

5.17 GREENHOUSE GAS EMISSIONS

5.17.1 METHODOLOGY

This section addresses impacts to greenhouse gas (GHG) emissions anticipated from implementation of the MDPI. At the direction of the State Legislature in Senate Bill (SB) 97, the California Natural Resources Agency (CNRA) recently adopted amendments to the California Environmental Quality Act (CEQA) Guidelines that require an analysis of GHG emissions in CEQA documents.¹ Because project designs and specific locations for individual facilities and improvements have not been developed, specific estimates of GHG emissions have not been undertaken in this EIR and, instead, will have to be performed as part of subsequent environmental review.

Emissions of criteria air pollutants and toxic air contaminants (TACs) are addressed in Section 5.3, Air Quality, of this EIR.

5.17.2 EXISTING CONDITIONS

Global Climate Change

Global climate change is currently an important and highly debated environmental, economic, and political issue. Increasing GHG emissions have led to an anthropogenic warming trend of the earth's average temperature,² which is causing changes in the earth's climate; GHG emissions are primarily associated with (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition. This increasing temperature phenomenon is known as "global warming", and the climatic effect is known as "climate change" or "global climate change".

Climate change is a recorded change in the average weather of the earth measured by variables such as wind patterns, storms, precipitation, and temperature. Historical records show that global temperature changes have occurred naturally in the past, such as during previous ice ages. Eleven of the 12 years from 1995 to 2006 rank among the warmest years in the instrumental record of global surface temperature (since 1850). An increase of 0.74 degree Celsius (°C) (1.33 degrees Fahrenheit [°F]) in global surface temperature occurred during the 100-year period from 1906 to 2005.

Recent scientific research indicates very high confidence (i.e., at least 90 percent) that the rate and magnitude of current global temperature changes are anthropogenic and that global warming will lead to adverse climate change effects around the globe (IPCC 2007).

Greenhouse Gases

GHGs are atmospheric gases and clouds within the atmosphere that influence the earth's temperature by absorbing most of the infrared radiation that rises from the sun-warmed surface and that would otherwise escape into space. This process is commonly known as the "Greenhouse Effect". GHGs are emitted by natural processes and human activities. The earth's

¹ The CEQA Guidelines revisions were adopted December 30, 2009. The Adopted Amendments became effective March 18, 2010.

² Anthropogenic effects, processes, objects, or materials are those that are derived from human activities, as opposed to those occurring in natural environments without human influence.

surface temperature averages about 58°F because of the Greenhouse Effect. Without it, the earth's average surface temperature would be somewhere around an uninhabitable 0°F. The resulting balance between incoming solar radiation and outgoing radiation from both the earth's surface and atmosphere maintains the planet's habitability.

GHGs, as defined under California's Assembly Bill (AB) 32, include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). General discussions on climate change often include water vapor, ozone, and aerosols in the GHG category. Water vapor and atmospheric ozone are not gases that are formed directly in the construction or operation of development projects, nor can they be controlled in these projects. Aerosols are not gases. While these elements have a role in climate change, they are not considered by either regulatory bodies (such as the California Air Resources Board [CARB]) or climate change groups (such as the California Climate Action Registry [CCAR]) as gases to be reported or analyzed for control. Therefore, no further discussion of water vapor, ozone, or aerosols is provided.

Anthropogenic emissions of GHGs into the atmosphere enhance the Greenhouse Effect by absorbing radiation from other atmospheric GHGs that would otherwise escape into space, thereby trapping more radiation in the atmosphere and causing temperatures to increase. CO₂ is the most important and common anthropogenic GHG. The global atmospheric concentration of CO₂ has increased from a pre-industrial (roughly 1750) value of about 280 parts per million (ppm) to 379 ppm in 2005, primarily due to fossil fuel use, with land use change providing a significant but smaller contribution. The annual growth rate in CO₂ concentrations continues to increase, with a larger annual CO₂ concentration growth rate average during the ten-year period between 1995 and 2005 than since the beginning of continuous direct measurements in 1960.

