation are not subject to the SIP. The Tribe and the Reservation are subject to the Tribal Implementation Plan.

The General Conformity Rule plays an important role in helping tribes improve air quality in those areas that do not meet NAAQS. Under the General Conformity Rule, federal agencies must work with state, tribal, and local governments in a nonattainment or maintenance area to ensure that federal actions conform to the air quality plan established in the applicable SIP or Tribal Implementation Plan.

2.2.1.2 Hazardous Air Pollutants

The 1977 federal CAA amendments required the EPA to identify National Emission Standards for Hazardous Air Pollutants to protect public health and welfare. Hazardous air pollutants include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 CAA amendments, which expanded the control program for hazardous air pollutants, 187 substances and chemical families were identified as hazardous air pollutants.

2.2.2 State Regulations

State regulations are applicable to the Boulder Brush Facilities located within San Diego County. The Tribe and the Reservation are not subject to state regulations.

2.2.2.1 Criteria Air Pollutants

The federal CAA delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act of 1988, responding to the CAA, and regulating emissions from motor vehicles and consumer products.

CARB established the California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. The CAAQS describe adverse conditions; that is, pollution levels must be below these standards before a basin can attain the standard. Air quality is considered "in attainment" if pollutant levels are continuously below the CAAQS and violate the

standards no more than once each year. The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM_{10}, $PM_{2.5}$, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. The CAAQS is presented in Table 4.

Table 4
California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]
		Concentration[b]
O_3	1 hour	0.09 ppm (180 μg/m³)
	8 hours	0.070 ppm (137 μg/m³)
NO_2[c]	1 hour	0.18 ppm (339 μg/m³)
	Annual Arithmetic Mean	0.030 ppm (57 μg/m³)
CO	1 hour	20 ppm (23 mg/m³)
	8 hours	9.0 ppm (10 mg/m³)
SO_2[h]	1 hour	0.25 ppm (655 μg/m³)
	24 hours	0.04 ppm (105 μg/m³)
	Annual	—
PM_{10}	24 hours	50 μg/m³
	Annual Arithmetic Mean	20 μg/m³
$PM_{2.5}$	24 hours	—
	Annual Arithmetic Mean	12 μg/m³
Lead[i]	30-day Average	1.5 μg/m³
	Calendar Quarter	—
	Rolling 3-Month Average	—
Hydrogen sulfide	1 hour	0.03 ppm (42 μg/m³)
Vinyl chloride[d]	24 hours	0.01 ppm (26 μg/m³)
Sulfates	24- hours	25 μg/m³
Visibility reducing particles	8 hour (10:00 a.m. to 6:00 p.m. PST)	Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to the number of particles when the relative humidity is less than 70%

Source: CARB 2016a.

Notes: μg/m³ = micrograms per cubic meter; mg/m³= milligrams per cubic meter; ppm = parts per million by volume; O_3 = ozone; NO_2 = nitrogen dioxide; CO = carbon monoxide; SO_2 = sulfur dioxide; PM_{10} = particulate matter with an aerodynamic diameter less than or equal to 10 microns; $PM_{2.5}$ = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns.

[a] California standards for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[c] California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm.

[d] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

2.2.2.2 Toxic Air Contaminants

The state Air Toxics Program was established in 1983 under AB 1807 (Tanner). The California TAC list identifies more than 700 pollutants, of which carcinogenic and noncarcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California Health and Safety Code. In accordance with AB 2728, the state list includes the (federal) hazardous air pollutants. In 1987, the Legislature enacted the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years. TAC emissions from individual facilities are quantified and prioritized. "High-priority" facilities are required to perform a health risk assessment (HRA), and if specific thresholds are exceeded, the facility operator is required to communicate the results to the public in the form of notices and public meetings.

In 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines (CARB 2000). The regulation is anticipated to result in an 80% decrease in statewide diesel health risk in 2020 compared with the diesel risk in 2000. Additional regulations apply to new trucks and diesel fuel, including the On-Road Heavy Duty Diesel Vehicle (In-Use) Regulation, the On-Road Heavy Duty (New) Vehicle Program, the In-Use Off-Road Diesel Vehicle Regulation, and the New Off-Road Compression-Ignition (Diesel) Engines and Equipment program. These regulations and programs have timetables by which manufacturers must comply and existing operators must upgrade their diesel-powered equipment. There are several Airborne Toxic Control Measures that reduce diesel emissions, including In-Use Off-Road Diesel-Fueled Fleets (13 CCR 2449 et seq.) and In-Use On-Road Diesel-Fueled Vehicles (13 CCR 2025).

California Health and Safety Code Section 41700

This section of the Health and Safety Code states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any of those persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of objectionable odors.

2.2.3 Local Regulations

Local regulations are applicable to the Boulder Brush Facilities, which would be located on private lands within the County. Local regulations are not applicable to the Reservation or Campo Wind Facilities.

2.2.3.1 San Diego Air Pollution Control District

Although CARB is responsible for the regulation of mobile emissions sources within the state, local air quality management districts and air pollution control districts are responsible for enforcing standards and regulating stationary sources. The Boulder Brush Boundary is located within the SDAB and is subject to the guidelines and regulations of the San Diego Air Pollution Control District (SDAPCD)[6].

In the County, O_3 and particulate matter are the pollutants of main concern, since exceedances of state ambient air quality standards for those pollutants are experienced in the County in most years. For this reason, SDAB has been designated as a nonattainment area for the state PM_{10}, $PM_{2.5}$, and O_3 standards. SDAB is also a federal O_3 attainment (maintenance) area for 1997 8-hour O_3 standard, an O_3 nonattainment area for the 2008 8-hour O_3 standard, and a CO maintenance area (western and central part of SDAB only, including the Boulder Brush Boundary).

Federal Attainment Plans

In December 2016, SDAPCD adopted an update to the Eight-Hour Ozone Attainment Plan for San Diego County (2008 O_3 NAAQS). The 2016 Eight-Hour Ozone Attainment Plan for San Diego County indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O_3 standard (1997 O_3 NAAQS) by 2018 (SDAPCD 2016a). In this plan, SDAPCD relies on the Regional Air Quality Strategy (RAQS) to demonstrate how the region will comply with the federal O_3 standard. The RAQS details how the region will manage and reduce O_3 precursors (NO_x and VOCs) by identifying measures and regulations intended to reduce these pollutants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and the EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

Currently, the County is designated as moderate nonattainment for the 2008 NAAQS and maintenance for the 1997 NAAQS. As documented in the 2016 8-Hour Ozone Attainment Plan

[6] There are no equivalent requirements on the Campo Facilities.

for San Diego County, the County has a likely chance of obtaining attainment due to the transition to low emissions cars, stricter new source review rules, and continuing the requirement of general conformity for military growth and the San Diego International Airport. The County will also continue emissions control measures, including ongoing implementation of existing regulations in ozone precursor reduction to stationary and area-wide sources, subsequent inspections of facilities and sources, and adoption of laws requiring Best Available Retrofit Control Technology for control of emissions (SDAPCD 2016a).

State Attainment Plans

The SDAPCD and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The RAQS for the SDAB was initially adopted in 1991 and is updated on a triennial basis, most recently in 2016 (SDAPCD 2016b). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County and the cities in the County, to forecast future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by the County and the cities in the County as part of development of their general plans (SANDAG 2017a, 2017b).

In December 2016, the SDAPCD adopted the revised RAQS for the County. Since 2007, the San Diego region reduced daily VOC emissions and NO_x emissions by 3.9% and 7.0% respectively; the SDAPCD expects to continue reductions through 2035 (SDAPCD 2016b). These reductions were achieved through implementation of six VOC control measures and three NO_x control measures adopted in the SDAPCD's 2009 RAQS (SDAPCD 2009a); in addition, the SDAPCD is considering additional measures, including three VOC measures and four control measures to reduce 0.3 daily tons of VOC and 1.2 daily tons of NO_x, provided the control measures are found to be feasible region-wide. In addition, SDAPCD has implemented nine incentive-based programs, has worked with SANDAG to implement regional transportation control measures, and has reaffirmed the state emissions offset repeal.

In regards to particulate matter emissions reduction efforts, in December 2005, the SDAPCD prepared a report titled "Measures to Reduce Particulate Matter in San Diego County" to address implementation of Senate Bill (SB) 656 in San Diego County (SB 656 required additional controls to reduce ambient concentrations of PM_{10} and $PM_{2.5}$) (SDAPCD 2005). In the report, SDAPCD evaluated implementation of source-control measures that would reduce particulate matter

emissions associated with residential wood combustion; various construction activities including earthmoving, demolition, and grading; bulk material storage and handling; carryout and trackout removal and cleanup methods; inactive disturbed land; disturbed open areas; unpaved parking lots/staging areas; unpaved roads; and windblown dust (SDAPCD 2005).

SDAPCD Rules and Regulations

- **SDAPCD Regulation II: Permits; Rule 20.2: New Source Review Non-Major Stationary Sources**. Requires new or modified stationary source units (that are not major stationary sources) with the potential to emit 10 pounds per day or more of VOC, NO_x, sulfur oxides (SO_x), or PM_{10} to be equipped with best available control technology (BACT). For those units with a potential to emit above Air Quality Impact Assessments Trigger Levels, the units must demonstrate that such emissions would not violate or interfere with the attainment of any national air quality standard (SDAPCD 2016b).
- **SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions.** Prohibits discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any period of 60 consecutive minutes that is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart (SDAPCD 1997).
- **SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDAPCD 1969).
- **SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDAPCD 2009b).
- **SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDAPCD 2015a). Implementation of M-AQ-5 would limit the VOC content for interior and exterior coatings during construction of the Boulder Brush Facilities, and is more restrictive than the VOC content limits identified in SDAPCD Rule 67.0.1. Architectural coatings used in the

reapplication of coatings during operation of the Boulder Brush Facilities would be subject to the VOC content limits identified in SDAPCD Rule 67.0.1, which applies to coatings manufactured, sold, or distributed within San Diego County, but reductions were not quantified. Implementation of PDF-5 would limit the VOC content for interior and exterior coatings during construction of the Campo Wind Facilities, and is more restrictive than the VOC content limits identified in SDAPCD Rule 67.0.1.

- **SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1200: Toxic Air Contaminants - New Source Review**. Requires new or modified stationary source units with the potential to emit toxic air contaminants (TACs) above rule threshold levels to either demonstrate that they will not increase the maximum incremental cancer risk above 1 in 1 million at every receptor location, or demonstrate that toxics best available control technology (T-BACT) will be employed if maximum incremental cancer risk is equal to or less than 10 in 1 million, or demonstrate compliance with SDAPCD's protocol for those sources with an increase in maximum incremental cancer risk at any receptor location of greater than 10 in 1 million but less than 100 in 1 million (SDAPCD 2017b).

2.2.3.2 San Diego Association of Governments

SANDAG is the regional planning agency for the County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SANDAG serves as the federally designated metropolitan planning organization for the County. With respect to air quality planning and other regional issues, SANDAG prepared its San Diego Forward: The Regional Plan for the San Diego region (Regional Plan; SANDAG 2015). The Regional Plan combines the big-picture vision for how the region will grow over the next 35 years with an implementation program to help make that vision a reality. The Regional Plan, including its Sustainable Communities Strategy, is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so that it meets the diverse needs of the San Diego region through 2050 (SANDAG 2015).

The Regional Plan sets the policy context for how SANDAG participates in and responds to SDAPCD's air quality plans, and builds off SDAPCD's air quality plan processes that are designed to meet health-based criteria pollutant standards (SANDAG 2015). The Regional Plan complements air quality plans by providing guidance and incentives for public agencies to consider best practices that support technology-based control measures in air quality plans. The Regional Plan also emphasizes the need for better coordination of land use and transportation planning, which heavily influences the emissions inventory from the transportation sectors of the economy. This also minimizes land use conflicts, such as residential development near freeways, industrial areas, or other sources of air pollution (SANDAG 2015).

On September 23, 2016, SANDAG's Board of Directors adopted the final 2016 Regional Transportation Improvement Program (RTIP). The 2016 RTIP is a multi-billion dollar, multi-year program of proposed major transportation projects in the San Diego region. Transportation projects funded with federal, state, and TransNet (the San Diego transportation sales tax program) must be included in an approved RTIP. The programming of locally funded projects also may be programmed at the discretion of SANDAG. The 2016 RTIP covers 5 fiscal years and incrementally implements the Regional Plan (SANDAG 2016).

2.2.3.3 San Diego County

County Code Section 87.428, Dust Control Measures. As part of the San Diego County Grading, Clearing, and Watercourses Ordinance, County Code Section 87.428 requires all clearing and grading to be carried out with dust control measures adequate to prevent creation of a nuisance to people or public or private property. Clearing, grading, or improvement plans must require that measures be undertaken to achieve this result, including watering, application of surfactants,[7] shrouding, control of vehicle speeds, paving access areas, or implementing other operational or technological measures to reduce dispersion of dust. These Project design measures are to be incorporated into all earth-disturbing activities to minimize the amount of particulate matter emissions from construction (County of San Diego 2004).

County Zoning Ordinance Section 6318. Section 6318 of the San Diego County Zoning Ordinance requires that all commercial and industrial uses be operated so as not to emit matter causing unpleasant odors that are perceptible by the average person at or beyond any lot line of the lot containing said uses. Section 6318 goes on to further provide specific dilution standards that must be met "at or beyond any lot line of the lot containing the uses" (County of San Diego 1979).

2.3 Regional and Local Air Quality Conditions

2.3.1 San Diego Air Basin Attainment Designation

Pursuant to the 1990 CAA amendments and the California Clean Air Act, the EPA and CARB classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutant, based on whether the NAAQS or CAAQS have been achieved. Generally, if the recorded concentrations of a pollutant are lower than the standard, the area is classified as "attainment" for that pollutant. If an area exceeds the standard, the area is classified as "nonattainment" for that pollutant. As previously discussed, these standards are set by the EPA for the maximum level of a given air pollutant that can exist in the outdoor air without unacceptable effects on human health or the public welfare. If there is not enough data available to determine whether the standard is

[7] Surfactants are compounds that lower surface tension between liquids or between a solid and a liquid, such as a detergent.

exceeded in an area, the area is designated as "unclassified" or "unclassifiable." The designation of "unclassifiable/ attainment" means that the area meets the standard or is expected to be meet the standard despite a lack of monitoring data. Areas that achieve the standards after a nonattainment designation are redesignated as maintenance areas and must have approved maintenance plans to ensure continued attainment of the standards. The federal attainment classifications for the criteria pollutants are listed in Table 5.

Table 5
San Diego Air Basin Attainment Classification

Pollutant	National Designation	California Designation
O_3 (1-hour)	Attainment*	**Nonattainment**
O_3 (8-hour – 1997) (8-hour – 2008)	Attainment (Maintenance) **Nonattainment (Moderate)**	**Nonattainment**
NO_2	Unclassifiable/Attainment	Attainment
CO	Attainment (Maintenance)	Attainment
SO_2	Unclassifiable/Attainment	Attainment
PM_{10}	Unclassifiable/Attainment	**Nonattainment**
$PM_{2.5}$	Unclassifiable/Attainment	**Nonattainment**
Lead	Unclassifiable/Attainment	Attainment
Sulfates	No federal standard	Attainment
Hydrogen sulfide	No federal standard	Unclassified
Visibility-reducing particles	No federal standard	Unclassified
Vinyl chloride	No federal standard	No designation

Sources: EPA 2016b (national); CARB 2016d (California).
Notes:
Bold text = not in attainment; Attainment = meets the standards; Attainment (Maintenance) = achieve the standards after a nonattainment designation; Nonattainment = does not meet the standards; Unclassified or Unclassifiable = insufficient data to classify; Unclassifiable/Attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.
* The federal 1-hour standard of 0.12 parts per million was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.

The SDAB is designated as a nonattainment area for the 2008 8-hour O_3 NAAQS and maintenance area for CO. The portion of the SDAB where the Project Site is located is designated as attainment or unclassifiable for all other criteria pollutants under the NAAQS. The SDAB is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ CAAQS. The portion of the SDAB where the Project Site is located is designated as attainment or unclassified for all other criteria pollutants under the CAAQS.

2.3.2 Air Quality Monitoring Data

The SDAPCD operates 11 ambient air monitoring stations throughout San Diego County that measure ambient concentrations of pollutants and determine whether the ambient air quality meets the CAAQS and NAAQS. Due to its proximity to the Project, similar geographic and climactic

characteristics, and available measured ambient concentrations of pollutants, the Alpine–Victoria Drive monitoring station monitors concentrations for pollutants, and is considered most representative of the Project. The Alpine–Victoria Drive monitoring station is located approximately 24 miles northwest of the Project Area. Pollutant concentrations of CO, SO_2, PM_{10}, and $PM_{2.5}$ were not measured at the Alpine–Victoria Drive monitoring station; therefore, the measurements from the nearest monitoring station that includes those pollutants, the El Cajon Lexington Elementary monitoring station, are presented below. The El Cajon Lexington Elementary monitoring station is located approximately 33 miles west of the Project Area. Ambient concentrations of pollutants from 2015 through 2017, the most recent data available at the time of preparing this analysis, are presented in Table 6, Local Ambient Air Quality Data. The number of days exceeding the NAAQS and CAAQS is also shown in Table 6.

Table 6
Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2015	*2016*	*2017*	*2015*	*2016*	*2017*
Ozone (O_3)										
Alpine-Victoria Drive	ppm	Maximum 1-hour concentration	State	0.09	0.097	0.104	0.109	2	6	11
	ppm	Maximum 8-hour concentration	State	0.070	0.084	0.091	0.095	30	29	48
			Federal	0.070	0.084	0.091	0.095	30	29	48
Nitrogen Dioxide (NO_2)										
Alpine-Victoria Drive	ppm	Maximum 1-hour concentration	State	0.18	0.048	0.033	0.028	0	0	0
			Federal	0.100	0.048	0.033	0.028	0	0	0
	ppm	Annual concentration	State	0.030	0.005	0.004	0.004	0	0	0
			Federal	0.053	0.005	0.004	0.004	0	0	0
Carbon Monoxide (CO)										
El Cajon-Lexington Elementary	ppm	Maximum 1-hour concentration	State	20	—	1.5	1.5	—	0	0
			Federal	35	—	1.5	1.5	—	0	0
	ppm	Maximum 8-hour concentration	State	9.0	—	1.3	1.4	—	0	0
			Federal	9	—	1.3	1.4	—	0	0
Sulfur Dioxide (SO_2)										
El Cajon-Lexington Elementary	ppm	Maximum 1-hour concentration	Federal	0.075	0.001	0.006	0.001	0	0	0

Table 6
Local Ambient Air Quality Data

Monitoring Station	Unit	Averaging Time	Agency/ Method	Ambient Air Quality Standard	Measured Concentration by Year			Exceedances by Year		
					2015	*2016*	*2017*	*2015*	*2016*	*2017*
	ppm	Maximum 24-hour concentration	Federal	0.140	0.0004	0.0002	0.0004	0	0	0
	ppm	Annual concentration	Federal	0.030	0.0001	0.00008	0.0001	0	0	0
Coarse Particulate Matter (PM_{10})[a]										
El Cajon-Lexington Elementary	µg/m³	Maximum 24-hour concentration	State	50	—	43	50	—	0	0
			Federal	150	—	43	50	—	0	0
	µg/m³	Annual concentration	State	20	—	—	—	—	—	—
Fine Particulate Matter ($PM_{2.5}$)[a]										
El Cajon-Lexington Elementary	µg/m³	Maximum 24-hour concentration	Federal	35	—	23.9	31.8	—	0	0
	µg/m³	Annual concentration	State	12	—	9.9	9.6	—	*0*	*0*
			Federal	12.0	—	9.9	9.6	—	*0*	*0*

Sources: CARB 2018; EPA 2018a.
Notes: — = not available or applicable; µg/m³ = micrograms per cubic meter; ppm = parts per million
Data taken from CARB iADAM (http://www.arb.ca.gov/adam) and EPA AirData (http://www.epa.gov/airdata/) represent the highest concentrations experienced over a given year.
Exceedances of federal and state standards are only shown for O_3 and particulate matter. Daily exceedances for particulate matter are estimated days because PM_{10} and $PM_{2.5}$ are not monitored daily. All other criteria pollutants did not exceed federal or state standards during the years shown. There is no federal standard for 1-hour O_3, annual PM_{10}, or 24-hour SO_2, nor is there a state 24-hour standard for $PM_{2.5}$.
Alpine-Victoria Drive monitoring station is located at 2300 Victoria Drive, Alpine, California.
El Cajon – Lexington Elementary School monitoring station is located at 533 First Street, El Cajon, California.
[a] Measurements of PM_{10} and $PM_{2.5}$ are usually collected every 6 days and every 1 to 3 days, respectively. Number of days exceeding the standards is a mathematical estimate of the number of days concentrations would have been greater than the level of the standard had each day been monitored. The numbers in parentheses are the measured number of samples that exceeded the standard.

2.4 Significance Criteria and Methodology

2.4.1 Thresholds of Significance

California has developed guidelines to address the significance of air quality impacts that are contained in Appendix G of the CEQA Guidelines. Based on those guidelines, a project would have a significant environmental impact if it would:

1. Conflict with or obstruct the implementation of the applicable air quality plan;
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard;

3. Expose sensitive receptors to substantial pollutant concentrations; or
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The following significance thresholds for air quality are based on criteria provided in the County's Guidelines for Determining Significance and Report Format and Content Requirements – Air Quality (County of San Diego 2007). The County's guidelines were adapted from Appendix G of the CEQA Guidelines listed above.

A significant impact would result if any of the following would occur:

- The project would conflict with or obstruct the implementation of the SDAPCD's RAQS and/or applicable portions of the State Implementation Plan (SIP).
- The project would result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is in nonattainment under an applicable federal or state Ambient Air Quality Standard.
    - The following guidelines for determining significance must be used for determining whether the net increase during the construction phase is cumulatively considerable:
        - A project that has a significant direct impact on air quality with regard to construction-related emissions of PM_{10}, $PM_{2.5}$, NO_x, and/or VOCs would also have a significant cumulatively considerable net increase;
        - In the event direct impacts from a proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the construction-related emissions of concern from the proposed project, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, are in excess of the guidelines, including the SDAPCD's screening-level thresholds.
    - The following guidelines for determining significance must be used for determining whether the net increase during the operational phase is cumulatively considerable:
        - A project that does not conform to SDPACD's RAQS and/or has a significant direct impact on air quality with regard to operational-related emissions of PM_{10}, $PM_{2.5}$, NO_x, and/or VOCs would also have a significant cumulatively considerable net increase;
        - Projects that cause road intersections to operate at or below level of service (LOS) E (analysis required only when the addition of peak-hour trips from the proposed

project and the surrounding projects exceeds 2,000) and create a CO hotspot create a cumulatively considerable net increase of CO.