CO₂ constitutes approximately 84 percent of all GHG emissions in California (CEC 2006a). Worldwide, the State of California ranks as about the 12th largest emitter of CO₂ and is responsible for approximately 2 percent of the world's CO₂ emissions (CEC 2007, 2006a). However, throughout the U.S., California is the fourth lowest in CO₂ emissions per capita (CEC 2006a).

GHGs are global pollutants unlike air pollutants such as ozone, particulate matter and toxic air contaminants (TACs), which are pollutants of regional and local concern. While pollutants with localized air quality effects have relatively short atmospheric lifetimes (generally on the order of a few days), GHGs have relatively long atmospheric lifetimes, ranging from one year to several thousand years. Long atmospheric lifetimes allow for GHGs to disperse around the globe. In addition, the GHG impacts are global, as opposed to the localized air quality effects of criteria air pollutants and TACs.

GHGs vary widely in the power of their climatic effects; therefore, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO₂ (CO₂ has a GWP of 1). For example, since CH₄ and N₂O are approximately 21 and 310 times more powerful than CO₂ (respectively) in their ability to trap heat in the atmosphere, they have GWPs of 21 and 310 (respectively). Carbon dioxide equivalent (CO₂e) is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO₂e. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 5.17-1.

**TABLE 5.17-1
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES**

Greenhouse Gas	Atmospheric Lifetime (years)	Global Warming Potential (100-year time horizon)
Carbon Dioxide (CO ₂)	50–200	1
Methane (CH ₄)	12	21
Nitrous Oxide (N ₂ O)	114	310
HFC-134a	48.3	1,300
PFC: Tetrafluoromethane (CF ₄)	50,000	6,500
PFC: Hexafluoroethane (C ₂ F ₆)	10,000	9,200
Sulfur Hexafluoride (SF ₆)	3,200	23,900
HFC: hydrofluorocarbon; PFC: perfluorocarbon.		
Source: CCAR 2009		

General Environmental Effects of Global Climate Change

Executive Order S-3-05 mandates the preparation of biennial science assessment reports on climate change impacts and adaptation options for California. Executive Order S-13-08 directs the CNRA to develop a State Climate Adaptation Strategy and provide State land-use planning guidance related to sea level rise and other climate change impacts. Current reports resulting from these directed actions are the *Climate Action Team Biennial Report to the Governor and Legislature* (CCCC 2009) and the *California Climate Adaptation Strategy* (CNRA 2009b). These studies report that global warming in California is anticipated to impact resources including, but not limited to, the following:

- **Public Health.** Many Californians currently experience the worst air quality in the nation, and climate change would likely make matters worse. Higher temperatures would increase the frequency, duration, and intensity of conditions conducive to air pollution formation. If global background ozone (O₃) levels increase as predicted under some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by more frequent wildfires, which emit fine particulate matter that can travel long distances. Rising temperatures and more frequent heat waves would increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress. Climate change may also increase asthma rates and the spread of infectious diseases and their vectors, as well as challenge food and water supplies. Children, the elderly, people with chronic heart or lung disease, outdoor workers, people who exercise outdoors, and the economically disadvantaged would be particularly vulnerable to these changes. In addition, more frequent extreme weather events could also result in increased injuries and deaths.
- **Energy.** Increasing mean temperature and more frequent heat waves will drive up demand for cooling in summer; this new energy demand will only be partially offset by decreased demand for heating in winter. Hydropower, which currently provides 15 percent of in-state energy generation, would be threatened by declining snowpack, which serves as a natural reservoir for hydropower generation in the spring and summer. Winter storms, earlier snowmelt, and greater runoff may combine to cause flooding, damaging transmission lines and causing power outages.