  - In the event direct impacts from a proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the operational-related emissions of concern from the proposed project, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, are in excess of the guidelines, including SDAPCD's screening-level thresholds.

- The project would expose sensitive receptors to substantial pollutant concentrations.
- The project places sensitive receptors near CO hotspots or creates CO hotspots near sensitive receptors;
- Project implementation would result in exposure to TACs resulting in a:
  - Maximum incremental cancer risk equal to or greater than 1 in one million without application of Toxics-Best Available Control Technology (T-BACT), or
  - Maximum incremental cancer risk equal to or greater than 10 in one million with application of T-BACT, or
  - Cancer burden equal to or greater than 1.0, or
  - Total acute non-cancer health hazard index equal to or greater than 1.0, or
  - Total chronic non-cancer health hazard index equal to or greater than 1.0.
- The project, which is not an agricultural, commercial, or an industrial activity subject to SDAPCD standards, as a result of implementation, would either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which would affect a considerable number of persons or the public.

As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 requiring the preparation of an Air Quality Impact Assessment for permitted stationary sources. The SDAPCD sets forth quantitative emissions thresholds below which a stationary source would not have a significant impact on ambient air quality. Project air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in Table 7 are exceeded.

Table 7
San Diego Air Pollution Control District Air Quality Significance Thresholds

Construction Emissions			
Pollutant	*Total Emissions (Pounds per Day)*		
Respirable Particulate Matter (PM_{10})	100		
Fine Particulate Matter ($PM_{2.5}$)	55		
Oxides of Nitrogen (NO_x)	250		
Oxides of Sulfur (SO_x)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOC)	75 [a]		
Operational Emissions			
Pollutant	*Total Emissions*		
	Pounds per Hour	*Pounds per Day*	*Tons per Year*
Respirable Particulate Matter (PM_{10})	—	100	15
Fine Particulate Matter ($PM_{2.5}$)	—	55	10
Oxides of Nitrogen (NO_x)	25	250	40
Sulfur Oxides (SO_x)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	—	3.2	0.6
Volatile Organic Compounds (VOCs)	—	75[a]	13.7

Sources: SDAPCD Rules 1501 (SDAPCD 1995) and 20.2(d)(2) (SDAPCD 2016c).

[a] VOC threshold based on the threshold of significance for VOC from the South Coast Air Quality Management District for the Coachella Valley as stated in the San Diego County Guidelines for Determining Significance.

The thresholds listed in Table 7 represent screening-level thresholds that can be used to evaluate whether Project emissions could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. The emissions-based thresholds for O_3 precursors are intended to serve as a surrogate for an "O_3 significance threshold" (i.e., the potential for adverse O_3 impacts to occur). This approach is used because O_3 is not emitted directly and the effects of an individual project's emissions of O_3 precursors (VOC and NO_x) on O_3 levels in ambient air cannot be determined through air quality models or other quantitative methods. For nonattainment pollutants, if emissions exceed the thresholds shown in Table 7, the Project could have the potential to result in a cumulatively considerable net increase in these pollutants, and, thus, could have a significant impact on ambient air quality.

With respect to odors, SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of people or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

2.4.2 Approach and Methodology

2.4.2.1 Construction Emissions

Emissions from the construction phase of the Project were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 (CAPCOA 2017). Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the Project applicant and CalEEMod default values when Project specifics were not known.

For purposes of estimating Project emissions, and based on information provided by both the Terra-Gen Development Company LLC (Developer) and Boulder Brush LLC (Boulder Brush Developer), it is assumed that construction of the Project would commence in late 2019[8] and would last approximately 14 months, with 13 months for construction and 1 month for startup and commissioning of the new turbines, ending in late 2020.

Due to the topography of the Project Site, some grading would be required to create level surfaces for certain facilities (i.e., wind turbines and pads, O&M facility, substations, concrete batch plant, temporary staging/laydown areas). No cut material would be exported from the Project Site. Approximately 930 acres would be disturbed, which includes approximately 800 acres within the Campo Corridor and approximately 130 acres within the Boulder Brush Corridor.

Five miles of the gen-tie line would be located within the Campo Corridor and 3.5 miles of the gen-tie line would be located within the Boulder Brush Corridor; thus, emissions generated by construction of the gen-tie line were proportioned based on the length of each section on the Reservation and on and private lands within the County.

The Project would require the import of water for dust control, included in PDF-AQ-2. An estimated maximum demand of approximately 173 acre-feet of water would be required over the 14 months of construction (approximately 123 acre-feet for Campo Wind Facilities and approximately 50 acre-feet for Boulder Brush Facilities). Nonpotable water would be imported from commercial sellers such as the Jacumba Community Services District and Padre Dam Municipal Water District. Water would be transported to the site using 4,000-gallon water trucks, which are categorized as heavy-duty haul trucks in CalEEMod. Approximately 250,000 gallons per day would be required during peak construction demand, which would occur over the first 3 months of construction. For the remainder of Project construction, water demand would be reduced

[8] The analysis assumes a construction start date of late 2019. Assuming an earlier start date for construction represents the worst-case scenario for criteria air pollutant and GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

to approximately 120,000 to 150,000 gallons per day. This water would be used for concrete mixing, dust suppression, and other tasks. Construction water would be imported from JCSD located approximately 11 miles southeast of the Project Site, or PDMWD located approximately 47 miles northwest from the Project Site. Water would be transported to the site using 4,000-gallon water trucks, which are categorized as heavy-duty haul trucks in CalEEMod. An additional water source for the construction of the Campo Wind Facilities may include On-Reservation production wells on the southern end of the Reservation.

After site preparation, staging and assembly areas would be constructed, and grading of site access roads for wind turbine installation. Construction staging and material laydown areas would be distributed across the Project Site. Trucks and other vehicles would transport construction equipment, materials, and workers on access roads to the Project Site. Truck-mounted cranes would place turbines on foundations.

Based on data provided by the Developer and from similar projects in the general vicinity of the Project, the worker mix was assumed to include 55% coming from the west (San Diego County area) and 45% coming from temporary house site located at the Sacred Rock RV Park. The haul truck mix was assumed to include 45% from the east (Imperial County area) and 55% from the west (San Diego County area) (Terra-Gen 2019). The vendor trucks were assumed to come from a distance equivalent to the Padre Dam.

Project construction would then include several phases occurring simultaneously: wind turbine construction, including the assembly of turbines, installation of foundations, placement of turbines on foundations, and trenching and installation of electrical equipment for turbines; and electrical facilities, including the construction of substations, a transmission line, switchyard, and O&M facility; and grading of access roads.

The construction equipment mix and vehicle trips used for estimating the Project-generated construction emissions are shown in Table 8. For the analysis, it was generally assumed that heavy construction equipment would be operating at the site for approximately 5 days per week, during Project construction. PDF-AQ-1 would require the use of Tier 4 Final off-road construction equipment with engines rated at 75 horsepower or greater, thus minimizing emissions.

Table 8
Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Campo Wind Facilities – Clearing and grading	72	108	734	Graders	3	8
				Rubber-tired dozers	8	8
				Scrapers	3	8
				Crushing/processing equipment	1	8
Campo Wind Facilities – Construction of access roads	120	0	22	Scrapers	3	8
				Rubber-tired loaders	7	8
Campo Wind Facilities – Wind turbine foundation construction	168	20	3,046	Air compressors	3	8
				Generator sets	3	8
				Pumps	1	8
Campo Wind Facilities – Wind turbine erection	144	0	720	Cranes	19	7
				Air compressors	2	8
				Generator sets	3	8
				Pumps	2	8
				Welders	7	8
Campo Wind Facilities – Construction of underground electrical collection and communication system	240	12	368	Rubber-tired dozers	2	7
				Tractors/loaders/backhoes	4	8
				Trenchers	3	8
Campo Wind Facilities – Construction of collector substation	48	4	138	Air compressors	1	8
				Cranes	1	7
				Generator sets	2	8
				Pumps	1	8
				Tractors/loaders/backhoes	3	7
				Welders	2	8
Campo Wind Facilities – Gen-tie line foundation construction and tower erection	96	10	30	Forklifts	1	8
				Welder	1	7
				Air compressor	1	7
				Generator sets	2	6
				Pump	1	7
Campo Wind Facilities – Stringing and pulling	72	10	20	Welder	1	7
				Air compressor	1	7

Table 8
Construction Scenario Assumptions

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Campo Wind Facilities – Operations and maintenance building	120	4	20	Cranes	1	7
				Generator sets	1	8
				Tractors/loaders/backhoes	1	7
				Welders	1	8
Campo Wind Facilities – Meteorological (MET) tower	24	4	4	Cranes	1	7
				Generator sets	2	8
				Tractors/loaders/backhoes	1	7
				Welders	1	8
Boulder Brush Facilities – High-Voltage substation and switchyard	144	8	415	Air compressors	1	8
				Cranes	2	7
				Generator sets	6	8
				Pumps	3	8
				Tractors/loaders/backhoes	3	7
				Welders	2	8
Boulder Brush Facilities – Clearing and grading	48	20	0	Tractors/loaders/backhoes	4	7
				Rubber-tired dozers	4	8
				Graders	2	7
Boulder Brush Facilities – Construction unpaved access roads	48	10	32	Pavers	1	8
				Rollers	4	8
				Scrapers	2	8
				Paving equipment	4	8
				Pump	1	7
Boulder Brush Facilities – Gen-Tie line foundation construction and tower erection	96	10	30	Forklifts	1	8
				Welder	1	7
				Air compressor	1	7
				Generator sets	2	6
				Pump	1	7
Boulder Brush Facilities – Gen-Tie line stringing and pulling)	72	10	20	Welder	1	7
				Air compressor	1	7
Boulder Brush Facilities – Paving of switchyard access road	66	0	0	Pavers	1	8
				Paving equipment	4	8
				Rollers	8	8

Note: See Appendix A for details.

Temporary Concrete Batch Plant

A temporary concrete batch plant located within the Campo Corridor, on the Reservation would mix concrete for foundations of the turbines, meteorological towers, substations, transmission poles, and the O&M facility. The temporary concrete batch plant would occupy an area of approximately 3 acres. The temporary concrete batch plant would consist of a mixing plant, areas for aggregate and sand stockpiles, driveways, truck load-out area, turnaround(s), cement storage silos, water and mixture tanks, aggregate hoppers, conveyors, and augers to deliver different materials to the mixing plant. Emission factors were obtained from the EPA's Compilation of Air Pollutant Emission Factors (AP-42), Table 10.12-6, Plant Wide Emission factors per Yard of Central Mix Concrete (EPA 2006). The temporary concrete batch plant would operate for up to 14 months of the construction of the Project with a throughput of approximately 37,700 cubic yards (37,000 cubic yards of concrete for the construction of the Campo Wind Facilities, and 700 cubic yards of concrete for the construction of the Boulder Brush Facilities).

Temporary Staging/Laydown Areas

Two temporary staging areas on Reservation, of approximately 20 acres total, would be established to house construction management facilities, materials and equipment storage, and worker parking. Upon completion of construction, the O&M facility would be located within one of the temporary staging area footprints. In addition to the temporary central staging areas, each turbine would require a temporary staging area at the turbine location for the assembly of the turbine components and to erect each turbine. Each temporary staging area would be approximately 100 feet by 200 feet, plus clearing for blades.

Blasting

Blasting operations would be required for site preparation. Rock blasting is the controlled use of explosives to excavate, break down, or remove rock. The result of rock blasting is often known as a rock cut. The most commonly used explosives today are ammonium nitrate/fuel oil (ANFO)–based blends due to their lower cost compared to dynamite. The chemistry of ANFO detonation is the reaction of ammonium nitrate with a long-chain alkane to form NO_x, carbon dioxide, and water. When detonation conditions are optimal, these gases are the only products. In practical use, such conditions are impossible to attain, and blasts produce moderate amounts of other gases. The AP-42, Section 13.3 – Explosives Detonation (EPA 1980), provided the emissions factors for CO, NO_x, and SO_x used in this assessment. According to AP-42, "Unburned hydrocarbons also result from explosions, but in most instances, methane is the only species that has been reported" (EPA 1980); methane is not a VOC, and a methane emission factor has not been determined for ANFO.

AP-42 states that CO is the pollutant produced in greatest quantity from explosives detonation. All explosives produce measurable amounts of CO. Particulates are produced as well, but such large quantities of particulate are generated during shattering of the rock and earth by the explosive that the quantity of particulates from the explosive charge cannot be distinguished. Accordingly, AP-42, Section 11.9 – Western Surface Coal Mining (EPA 1998), provided the basis for the PM_{10} and $PM_{2.5}$ emissions factors. The emissions factors are based on the horizontal area disturbed during blasting.

It is anticipated that blasting operations would occur during the grading phase. As specified by PDF-AQ-4, no more than two blasts per day would occur during construction activities. An average of 1.2 tons of ANFO would be applied per blast (Terra-Gen 2019). All blasting activity would comply with Section 96.1.5601.2 of the County of San Diego 2017 Consolidated Fire Code. PDF-AQ-2 and PDF-AQ-3 would require fugitive dust control measures to reduce emissions associated with blasting and rock-crushing activities. The blasting information provided by both the Developer and Boulder Brush Developer and additional calculation assumptions are provided in Table 9.

Table 9
Blasting Characteristics

Activity	Amount
Total rock requiring blasting (cubic yards)	**1,537,480**
Rock blasted per blast (cubic yards per blast)	15,000
Maximum blasts per day (blasts per day)	2
Maximum explosive per blast (tons ANFO per blast)	1.2
Total explosives used (tons ANFO)	**123**
Maximum area blasted per day (square feet per day)	4,004
Total area blasted (square feet)	**136,786**

Source: Terra-Gen 2019.
Note: ANFO = ammonium nitrate/fuel oil.

Rock Crushing

Emissions associated with rock crushing were quantified in a separate calculation, since CalEEMod does not account for rock crushing fugitive dust emissions. Emissions factors were obtained from AP-42, Section 11.9.2 – Crushed Stone Processing and Pulverized Mineral Processing (EPA 2004). For transfers to the feed hopper and stockpiles, the "drop" equation in Section 13.2.4 – Aggregate Handling and Storage Piles of AP-42 (EPA 2006) was used to derive an emissions factor. Rock crushing would occur on an as-needed basis and would not occur every day during construction. Rock crushing information was provided by the Developer and Boulder Brush Developer and additional calculation assumptions are provided in Table 10.

Table 10
Rock Crushing Characteristics

Activity	Amount
Amount of rock to be processed (cubic yards)	30,770
Number of rock crushing facilities	1
Number of generators	1
Operating hours per day per generator (hours per day)	8
Total rock processed per day (cubic yards day)	**3,077**
Total operating days (days)	**62**

Source: Terra-Gen 2019.

The rock-crushing equipment was assumed to consist of a crusher, screen, and conveyor, and the crushed rock would be stockpiled for future use. Although a single primary crusher and screen may be all that is required, use of a secondary crusher and additional screen would expedite this process. To generate a conservative emissions estimate, it was assumed that a feed hopper, primary and secondary crushers, two screens, and several conveyors for transfers would be used. Particulate emissions from the crushers, screens, and conveyors would be controlled with water sprays.

It is expected that the rock-crushing equipment would be powered by a diesel-engine generator. The engine generator would operate up to 8 hours per day. The VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from the diesel-engine generator were estimated using the CalEEMod. Rock-crushing emissions calculations are provided in Appendix A.

Decommissioning

The Project is anticipated to operate for the term of the Campo Lease and any renewal extension (approximately 30 years, at minimum), after which it would be decommissioned, except for the SDG&E-owned and operated switchyard and connection lines to Sunrise Powerlink, which would not be decommissioned. All decommissioning would occur within the Project Site and disturbance limits, and would involve similar, although reduced, construction equipment and activities.

For purposes of estimating Project decommissioning emissions, and based on information provided by the applicant, it is assumed that decommissioning of the Project would commence in January 2052[9] and would last approximately 7 months. However, because CalEEMod relies on the CARB EMFAC 2014 it is only able to estimate mobile source emissions through 2050.

[9] The analysis assumes a construction start date of January 2052, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Therefore, the emissions for decommissioning were estimated in year 2050. This is conservative as the emissions are likely less in 2052 as vehicles and construction equipment become more efficient. The analysis contained herein is based on the following subset area schedule assumptions (duration of phases is approximate. Detailed construction equipment modeling assumptions are provided in Appendix A.

Emissions from the decommissioning phase of the Project were estimated using CalEEMod. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the applicant, CalEEMod defaults, and best engineering judgment.

General decommissioning equipment modeling assumptions are provided in Table 11, Decommissioning Scenario Assumptions. Default values for equipment mix, horsepower, and load factor provided in CalEEMod were used for all construction equipment. For the analysis, it was generally assumed that heavy-duty equipment would be operating at the site 5 days per week. For the purposes of estimating emissions, it was assumed that worker trips and truck trips would be made to the site independently; however, it is likely that workers would drive trucks to and from the site for removal of materials rather than driving in a separate vehicle. Therefore, the estimates provides in Table 11 are conservative. Detailed construction equipment modeling assumptions are provided in Appendix A.

Table 11
Decommissioning Scenario Assumptions

	One-Way Vehicle Trips			Equipment		
Construction Phase	*Average Daily Worker Trips*	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Campo Wind Facilities - System disassembly and removal	168	1,178	0	Cranes	1	8
				Generator Sets	2	8
				Off-Highway Trucks	6	8
				Other Construction Equipment	4	8
				Rough Terrain Forklifts	4	8
Campo Wind Facilities - Site cleanup & restoration	72	0	0	Graders	4	8
				Skid Steer Loaders	1	8
Boulder Brush Facilities - System disassembly and removal	96	30	0	Cranes	1	8
				Generator Sets	1	8
				Off-Highway Trucks	4	8
				Other Construction Equipment	2	8
				Rough Terrain Forklifts	2	8

Table 11
Decommissioning Scenario Assumptions

	One-Way Vehicle Trips			Equipment		
Construction Phase	*Average Daily Worker Trips*	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Boulder Brush Facilities - Site cleanup & restoration	48	0	0	Graders	1	8
				Skid Steer Loaders	1	8

Note: See Appendix A for additional details.

The estimated number of workers and haul truck trips were provided by the applicant. Changes to any standard default values or assumptions are reported in the CalEEMod output (see Appendix A). Based on data provided by the Developer and from similar projects in the general vicinity of the Project Site, the worker mix was assumed to include 55% coming from the west (San Diego County area) and 45% coming from temporary house site located at the Sacred Rock RV Park. The haul-truck mix was assumed to include 45% from the east (Imperial County area) and 55% from the west (San Diego County area) (Terra-Gen 2019).

Carbon Monoxide Hotspots

Mobile source impacts occur on two scales of motion: regionally and locally. Regionally, travel related to the Project would add to regional trip generation and increase vehicle miles traveled within the local airshed and the SDAB. Locally, traffic generated by the Project would be added to the County's roadway system near the Project Area. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-starting" and operating at pollution-inefficient speeds, and is operating on roadways already congested with non-Project traffic, there is a potential for the formation of microscale CO hotspots in the area immediately around points of congested traffic.

In addition to the numerous factors that would need to be present for a CO hotspot to occur, the potential for CO hotspots in the SDAB is steadily decreasing because of the continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, and the already very low ambient CO concentrations. Furthermore, CO transport is extremely limited, and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, children, hospital patients, and older adults. Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable LOS. Projects contributing to adverse traffic impacts may result in the formation of CO hotspots.

As indicated in the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements – Air Quality (County of San Diego 2007), a site-specific CO hotspot analysis should be performed if a proposed development would cause road intersections to operate at or below a LOS E with intersection peak-hour trips exceeding 3,000. Projects that cause road intersections to operate at or LOS E (analysis required only when the addition of peak-hour trips from the Project and the surrounding projects exceeds 2,000) and create a CO hotspot, create a cumulatively considerable net increase of CO

Health Risk Assessment

As a precautionary measure, an HRA was performed to assess potential Project construction impacts on sensitive receptors proximate to the Project Area. This report includes an HRA associated with emissions from construction of the Project based on the methodologies prescribed in the Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program Risk Assessment Guidelines – Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015). To implement the OEHHA Guidelines based on Project information, the SDAPCD has developed a three-tiered approach where each successive tier is progressively more refined, with fewer conservative assumptions. The SDAPCD Supplemental Guidelines for Submission of Air Toxics "Hot Spots" Program Health Risk Assessments provides guidance with which to perform HRAs within the SDAB (SDAPCD 2015b).

Health effects from carcinogenic air toxics are usually described in terms of cancer risk. The SDAPCD recommends a carcinogenic (cancer) risk threshold of 10 in 1 million. However, the County implements a threshold of 1 in 1 million without the use of T-BACT and 10 in 1 million with the use of T-BACT. Additionally, some TACs increase non-cancer health risk due to long-term (chronic) exposures. The Chronic Hazard Index is the sum of the individual substance chronic hazard indices for all TACs affecting the same target organ system. The SDAPCD and County recommend a Chronic Hazard Index significance threshold of 1.0 (Project increment). The exhaust from diesel engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. DPM has established cancer risk factors and relative exposure values for long-term chronic health hazard impacts. No short-term, acute relative exposure level has been established for DPM. In addition to TAC emissions from exhaust, there are TACs found within the fugitive dust emissions created on site (from rock crushing, concrete batch plant operations, on-site vehicle traffic, and blasting). This HRA evaluated the risk to existing residents from diesel emissions from exhaust from on-site construction equipment and diesel haul and vendor trucks as well as fugitive dust emissions.

The dispersion modeling of DPM was performed using the American Meteorological Society/EPA Regulatory Model (AERMOD), which is the model SDAPCD requires for atmospheric dispersion of emissions. AERMOD is a steady-state Gaussian plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of surface and elevated sources, building downwash, and simple and complex terrain (EPA 2018). For the Project, AERMOD was run with all sources emitting unit emissions (1 gram per second) to obtain the "X/Q" values. X/Q is a dispersion factor that is the average effluent concentration normalized by source strength and is used as a way to simplify the representation of emissions from many sources. The X/Q values of ground-level concentrations were determined for construction emissions using AERMOD and the maximum concentrations determined for the 1-hour and Period averaging periods. Principal parameters of this modeling are presented in Table 12.

Table 12
American Meteorological Society/Environmental Protection Agency Regulatory Model Principal Parameters

Parameter	Details
Meteorological Data	The latest 3-year meteorological data (2013–2015) for the Campo Station from SDAPCD were downloaded and then input to AERMOD.
Urban versus Rural Option	Urban areas typically have more surface roughness, as well as structures and low-albedo surfaces that absorb more sunlight—and thus more heat—relative to rural areas. However, based on the SDAPCD guidelines and the Project location, the rural dispersion option was selected.
Terrain Characteristics	The terrain in the vicinity of the modeled Project Site is generally mountainous. The elevation of the modeled site is between 3,030 and 4,320 feet above sea level. Digital elevation model files were imported into AERMOD so that complex terrain features were evaluated as appropriate.
Elevation Data	Digital elevation data were imported into AERMOD, and elevations were assigned to the emission sources and receptors. Digital elevation data were obtained through AERMOD View in the United States Geological Survey's National Elevation Dataset format with a 10-meter resolution.
Emission Sources and Release Parameters	Air dispersion modeling of DPM from construction equipment and diesel vehicles was conducted using emissions estimated using the CalEEMod, assuming emissions would occur up to 8 hours per day, 5 days per week. The Project Area was modeled as a series of volume sources.
Source Release Characterizations	The source release height was assumed to be 5 meters. The length of the volume sources was assumed to be 25 meters on each side with an initial lateral and vertical dimension of 5.81 meters.
Discrete Receptors	The receptors in proximity to the site are very infrequent and sporadic. Discrete receptors were placed at identified existing residential structures.

Source: See Appendix B.
SDAPCD = San Diego Air Pollution Control District; AERMOD = American Meteorological Society/Environmental Protection Agency Regulatory Model; DPM = diesel particulate matter; CalEEMod = California Emissions Estimator Model.

Dispersion model plotfiles from AERMOD were then imported into CARB's Hotspots Analysis and Reporting Program Version 2 to determine health risk, which requires peak 1-hour emission rates and annual-averaged emission rates for all pollutants for each modeling source. For the

residential health risk, the HRA assumes exposure would start in the third trimester of pregnancy. The nearest sensitive-receptor land use (existing residence) to disturbance areas would be located approximately 200 feet from construction activities related to the Campo Wind Facilities and 38 feet from construction activities related to the Boulder Brush Facilities.

In addition to the cancer and non-cancer HRA prepared for the Project, a lead exposure screening assessment was performed in accordance with the CARB's Risk Management Guidelines for Lead (CARB 2001). This screening utilized the same AERMOD setup as described above in the HRA but used lead as the pollutant and modelled the actual emissions of lead for the Project, as opposed to the unit emissions rate of 1 gram per second.

2.4.2.2 Operational Emissions

Emissions from the operational phase of the Project were estimated using CalEEMod Version 2016.3.2. Operational year 2021 was assumed upon construction completion. The Project is anticipated to operate for the term of the Campo Lease and any renewal extension (approximately 30 years, at minimum). Operation of the Project would be limited to general maintenance and security. Facility maintenance is summarized below for each facility.

Operational Traffic

Project operations would generate minimal annual emissions from maintenance and security vehicles. According to the Developer, the Project would employ approximately 10 to 12 full-time employees throughout the life of the Project, generating 12 round trips per day (24 one-way trips), 7 days per week. Security staff traveling throughout the Project Area would use light-duty pickup trucks. Although workers may come from areas closer to the Project Area, such as the community of Campo, workers were conservatively assumed to travel from downtown San Diego (68 miles one-way). The Boulder Brush Facilities would require occasional maintenance activities.

Wind Turbine Generator

Scheduled maintenance on the wind turbines would include mechanical and electrical checks and maintenance. Initial maintenance would be performed after 1 to 3 months of operation; thereafter, maintenance would be performed approximately every 6 months or earlier as required. Maintenance on individual turbines would be done on a rotating basis by on-site technicians, operating in two- or three-person crews. Unscheduled turbine maintenance would include troubleshooting and replacing or repair of major or minor components, on an as-needed basis by on-site technicians. Some of the unscheduled maintenance would potentially require the use of cranes to remove and replace major components.

Access Roads

Maintenance of access roads would include roadway resurfacing and the clearing of debris from culverts and drainage ditches. Annual inspections of access roads would be completed in the spring and summer months by the on-site O&M staff.

Electrical Collection and Communication System

Collector lines would primarily be buried underground, and thus, would not be subject to visual inspections. However, collector lines aboveground, including lines and poles, would be subject to regular visual inspections and routine mechanical maintenance, performed annually as necessary. Vegetation management tasks would include annual mowing of vegetation along buried cable rights-of-way.

Transmission Lines

Transmission lines and poles would be subject to regular visual inspections and routine mechanical maintenance. Scheduled maintenance and inspections would be performed annually and as necessary. Vegetation management tasks would include annual mowing of vegetation along buried transmission line right-of-ways.

Meteorological Towers

The permanent meteorological towers would be inspected on a regular basis and regular maintenance may include upgrades to equipment on the towers but would not include alterations to the tower structure or require ground disturbance.

Substation Equipment

Substation equipment would be subject to regular visual inspections and routine mechanical maintenance, performed annually and as necessary.

Operations and Maintenance Facility

The O&M facility would require standard maintenance including interior cleaning and housekeeping, removal of trash, repairs to driveway surface, and cleaning/clearing of gutters. It is anticipated that on-site groundwater on Reservation would be used for the O&M facility's water demand, otherwise water would be trucked in from Jacumba Community Services District (JCSD) or Padre Dam Municipal Water District (PDMWD).

Fire Management

Fuel modification zones within which vegetation would be annually cropped to limit vegetation height and fire fuel potential around Project facilities would be maintained during Project operations.

Stationary Sources

The Project would include four 150-kilowatt diesel emergency generators, required at the O&M Facility, the collector substation, the high-voltage substation, and the switchyard. Each generator was assumed to operate for testing and maintenance approximately 30 minutes each month, for a total of up to 50 hours per year. The CalEEMod default emission factors for emergency generators were used to estimate emissions from this source.

2.5 Air Quality Impact Analysis

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. Therefore, such emission levels can only be approximately estimated with a corresponding uncertainty in precise ambient air quality impacts.

2.5.1 Conformance to the Regional Air Quality Strategy

Guideline for the Determination of Significance

Based on Appendix G of the CEQA Guidelines the Project would have a significant impact if it would:

- Conflict with or obstruct the implementation of the RAQS and/or applicable portions of the SIP.

Significance of Impacts Prior to Mitigation

The SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the ambient air quality standards in SDAB; specifically, the SIP and RAQS.[10] The federal O_3 maintenance plan, which is part of the SIP, was adopted in 2016. The SIP includes a demonstration that current strategies and tactics will maintain acceptable air quality in the SDAB based on the NAAQS. The RAQS was initially adopted in 1991 and is updated on a

[10] For the purpose of this discussion, the relevant federal air quality plan is the ozone maintenance plan (SDAPCD 2016a). The RAQS is the applicable plan for purposes of state air quality planning. Both plans reflect growth projections in the SDAB.

triennial basis (most recently in 2016). The RAQS outlines SDAPCD's plans and control measures designed to attain the state air quality standards for O_3. The SIP and RAQS rely on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the cities in county, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by San Diego County and the cities in the County as part of the development of their general plans.

If a project involves development that is greater than that anticipated in the local plan and SANDAG's growth projections, that project might be in conflict with the SIP and RAQS and may contribute to a potentially significant cumulative impact on air quality. The Project Site is located partially on Reservation lands and partially on private land southeastern San Diego County. The Project Site consists of the western and central portions of the Reservation. The Project Site is largely open rangeland/desert surrounded by rural residential homes and ranches scattered throughout the region. The Project would include neither a residential component that would increase local population growth, nor a commercial component that would substantially increase employment; rather, the Project would construct and operate a renewable energy generation project.

In the County's General Plan EIR, the land use designation for the Boulder Brush Facilities is designated as Rural Lands 80 (RL-80) (County of San Diego 2011a). The Boulder Brush Facilities is zoned General Rural (S92) by the County of San Diego Zoning Map (County of San Diego 2017a). Minor and major impact utilities are allowed with approval of a use permit (County of San Diego 2017b). Major impact services and utilities (e.g., wind energy facilities) and minor impact utilities (e.g., electrical distribution substations) are defined under Sections 1350 and 1355 of the County Zoning Ordinance. The Boulder Brush Facilities require approval of a Major Use Permit from the County, but would not require a change in land use designation or zoning. The County's General Plan and zoning do not cover land within the Reservation Boundary.

The Project is anticipated to generate approximately 12 round trips per day (24 one-way trips) as a result of 10 to 12 operational employees traveling to and from the Project Site from downtown San Diego.

Moreover, construction of the Project would not result in residential, commercial, or growth-inducing development that would result in a substantial increase in growth-related emissions. During operation, staff would visit various on-site Project components periodically for maintenance and other operational activities. Maintenance trucks would be used to perform routine maintenance, including equipment testing, monitoring, repair, routine procedures to ensure service continuity, and standard preventive maintenance. Operation of the Project would result in a

negligible increase in local employment and associated trips. Since the Project would not contribute to local population growth or substantial employment growth and the growth-related emissions, the Project is considered accounted for in the SIP and RAQS, and the Project would not conflict with or obstruct implementation of local air quality plans; therefore, impacts would be **less than significant**.

Mitigation Measures

None required.

Level of Significance after Mitigation

Impacts would be less than significant without mitigation.

2.5.2 Cumulatively Considerable Net Increase of Criteria Air Pollutants

The EPA and CARB set the Federal and State Ambient Air Quality Standards to be protective of human health. Table 13 presents a list of the criteria pollutants and other related pollutants of concern and associated emission sources, health effects, and current SDAB attainment status.

Table 13
Pollutants, Sources, Health Effects, and Attainment Status

Pollutant	Sources	Health Effects	Attainment Status	
			NAAQS	*CAAQS*
Ozone (O_3)	Formed when volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) react in the presence of sunlight. VOC sources include any source that burns fuels (e.g., gasoline, natural gas, wood, and oil), solvents, coatings, consumer products, and petroleum processing and storage.	Breathing difficulties, lung tissue damage, and vegetation damage.	Nonattainment	Nonattainment
Nitrogen Dioxide (NO_2)	See carbon monoxide.	Lung irritation and damage. Reacts in the atmosphere to form ozone and acid rain.	Unclassifiable/ Attainment	Attainment
Carbon Monoxide (CO)	Any source that burns fuel such as automobiles, trucks, heavy construction and farming equipment, and residential and industrial heating.	Chest pain in heart patients, headaches, reduced mental alertness.	Attainment	Attainment

Table 13
Pollutants, Sources, Health Effects, and Attainment Status

Pollutant	Sources	Health Effects	Attainment Status	
			NAAQS	*CAAQS*
Sulfur Dioxide (SO_2)	Coal- or oil-burning power plants and industries, refineries, diesel engines.	Increases lung disease and breathing problems for asthmatics. Reacts in the atmosphere to form acid rain.	Unclassifiable/ Attainment	Attainment
Respirable Particulate Matter (PM_{10})	Road dust, windblown dust, agriculture and construction, fireplaces. Also formed from other pollutants (NO_x, SO_x, organics). Incomplete combustion.	Increased respiratory disease, lung damage, cancer, premature death.	Unclassifiable/ Attainment	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning. Also formed from reaction of other pollutants (NO_x, SO_X, VOCs, and ammonia).	Increases respiratory disease, lung damage, cancer, and premature death. Particles can aggravate heart diseases such as congestive heart failure and coronary artery disease.	Unclassifiable/ Attainment	Nonattainment
Lead	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	Learning disabilities, brain and kidney damage.	Unclassifiable/ Attainment	Attainment
Sulfates	Produced by reaction in the air of SO_2, (see SO_2 sources), a component of acid rain.	Breathing difficulties, aggravates asthma.	No federal standard	Attainment
Hydrogen Sulfide	Geothermal power plants, petroleum production and refining, sewer gas.	Headache and breathing difficulties (higher concentrations).	No federal standard	Unclassified
Vinyl Chloride	Exhaust gases from factories that manufacture or process vinyl chloride (construction, packaging, and transportation industries).	Central nervous system effects (e.g., dizziness, drowsiness, headaches), kidney irritation, liver damage, liver cancer.	No federal standard	No designation

Source: County of San Diego 2007.
Attainment = meets the standards; Nonattainment = does not meet the standards; Unclassified or Unclassifiable = insufficient data to classify; Unclassifiable/Attainment = meets the standard or is expected to be meet the standard despite a lack of monitoring data.
N/A = Not Applicable

In analyzing cumulative impacts from a project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SDAB is listed as nonattainment for the state and federal ambient air quality standards. The SDAB has been designated as a federal nonattainment area for O_3 and a state nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SDAB. A project would have a cumulatively considerable impact

if emissions generated by the project would exceed thresholds for VOC or NO_x (O_3 precursors), PM_{10}, and/or $PM_{2.5}$. If the project does not exceed thresholds and is determined to have less-than-significant impacts, it may still have a cumulatively considerable impact on air quality if emissions from the project, in combination with emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, a project would have a cumulative impact only if the project's contribution accounts for a significant proportion of the cumulative total emissions.

Background ambient air quality, as measured at the monitoring stations maintained and operated by SDAPCD, is the concentration of pollutants from existing sources; therefore, past and present impacts are included in the background ambient air quality data.

Geographic Extent

The geographic extent for the analysis of cumulative impacts related to air quality is the south-central portion of the SDAB (San Diego County). Due to the nonattainment status of the SDAB, the primary air pollutants of concern are VOC and NO_x, which are O_3 precursors, and PM_{10} and $PM_{2.5}$. Because of the nature of O_3 as a regional air pollutant, emissions from the entire geographic area for this cumulative impact analysis would tend to be important. PM_{10} and $PM_{2.5}$ impacts, on the other hand, tend to occur locally; thus, projects occurring in the same general area and in the same time period tend to create cumulative air quality impacts.

Existing Cumulative Conditions

Air quality management in the geographic area for the cumulative impact assessment is the responsibility of the SDAPCD. Existing levels of development in the County have led to the nonattainment status for O_3 with respect to the CAAQS and NAAQS, and for PM_{10} and $PM_{2.5}$ with respect to the CAAQS. The nonattainment status is based on ambient air quality monitoring generally conducted in the urban portions of the County. Due to its proximity to the Project Site (approximately 33 miles west of the Project Site), similar geographic and climactic characteristics, and available measured ambient concentrations of pollutants, the El Cajon-Lexington Elementary monitoring station monitors concentrations for all pollutants, and is considered most representative of the Project Site. The air quality plans prepared by the SDAPCD reflect future growth under local development plans, but they are intended to reduce emissions Countywide to levels that would comply with the NAAQS and CAAQS through implementation of new regulations at the local, state, and federal levels.

The separate guidelines of significance discussed below were developed to respond to the following question from the CEQA Guidelines Appendix G:

- Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is nonattainment under an applicable federal or State ambient air quality standard?

Construction Impacts

Guidelines for the Determination of Cumulative Significance

Cumulatively considerable net increases during the construction phase would typically occur if two or more projects near each other are simultaneously under construction. The following guidelines for determining significance must be used for determining the cumulatively considerable net increases during the construction phase:

- A project that has a significant direct impact on air quality with regard to emissions of PM_{10}, $PM_{2.5}$, NO_x, and/or VOCs would also have a significant cumulatively considerable net increase.
- In the event direct impacts from a project are less than significant, a project may still have make a cumulatively considerable contribution to significant cumulative impacts on air quality if the emissions of concern from that project, in combination with the emissions of concern from other projects being constructed at the same time project within a proximity relevant to the pollutants of concern would together exceed the guidelines.

Significance of Impacts Prior to Mitigation

In analyzing cumulative impacts from a project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS.[11] If a project's emissions do not exceed thresholds and is determined to have less-than-significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds.

Construction of the Project would result in the temporary addition of pollutants to the local airshed caused by on-site sources (e.g., off-road construction equipment, soil disturbance, VOC off-

[11] The Project Area is designated as maintenance for CO under the NAAQS. Although not required by County of San Diego guidelines, potentially significant impacts from CO emissions are also discussed herein.

gassing from architectural coatings and asphalt pavement application, and internal haul trucks) and off-site sources (e.g., vendor trucks and worker vehicle trips). Specifically, entrained dust results from the exposure of earth surfaces to wind from the direct disturbance and movement of soil, resulting in PM_{10} and $PM_{2.5}$ emissions. Internal combustion engines used by construction equipment, internal haul trucks, vendor trucks (i.e., delivery trucks), and worker vehicles would result in emissions of VOCs, NO_x, CO, PM_{10}, and $PM_{2.5}$. The application of architectural coatings, such as exterior application/interior paint and other finishes, and application of asphalt pavement would also produce VOC emissions.

As discussed in Section 1.4, Project Design Features, Campo Wind Facilities and Boulder Brush Facilities would require implementation of dust control strategies as a PDF. To reflect implementation of proposed dust control strategies, the following was assumed in CalEEMod Version 2016.3.2:

- Water exposed area three times per day (61% reduction in PM_{10} and $PM_{2.5}$).
- The "soil stabilizer for unpaved" option was used assuming an 84% reduction in PM_{10} and $PM_{2.5}$.
- Limit vehicle travel on unpaved roads to 15 miles per hour.

The Project maximum daily construction emissions, with quantified reductions from PDF-AQ-1 through PDF-AQ-5 and compliance with SDAPCD rules, are summarized in Table 14.

Table 14
Estimated Project Maximum Daily Construction
Criteria Air Pollutant Emissions – Unmitigated
(with Project Design Features and San Diego Air Pollution Control District Rules)

Phase Description	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2019						
Campo Wind Facilities	8.42	120.60	315.50	5.31	51.14	17.97
Boulder Brush Facilities	20.49	195.86	139.17	0.32	27.43	15.99
2019 Total	**28.90**	**316.46**	**454.67**	**5.63**	**78.57**	**33.96**
2020						
Campo Wind Facilities	13.30	84.56	266.58	0.72	26.64	8.96
Boulder Brush Facilities	12.05	93.45	100.39	0.22	11.13	6.30
2020 Total	**23.35**	**178.01**	**366.96**	**0.94**	**37.77**	**15.26**
Maximum Daily Emissions	*28.90*	*316.46*	*454.67*	*5.63*	*78.57*	*33.96*
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: See Appendix A.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.

Numbers may not add exactly due to rounding.
Gen-tie line construction criteria air pollutant emissions were proportioned based on 5 miles located within the Reservation Boundary and 3.5 miles located within the Boulder Brush Boundary.
Concrete batch plant, rock crushing, and blasting emissions were calculated separately and included in the 2019 construction emissions.
Project emissions include quantified reductions from PDF-AQ-1 through PDF-AQ-5.

As shown in Table 14, maximum daily construction emissions would not exceed SDAPCD's daily thresholds for VOC, CO, SO_x, PM_{10}, and $PM_{2.5}$. Emissions of NO_x would exceed the daily emission threshold of significance. Thus, impacts would be **potentially significant**; therefore, mitigation is required.

Boulder Brush Facilities' estimated maximum daily construction emissions are summarized in Table 15.

Table 15
Estimated Maximum Daily Boulder Brush Facilities
Construction Criteria Air Pollutant Emissions – Unmitigated

Year	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2019	20.49	195.86	139.17	0.32	27.43	15.99
2020	12.05	93.45	100.39	0.22	11.13	6.30
Maximum Daily Emissions	*20.49*	*195.86*	*139.17*	*0.32*	*27.43*	*15.99*
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix A.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Emissions represent Boulder Brush Facilities construction activities only, and emissions from concrete batch plant were calculated separately and included in the 2019 construction emissions.
Gen-tie line construction criteria air pollutant emissions were proportioned based on 5 miles located within the Reservation Boundary and 3.5 miles located within the Boulder Brush Boundary.
Boulder Brush Facilities estimated emissions within the County of San Diego include compliance with all regulations and PDF-AQ-2.
Numbers may not add exactly due to rounding.

As shown in Table 15, maximum daily construction emissions from construction of Boulder Brush Facilities would not exceed SDAPCD's daily thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. Thus, impacts would be **less than significant**.

Construction of cumulative projects simultaneously with the Project would result in a temporary addition of pollutants to the local airshed caused by off-road construction equipment, soil disturbance, architectural coating and asphalt pavement VOC off-gassing, on-road haul trucks, vendor trucks, and worker vehicle trips. Fugitive dust (PM_{10} and $PM_{2.5}$) emissions would primarily result from site preparation and grading activities. NO_x emissions would primarily result from the use of construction equipment and motor vehicles, the latter of which would generally be dispersed

over a large area where the vehicles are traveling. VOC emissions would primarily result from architectural coatings of buildings, which by nature would be dispersed over the Project Site.

Without mitigation, maximum daily construction emissions of VOC, CO, SO_x, PM_{10}, and $PM_{2.5}$ generated by the Project would not exceed the significance thresholds; however, the Project-generated maximum daily construction emissions would exceed the NO_x threshold. Construction would be short-term and temporary, lasting approximately 14 months. Once construction is completed, construction-related emissions would cease.

Should other projects occur in the vicinity of the Project during Project construction, significant effects related to NO_x emissions would be further intensified due to multiple sites with potential exhaust emissions from construction equipment, worker vehicles (resulting in increased NO_x emissions), and truck trips associated with material deliveries and on-site hauling activities. Due to the likelihood of a large number of off-site worker vehicle and truck trips required during construction of combined future projects in the cumulative study area, no feasible mitigation would be available to reduce cumulative effects for these criteria pollutants. As shown in Table 15, unmitigated construction emissions with implementation of PDFs and compliance with SDAPCD rules would exceed the threshold for NO_x. Therefore, the Project's cumulative construction effects would be **potentially significant.**

Mitigation Measures

Mitigation Measures M-AQ-1 through M-AQ-5 are provided to reduce VOCs, NO_x, PM_{10}, $PM_{2.5}$, and DPM emissions to the extent feasible. These mitigation measures would be required for Boulder Brush Facilities as part of the County's Major Use Permit approval.

M-AQ-1 Prior to the County of San Diego's (County's) approval of any construction-related permits, the Boulder Brush Developer or its designee shall place the following requirements on all plans, which shall be implemented during each construction phase to minimize volatile organic compound (VOC), carbon monoxide (CO), and oxides of nitrogen (NO_x) emissions:

a. Prior to the commencement of any construction activities, the applicant or its designee shall provide evidence to the County that for off-road equipment with engines rated at 75 horsepower or greater, no construction equipment shall be used that is less than Tier 4 Final. An exemption from these requirements may be granted by the County in the event that the applicant documents that equipment with the required tier is not reasonably available and corresponding reductions in criteria air pollutant emissions are achieved from another

construction equipment. Before an exemption may be considered by the County, the applicant shall be required to demonstrate that three construction fleet owners/operators in the San Diego region were contacted and that those owners/operators confirmed Tier 4 Final equipment could not be located within the San Diego region.

b. Vehicles in loading and unloading queues shall not idle for more than 5 minutes and shall turn their engines off when not in use to reduce vehicle emissions.

c. All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications.

d. The use of electrical or natural gas-powered construction equipment shall be employed where feasible, including forklifts and other comparable equipment types.

M-AQ-2 **Fugitive Dust Control**. The following control measures shall be implemented to minimize fugitive dust (coarse particulate matter [PM_{10}] and fine particulate matter [$PM_{2.5}$]) and diesel particulate matter, to comply with County Code Section 87.428 (Grading Ordinance), and with San Diego Air Pollution Control District (SDAPCD) Rule 55 (Fugitive Dust Control). Prior to the County's issuance of any Grading Permits, the Boulder Brush Developer or its designee shall demonstrate compliance with the requirements of this mitigation measure on site and grading plans prepared as part of the Grading Permit application:

a. An SDAPCD-approved non-toxic dust control agent shall be used on the grading areas or watering shall be applied at least three times daily.

b. All main roadways shall be constructed and paved as early as possible in the construction process.

c. Grading areas shall be stabilized as quickly as possible.

d. Chemical stabilizer shall be applied, a gravel pad shall be installed, or the last 100 feet of internal travel path within the construction site shall be paved prior to public road entry and for all haul roads.

e. Wheel washers shall be installed adjacent to the apron indicated in (c) for tire inspection and washing prior to vehicle entry on public roads.

f. Visible track-out into traveled public streets shall be removed with the use of sweepers, water trucks, or similar method ~~within 30 minutes of occurrence~~ <u>when active operations cease or every 24 hours for continuous operations</u>.

g. Sufficient perimeter erosion control shall be provided to prevent washout of silty material onto public roads.

h. Unpaved construction site egress points shall be graveled to prevent track-out.

i. Construction access points shall be wet-washed at the end of the workday if any vehicle travel on unpaved surfaces has occurred.

j. Transported material in haul trucks shall be watered or treated.

k. All soil disturbance and travel on unpaved surfaces shall be suspended if winds exceed 25 miles per hour.

l. On-site stockpiles of excavated material shall be covered.

m. A 15 mile per hour speed limit on unpaved surfaces shall be enforced.

n. Construction traffic control plans shall route delivery and haul trucks required during construction away from sensitive receptor locations and congested intersections to the extent feasible. Construction Traffic Control plans shall be finalized and approved prior to issuance of grading permits.

M-AQ-3 The following measures shall be implemented for the Boulder Brush Facilities to reduce fugitive dust emissions (PM_{10} and $PM_{2.5}$) associated with blasting and rock-crushing activities. Prior to the County of San Diego's issuance of any Grading Permits, the Boulder Brush Developer or its designee shall demonstrate compliance with the requirements of this mitigation measure on site and grading plans prepared as part of the Grading Permit application:

a. During blasting activities, the construction contractor shall implement measures to control fugitive dust, including exhaust ventilation, blasting cabinets and enclosures, vacuum blasters, drapes, water curtains, or wet blasting. Watering methods, such as water sprays and water applications, shall be implemented during blasting, rock crushing, cutting, chipping, sawing, or any activity that would release dust particles to reduce fugitive dust emissions.

b. During rock crushing transfer and conveyance activities, material shall be watered prior to entering the crusher. Crushing activities shall not exceed an opacity limit of 20% (or Number 1 on the Ringelmann Chart) as averaged over a 3-minute period in any period of 60 consecutive minutes, in accordance with San Diego Air Pollution Control District (SDAPCD) Rule 50, Visible Emissions. A qualified opacity observer shall monitor opacity from crushing activities once every 30 days while crushers are employed on site to ensure

compliance with SDAPCD Rule 50. Water sprayers, conveyor belt enclosures, or other mechanisms shall be employed to reduce fugitive dust generated during transfer and conveyance of crush material.

M-AQ-4 To reduce emissions of NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$, all Boulder Brush Facilities phases involving blasting shall conform to the following requirements:

- Each blasting event shall employ approximately 1.2 tons of ammonium nitrate/fuel oil (ANFO).
- Blasting activities shall be restricted to not more than two blasts per day.
- All blasting shall be performed by a blast contractor and blasting personnel licensed to operate in the County.

M-AQ-5 The Boulder Brush Facilities shall comply with the following volatile organic compound (VOC) content limits for architectural coatings during construction for residential and non-residential and uses: 50 grams per liter VOC for interior surfaces and 100 grams per liter VOC for exterior coatings.

Level of Significance After Mitigation

Table 16 shows maximum daily emissions following implementation of PDF-AQ-1 through PDF-AQ-5 and M-AQ-1 through M-AQ-5. Not all mitigation measures are quantifiable; therefore, Table 16 only reflects the emission reductions attributable to the use of Tier 4 Final equipment, reduction of vehicle speeds on unpaved roads to 15 miles per hour, and the fugitive dust control measure of watering graded areas at least three times daily.

Table 16
Estimated Project Maximum Daily Construction Criteria Air Pollutant Emissions – Mitigated (with Project Design Features and Mitigation Measures)

Phase Description	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2019						
Campo Wind Facilities	8.42	120.60	315.50	5.31	51.14	17.97
Boulder Brush Facilities	5.45	33.31	143.14	0.32	19.94	7.96
2019 Total	*13.87*	*153.91*	*458.64*	*5.63*	*71.07*	*25.93*
2020						
Campo Wind Facilities	13.30	84.56	266.58	0.72	26.64	8.96
Boulder Brush Facilities	4.22	19.25	107.09	0.22	6.63	1.99
2020 Total	*17.53*	*103.81*	*373.67*	*0.94*	*33.28*	*10.95*

Table 16
Estimated Project Maximum Daily Construction Criteria Air Pollutant Emissions – Mitigated (with Project Design Features and Mitigation Measures)

Phase Description	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
Maximum Daily Emissions	*17.53*	*153.91*	*458.64*	*5.63*	*71.07*	*25.93*
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix A.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Numbers may not add exactly due to rounding.
Gen-tie line construction criteria air pollutant emissions were proportioned based on 5 miles located within the Reservation Boundary and 3.5 miles located within the Boulder Brush Boundary.
Concrete batch plant, rock crushing, and blasting emissions were calculated separately and included in the 2019 construction emissions.
Emissions include PDF-AQ-1 through PDF-AQ-5 and M-AQ-1 through M-AQ-5 implementation of Tier 4 Final equipment, reduction of vehicle speeds on unpaved roads to 15 miles per hour, and watering.

As shown in Table 16, following implementation of PDF-AQ-1 through PDF-AQ-5 and M-AQ-1 through M-AQ-5, daily emissions from VOC, NO_x, CO, SO_x, $PM_{10,}$ and $PM_{2.5}$ would be below the thresholds of significance. It should be noted that not all reductions that would result from implementation of PDFs and mitigation provided in PDF-AQ-1 through PDF-AQ-5 and M-AQ-1 through M-AQ-5 are quantifiable; therefore, emissions shown in Table 16 are overestimated and emissions would be further reduced on a daily basis. Impacts would be **less than significant** with mitigation.

Decommissioning Impacts

Section 2.4.2.1, Construction Emissions Methodology, presents the methodology and assumptions used to estimate emissions from decommissioning of the Project. Appendix A presents construction scenario details, including phasing and phase duration, off-road-equipment use (equipment type, quantity, horsepower, load factor, and hours of operation), and vehicle trips (truck trips and worker vehicle trips).

Table 17, Estimated Maximum Daily Decommissioning Criteria Air Pollutant Emissions – Unmitigated, shows the estimated maximum daily decommissioning emissions.

Table 17
Estimated Project Maximum Daily Decommissioning
Criteria Air Pollutant Emissions – Unmitigated
(with Project Design Features and San Diego Air Pollution Control District Rules)

Phase Description	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Pounds per Day					
2050						
Campo Wind Facilities	6.43	17.99	62.75	0.21	5.47	1.70
Boulder Brush Facilities	4.07	9.53	36.29	0.12	2.99	0.95
Maximum Daily Emissions	*10.50*	*27.52*	*99.04*	*0.33*	*8.46*	*2.64*
Pollutant Threshold	*75*	*250*	*550*	*250*	*100*	*55*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix A.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Numbers may not add exactly due to rounding.
Project emissions include quantified reductions from PDF-AQ-2.

As shown in Table 17, maximum daily decommissioning emissions would not exceed the thresholds for VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$. Thus, impacts would be **less than significant**.

Operational Impacts

Guidelines for the Determination of Cumulative Significance

The SDAB's RAQS is based on growth projections derived from the allowed general plan densities, is typically updated every 3 years by SDAPCD and lays out the programs for attaining the CAAQS for O_3 precursors. It is assumed that if a project conforms to the County General Plan and does not have emissions exceeding the screening-level thresholds, it will not create a cumulatively considerable net increase for O_3 or PM since the emissions of O_3 precursors and PM from other current and foreseeable development were accounted for in the RAQS and past emissions are accounted for in the establishment of the CAAQS.

The following guidelines for determining significance are used for determining the cumulatively considerable net increases during the operational phase:

- A project that does not conform to the RAQS and/or has a significant direct impact on air quality with regard to operational emissions of PM_{10}, $PM_{2.5}$, NO_x, and/or VOCs would also have a significant cumulatively considerable net increase.
- Projects that cause road intersections to operate at or below LOS E (analysis only required when the addition of peak-hour trips from a project and surrounding projects exceeds 2,000) and create a CO hotspot create a cumulatively considerable net increase of CO.

Significance of Impacts Prior to Mitigation

With regard to cumulative impacts associated with O_3 precursors (NOx and VOCs) and PM, in general, if a project is consistent with the community and general plans, it has been accounted for in the PM and O_3 attainment demonstration contained within the RAQS. As such, it would not make a cumulatively considerable contribution to significant cumulative impacts on the ambient air quality for O_3, $PM_{2.5}$, or PM_{10}.

As previously described, the land within the Boulder Brush Boundary is designated RL-80 and is zoned S92. Per the County Zoning Ordinance, the Boulder Brush Facilities can only be developed with approval of a Major Use Permit. The densities provided by the RL designations are the lowest in the unincorporated County, and are intended to reflect and preserve the rural agricultural, environmentally constrained, and natural "backcountry" areas of the County (County of San Diego 2011a). Permitted land uses in the S92 zones are single-family residential; civic uses limited to essential services, fire protection services, and law enforcement services; and agricultural uses. The County Zoning Ordinance categorizes the Project as a civic use type, and more specifically as a major impact services and utilities land use; therefore, operational cumulative emissions would be accounted for in the RAQS.

The Project would include neither a residential component that would increase local population growth, nor a commercial component that would substantially increase employment; rather, the Project would construct and operate a renewable energy generation project. Implementation of the Project would not result in development in excess of that anticipated in local plans or increases in population/housing growth beyond those contemplated by SANDAG. As such, vehicle trip generation and planned development for the Project is considered to be anticipated in the SIP and RAQS.

Operation of the Project would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicle trips from employees, and stationary sources, including two emergency generators used for back-up and testing and maintenance of the emergency generators. Criteria air pollutant emissions associated with long-term operations were quantified using CalEEMod.

Boulder Brush Facilities would include minimal operational activities from periodic maintenance and other operational activities. Thus, impacts would be **less than significant**.

The Project's annual operational emissions are summarized in Table 18.

Table 18
Estimated Project Maximum Annual Operational Criteria Air Pollutant Emissions

Emission Source	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
	Tons per Year					
Area	0.11	0.00	0.00	0.00	0.00	0.00
Mobile	0.07	0.21	2.01	<0.01	0.51	0.14
Stationary	0.66	1.83	1.67	<0.01	0.10	0.10
Total Annual Emissions	**0.83**	**2.04**	**3.68**	**0.01**	**0.61**	**0.23**
Pollutant Threshold	*13.7*	*40*	*100*	*40*	*15*	*10*
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: See Appendix A.
Notes: VOC = volatile organic compound; NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = sulfur oxides; PM_{10} = coarse particulate matter; $PM_{2.5}$ = fine particulate matter.
Numbers may not add exactly due to rounding.

As shown in Table 18, the Project's annual emissions from operational emissions are less than the County's emissions thresholds. Thus, the Project's operational air quality impacts would be **less than significant**.

Health Impacts

Construction (after mitigation), operation, and decommissioning of the Project would not result in emissions that exceed the County's emission thresholds for any criteria air pollutants. Regarding VOCs, some VOCs would be associated with motor vehicles, while others are associated with architectural coatings, the emissions of which would not result in the exceedances of the County's thresholds. Generally, the VOCs in architectural coatings are of relatively low toxicity and required to meet VOC limits for architectural coatings in SDAPCD Rule 67.0.1.

In addition, VOCs and NO_x are precursors to O_3, which the SDAB is designated as nonattainment for with respect to the NAAQS (2008 8-hour) and CAAQS (the SDAB is designated by EPA as an attainment area for the 1-hour O_3 NAAQS standard and 1997 8-hour NAAQS standard). The health effects associated with O_3 are generally associated with reduced lung function. The contribution of VOCs and NO_x to regional ambient O_3 concentrations is the result of complex photochemistry. The increases in O_3 concentrations in the SDAB due to O_3 precursor emissions tend to be found downwind from the source location to allow time for the photochemical reactions to occur. However, the potential for exacerbating excessive O_3 concentrations would also depend on the time of year that the VOC emissions would occur because exceedances of the O_3 ambient air quality standards tend to occur between April and October when solar radiation is highest.

Similar to O_3, construction (after mitigation), operation, and decommissioning of the Project would not exceed thresholds for PM_{10} or $PM_{2.5}$ and would not contribute to exceedances of the NAAQS and CAAQS for particulate matter (SDAB is a state nonattainment area for PM_{10} and $PM_{2.5}$). The Project would also not result in substantial DPM emissions during decommissioning and operation and, therefore, would not result in significant health effects related to DPM exposure (health risks from DPM during construction are analyzed in the Toxic Air Contaminants section below, in Section 2.5.3). Due to the minimal contribution of particulate matter during decommissioning and operation, the Project would not result in significant health impacts. PM_{10} and $PM_{2.5}$ would not contribute to potential exceedances of the NAAQS and CAAQS for particulate matter, obstruct the SDAB from coming into attainment for these pollutants, or contribute to significant health effects associated with particulates.

Regarding NO_2, construction (after mitigation), operation, and decommissioning of the Project would not contribute to exceedances of the NAAQS and CAAQS for NO_2 (for analysis purposes, NO_x emissions were assumed to be NO_2 emissions). NO_2 and NO_x health impacts are associated with respiratory irritation. However, these NO_x emissions during construction (after mitigation), operation, and decommissioning would be minimal and infrequent. Therefore, the Project would not result in significant health impacts.

The VOC and NO_x emissions, as described previously, would minimally contribute to regional O_3 concentrations and the associated health effects. In addition to O_3, with mitigation, NO_x emissions would not contribute to potential exceedances of the NAAQS and CAAQS for NO_2. As shown in Table 6, the existing NO_2 concentrations in the area are well below the NAAQS and CAAQS standards. Thus, it is not expected the Project's mitigated construction or unmitigated decommissioning and operational NO_x emissions would result in exceedances of the NO_2 standards or contribute to the associated health effects. CO tends to be a localized impact associated with congested intersections. As discussed previously, the Project would not create any CO hotspots, and CO impacts would be less-than-significant. Thus, the Project's CO emissions would not contribute to significant health effects associated with this pollutant. In sum, construction (after mitigation), operation, and decommissioning of the Project would not contribute to potential exceedances of the NAAQS and CAAQS, obstruct the SDAB from coming into attainment for the pollutants for which it is out of attainment (O_3 and particulate matter), or contribute to significant health effects associated with particulates.

Projects that cause road intersections to operate at or below LOS E (analysis only required when the addition of peak-hour trips from a project and surrounding projects exceeds 2,000) and create a CO hotspot create a cumulatively considerable net increase of CO. The Project would not cause any road intersection to operate at or below LOS E, and therefore would not make a cumulatively considerable contribution to significant cumulative impacts from CO emissions.

Mitigation Measures

None required.

Level of Significance After Mitigation

Impacts would be less than cumulatively considerable without mitigation.

2.5.3 Impacts to Sensitive Receptors

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Reduced visibility, eye irritation, and adverse health impacts upon sensitive receptors are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. Air quality regulators typically define sensitive receptors as schools (preschool–12th grade), hospitals, resident care facilities, daycare centers, and other facilities that may house individuals with health conditions that would be more susceptible to adverse health impacts than the general public from adverse changes in air quality. For the purposes of CEQA analysis in the County, the definition of a sensitive receptor also includes residents.

The two primary emissions of concern regarding health effects for land development projects are DPM during construction and CO hotspots related to traffic congestion.

Construction Impacts

Guidelines for the Determination of Significance

Based on Appendix G of the CEQA Guidelines, a project would have a significant impact if it would:

- Expose sensitive receptors to substantial pollutant concentrations.

Substantial concentration may be further measured using the following:

- The project would result in CO emissions that when totaled with the ambient concentrations will exceed a 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm. Projects that cause road intersections to operate at or below LOS E and the addition of peak-hour trips from a project and surrounding projects exceeds 2,000 have the potential to create CO concentrations exceeding the CAAQS.

- Project implementation would result in exposure to TACs resulting in a maximum incremental cancer risks equal to or greater than 10 in 1 million, or cancer burden equal to or greater than 1.0, or total acute non-cancer health hazard index equal to or greater than 1.0, or total chronic non-cancer health hazard index equal to or greater than 1.0 would be deemed as having a potentially significant impact.
- Lead exposure equal to or greater than 0.12 µg/m^3.

Significance of Impacts Prior to Mitigation

Carbon Monoxide Hotspots

Mobile-source impacts occur basically on two scales of motion. Regionally, Project-related travel would add to regional trip generation and increase the vehicle miles traveled within the local airshed and the SDAB. Locally, Project traffic would be added to the county roadway system in the vicinity of the Project. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-Project traffic, a potential for the formation of microscale CO "hotspots" occurs in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hotspots in the SDAB is steadily decreasing.

CO transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, school children, hospital patients, and the elderly. Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable LOS. Projects contributing to adverse traffic impacts may result in the formation of CO hotspots. Per County of San Diego guidelines, a CO hotspot analysis is only required to be conducted for the operational scenario per Section 3.2 of the guidelines (County of San Diego 2007). As indicated in the County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements Air Quality (County of San Diego 2007), a site specific CO hotspot analysis for Project operations should be performed if a proposed development would cause road intersections to operate at or below a LOS E with intersection peak-hour trips exceeding 2,000. Although a CO hotspot analysis is not required for construction activities, the following analysis is provided for disclosure purposes.

No intersections in the Project Vicinity would cause road intersections to operate at or below a LOS E. Trip generation and distribution for workers and delivery trucks would ultimately vary depending on the phase of construction; however, based on daily construction worker, vendor trip, and haul truck estimates, maximum daily trips resulting from construction activities would be approximately 1,102 one-way vehicle trips.

A Transportation Impact Analysis (Dudek 2019) was prepared for the Project and evaluated whether there would be a decrease in the LOS (e.g., congestion) at the intersections affected by the Project. The Project's traffic analysis evaluated eight intersections based on existing traffic volumes and current street geometry. With the addition of Project traffic, all study intersections are calculated to operate acceptably at LOS D or better during AM and PM peak hours. Therefore, the Project would not exceed the County's screening threshold and would not result in a CO hotspot and would not have the potential to result in CO emissions that when totaled with the ambient concentrations would exceed a 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm. The impact would be **less than significant**.

Toxic Air Contaminants

"Incremental cancer risk" is the net increased likelihood that a person continuously exposed to concentrations of TACs resulting from a Project over a 9-, 30-, and 70-year exposure period would contract cancer based on the use of standard OEHHA risk-assessment methodology (OEHHA 2015). In addition, some TACs have non-carcinogenic effects. TACs that would potentially be emitted during construction activities would be DPM, emitted from heavy-duty construction equipment and heavy-duty trucks as well as TAC emissions within the fugitive dust generated by various sources on site (rock crushing, concrete batch plant, vehicle traffic, and blasting). Heavy-duty construction equipment and diesel trucks are subject to CARB Airborne Toxic Control Measures to reduce DPM emissions. According to the OEHHA, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with the Project (OEHHA 2015). Thus, the duration of proposed construction activities (approximately 14 months) would only constitute a small percentage of the total long-term exposure period and would not result in exposure of proximate sensitive receptors to substantial TACs.

During Project construction, DPM emissions would be emitted from heavy-duty construction equipment and heavy-duty trucks. Heavy-duty construction equipment and diesel trucks are subject to CARB Airborne Toxic Control Measures (described in the Environmental Setting) to reduce DPM emissions. According to the OEHHA, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period for the maximally exposed individual resident; however, such assessments should be limited to the period/duration of activities associated with the Project. Because the Project would involve construction activities in several areas across the site, the Project would not require the extensive use of heavy-duty construction equipment or diesel trucks in any one location over the duration of development, which would limit the exposure of any proximate individual sensitive receptor to TACs.

An HRA was performed to evaluate the cancer and non-cancer risk from TAC emissions on existing sensitive receptors from construction activities. The cancer risk is different at every sensitive receptor location; however, the risk reported is conservatively the maximum cancer risk impact. The risk estimates generated by the HRA is an estimate of potential for risk. Cancer risk is expressed as the maximum number of new cases of cancer projected to occur in a population of 1 million people due to exposure to the cancer-causing substance over the exposure period. The HRA uses conservative (health-protective) exposure assumptions to avoid underestimating risk. For example, the risk estimate for airborne exposure to TAC emissions uses the conservative, health-protective assumption that the individual has a high breathing rate and exposure began as a fetus in the third trimester of pregnancy, when exposure risk is highest. The HRA methodology is further described in Section 2.4.2.1, Methodology, and the detailed assessment is provided in Appendix B, Health Risk Assessment, of this report. The results of the HRA on sensitive residential receptors On-Reservation and Off-Reservation for Project construction are summarized in Table 19.

Table 19
Project Construction Activity Health Risk Assessment Results – Unmitigated

Impact Parameter	Units	Project Impact	CEQA Threshold	Level of Significance
Cancer risk – On-Reservation	Per Million	5.59	1.0	**Potentially Significant**
Cancer risk – Off-Reservation	Per Million	5.25	1.0	**Potentially Significant**
Chronic non-cancer health hazard index – On-Reservation	Hazard Index	0.0072	1.0	Less than Significant
Chronic non-cancer health hazard index – Off-Reservation	Hazard Index	0.0069	1.0	Less than Significant
Acute non-cancer health hazard index – On-Reservation	Hazard Index	0.0002	1.0	Less than Significant
Acute non-cancer health hazard index – Off-Reservation	Hazard Index	0.0002	1.0	Less than Significant
Lead exposure	µg/m^3	0.00009	0.12	Less than Significant

Source: Appendix B.
CEQA = California Environmental Quality Act; µg/m^3 = microgram per cubic meter.

The results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions would result in cancer risk on site above the 1 in 1 million threshold without application of T-BACT, chronic and acute non-cancer health hazard indexes of less than 1, and lead exposure less than 0.12 µg/m^3. Therefore, TAC emissions from construction of the Project may expose sensitive receptors to substantial pollutant concentrations. Impacts would be **potentially significant**.

Valley Fever

Valley Fever is not highly endemic to San Diego County, and within the County, the incidence rate in the Project vicinity is below the County average and the statewide average. Confirmed cases of Valley Fever have not been recorded near the Project Site nor during construction of other similar projects or earthmoving activities in the area. Based on the lack of recorded cases near the Project Site and in the greater County, and the Project's implementation of dust-control strategies, it is not anticipated that earth-moving activities during Project construction would result in exposure of nearby sensitive receptors to Coccidioidomycosis and potential to develop Valley Fever. Therefore, the Project would have a **less-than-significant impact** with respect to Valley Fever exposure for sensitive receptors.

Mitigation Measures

Carbon Monoxide Hotspots

None required.

Toxic Air Contaminants

M-AQ-1 and PDF-AQ-1 would be implemented to reduce emissions of TAC from construction-related exhaust. With implementation of M-AQ-1, Boulder Brush Facilities construction equipment with engines rated at 75 horsepower or higher would be required to use Tier 4 Final engines. With PDF-AQ-1, Campo Wind Facilities construction equipment with engines rated at 75 horsepower or greater would be required to use Tier 4 Final engines. Results of the HRA for Project construction including M-AQ-1 and PDF-AQ-1 are summarized in Table 20. It should be noted that the use of Tier 4 Final construction equipment would be considered T-BACT and the County's significance threshold would be 10 in 1 million, instead of the 1 in 1 million without implementation of T-BACT.

Table 20
Project Construction Activity Health Risk Assessment Results – Mitigated

Impact Parameter	Units	Project Impact	CEQA Threshold with T-BACT	Level of Significance
Cancer Risk – On-Reservation	Per Million	0.41	10.0	Less than Significant
Cancer risk – Off-reservation	Per Million	0.40	10.0	Less than Significant
Chronic non-cancer health hazard index – On-Reservation	Hazard Index	0.0024	1.0	Less than Significant

Table 20
Project Construction Activity Health Risk Assessment Results – Mitigated

Impact Parameter	Units	Project Impact	CEQA Threshold with T-BACT	Level of Significance
Chronic non-cancer health hazard index – Off-Reservation	Hazard Index	0.0023	1.0	Less than Significant
Acute non-cancer health hazard index – On-Reservation	Hazard Index	0.0002	1.0	Less than Significant
Acute non-cancer health hazard index – Off-Reservation	Hazard Index	0.0002	1.0	Less than Significant
Lead Exposure	µg/m^3	0.00009	0.12	Less than Significant

Sources: Appendix B.
Notes: CEQA = California Environmental Quality Act; µg/m^3 = microgram per cubic meter; T-BACT = best available control technology for toxics.

Results of the HRA demonstrate that the TAC exposure from construction diesel exhaust emissions and fugitive dust sources would result in On-Reservation and Off-Reservation residences cancer risk below the 10 in 1 million threshold with application of T-BACT, chronic and acute non-cancer health hazard indices of less than 1.0, and lead exposure less than 0.12 µg/m^3.

Level of Significance After Mitigation

Carbon Monoxide Hotspots

Impacts would be less than significant without mitigation.

Toxic Air Contaminants

The Project's residential cancer risk, acute and chronic non-caner health hazard index indices, and lead exposure On-Reservation and Off-Reservation residences would be below County's thresholds of significance with implementation of M-AQ-1 and PDF-AQ-1; therefore, impacts would be **less than significant** after mitigation.

Valley Fever Exposure

Impacts would be **less than significant** without mitigation.

Operational Impacts

Guidelines for the Determination of Significance

A significant impact would result if:

- The project places sensitive receptors near CO hotspots or creates CO hotspots near sensitive receptors.
- Project implementation would result in exposure to TACs resulting in a maximum incremental cancer risks equal to or greater than 10 in 1 million, or cancer burden equal to or greater than 1.0, or total acute non-cancer health hazard index equal to or greater than 1.0, or total chronic non-cancer health hazard index equal to or greater than 1.0 would be deemed as having a potentially significant impact.

Significance of Impacts Prior to Mitigation

Carbon Monoxide Hotspots

To verify that the Project would not cause or contribute to a violation of the CO standards, a screening evaluation of the potential for CO hotspots was conducted using the California Department of Transportation and the U.C. Davis Institute of Transportation Studies Transportation Project-Level Carbon Monoxide Protocol (CO Protocol) (Caltrans 2010). The County recommends that a local CO hotspot analysis be conducted if the intersection is at LOS E or worse and where a Project operates at peak-hour trips exceeding 3,000 trips, or the intersection operates at LOS E or worse and under cumulative conditions exceeds 2,000 peak trips per hour. If the screening criteria are exceeded, additional site-specific analyses are performed to determine whether a Project would result in a significant impact.

Based on the Transportation Impact Analysis (Dudek 2019), the existing conditions at the study intersections operate acceptably at LOS B or better during AM and PM peak hours. Activities associated with O&M of the Project would include approximately 10 to 12 full-time staff, which would not likely generate significant daily or peak hour traffic. Therefore, Project operations would not exceed the County's screening threshold and would not result in a CO hotspot and would not have the potential to result in CO emissions that when totaled with the ambient concentrations would exceed a 1-hour concentration of 20 ppm or an 8-hour average of 9 ppm. The impact would be **less than significant**.

Toxic Air Contaminants

The Project would include four standby diesel emergency generators, one at the O&M facility, one at the collector substation, one at the high-voltage substation, and one at the 500-kV switchyard. The generators would be operated infrequently for maintenance and testing and would only operate for 30 minutes each month for a total of up to 50 hours per year. Further, the generator at the O&M facility is approximately 1,500 feet from the closest sensitive receptor, the generator at the collector substation would be approximately 2,000 feet from the closest sensitive receptor, and the generators at the high-voltage substation and switchyard would be approximately 8,950 feet from the closest sensitive receptor. The distances exceed the Assembly Bill 3205, designed to protect schoolchildren from hazardous air contaminants. The law requires notification of parents of schoolchildren, neighboring businesses, and residents within 1,000 feet of a school site. Furthermore, CARB recommends avoiding siting new sensitive land uses within 1,000 feet of a distribution center or 1,000 feet of a major service or maintenance rail yard. Activities associated with these land uses may include uses of emergency generators on the site; therefore, the siting screening distance of 1,000 feet is used in this analysis. The generators would be located more than 1,000 feet from the closest sensitive receptors. As such, the Project would not result in substantial TAC or lead emissions that may affect nearby receptors. Impact would be less than the County's significance thresholds and **less than significant**.

Valley Fever Exposure

Activities associated with O&M would generate little to no earth disturbing activity and Valley Fever is not highly endemic to San Diego County, and within the County, the incidence rate in the Project Area is below the County average and the statewide average. The nearest sensitive-receptor land use (existing residence) is located approximately 200 feet of the Campo Wind Facilities and 38 feet of the Boulder Brush Facilities. Based on the low incidence rate of Coccidioidomycosis in the Project Area and in the greater County of San Diego, and that activities associated with O&M would generate little to no earth disturbing activity, it is not anticipated that Project operations would result in exposure of nearby sensitive receptors to Valley Fever. Therefore, Project operations would have a **less-than-significant impact** with respect to Valley Fever exposure for sensitive receptors.

Mitigation Measures

None required.

Level of Significance After Mitigation

Impacts would be less than significant without mitigation.

2.5.4 Other Emission Impacts

Odors are a form of air pollution that can present significant problems for both the source and surrounding community. Although offensive odors seldom cause physical harm, they can be annoying and cause concern.

Guidelines for the Determination of Significance

Based on Appendix G of the CEQA Guidelines, the Project would have a significant impact if:

- The project, which is not an agricultural, commercial, or an industrial activity subject to SDAPCD standards, as a result of implementation, would either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which would affect a considerable number of persons.

California Health and Safety Code, Division 26, Part 4, Chapter 3, Section 41700, and SDAPCD Rule 51, commonly referred to as the public nuisance law, prohibit emissions from any source whatsoever in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property. The potential for an operation to result in odor complaints from a "considerable" number of persons in the area would be considered to be a significant, adverse odor impact.

Projects required to obtain permits from SDAPCD are evaluated by SDAPCD staff for potential odor nuisance, and conditions may be applied (or control equipment required) where necessary to prevent occurrence of public nuisance.

Odor issues are subjective because of the nature of odors themselves and because their measurements are difficult to quantify. As a result, this guideline is qualitative, and each Project is reviewed on an individual basis, focusing on the existing and potential surrounding uses and location of sensitive receptors.

Construction and Decommissioning

Section 6318 of the County of San Diego Zoning Ordinance requires that all commercial and industrial uses be operated so as not to emit matter causing unpleasant odors that are perceptible by the average person at or beyond any lot line of the lot containing said uses. Section 6318 goes on to further provide specific dilution standards that must be met "at or beyond any lot line of the lot containing the uses" (County of San Diego 1979). Title 25 of the Code of Federal Regulations, Section 11.447 (Maintaining a Public Nuisance), and SDAPCD Rule 51 (Public Nuisance) also prohibits emission of any material that causes nuisance to a considerable number of people or

endangers the comfort, health, or safety of any person. A project construction that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

The sensitive air quality receptors are residences scattered on the Reservation and private lands surrounding the Project Site.

Construction and decommissioning of Project components would result in the emission of diesel fumes and other odors typically associated with construction and decommissioning activities. These compounds would be emitted in varying amounts on the Project Site depending on where construction and decommissioning activities are occurring. Sensitive receptors located within and in the vicinity of the construction and decommissioning activities may be affected; however, odors are highest near the source and would quickly dissipate. Any odors associated with construction and decommissioning activities would be temporary and would cease upon Project completion; therefore, odor impacts would be **less than significant**.

Mitigation Measures

None required.

Level of Significance After Mitigation

Impacts would be less than significant without mitigation.

Operation

Land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project would not include land uses that would generate objectionable odors, and the Project land use would not attract people to an area where there would be a potential for exposure to objectionable odors.

Although odor impacts are unlikely, the Boulder Brush Boundary located within the County jurisdiction would be required to comply with the County odor policies enforced by SDAPCD, including Title 25 of the Code of Federal Regulations, Section 11.447 (Maintaining a Public Nuisance), SDAPCD Rule 51, and County Zoning Code Section 6318, in the event a nuisance complaint occurs, which prohibit nuisance odors and identify enforcement measures to reduce odor impacts to nearby receptors. As such, the Boulder Brush Facilities would not generate objectionable odors. As noted above, the Campo Wind Facilities located on the Reservation would not generate objectionable odors. Therefore, potential Project impacts associated with odors would be **less than significant**.

Mitigation Measures

None required.

Level of Significance After Mitigation

Impacts would be less than significant without mitigation.

3 GREENHOUSE GAS EMISSIONS

3.1 Environmental Setting

3.1.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). The Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017a).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward the Earth. The greenhouse effect is a natural process that contributes to regulating the Earth's temperature and creates a pleasant, livable environment on the Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, thus enhancing the greenhouse effect and causing the Earth's surface temperature to rise.

The scientific record of the Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-20th century and are the most significant driver of observed climate change (EPA 2017a; IPCC 2014). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2014). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2014). Continued emissions of GHGs will cause further warming and changes in all components of the climate system.

3.1.2 Greenhouse Gases

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. GHGs include, but are not limited to, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), O_3, water vapor, fluorinated gases (hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6) and nitrogen trifluoride (NF_3), chlorofluorocarbons (CFCs), and hydrochlorofluorocarbons (HCFCs). Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. A summary of the most common GHGs and their sources is included in the following text.[12]

Carbon Dioxide. CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects the Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans, volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are from the combustion of coal, oil, natural gas, and wood.

Methane. CH_4 is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and the use of N_2O as a propellant (such as in rockets, racecars, aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic, powerful GHGs that are emitted from a variety of industrial processes. Fluorinated gases are commonly used as

[12] The descriptions of GHGs are summarized from the Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report (IPCC 1995), IPCC Fourth Assessment Report (2007), the California Air Resources Board's Glossary of Terms Used in GHG Inventories (CARB 2016a), and the U.S. Environmental Protection Agency's Glossary of Climate Change Terms (EPA 2016c).

substitutes for stratospheric ozone-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- ***Hydrofluorocarbons:*** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals that are used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- ***Perfluorocarbons:*** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, along with HFCs, to the ozone depleting substances. The two main sources of PFCs are primarily aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- ***Sulfur Hexafluoride:*** SF_6 is a colorless gas that is soluble in alcohol and ether and slightly soluble in water. SF_6 is used for insulation in electric power transmission and distribution equipment, semiconductor manufacturing, the magnesium industry, and as a tracer gas for leak detection.
- ***Nitrogen trifluoride:*** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Chlorofluorocarbons. CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere) and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons. HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential (GWP). Diesel particulate matter emissions are a major source of black

carbon and are also TACs that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from CARB's regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone. Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

3.1.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2015).

The Intergovernmental Panel on Climate Change (IPCC) developed the GWP concept to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e).

The current version of CalEEMod (Version 2016.3.2) assumes that the GWP for CH_4 is 25 (which means that emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298, based on the IPCC Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the Project.

3.1.4 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 IPCC Synthesis Report indicated that warming of the climate system is unequivocal and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply. The primary effect of global climate change has been a 0.2°C rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming could be taking place.

A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada. By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California, compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights. A decline of Sierra snowpack, which accounts for approximately half of the surface water storage in California and much of the state's water supply, by 30% to as much as 90% is predicted over the next 100 years (CAT 2010).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid-to-late 21st century in central and, most notably, Southern California. By late-century, all projections show drying, and half of them suggest 30-year average precipitation will decline by more than 10% below the historical average (CAT 2010).

A summary of current and future climate change impacts to resource areas in California, as discussed in Safeguarding California: Reducing Climate Risk (CNRA 2018), is provided in the following text.

Agriculture. The impacts of climate change on the agricultural sector are far more severe than the typical variability in weather and precipitation patterns that occur year to year. Some of the specific challenges faced by the agricultural sector and farmers include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought, to destructive storm events; significant shifts in water availably and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests, and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production. These challenges and associated short-term and long-term impacts can have both positive and negative effects on agricultural production. Nonetheless, it is predicted that current crop and livestock production will suffer long-term negative effects resulting in a substantial decrease in the agricultural sector if not managed or mitigated (CNRA 2018).

Biodiversity and Habitat. The state's extensive biodiversity stems from its varied climate and assorted landscapes, which have resulted in numerous habitats where species have evolved and adapted over time. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift, and novel combinations of species; pathogens, parasites and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; and threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss has occurred). Habitat restoration, conservation, and resource management across California and through collaborative efforts among public, private, and nonprofit agencies has assisted in the effort to fight climate change impacts on biodiversity and habitat. One of the key measures in these efforts is ensuring species' ability to relocate as temperature and water availability fluctuate as a result of climate change, based on geographic region.

Energy. The energy sector provides California residents with a supply of reliable and affordable energy through a complex integrated system. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events and sea level rise. Increasing temperatures and reduced snowpack negatively impact the availability of a steady flow of snowmelt to hydroelectric reservoirs. Higher temperatures also reduce the capacity of thermal power plants since power plant cooling is less efficient at higher ambient temperatures. Natural gas infrastructure in coastal California is threatened by sea level rise and extreme storm events (CNRA 2014).

Forestry. Forests occupy approximately 33% of California's 100 million acres and provide key benefits such as wildlife habitat, absorption of CO_2, renewable energy and building materials. The most significant climate change related risk to forests is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large scale mortalities and combined with increasing temperatures have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts and vegetation conversions. These factors contribute to decreased forest growth, geographic shifts in tree distribution, loss of fish and wildlife habitat and decreased carbon absorption. Climate change may result in increased establishment of non-native species, particularly in rangelands where invasive species are already a problem. Invasive species may be able to exploit temperature or precipitation changes, or quickly occupy areas denuded by fire, insect mortality or other climate change effects on vegetation (CNRA 2014).

Ocean and Coastal Ecosystems and Resources. Sea level rise, changing ocean conditions and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea level rise in addition to more frequent and severe coastal storms and erosion are threatening vital infrastructure such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities, as well as negatively impacting the coastal recreational assets such as beaches and tidal wetlands. Water quality and ocean acidification threaten the abundance of seafood and other plant and wildlife habitats throughout California and globally (CNRA 2014).

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity, and duration of extreme heat and heat waves is likely to increase the risk of mortality due to heat related illness as well as exacerbate existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and

allergies. Additional health impacts that may be impacted by climate change include cardiovascular disease, vector-borne diseases, mental health impacts, and malnutrition injuries. Increased frequency of these ailments is likely to subsequently increase the direct risk of injury and/or mortality (CNRA 2014).

Transportation. Residents of California rely on airports, seaports, public transportation, and an extensive roadway network to gain access to destinations, goods and services. While the transportation industry is a source of GHG emissions it is also vulnerable to climate change risks. Particularly, sea level rise and erosion threaten many coastal California roadways, airports, seaports, transit systems, bridge supports, and energy and fueling infrastructure. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides, and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety (CNRA 2014).

Water. Water resources in California support residences, plants, wildlife, farmland, landscapes, and ecosystems and bring trillions of dollars in economic activity. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems, and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter time. Increased risk of flooding has a variety of public health concerns including water quality, public safety, property damage, displacement, and post-disaster mental health problems. Prolonged and intensified droughts can also negatively impact groundwater reserves and result in increased overdraft and subsidence. Droughts can also negatively impact agriculture and farmland throughout the state. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality. Water temperatures are also prone to increase, which can negatively impact wildlife that rely on a specific range of temperatures for suitable habitat (CNRA 2014).

3.2 Regulatory Setting

3.2.1 Federal Regulations

Federal regulations are applicable to the Boulder Brush Facilities and to the Campo Wind Facilities.

Massachusetts v. EPA. In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal CAA:

- The Administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."
- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the CAA.

Energy Independence and Security Act of 2007. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

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

Federal Vehicle Standards. In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Barack Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200). On January 12, 2017, the EPA finalized its decision to maintain the current greenhouse (GHG) emissions standards for model years 2022–2025 cars and light trucks (EPA 2017b).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 FR 57106–57513). The standards for CO_2 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 EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6%–23% over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

However, in 2018 the EPA and the NHTSA proposed to amend certain existing Corporate Average Fuel Economy and GHG emissions standards for passenger cars and light trucks and establish new standards, covering model years 2021 through 2026. Compared to maintaining the post-2020 standards now in place, the 2018 proposal would increase U.S. fuel consumption by about half a million barrels per day (2%–3% of total daily consumption, according to the Energy Information Administration) and would impact the global climate by 3/1000th of one degree Celsius by 2100 (EPA 2018b). California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. Thus, the timing and consequences of the 2018 federal proposal are speculative at this time.

Clean Power Plan and New Source Performance Standards for Electric Generating Units. On October 23, 2015, EPA published a final rule (effective December 22, 2015) establishing the Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units (80 FR 64510–64660), also known as the Clean Power Plan. These guidelines prescribe how states must develop plans to reduce GHG emissions from existing fossil-fuel-fired electric generating units. The guidelines establish CO_2 emission performance rates representing the best system of emission reduction for two subcategories of existing fossil-fuel-fired electric generating units: (1) fossil-fuel-fired electric utility steam-generating units, and (2) stationary combustion turbines. Concurrently, the EPA published a final rule (effective October 23, 2015) establishing Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Utility Generating Units (80 FR 64661–65120). The rule prescribes CO_2 emission standards for newly constructed, modified, and reconstructed affected fossil-fuel-fired electric utility generating units. The U.S. Supreme Court stayed implementation of the Clean Power Plan pending resolution of several lawsuits.

Mandatory Greenhouse Gas Reporting Rule. On September 22, 2009, EPA published the Final Mandatory Greenhouse Gas Reporting Rule (Reporting Rule) in the Federal Register (74 FR 56260–56373). The Reporting Rule requires reporting of GHG data and other relevant information from fossil fuel and industrial GHG suppliers, vehicle and engine manufacturers, and all facilities that would emit 25,000 MT CO_2e or more per year. Facility owners are required to submit an annual report with detailed calculations of facility GHG emissions on March 31 for emissions from the previous calendar year. The Reporting Rule also mandates recordkeeping and administrative requirements to enable EPA to verify the annual GHG emissions reports.

3.2.2 State Regulations

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes executive orders, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State regulations are applicable to the Boulder Brush Facilities because they would be located on private lands within the County. State regulations are not applicable to the Reservation or Campo Wind Facilities.

State Climate Change Targets

The state has taken a number of actions to address climate change. These include executive orders, legislation, and CARB plans and requirements. These are summarized below.

EO S-3-05. EO S-3-05 (June 2005) established California's GHG emissions reduction targets and laid out responsibilities among the state agencies for implementing the executive order and for reporting on progress toward the targets. This executive order established the following targets:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80% below 1990 levels

EO S-3-05 also directed the California Environmental Protection Agency to report biannually on progress made toward meeting the GHG targets and the impacts to California due to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. The Climate Action Team was formed, which subsequently issued reports from 2006 to 2010 (CAT 2016).

AB 32. In furtherance of the goals established in EO S-3-05, the Legislature enacted AB 32 (Núñez and Pavley). The bill is referred to as the California Global Warming Solutions Act of 2006 (September 27, 2006). AB 32 provided initial direction on creating a comprehensive multiyear program to limit California's GHG emissions at 1990 levels by 2020 and initiate the transformations required to achieve the state's long-range climate objectives.

SB 32 and AB 197. SB 32 and AB 197 (enacted in 2016) are companion bills. SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also added two members of the Legislature to the Board as nonvoting members; requires CARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and, requires CARB to identify specific information for GHG emissions reduction measures when updating the scoping plan.

CARB's 2007 Statewide Limit. In 2007, in accordance with California Health and Safety Code, Section 38550, CARB approved a statewide limit on the GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 million metric tons (MMT) CO_2e).

CARB's Climate Change Scoping Plan. One specific requirement of AB 32 is for CARB to prepare a "scoping plan" for achieving the maximum technologically feasible and cost-effective GHG emission reductions by 2020 (Health and Safety Code, Section 38561(a)), and to update the plan at least once every 5 years. In 2008, CARB approved the first scoping plan. The Climate Change Scoping Plan: A Framework for Change (Scoping Plan) included a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG

emission limit and initiate the transformations needed to achieve the state's long-range climate objectives. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
2. Achieving a statewide renewable energy mix of 33%
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions
4. Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS 17 Cal. Code Regs., Section 95480 et seq.)
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation

The Scoping Plan also identified local governments as essential partners in achieving California's goals to reduce GHG emissions because they have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Specifically, the Scoping Plan encouraged local governments to adopt a reduction goal for municipal operations and for community emissions to reduce GHGs by approximately 15% from then levels (2008) by 2020. Many local governments developed community-scale local GHG reduction plans based on this Scoping Plan recommendation.

In 2014, CARB approved the first update to the Scoping Plan. The First Update to the Climate Change Scoping Plan: Building on the Framework (First Update) defined the state's GHG emission reduction priorities for the next 5 years and laid the groundwork to start the transition to the post-2020 goals set forth in EOs S-3-05 and B-16-2012. The First Update concluded that California is on track to meet the 2020 target but recommended a 2030 mid-term GHG reduction target be established to ensure a continuum of action to reduce emissions. The First Update recommended a mix of technologies in key economic sectors to reduce emissions through 2050 including: 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, from 427 MMT CO_2e to 431 MMT CO_2e.

In 2015, as directed by EO B-30-15, CARB began working on an update to the Scoping Plan to incorporate the 2030 target of 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. The Governor called on California to pursue a new and ambitious set of strategies, in line with the five climate change pillars from his inaugural address, to reduce GHG emissions and prepare for the unavoidable impacts of climate change. In the summer of 2016, the Legislature affirmed the importance of addressing climate change through passage of SB 32 (Pavley, Chapter 249, Statutes of 2016).

In January 2017, CARB released the 2017 Climate Change Scoping Plan Update (2030 Scoping Plan) for public review and comment (CARB 2017). The 2030 Scoping Plan builds on the successful framework established in the initial Scoping Plan and First Update, while identifying new, technologically feasible and cost-effective strategies that will serve as the framework to achieve the 2030 GHG target and define the state's climate change priorities to 2030 and beyond. The strategies' "known commitments" include implementing renewable energy and energy efficiency (including the mandates of SB 350), increased stringency of the Low Carbon Fuel Standard, measures identified in the Mobile Source and Freight Strategies, measures identified in the proposed Short-Lived Climate Pollutant Plan, and increased stringency of SB 375 targets. To fill the gap in additional reductions needed to achieve the 2030 target, it recommends continuing the Cap-and-Trade Program and a measure to reduce GHGs from refineries by 20%.

For local governments, the 2030 Scoping Plan replaced the initial Scoping Plan's 15% reduction goal with a recommendation to aim for a community-wide goal of no more than 6 MT CO_2e per capita by 2030 and no more than 2 MT CO_2e per capita by 2050, which are consistent with the state's long-term goals. These goals are also consistent with the Under 2 MOU (Under 2 2016) and the Paris Agreement (UNFCCC 2016), which are developed around the scientifically based levels necessary to limit global warming below 2 degrees Celsius. The 2030 Scoping Plan recognized the benefits of local government GHG planning (e.g., through Climate Action Plans (CAPs)) and provide more information regarding tools CARB is working on to support those efforts. It also recognizes the CEQA streamlining provisions for project-level review where there is a legally adequate CAP.[13] The Second Update was approved by CARB's Governing Board on December 14, 2017.

[13] *Sierra Club v. County of Napa* (2004) 121 Cal.App.4th 1490; *San Francisco Tomorrow et al. v. City and County of San Francisco* (2015) 229 Cal.App.4th 498; *San Franciscans Upholding the Downtown Specific Plan v. City & County of San Francisco* (2002) 102 Cal.App.4th 656; *Sequoyah Hills Homeowners Assn. V. City of Oakland* (1993) 23 Cal.App.4th 704, 719.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32, SB 32, and the executive orders, and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. A project is considered consistent with the statutes and executive orders if it meets the general policies in reducing GHG emissions in order to facilitate the achievement of the state's goals and does not impede attainment of those goals. As discussed in several cases, a given project need not be in perfect conformity with each and every planning policy or goals to be consistent. A project would be consistent, if it will further the objectives and not obstruct their attainment.

CARB's Regulations for the Mandatory Reporting of Greenhouse Gas Emissions. CARB's Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (17 CCR 95100–95157) incorporated by reference certain requirements that EPA promulgated in its Final Rule on Mandatory Reporting of Greenhouse Gases (Title 40, Code of Federal Regulations (CFR), Part 98). Specifically, Section 95100(c) of the Mandatory Reporting Regulation incorporated those requirements that EPA promulgated in the Federal Register on October 30, 2009, July 12, 2010, September 22, 2010, October 28, 2010, November 30, 2010, December 17, 2010, and April 25, 2011. In general, entities subject to the Mandatory Reporting Regulation that emit over 10,000 MT CO_2e per year are required to report annual GHGs through the California Electronic GHG Reporting Tool. Certain sectors, such as refineries and cement plants, are required to report regardless of emission levels. Entities that emit more than the 25,000 MT CO_2e per year threshold are required to have their GHG emission report verified by a CARB-accredited third-party verified.

EO B-18-12. EO B-18-12 (April 2012) directed state agencies, departments, and other entities under the governor's executive authority to take action to reduce entity-wide GHG emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline. EO B-18-12 also established goals for existing state buildings for reducing grid-based energy purchases and water use.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing GHG emissions to 80% below 1990 levels by 2050 as set forth in S-3-05. To facilitate achieving this goal, EO B-30-15 called for CARB to update the Scoping Plan to express the 2030 target in terms of MMT CO_2e. The executive order also called for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets.

SB 605 and SB 1383. SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the state; and SB 1383 (2016) requires CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the

reduction of short-lived climate pollutants (SLCPs) (40% below 2013 levels by 2030 for methane and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy (SLCP Reduction Strategy) in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, methane, and fluorinated gases.

EO B-55-18. EO B-55-18 (September 2018) establishes a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." This executive order directs CARB to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal."

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402(b)(1)). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402(d)) and cost effectiveness (California Public Resources Code, Sections 25402(b)(2) and (b)(3)). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The current Title 24 standards are the 2016 Title 24 building energy efficiency standards, which became effective January 1, 2017. The updated standards will further reduce energy used and associated GHG emissions compared to previous standards, such as the 2013 Title 24 standards. In general, single-family homes built to the 2016 standards are anticipated to use about 28% less energy for lighting, heating, cooling, ventilation, and water heating than those built to the 2013 standards, and nonresidential buildings built to the 2016 standards will use an estimated 5% less energy than those built to the 2013 standards (CEC 2015a, 2015b).

The 2019 Title 24 standards would become effective on January 1, 2020. In general, single-family homes built with the 2019 standards are anticipated to use about 7% less energy due to energy efficiency measures than those built to the 2016 standards. Those built with rooftop solar electricity

generation, homes built under the 2019 standards are anticipated to use about 53% less energy than those built to the 2016 standards. Nonresidential buildings are anticipated to use about 30% less energy than those built to the 2016 standards due mainly to lighting upgrades (CEC 2018).

Title 24, Part 11. In addition to the CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as California Green Building Standards (CALGreen), and establishes minimum mandatory standards as well as voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals. The CALGreen 2016 standards became effective January 1, 2017. The CALGreen 2019 standards will continue to improve upon the 2016 CALGreen standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The CALGreen 2019 standards will go into effect on January 1, 2020.

The mandatory standards require the following (24 CCR Part 11):

- Mandatory reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings
- Mandatory reduction in outdoor water use through compliance with a local water efficient landscaping ordinance or the California Department of Water Resources' Model Water Efficient Landscape Ordinance
- 65% of construction and demolition waste must be diverted from landfills
- Mandatory inspections of energy systems to ensure optimal working efficiency
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle board

The CALGreen standards also include voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. CALGreen's Tier 1 standards call for a 15% improvement in energy requirements; stricter water conservation, 65% diversion of construction and demolition waste, 10% recycled content in building materials, 20% permeable paving, 20% cement reduction, and cool/solar-reflective roofs. CALGreen's more

rigorous Tier 2 standards call for a 30% improvement in energy requirements, stricter water conservation, 80% diversion of construction and demolition waste, 15% recycled content in building materials, 30% permeable paving, 25% cement reduction, and cool/solar-reflective roofs.

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include: refrigerators, refrigerator-freezers and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SB 1. SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 MW through 2016. SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for both homes and businesses within 10 years of adoption, and placing solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

California AB 1470 (Solar Water Heating). This bill established the Solar Water Heating and Efficiency Act of 2007. The bill makes findings and declarations of the Legislature relating to the promotion of solar water heating systems and other technologies that reduce natural gas demand. The bill defines several terms for purposes of the act. The bill requires the commission to evaluate the data available from a specified pilot program, and, if it makes a specified determination, to design and implement a program of incentives for the installation of 200,000 solar water heating systems in homes and businesses throughout the state by 2017.

Renewable Energy and Energy Procurement

SB 1078. SB 1078 (Sher) (September 2002) established the Renewable Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see SB 107, EO S-14-08, and S-21-09).

SB 1368. SB 1368 (September 2006), required the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the CPUC.

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general-purpose lighting, to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

EO S-14-08. EO S-14-08 (November 2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This executive order required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the executive order directed state agencies to take appropriate actions to facilitate reaching this target. The California Natural Resources Agency (CNRA), through collaboration with the CEC and California Department of Fish and Wildlife, was directed to lead this effort.

EO S-21-09 and SB X1-2. EO S-21-09 (September 2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with the CPUC and CEC to ensure that the regulation builds upon the RPS program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health and can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard. However, this regulation was not finalized because of subsequent legislation (SB X1-2, Simitian, statutes of 2011) signed by Governor Brown in April 2011.

SB X1-2 expanded the Renewables Portfolio Standard by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel

cells using renewable fuels, small hydroelectric generation (30 MW or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location.

SB X1-2 applies to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet the renewable energy goals listed above.

SB 350. SB 350 (October 2015) further expanded the RPS by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

***SB 100*.** SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Mobile Sources

AB 1493. AB 1493 (Pavley) (July 2002) was enacted in a response to the transportation sector accounting for more than half of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, while the mid-term (2013–2016) standards will result in a reduction of about 30%.

Heavy Duty Diesel. CARB adopted the final Heavy Duty Truck and Bus Regulation, Title 13, Division 3, Chapter 1, Section 2025, on December 31, 2014 to reduce PM and NO_x emissions from heavy-duty diesel vehicles. The rule requires PM filters be applied to newer heavier trucks and

buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule will require nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxic Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR 2485).

EO S-1-07. EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining low-carbon fuel standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the low-carbon fuel standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR 95480 et seq.). The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered.

SB 375. SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations are then responsible for preparing a Sustainable Communities Strategy within their Regional Transportation Plan. The goal of the Sustainable Communities Strategy is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If a Sustainable Communities Strategy is unable to achieve the GHG reduction target, a metropolitan planning organization must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

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.

In 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets for SANDAG are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035.

SANDAG completed and adopted its 2050 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in October 2011 (SANDAG 2011). 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 emissions 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. In July 2017, the California Supreme Court held that SANDAG's environmental impact report (EIR) did not have to use EO S-3-05's 2050 goal of an 80% reduction in GHG emissions from 1990 levels as a threshold because the EIR sufficiently informed the public of the potential impacts.

Although the EIR for SANDAG's 2050 RTP/SCS was pending before the California Supreme Court, in 2015, SANDAG adopted the next iteration of its RTP/SCS in accordance with statutorily mandated timelines, and no subsequent litigation challenge was filed. More specifically, in October 2015, SANDAG adopted San Diego Forward: The Regional Plan. Like the 2050 RTP/SCS, this planning document meets CARB's 2020 and 2035 reduction targets for the region (SANDAG 2015). In December 2015, 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 emissions reduction targets for the region.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program. The Advanced Clean Cars program (January 2012) is a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2012). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold today. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The zero-emissions-vehicle program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of zero-emissions vehicles and plug-in hybrid electric vehicles in the 2018 to 2025 model years.

EO B-16-12. EO B-16-12 (March 2012) required that state entities under the governor's direction and control support and facilitate the rapid commercialization of zero-emissions vehicles. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve

benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 established a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare.

AB 1236. AB 1236 (October 2015) (Chiu) required a city, county, or city and county to approve an application for the installation of electric vehicle charging stations, as defined, through the issuance of specified permits unless the city or county makes specified written findings based upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provided for appeal of that decision to the planning commission, as specified. The bill provided that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of electric vehicle charging stations is a matter of statewide concern. The bill required electric vehicle charging stations to meet specified standards. The bill required a city, county, or city and county with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that created an expedited and streamlined permitting process for electric vehicle charging stations, as specified. The bill also required a city, county, or city and county with a population of less than 200,000 residents to adopt this ordinance by September 30, 2017.

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the executive order extended through February 28, 2016, although many of the directives have become permanent water-efficiency standards and requirements. The executive order includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Solid Waste

AB 939 and AB 341. In 1989, AB 939, known as the Integrated Waste Management Act (California Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (Chapter 476, Statutes of 2011 (Chesbro)) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle conducted several general stakeholder workshops and several focused workshops and in August 2015 published a discussion document titled AB 341 Report to the Legislature, which identifies five priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020, legislative and regulatory recommendations and an evaluation of program effectiveness (CalRecycle 2012).

Other State Actions

SB 97. SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, the Governor's Office of Planning and Research issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4(a)). The Guidelines require a lead agency to consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)). The Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009).

With respect to GHG emissions, the CEQA Guidelines state in Section 15064.4(a) that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4(a)). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the executive order directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009 (CNRA 2009), and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: Agriculture, Biodiversity and Habitat, Emergency Management, Energy, Forestry, Ocean and Coastal Ecosystems and Resources, Public Health, Transportation, and Water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016 (CNRA 2016). In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that state government should take to build climate change resiliency (CNRA 2018).

2015 State of the State Address. In January 2015, Governor Brown in his inaugural address and annual report to the Legislature established supplementary goals, which would further reduce GHG emissions over the next 15 years. These goals include an increase in California's renewable energy portfolio from 33% to 50%, a reduction in vehicle petroleum use for cars and trucks by up to 50%, measures to double the efficiency of existing buildings, and decreasing emissions associated with heating fuels.

2016 State of the State Address. In his January 2016 address, Governor Brown established a statewide goal to bring per capita GHG emission down to two tons per person, which reflects the goal of the Global Climate Leadership Memorandum of Understanding (Under 2 MOU) to limit global warming to less than 2°C by 2050. The Under 2 MOU agreement pursues emission reductions of 80% to 95% below 1990 levels by 2050 and/or reaching a per capita annual emissions goal of less than 2 metric tons by 2050. A total of 135 jurisdictions representing 32 countries and 6 continents, including California, have signed or endorsed the Under 2 MOU (Under 2 2016).

3.2.3 Local Regulations

Local regulations are applicable to the Boulder Brush Facilities located on private lands subject to County jurisdiction. Local regulations are not applicable to the Reservation or Campo Wind Facilities.

San Diego Air Pollution Control District

SDAPCD does not have established GHG rules, regulations, or policies.

County of San Diego

Climate Action Plan

The County ~~has~~ developed a Climate Action Plan (CAP) that is a comprehensive strategy to reduce GHG emissions in the unincorporated communities of San Diego County. A draft CAP was released on August 10, 2017, for public review. The plan includes six chapters (1) Introduction; (2) Greenhouse Gas Emissions Inventory, Projections, and Reductions Targets; (3) Greenhouse Gas Reduction Strategies and Measures; (4) Climate Change Vulnerability, Resiliency, and Adaptation; (5) Implementation and Monitoring; and (6) Public Outreach and Engagement. Concurrent with the release of the Draft CAP, the County published implementation tools for the County to use when conducting CEQA analysis. This includes a general plan land use conformity determination and CAP consistency review checklist. As the CAP is in draft form it is not considered a qualified CAP for CEQA analysis (see CEQA Guidelines Section 15183.5). In January 2018, Planning Commission recommended adoption of the final CAP to the County Board of Supervisors. On February 14, 2018, the County Board of Supervisors adopted the CAP that was prepared following CEQA Guidelines, Section 15183.5.

In December 2018, a court set aside the CAP and its supporting EIR. The court order allows the County to continue processing projects that do not require carbon offsets to mitigate impacts from GHG emissions.

Although the CAP must be set aside, the court opinion did not address the majority of CAP measures, and the County finds those measures would reduce GHG emissions. For example, Measure E-2.1, Increase Renewable Energy, specifies a goal to achieve 90% renewable electricity for the unincorporated County by 2030. This measure is consistent with General Plan Strategy A-3, listed below. On appeal, the 4th District Court of Appeal for the most part held the lower court ruling and set aside the County's CAP. As with the lower court opinion the appellate court provided strong statement that the measures identified in the CAP, including Measure E-2.1, are valid measures to pursue to reduce GHG emissions. As the courts have set aside the County's CAP, and that the Checklist items in the CAP are not applicable to renewable energy projects,

disclosure of consistency with the CAP has been removed from this document without consequence to the conclusions herein.

General Plan

The County's General Plan (County of San Diego 2011) includes smart growth and land use planning principles designed to reduce vehicle miles traveled and result in a reduction in GHG emissions. As discussed in the General Plan, climate change and GHG reduction policies are addressed in plans and programs in multiple elements of the General Plan.

The strategies for reduction of GHG emissions in the General Plan are as follows (County of San Diego 2011, with subsequent updates):

Strategy A-1: Reduce vehicle trips generated, gasoline/energy consumption, and GHG emissions.

Strategy A-2: Reduce non-renewable electrical and natural gas energy consumption and generation (energy efficiency).

Strategy A-3: Increase generation and use of renewable energy sources.

Strategy A-4: Reduce water consumption.

Strategy A-5: Reduce and maximize reuse of solid wastes.

Strategy A-6: Promote carbon dioxide consuming landscapes.

Strategy A-7: Maximize preservation of open spaces, natural areas, and agricultural lands.

The General Plan also includes climate adaptation strategies to deal with potential adverse effects of climate change. The climate adaptation strategies include the following (County of San Diego 2011):

Strategy B-1: Reduce risk from wildfire, flooding, and other hazards resulting from climate change.

Strategy B-2: Conserve and improve water supply due to shortages from climate change.

Strategy B-3: Promote agricultural lands for local food production.

Strategy B-4: Provide education and leadership.

The County has also implemented a number of outreach programs such as the Green Building Program, lawn mower trade-in program, and reduction of solid waste by recycling to reduce air quality impacts as well as GHG emissions.

The County General Plan's Conservation and Open Space Element includes goals and policies that are designed to reduce the emissions of criteria air pollutants, emissions of GHGs, and energy use in buildings and infrastructure, while promoting the use of renewable energy sources, conservation, and other methods of efficiency, as follows (County of San Diego 2011, and subsequent updates):

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

Policy COS-14.1 **Land Use Development Form.** Require that development be located and designed to reduce vehicular trips (and associated air pollution) by utilizing compact regional and community-level development patterns while maintaining community character.

Policy 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.

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

Policy 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.

Policy COS-14.5 **Building Siting and Orientation in Subdivisions.** Require that buildings be located and oriented in new subdivisions and multi-structure non-residential projects to maximize passive solar heating during cool seasons, minimize heat gains during hot periods, enhance natural ventilation, and promote the effective use of daylight.

Policy COS-14.6 **Solar Access for Infill Development.** Require that property setbacks and building massing of new construction located within existing developed areas maintain an envelope that maximizes solar access to the extent feasible.

Policy COS-14.7 **Alternative Energy Sources for Development Projects.** Encourage development projects that use energy recovery, photovoltaic, and wind energy.

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

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

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

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

Policy COS-14.12 **Heat Island Effect.** Require that development be located and designed to minimize the "heat island" effect as appropriate to the location and density of development, incorporating such elements as cool roofs, cool pavements, and strategically placed shade trees.

Policy COS-14.13 **Incentives for Sustainable and Low GHG Development.** Provide incentives such as expedited project review and entitlement processing for developers that maximize use of sustainable and low GHG land development practices in exceedance of State and local standards.

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

Policy COS-15.1 **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.

Policy COS-15.2 **Upgrade of Existing Buildings.** Promote and, as appropriate, develop standards for the retrofit of existing buildings to incorporate design elements, heating and cooling, water, energy, and other elements that improve their environmental sustainability and reduce GHG.

Policy COS-15.3 **Green Building Programs.** Require all new County facilities and the renovation and expansion of existing County buildings to meet identified "green building" programs that demonstrate energy efficiency, energy conservation, and renewable technologies.

Policy 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.

Policy COS-15.5 **Energy Efficiency Audits.** Encourage energy conservation and efficiency in existing development through energy efficiency audits and adoption of energy saving measures resulting from the audits.

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

Goal COS-16 **Sustainable Mobility.** Transportation and mobility systems that contribute to environmental and human sustainability and minimize GHG and other air pollutant emissions.

Policy COS-16.1 **Alternative Transportation Modes.** Work with SANDAG and local transportation agencies to expand opportunities for transit use. Support the development of alternative transportation modes, as provided by Mobility Element policies.

Policy COS-16.2 **Single-Occupancy Vehicles.** Support transportation management programs that reduce the use of single-occupancy vehicles.

Policy 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.

Policy COS-16.4 **Alternative Fuel Sources.** Explore the potential of developing alternative fuel stations at maintenance yards and other County facilities for the municipal fleet and general public.

Policy COS-16.5 **Transit-Center Development.** Encourage compact development patterns along major transit routes.

Goal COS-17 **Sustainable Solid Waste Management.** Perform solid waste management in a manner that protects natural resources from pollutants while providing sufficient, long term capacity through vigorous reduction, reuse, recycling, and composting programs.

Policy COS-17.1 **Reduction of Solid Waste Materials.** Reduce GHG 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.

Policy COS-17.2 **Construction and Demolition Waste.** Require recycling, reduction and reuse of construction and demolition debris.

Policy COS-17.3 **Landfill Waste Management.** Require landfills to use waste management and disposal techniques and practices to meet all applicable environmental standards.

Policy COS-17.4 **Composting.** Encourage composting throughout the County and minimize the amount of organic materials disposed at landfills.

Policy COS-17.5 **Methane Recapture.** Promote efficient methods for methane recapture in landfills and the use of composting facilities and anaerobic digesters and other sustainable strategies to reduce the release of GHG emissions from waste disposal or management sites and to generate additional energy such as electricity.

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

Policy COS-17.7 **Material Recovery Program.** Improve the County's rate of recycling by expanding solid waste recycling programs for residential and non-residential uses.

Policy COS-17.8 **Education.** Continue programs to educate industry and the public regarding the need and methods for waste reduction, recycling, and reuse.

Goal COS-18 **Sustainable Energy.** Energy systems that reduce consumption of non-renewable resources and reduce GHG and other air pollutant emissions while minimizing impacts to natural resources and communities.

Policy COS-18.1 **Alternate Energy Systems Design.** Work with San Diego Gas and Electric (SDG&E) and non-utility developers to facilitate the development of alternative energy systems that are located and designed to maintain the character of their setting.

Policy COS-18.2 **Energy Generation from Waste.** Encourage use of methane sequestration and other sustainable strategies to produce energy and/or reduce GHG emissions from waste disposal or management sites.

Policy COS-18.3 **Alternate Energy Systems Impacts.** Require alternative energy system operators to properly design and maintain these systems to minimize adverse impacts to the environment.

Goal COS-19 **Sustainable Water Supply.** Conservation of limited water supply supporting all uses including urban, rural, commercial, industrial, and agricultural uses.

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

Policy COS-19.2 **Recycled Water in New Development.** Require the use of recycled water in development wherever feasible. Restrict the use of recycled water when it increases salt loading in reservoirs.

Goal COS-20 **Governance and Administration.** Reduction of community-wide (i.e., unincorporated County) and County Operations greenhouse gas emissions contributing to climate change that meet or exceed requirements of the Global Warming Solutions Act of 2006, as amended by Senate Bill 32 (as amended, Pavley. California Global Warming Solutions Act of 2006: emissions limit).

Policy COS-20.1 Climate Change Action Plan. Prepare, maintain, and implement a Climate Action Plan for the reduction of community-wide (i.e., unincorporated County) and County Operations greenhouse gas emissions consistent with the California Environmental Quality Act (CEQA) Guidelines Section 15183.5.

Policy COS-20.2 GHG Monitoring and Implementation. Establish and maintain a program to monitor GHG emissions attributable to development, transportation, infrastructure, and municipal operations and periodically review the effectiveness of and revise existing programs as necessary to achieve GHG emission reduction objectives.

Policy COS-20.3 Regional Collaboration. Coordinate air quality planning efforts with federal and State agencies, SANDAG, and other jurisdictions.

Policy COS-20.4 Public Education. Continue to provide materials and programs that educate and provide technical assistance to the public, development professionals, schools, and other parties regarding the importance and approaches for sustainable development and reduction of GHG emissions.

Strategic Plan to Reduce Waste

The County of San Diego Strategic Plan to Reduce Waste outlines near, mid-, and long-term programs and policies to increase the County's solid waste diversion rate to meet state targets and support other County initiatives, such as the CAP. In April 2017, the County adopted a diversion goal of 75% by 2025 (County of San Diego 2017a).

Renewable Energy Plan

The County's Comprehensive Renewable Energy Plan researches and develops renewable energy options in the County. The planning effort covers the residential, commercial, and industrial sectors of the County, with a particular focus on unincorporated areas, and presents a comprehensive approach to renewable energy and energy efficiency (County of San Diego 2017c).

3.3 Greenhouse Gas Inventories and Climate Change Conditions

Per the EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2016* (2018), total United States GHG emissions were approximately 6,511.3 million metric tons (MMT) CO_2e in 2016. The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 81.6% of total GHG emissions (5,310.9 MMT CO_2e). The largest

source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 93.5% of CO_2 emissions in 2016 (4,966.0 MMT CO_2e). Relative to 1990, gross United States GHG emissions in 2016 are higher by 2.4%; down from a high of 15.7% above 1990 levels in 2007. GHG emissions decreased from 2015 to 2016 by 1.9% (126.8 MMT CO_2e) and overall, net emissions in 2016 were 11.1% below 2005 levels (EPA 2018a).

According to California's 2000–2017 GHG emissions inventory (2018 edition), California emitted 429.4 MMT CO_2e in 2016, including emissions resulting from out-of-state electrical generation (CARB 2018). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high global-warming potential substances, and recycling and waste. The California GHG emission source categories (as defined in CARB's 2008 Scoping Plan) and their relative contributions in 2016 are presented in Table 21.

Table 21
Greenhous Gas Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total[a]
Transportation	169.38	41%
Industrial	89.61	23%
Electric power[b]	68.58	16%
Commercial and residential	39.36	12%
Agriculture	33.84	8%
High global-warming potential substances	19.78	4%
Recycling and waste	8.81	2%
Total	**429.4**	**100%**

Source: CARB 2018a.
Notes: GHG = greenhouse gas; MMT CO_2e = million metric tons of carbon dioxide equivalent.
Emissions reflect the 2016 California GHG inventory.
[a] Percentage of total has been rounded, and total may not sum due to rounding.
[b] Includes emissions associated with imported electricity, which account for 26.28 MMT CO_2e annually.

During the 2000 to 2016 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 14.0 MT per person to 10.8 MT per person in 2016, representing a 23% decrease. In addition, total GHG emissions in 2016 were approximately 12 MMT CO_2e less than 2015 emissions. The declining trend in GHG emissions, coupled with programs that will continue to provide additional GHG reductions going forward, demonstrates that California is just below the 2020 target of 431 MMT CO_2e (CARB 2018a).

According to the GHG inventory data compiled by the Energy Policy Initiative Center (EPIC), in 2010, the County emitted 35 MMT CO_2e (EPIC 2013). As outlined in Table 22, San Diego County Greenhouse Gas Emissions by Sectors, on-road transportation created 42% of these emissions. Similar to emissions trends statewide, electricity generation is the second biggest emitter.

Table 22
San Diego County Greenhouse Gas Emissions by Sectors

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total*
On-road transportation	14	42%
Electricity generation	8	24%
Natural gas end uses	3	8%
Off-road equipment and vehicles	1	4%
Civil aviation	2	5%
Industrial processes and products	2	5%
Waste	<1	2%
Waterborne navigation	<1	<1%
Rail	<1	<1%
Other fuels	2	5%
Agriculture (livestock)	<1	<1%
Wildfires	<1	<1%
Development (loss of vegetation)	<1	<1%
Sequestration from land cover	<1	2%
Total	**35**	**100%**

Source: EPIC 2013.
Notes: GHG = greenhouse gas; MMT CO_2e = million metric tons of carbon dioxide equivalent per year.
* Column may not add due to rounding.

3.4 Threshold Criteria and Methodology

3.4.1 Thresholds

The significance criteria used to evaluate the Project's GHG emissions impacts are based on the recommendations provided in Appendix G of the CEQA Guidelines, which allow both quantitative approaches and analysis of consistency with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions.

The Project's potential impacts on GHG's will be assessed using the GHG thresholds set forth in Appendix G of the CEQA Guidelines:

1. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
2. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

The Appendix G thresholds for GHGs do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to

determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (14 CCR 15000 et seq.). Additional guidance regarding assessment of GHGs is discussed below.

CEQA Guidelines

With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance based standards." (14 CCR 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)).

OPR Guidance

The OPR's Technical Advisory titled *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review* states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008). Furthermore, the advisory document indicates that "in the absence of

regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2008).

Cumulative Nature of Climate Change

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project in the South Coast Air Basin, such as the project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change.

While the project would result in emissions of GHGs during construction, decommissioning, and operation, no guidance exists to indicate what level of GHG emissions would be considered substantial enough to result in a significant adverse impact on global climate. However, it is generally believed that an individual project is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory as scientific uncertainty regarding the significance a project's individual and cumulative effects on global climate change remains.

Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). This approach is consistent with that recommended by the CNRA, which noted in its Public Notice for the proposed CEQA amendments (pursuant to SB 97) that the evidence before it indicates that in most cases, the impact of GHG emissions should be considered in the context of a cumulative impact, rather than a project-level impact (CNRA 2009). Similarly, the Final Statement of Reasons for Regulatory Action on the CEQA Amendments confirm that an EIR or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009). Accordingly, further discussion of the project's GHG emissions and their impact on global climate are addressed in Section 4.

In regards to evaluating the project's significance with respect to CEQA Guidelines number 1, the project GHG emissions will be compared to its production of carbon-free electricity. ~~In addition to the Project's potential impacts on GHGs using the GHG thresholds set forth in Appendix G, the analysis will evaluate the project using the County's CAP Consistency Checklist.[14] A project's consistency with the CAP is evaluated in a two-step process. Step 1 in the CAP Checklist assesses a project's consistency with the growth projections and land use assumptions made in the CAP. If~~

~~[14] The CAP is the subject of current litigation.~~

~~a project is consistent with the projections in the CAP, its associated growth in terms of GHG emissions was accounted for in the CAP's projections and would not increase emissions beyond what is anticipated in the CAP or inhibit the County from reaching its reduction targets. If a project is consistent with the existing General Plan land use designation(s), it can be determined to be consistent with the CAP projections and can move forward to Step 2 of the Checklist. Step 2 of the CAP Checklist identifies CAP GHG reduction measures that would apply to discretionary projects and establishes clear questions that can be used to assess a project's consistency with CAP measures. The specific applicable requirements outlined in the CAP Checklist shall be required as a condition of project approval. The project must provide substantial evidence that demonstrates how the Project would implement each applicable CAP Checklist requirement described in Appendix C of the County's CAP to the satisfaction of the Director of Planning and Development Services (see Appendix C of this report).~~

To address the CEQA Guidelines question number 2, whether the project is consistent with plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs, the project will be evaluated against the County's ~~CAP~~General Plan and Strategic Energy Plan, AB 32, SANDAG's RTP/SCS, and EO B-55-18.

3.4.2 Approach and Methodology

3.4.2.1 Construction

CalEEMod Version 2016.3.2 was used to estimate potential Project-generated GHG emissions during construction. Construction of the Project would result in GHG emissions, primarily associated with use of off-road construction equipment, on-road hauling and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 2.4.2.1, are also applicable for the estimation of construction-related GHG emissions. As such, see Section 2.4.2.1 for a discussion of construction emissions calculation methodology and assumptions.

Decommissioning

CalEEMod Version 2016.3.2 was used to estimate potential Project-generated GHG emissions during decommissioning. Decommissioning of the Project would result in GHG emissions, primarily associated with use of off-road construction equipment, truck trips, and worker vehicles. All details for decommissioning criteria air pollutants discussed in Section 2.4.2.1, are also applicable for the estimation of decommissioning-related GHG emissions. As such, see Section 2.4.2.1 for a discussion of decommissioning emissions calculation methodology and assumptions.

3.4.2.2 Operation

CalEEMod Version 2016.3.2 was used to estimate potential Project-generated GHG emissions from Project operation. All details for operational emissions of criteria air pollutants discussed in Section 2.4.2.2 are also applicable for the estimation of operation-related GHG emissions. For additional details, see Section 2.4.2.2, Operational Emissions, for a discussion of operational emission calculation methodology and assumptions, specifically for operational traffic, wind turbine generator, access roads, electrical collection and communication system, transmission lines, meteorological towers, substation equipment, O&M facility, and fire management. Operational year 2020 was assumed.

During operations, one of the main sources of GHG emissions would be fugitive emissions from equipment containing SF_6 gas installed at the collector substation, switchyard, and high-voltage substation. SF_6 has a GWP of 23,900 using CO_2 at a reference value of 1 (IPCC 2007). The Project collector substation, switchyard, and high-voltage substation would include three 500 kV breakers that would contain SF_6 gas. It is estimated that the Project would maintain 1,209 pounds of SF_6 gas at the collector substation. Although leakage is unlikely, for the purposes of the Project's emissions inventory, it was assumed that the breakers would have a maximum annual leak rate of 0.5% in accordance with the Institute of Electrical and Electronics Engineers' PC37.122 – Standard for High Voltage Gas-Insulated Substations Rated above 52 kV (IEEE 2018). Emissions from breakers are reported as an area source.

3.5 Analysis of Project Impacts and Determination as to Significance

3.5.1 Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

~~**County of San Diego Climate Action Plan Consistency Checklist**~~

~~Step 1 – Land Use Consistency~~

~~Although the County as Lead Agency is analyzing the Project as a whole, the County's land use jurisdiction is limited to the Boulder Brush Facilities. The Bureau of Indian Affairs has jurisdiction over the Campo Wind Facilities, and has prepared an EIS to evaluate Project effects under NEPA (BIA 2019).~~

~~In the County's General Plan, the land use designation for the Boulder Brush Boundary is Rural Lands 80 (RL-80). The Boulder Brush Boundary is zoned General Rural (S92) by the County of San Diego Zoning Map (County of San Diego 2017c). Minor and major impact utilities may be allowed with approval of a Major Use Permit. Major impact services and utilities (e.g., wind energy facilities) and~~

minor impact utilities (e.g., electrical distribution substations) are defined under Sections 1350 and 1355 of the County Zoning Ordinance. The Boulder Brush Facilities require approval of a Major Use Permit from the County, but would not require a change in land use designation or zoning. The County's General Plan and zoning do not cover land within the Reservation Boundary.

The Project would not result in residential, commercial, or growth-inducing development; rather, the Project would construct and operate a renewable energy generation Project. Implementation of the Project would not result in development in excess of that anticipated in local plans or increases in population/housing growth beyond those contemplated by SANDAG when preparing its Sustainable Community Strategy to reduce GHG emissions from mobile sources. As such, vehicle trip generation and planned development for the Project is considered to be anticipated in the SIP and RAQS. Therefore, the project would be consistent with the CAP Consistency Checklist Step 1.

Step 2 – Climate Action Plan Consistency Checklist

The County CAP includes Strategy E-2, Increase Renewable Electricity Use, transitioning from fossil fuels to renewable energy for electricity generation, which would reduce emissions and provide a more sustainable source of electricity. The Project would aid the County in achieving Measure E-2.1, Increase Renewable Electricity, with the goal to achieve 90% renewable electricity for the unincorporated County by 2030 to lower GHG emissions by relying on cleaner energy (County of San Diego 2018). As a renewable energy project, the Project is a unique development that is not addressed in the County's CAP Consistency Checklist. The Project does not include a residential component, typical commuting workers (such as commuters traveling to an office land use), or agricultural operations, which are addressed in the CAP Consistency Checklist. Implementation of the Project would not interfere with the County's implementation of the Consistency Checklist action items on Projects where they are applicable. Additionally, the Project would further the CAP Measure E-2.1 "Increase Renewable Energy." Further, the CAP was developed to reduce GHG emissions throughout the County over time; therefore, any Project that is contemplated in the CAP and/or would be consistent with the CAP would directly aid in the County's reduction of GHG emissions throughout the County's jurisdictional area.

Each CAP Checklist item and why each specific measure does not apply to the Project is outlined in Table 23.

Table 23
Climate Action Plan Consistency Checklist

CAP Checklist Item	Project Compliance
1a. Reducing Vehicle Miles Traveled: Non-Residential: For non-residential Projects with anticipated tenant occupants of 25 or more, will the Project	Not Applicable.

~~Table 23~~

~~Climate Action Plan Consistency Checklist~~

~~CAP Checklist Item~~	~~Project Compliance~~
~~achieve a 15% reduction in emissions from commute vehicle miles traveled (VMT), and commit to monitoring and reporting results to demonstrate on-going compliance? VMT reduction may be achieved through a combination of Transportation Demand Management (TDM) and parking strategies, as long as the 15% reduction can be substantiated.~~	~~The Project would employ 10 to 12 persons, and thus would not accommodate 25 or more tenant occupants.~~
~~2a. Shared and Reduced Parking: Non-Residential: For non-residential Projects with anticipated tenant-occupants of 24 or less, will the Project implement shared and reduced parking strategies that achieves a 10% reduction in emissions from commute VMT? Check "N/A" if the Project is a residential Project or if the Project would accommodate 25 or more tenant-occupants.~~	~~Not Applicable.~~ ~~As a renewable energy development Project, the Project is not a typical commercial or retail development that would have tenants. Employee trips would be related only to as-needed operation and maintenance activities associated with operation of the wind facility. Carpooling will be encouraged to the extent practical to reduce VMT during operation and the Project's parking spaces would not exceed County's code requirements.~~
~~3a. Electric or Alternatively-Fueled Water Heating Systems Residential: For Projects that include residential construction, will the Project, as a condition of approval, install the following types of electric or alternatively-fueled water heating system(s)?~~ ~~☐ Solar thermal water heater~~ ~~☐ Tankless electric water heater~~ ~~☐ Storage electric water heaters~~ ~~☐ Electric heat pump water heater~~ ~~☐ Tankless gas water heater~~ ~~☐ Other~~	~~Not Applicable.~~ ~~The Project does not include a residential component.~~
~~4a. Water Efficient Appliances and Plumbing Fixtures Residential: For new residential Projects, will the Project comply with all of the following water efficiency and conservation best management practices?~~ ~~1. Kitchen Faucets: The maximum flow rate of kitchen faucets shall not exceed 1.5 gallons per minute at 60 pounds per square inch (psi). Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.5 gallons per minute at 60 psi.~~ ~~2. Energy Efficient Appliances: Install at least one qualified ENERGY STAR dishwasher or clothes washer per unit.~~	~~Not Applicable.~~ ~~The Project does not include a residential component.~~
~~5a. Rain Barrel Installations: Residential: For new residential Projects, will the Project make use of incentives to install one rain barrel per every 500 square feet of available roof area? Check "N/A" if the Project is a non-residential Project; if State, regional or local incentives/rebates to purchase rain barrels are not available; or if funding for programs/rebates has been exhausted.~~	~~Not Applicable.~~ ~~The Project does not include a residential component.~~
~~6a. Reduce Outdoor Water: Residential: Will the Project submit a Landscape Document Package that is compliant with the County's Water Conservation in Landscaping Ordinance and demonstrates a 40% reduction in current Maximum Applied Water Allowance (MAWA) for outdoor use?~~	~~Not Applicable.~~ ~~The Project would not include any landscaping that would necessitate~~

~~Table 23~~
~~Climate Action Plan Consistency Checklist~~

~~CAP Checklist Item~~	~~Project Compliance~~
~~Non-Residential: Will the Project submit a Landscape Document Package that is compliant with the County's Water Conservation in Landscaping Ordinance and demonstrates a 40% reduction in current MAWA for outdoor use?~~	~~preparation of a landscape plan or Landscape Document Package.~~
~~7a. Agricultural and Farming Equipment: Will the Project use the San Diego Air Pollution Control District's (SDAPCD's) farm equipment incentive program to convert gas- and diesel-powered farm equipment to electric equipment? Check "N/A" if the Project does not contain any agricultural or farming operations; if the SDAPCD incentive program is no longer available; or if funding for the incentive program has been exhausted.~~	~~Not Applicable. The Project would not include gas or diesel-powered farm equipment and would not contain any agricultural or farming operations.~~
~~8a. Electric Irrigation Pumps: Will the Project use SDAPCD's farm equipment incentive program to convert diesel- or gas-powered irrigation pumps to electric irrigation pumps? Check "N/A" if the Project does not contain any agricultural or farming operations; if the SDAPCD incentive program is no longer available; or if funding for the incentive program has been exhausted.~~	~~Not Applicable. The Project would not include irrigation pumps and would not contain any agricultural or farming operations.~~
~~9a. Tree Planting: Residential: For residential Projects, will the Project plant, at a minimum, two trees per every new residential dwelling unit proposed? Check "N/A" if the Project is a non-residential Project~~	~~Not Applicable. The Project does not include a residential component.~~

~~**Source**: County of San Diego 2018 (see Appendix C).~~
~~**Notes:** CAP = Climate Action Plan; SDAPCD = San Diego Air Pollution Control District.~~

~~As discussed above, the Project would not require a General Plan Amendment or zone change. Although the CAP Consistency Checklist individual GHG measures would not apply to the Project, the Project would be consistent with the underlying assumptions of the CAP and would support goals within the CAP. Therefore, the Project would have a **less-than-significant impact** on GHG emissions.~~

For informational purposes, the Project GHG emissions are summarized below.

Construction Emissions

Emissions from the construction phase of the Boulder Brush Facilities were estimated using CalEEMod and reported for disclosure purposes. Table ~~24~~ 23 presents estimated construction emissions for Boulder Brush Facilities in 2019[15] and 2020 from on-site and off-site emission sources.

[15] The analysis assumes a construction start date of late 2019. Assuming an earlier start date for construction represents the worst-case scenario for criteria air pollutant and GHG emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

Table ~~24~~23
Estimated Annual Boulder Brush Facilities Construction Greenhouse Gas Emissions

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2019	755.05	0.11	0.00	777.83
2020	1,254.61	0.12	0.00	1,257.49
Total	**2,009.66**	**0.23**	**0.00**	**2,035.32**
			Amortized Emissions over 30 Years	***67.84***

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; <0.01 = values are reported as less than 0.01. See Appendix A for complete results.
Numbers may not add exactly due to rounding.
1 Boulder Brush Facilities construction greenhouse gas emissions were proportioned based on 5 miles located within the Reservation and 3.5 miles located within the County.

As shown in Table ~~24~~23, the estimated total GHG emissions during construction of Boulder Brush Facilities would be approximately 778 MT CO_2e in 2019 and 1,257 MT CO_2e in 2020, for a total of 2,035 MT CO_2e over the construction period. Estimated Boulder Brush Facilities construction emissions amortized over 30 years (SCAQMD 2008) would be approximately 68 MT CO_2e per year. As with Boulder Brush Facilities construction criteria air pollutant emissions, GHG emissions generated during construction of Boulder Brush Facilities would be short-term, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions.

Table ~~25~~ 24 presents construction emissions for the Project in 2019 and 2020 from on-site and off-site emission sources.

As shown in Table ~~25~~24, the estimated total GHG emissions during construction of the Project would be approximately 2,258 MT CO_2e in 2019 and 4,259 MT CO_2e in 2020, for a total of 6,544 MT CO_2e over the construction period. Estimated Project-generated construction emissions amortized over 30 years (SCAQMD 2008) would be approximately 218 MT CO_2e per year. As with Project-generated construction criteria air pollutant emissions, GHG emissions generated during construction of the Project would be short-term, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions.

Table ~~25~~24
Estimated Annual Project Construction Greenhouse Gas Emissions

Phase	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2019				
Campo Wind Facilities	1,453.59	0.25	0.00	1,480.41
Boulder Brush Facilities	755.05	0.11	0.00	777.83
2019 Total	2,208.64	0.36	0.00	2,258.24
2020				
Campo Wind Facilities	3,017.04	0.44	0.00	3,028.13
Boulder Brush Facilities	1,254.61	0.12	0.00	1,257.49
2020 Total	4,271.65	0.56	0.00	4,258.62
Total	6,480.29	0.92	0.00	6,543.86
			Amortized Emissions over 30 Years	***218.13***

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; <0.01 = values are reported as less than 0.01. See Appendix A for complete results.

1 Gen-tie line construction greenhouse gas emissions were proportioned based on 5 miles located within the Reservation Boundary and 3.5 miles located within the Boulder Brush Boundary.

2 Blasting emissions were calculated separately and included in the 2019 construction emissions.

As shown in Table ~~26~~25, Vegetation Removal – Estimated Loss of Sequestered Carbon, the estimated total one-time loss of sequestered carbon from land use conversion for the Project would be 13,575 MT CO_2.

Table ~~26~~25
Vegetation Removal – Estimated Project Loss of Sequestered Carbon

Vegetation Type	CalEEMod Vegetation Land Use Category	CO_2 Emissions Factor (MT CO_2 per acre)	Net Loss (acres)	Loss of Sequestered Carbon (MT CO_2)
Campo Wind Facilities				
Forest Land	Scrub	14.3	698.99	9,995.56
Forest Land	Trees	111	22.14	2,457.54
Grassland	Grassland	4.31	24.26	104.56
Wetlands	Wetlands	0.00	0.36	0.00
	Campo Wind Facilities Subtotal		*745.75*	*12,557.66*
Boulder Brush Facilities				
Forest Land	Scrub	14.3	57.04	815.67
Forest Land	Trees	111	1.82	202.02
	Boulder Brush Facilities Subtotal		*58.86*	*1,017.69*
	Total		**804.61**	**13,575.35**
	Amortized Emissions over 30 Years			**452.51**

Source: CAPCOA 2017.

Notes: CalEEMod = California Emissions Estimator Model; CO_2 = carbon dioxide; MT CO_2 = metric tons carbon dioxide.
See Appendix A for complete results.
Numbers may not add exactly due to rounding.

Decommissioning Emissions

The decommissioning emissions estimated for the Project are shown in Table 26~~7~~.

Table 26~~7~~
Estimated Project Annual Decommissioning Greenhouse Gas Emissions

Phase	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2050				
Campo Wind Facilities	1,175.36	0.04	0.00	1,176.39
Boulder Brush Facilities	434.56	0.01	0.00	434.88
Total	***1,609.92***	***0.05***	***0.00***	***1,611.27***
			Amortized Emissions over 30 Years	***53.71***

Notes: CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; N_2O = nitrous oxide.
See Appendix A for complete results.

As shown in Table 26~~7~~, the estimated total GHG emissions during decommissioning would be approximately 1,611 MT CO_2e. Estimated Project-generated decommissioning emissions amortized over 30 years would be approximately 54 MT CO_2e per year.

Operational Emissions

The estimated operational (year 2020) Project-generated GHG emissions from area sources, energy usage, motor vehicles, solid waste generation, and water usage and wastewater generation are shown in Table 2~~8~~7. It is estimated that 66 MT CO_2e annually would result from SF_6 gas leakage, which are included in area source emissions.

Table 2~~8~~7
Estimated Project Annual Operational Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	metric tons per year			
Area[1]	<0.01	0.00	0.00	65.53
Energy	13.91	<0.01	<0.01	13.99
Mobile	102.85	<0.01	0.00	102.92
Stationary[2]	15.23	<0.01	0.00	15.29
Solid waste	0.94	0.06	0.00	2.34
Water supply and wastewater	3.93	0.03	<0.01	4.88
Total	**136.86**	**0.09**	**<0.01**	**204.93**
			Amortized Construction Emissions	*218.13*
			Amortized Loss of Carbon Sequestration	*452.51*

Table 2~~8~~7
Estimated Project Annual Operational Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	metric tons per year			
Amortized Decommissioning Emissions				*53.71*
Operation + Amortized Construction + Loss of Carbon Sequestration + Amortized Decommissioning Total				**929.28**

Notes: CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; SF_6 = sulfur hexafluoride; <0.01 = values are reported as less than 0.01.
See Appendix A for complete results.
1 Emissions from SF_6 are considered an area source.
2 Stationary sources includes emergency generators.
Numbers may not add exactly due to rounding.

As shown in Table 2~~8~~7, estimated annual Project-generated GHG emissions would be approximately 205 MT CO_2e per year as a result of Project operations only. Estimated annual Project-generated operational emissions in 2021 plus amortized Project construction emissions plus loss of carbon sequestration plus decommissioning emissions would be approximately 929 MT CO_2e per year.

Avoided GHG Emissions

In keeping with the renewable energy target under the Scoping Plan and as required by SB 100 and EO B-55-18, the Project would provide a source of renewable energy to assist in progressing toward the RPS goals of 60% by 2030 and 100% by 2045. Renewable energy, in turn, potentially offsets GHG emissions generated by fossil-fuel power plants. As noted above, the Project would result in 929 MT CO_2e per year. The Project is expected to produce an estimated 756,000 megawatt hours of electricity per year. The default CalEEMod CO_2 emission factor for SDG&E was 720.49 pounds of CO_2 per megawatt-hour from 2009 (CAPCOA 2017). The renewable content for SDG&E for 2009 was 10%. SDG&E reported that 44% of its power mix was renewable in 2017, which would result in 448.30 pounds CO_2 per megawatt-hour (see Appendix A for more details). Assuming that SDG&E would meet the EO B-55-18 carbon neutrality target in 2045, a linear regression of the SDG&E GHG emission factor was calculated from 2017 to 2044. This would mean that the Project would avoid less GHG emissions over time. Assuming this, the Project would avoid a total of 1,784,378 MT CO_2 from 2020 through 2044. In contrast, including amortized construction emissions and carbon loss, the project would emit 27,878 MT CO_2 over a 30-year lifetime. The Project is expected to be operational through 2050, and thus it would not be avoiding GHG emissions from 2045 through 2050.

The Boulder Brush Facilities and the Campo Wind Facilities are integral for full Project operation; thus, the Project would avoid approximately 1,756,500 MT CO_2e over its lifetime. Accordingly, the Project would avoid more GHG emissions than it would generate resulting in a **less than cumulatively considerable** contribution to significant cumulative climate change impacts.

3.5.2 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

County Greenhouse Gas Reduction Plans

As discussed in Section 3.5.1.1, the Project would be ~~consistent with the County's CAP through application of the CAP Consistency Checklist. The Project also is~~ consistent with County Plans and policies adopted to reduce GHG emissions. The County's General Plan includes many goals and policies adopted to reduce GHG emissions, which the General Plan organizes into "strategies." Strategy A-3 is to increase generation and use of renewable energy sources and includes Conservation and Open Space Policy COS-18.1. The Conservation and Open Space Element of the County's General Plan "encourages and supports land use development patterns and transportation choices that reduce pollutants and greenhouse gases" and "encourages renewable energy production." Goal COS-18 promotes sustainable energy and encourages "[e]nergy systems that reduce consumption of non-renewable resources and reduce GHG and other air pollutant emissions while minimizing impacts to natural resources and communities." Policy COS-18.1 supports Goal COS-18 and directs the County to work with developers to facilitate the development of alternative energy systems. The Project is a renewable energy source is therefore consistent with Strategy A-3, Goal COS-18, Policy COS-18.1, and one of the primary purposes of the Conservation and Open Space Element. Therefore, the Project would be consistent with the County's GHG reduction plans.

Consistency with CARB's Scoping Plan

As discussed in Section 3.1.4, Potential Effects of Climate Change, the Scoping Plan (approved by CARB in 2008 and updated in 2014 and 2017) provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is not directly applicable to specific proposed projects, nor is it intended to be used for proposed project-level evaluations.[16] Under the Scoping Plan, however, there are several state regulatory measures aimed at the

[16] The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009).

identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., LCFS), among others.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. In keeping with the renewable energy target under the Scoping Plan and as required by SB 100 and EO B-55-18, the Project would provide a source of renewable energy to assist in progressing toward the RPS goals of 60% by 2030 and 100% by 2045. Renewable energy, in turn, potentially offsets GHG emissions generated by fossil-fuel power plants. Accordingly, the Project would avoid more GHG emissions than it would generate. Appendix B of the Scoping Plan includes local measures to reduce GHG emissions; however, these measures would not apply to the Project, since the Project is a renewable energy project. Table 2~~9~~8 highlights measures that have been, or will be, developed under the Scoping Plan and the Project's consistency with Scoping Plan measures. To the extent that these regulations are applicable to the Project, its inhabitants, or uses, the Project would comply will all regulations adopted in furtherance of the Scoping Plan to the extent required by law.

Table ~~29~~28
Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Transportation Sector		
Advanced Clean Cars	T-1	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Low-Carbon Fuel Standard	T-2	**Consistent**. Motor vehicles driven by the Project's employees would use compliant fuels.
Regional Transportation-Related GHG Targets	T-3	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Advanced Clean Transit	N/A	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Last-Mile Delivery	N/A	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Reduction in VMT	N/A	**Not applicable**. The Project would not prevent CARB from implementing this measure.

Table ~~29~~28
Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing	T-4	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Ship Electrification at Ports (Shore Power)	T-5	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction	T-6	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Heavy-Duty Vehicle GHG Emission Reduction 1. Tractor-Trailer GHG Regulation 2. Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	T-7	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Proposed Project	T-8	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Medium and Heavy-Duty GHG Phase 2	N/A	**Not applicable**. The Project would not prevent CARB from implementing this measure.
High-Speed Rail	T-9	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Energy Efficiency (Natural Gas)	CR-1	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Combined Heat and Power	E-2	**Not applicable**. The Project would not prevent CARB from implementing this measure.

Table ~~29~~28
Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Renewables Portfolio Standard (33% by 2020)	E-3	**Consistent.** The Project would generate 252 MW of wind energy to support the Renewables Portfolio Standard.
Renewables Portfolio Standard (50% by 2050)	N/A	**Consistent.** The Project would generate 252 MW of wind energy to support the Renewables Portfolio Standard.
SB 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Water Sector		
Water Use Efficiency	W-1	**Consistent**. The Project would use water for dust suppression during construction and panel rinsing during operation. The water used would be sourced from on-site non-potable water wells.
Water Recycling	W-2	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Water System Energy Efficiency	W-3	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Reuse Urban Runoff	W-4	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Renewable Energy Production	W-5	**Not applicable**. This measure applies to renewable energy within the water sector. The Project would not prevent CARB from implementing this measure.
Green Buildings		
1. State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	**Not applicable**. The Project would not prevent CARB from implementing this measure.
2. Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-1	**Not applicable**. The Project would not prevent CARB from implementing this measure.
3. Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-1	**Not applicable**. The Project would not prevent CARB from implementing this measure.
4. Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-1	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Industry Sector		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	**Not applicable**. The Project would not prevent CARB from implementing this measure.

Table ~~29~~28
Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Oil and Gas Extraction GHG Emission Reduction	I-2	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Reduce GHG Emissions by 20% in Oil Refinery Sector	N/A	**Not applicable**. The Project would not prevent CARB from implementing this measure.
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Refinery Flare Recovery Process Improvements	I-4	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Work with the local air districts to evaluate amendments to their existing leak detection and repair rules for industrial facilities to include methane leaks	I-5	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Recycling and Waste Management Sector		
Landfill Methane Control Measure	RW-1	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Increasing the Efficiency of Landfill Methane Capture	RW-2	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Mandatory Commercial Recycling	RW-3	**Consistent**. The Project would recycle the maximum extent that is feasible in accordance with state and local regulations.
Increase Production and Markets for Compost and Other Organics	RW-3	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Anaerobic/Aerobic Digestion	RW-3	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Extended Producer Responsibility	RW-3	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Environmentally Preferable Purchasing	RW-3	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Forests Sector		
Sustainable Forest Target	F-1	**Not applicable**. The Project would not prevent CARB from implementing this measure.
High GWP Gases Sector		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	**Not applicable**. The Project would not prevent CARB from implementing this measure.
SF_6 Limits in Non-Utility and Non-Semiconductor Applications	H-2	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Reduction of Perfluorocarbons (PFCs in Semiconductor Manufacturing	H-3	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Limit High GWP Use in Consumer Products	H-4	**Not applicable**. The Project would not prevent CARB from implementing this measure.

Table ~~29~~28
Project Consistency with Scoping Plan Greenhouse Gas Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Project Consistency
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	**Not applicable**. The Project would not prevent CARB from implementing this measure.
SF_6 Leak Reduction Gas Insulated Switchgear	H-6	**Consistent**. The Project would utilize gas insulated switchgear that would be subject to CARB regulations and meet the leak rate mandates.
40% reduction in methane and hydrofluorocarbon (HFC) emissions	N/A	**Not applicable**. The Project would not prevent CARB from implementing this measure.
50% reduction in black carbon emissions	N/A	**Not applicable**. The Project would not prevent CARB from implementing this measure.
Agriculture Sector		
Methane Capture at Large Dairies	A-1	**Not applicable**. The Project would not prevent CARB from implementing this measure.

Source: CARB 2008, 2017a.
Notes: CARB = California Air Resources Board; GHG = greenhouse gas; VMT = vehicle miles traveled; MW = megawatt; N/A = not applicable; SF_6 = sulfur hexafluoride; PFC = perfluorocarbon; GWP = global warming potential.

Based on the analysis in Table 2~~8~~9, the Project would be consistent with the applicable strategies and measures in the Scoping Plan.

The Project would not impede and may help the attainment of the GHG reduction goals for 2030 or 2050 identified in EO S-3-05, B-55-18, and SB 32. As discussed in Section 3.2.2, EO S-3-05 establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050. SB 32 establishes for a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030. While there are no established protocols or thresholds of significance for that future year analysis, CARB forecasts that compliance with the current Scoping Plan puts the state on a trajectory of meeting these long-term GHG goals, although the specific path to compliance is unknown (CARB 2014). EO B-55-18 established the goal to achieve carbon neutrality by 2045.

To begin, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the First Update to the Climate Change Scoping Plan states the following (CARB 2014):

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, SB 32, and EO S-3-05. This is confirmed in the Second Update (CARB 2017a), which states:

> The Proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Proposed Plan is developed to be consistent with requirements set forth in AB 32, SB 32, and AB 197.

In addition, as discussed previously, the Project is consistent with the GHG emission reduction measures in the Scoping Plan and would not conflict with the state's trajectory toward future GHG reductions. Since the specific path to compliance for the state in regards to the long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the Project would be speculative and cannot be identified at this time. The Project's consistency would assist in meeting the County's contribution to GHG emission reduction targets in California. With respect to future GHG targets under SB 32 and EO S-3-05, CARB has also made clear its legal interpretation is that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet SB 32's 40% reduction target by 2030 and EO S-3-05's 80% reduction target by 2050; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its

trajectory toward meeting these future GHG targets. The Project would increase renewable energy production and thus would support the goals within SB 32, EO S-3-05, and EO B-55-18. Based on the considerations previously outlined, the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and no mitigation is required.

Consistency with SANDAG's San Diego Forward: the Regional Plan

Regarding consistency with SANDAG's Regional Plan, the Project operations would generate minimal annual operational mobile trips from maintenance and security vehicles.

Table ~~30~~29 illustrates the Project's consistency with all applicable goals and policies of San Diego Forward: The Regional Plan (SANDAG 2015).

Table ~~30~~29
San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
The Regional Plan – Policy Objectives		
Mobility Choices	Provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.	*Not Applicable.* The Project would not impair the ability of SANDAG to provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.
Mobility Choices	Take advantage of new technologies to make the transportation system more efficient and environmentally friendly.	*Not Applicable*. The Project would not impair the ability of SANDAG to take advantage of new technologies to make the transportation system more efficient and environmentally friendly.
Habitat and Open Space Preservation	Focus growth in areas that are already urbanized, allowing the region to set aside and restore more open space in our less developed areas.	*Not Applicable*. The Project would not impair the ability of SANDAG to set aside and restore more open space.
Habitat and Open Space Preservation	Protect and restore our region's urban canyons, coastlines, beaches, and water resources.	*Not Applicable*. The Project would not impair the ability of SANDAG to set aside and restore more open space.
Regional Economic Prosperity	Invest in transportation projects that provide access for all communities to a variety of jobs with competitive wages.	*Not Applicable*. The Project would not impair the ability of SANDAG to invest in transportation projects available to all members of the Community.
Regional Economic Prosperity	Build infrastructure that makes the movement of freight in our community more efficient and environmentally friendly.	*Not Applicable*. The Project does not propose regional freight movement, nor would it impair SANDAG's ability to preserve and expand options for regional freight movement.

Table ~~30~~29
San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
Partnerships/Collaboration	Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities to design a transportation system that connects to the mega-region and national network, works for everyone, and fosters a high quality of life for all.	*Not Applicable*. The Project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations.
Partnerships/Collaboration	As we plan for our region, recognize the vital economic, environmental, cultural, and community linkages between the San Diego region and Baja California.	*Not Applicable*. The Project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico.
Healthy and Complete Communities	Create great places for everyone to live, work, and play.	*Not Applicable*. The Project would not impair the ability of SANDAG to create great places for everyone to live, work, and play.
Healthy and Complete Communities	Connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.	*Not Applicable*. The Project would not impair the ability of SANDAG to connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.
Environmental Stewardship	Make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living.	*Consistent*. The Project would support the goal of producing clean energy for sustainable living.
Environmental Stewardship	Support energy programs that promote sustainability.	*Consistent*. The Project would support the goal of producing clean energy for sustainable living.
Sustainable Communities Strategy – Strategies		
Strategy No. 1	Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.	*Not Applicable*. The Project would not including housing or job growth in urbanized areas.
Strategy No. 2	Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.	*Not Applicable*. The Project would not impair the ability of SANDAG to set aside and restore more open space.
Strategy No. 3	Invest in a transportation network that gives people transportation choices and reduces greenhouse gas emissions.	*Consistent.* The Project would help reduce greenhouse gas emissions through the production of clean renewable energy.
Strategy No. 4	Address the housing needs of all economic segments of the population.	*Not Applicable.* The Project would not impair the ability of SANDAG to address the housing needs of all economic segments of the population.

Table ~~30~~29
San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
Strategy No. 5	Implement the Regional Plan through incentives and collaboration.	*Not Applicable.* The Project would not impair the ability of SANDAG to implement the Regional Transportation Plan through incentives and collaborations.

Source: SANDAG 2015.
Notes: SANDAG = San Diego Association of Governments.

As shown in Table ~~30~~29, the Project is consistent with all applicable Regional Plan Policy Objectives or Strategies.

The Project would provide a potential reduction in GHG emissions from electricity use each year of operation if the electricity generated by the solar facility were to be used instead of electricity generated by fossil-fuel sources. Specifically, the Project would directly aid the state in achieving statewide GHG emission reductions through the increased production of renewable energy as called for under SB X1 2, SB 350, and SB 100, and discussed in the Scoping Plan. The latest of these bills, SB 100, requires utilities to provide an energy mix containing at least 60% renewables by 2030. The Project would aid in meeting that target.

Therefore, because the Project would assist in the attainment of the state's and County's goals by providing a new renewable source of energy that could displace electricity generated by fossil-fuel-fired power plants, the Project would be consistent with the regulations, plans, goals and objectives of the state and the County adopted to reduce GHG emissions, and would make a **less than cumulatively considerable contribution** to significant cumulative climate change impacts.

3.5.3 Cumulative Impact Analysis

Due to the global nature of the assessment of GHG emissions and the effects of global climate change, impacts are analyzed from a cumulative impact context; therefore, the Project's analysis includes an assessment of Project impacts as a cumulative impact, as discussed in Section 3.5.2.

3.5.4 Mitigation

The Project would be consistent with the County's ~~CAP~~ General Plan, the Scoping Plan, and SANDAG's Regional Plan; therefore, impacts related to GHG emissions would be **less than significant**. No mitigation is required.

3.5.5 Conclusion

~~The Project is consistent with the County's CAP and would implement all applicable action items from the CAP Consistency Checklist. Renewable energy production potentially offsets GHG emissions generated by fossil-fuel power plants. Additionally, the generation of renewable energy from the Project is integral in the County meeting CAP goal E-2.1, "Increase Renewable Energy."~~

The Project is ~~also~~ consistent with applicable plans, policies, and regulations adopted to reduce GHG emissions, including SB X1 2, SB 350, and SB 100, and County General Plan Strategy A-3. The Project also supports the County's Strategic Energy Plan. The Project's amortized construction emissions, loss of carbon sequestration, amortized decommissioning emissions, and operational emissions would be 929 MT CO_2e per year. Furthermore, implementation of M-AQ-1, as described in Section 2.2.6 of the Project's EIR, would require use of electrical or natural-gas-powered construction, where feasible, which would reduce the use of diesel-powered off-road construction equipment and result in GHG co-benefits. Therefore, the project would make a **less-than-significant** contribution to significant cumulative climate change impacts.

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17 CCR 93000. Substances Identified as Toxic Air Contaminants. In Subchapter 7, Toxic Air Contaminants.

24 CCR Part 6. California Energy Code. Sacramento, California: California Building Standards Commission. March 2010. ISBN 978-1-58001-976-7. Effective January 1, 2011. Accessed August 2016. http://www.documents.dgs.ca.gov/bsc/Title_24/documents/2010/Part%206/2010-CA-Energy.pdf.

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APPENDIX A

CalEEMod Output Files

APPENDIX B

Health Risk Assessment

~~APPENDIX C~~

~~*County of San Diego Climate Action Plan Consistency Checklist*~~