- **Water Resources.** Rising temperatures, less precipitation, and more precipitation falling as rain instead of snow could severely diminish snowpack. Because the Sierra Nevada snowpack provides most of California's available water, this loss would increase the risk of summer water shortages and hamper water distribution and hydropower generation. The diminished snowpack would also nearly eliminate all skiing and other snow-related recreation. Rising sea levels would push salt water into California's estuaries, wetlands, and groundwater aquifers, threatening the water quality and reliability within the Sacramento/San Joaquin River Delta—a major California freshwater supply. Extreme precipitation and flooding could also damage water quality by creating sudden increases in runoff. Moreover, warming would increase evapotranspiration rates from plants, soil, and open water surfaces, resulting in greater demand for irrigation. Overall, climate change would reduce California's water supplies even as its growing population requires additional resources.
- **Sea Level and Flooding.** Sea level at California's coasts is expected to rise by 11 to 18 inches above 2000 levels by 2050, and by 23 to 55 inches by 2100. These increases would create more frequent and higher storm surges, erode some coastal areas, and increase pressure on existing levees, creating greater risk of flooding in previously untouched inland areas. Consequently, continued development in vulnerable coastal areas would put more people and infrastructure at risk.
- **Agriculture.** Although higher CO₂ levels can stimulate plant production and increase plant water-use efficiency, in the long term, climate change would reduce the quantity and quality of agricultural products statewide. As temperatures rise, farmers will face greater water demand for crops and a less reliable water supply, as well as increased competition from urban water users. Sea level rise may cause saltwater intrusion in the Delta region, making it difficult to raise certain crops. Rising temperatures will likely aggravate O₃ pollution, interfering with plant growth and making plants more susceptible to disease and pests. In addition, warming would reduce the chill hours needed for fruit and nuts; shift pest and weed ranges; alter crop-pollinator timing; and increase the frequency of droughts, heat waves, and floods. Higher average temperatures would also increase mortality and decrease productivity in livestock.
- **Forestry.** California timber production has declined over the past few decades, due in part to warming and increased wildfires. While further warming may increase production for some species in some locations, climate change is expected to reduce overall forest growth. Increasing average temperature and drought frequency would result in more wildfires and greater burned areas, while less frequent and more intense rainfall would increase soil erosion and landslides. Higher temperatures and less water would force many tree species to shift their ranges; those that run out of livable habitat may die out. Pests, diseases, and invasive species may also colonize new areas, further challenging forest health and biodiversity.
- **Ecosystems.** Rising average temperature will subject plants and animals to greater thermal stress, causing some species to adapt or shift their ranges, while others may face extinction. Invasive species may also shift their ranges, threatening native species. Changing temperatures would also alter the timing of plant flowering and insect emergence, damaging species' ability to reproduce. Changing precipitation patterns will impact aquatic and riparian ecosystems by reducing snow pack, stream flow, and groundwater, while increasing the frequency of droughts, floods, and wildfires. As sea levels rise, some coastal habitats may be permanently flooded or eroded, and saltwater

intrusion into freshwater resources may threaten terrestrial species. Changes in ocean circulation and temperature, ocean acidification, and increased runoff and sedimentation will threaten pelagic species. In sum, continued global warming would alter natural ecosystems and threaten California's biological diversity.

Regulatory Setting

Federal

U.S. Environmental Protection Agency Findings

On December 7, 2009, the U.S. Environmental Protection Agency (USEPA) Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- ***“Endangerment Finding:*** The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)—in the atmosphere threaten the public health and welfare of current and future generations.
- ***Cause or Contribute Finding:*** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the USEPA's proposed greenhouse gas emission standards for light-duty vehicles” (USEPA 2009a).

Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards

On April 1, 2010, the USEPA and the Department of Transportation's National Highway Safety Administration (NHTSA) announced a joint final rule to reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States. The rule applies to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The rule requires these vehicles to meet an estimated combined average emissions level of 295 grams of CO₂ per mile by 2012, decreasing to 250 grams per mile by 2016; the latter figure is equivalent to 35.5 miles per gallon (mpg) if the automobile industry were to meet this CO₂ level solely through fuel economy improvements. The combined USEPA GHG standards and NHTSA Corporate Average Fuel Economy (CAFE) standards resolve previously conflicting requirements under both federal programs and the State of California standards, and other states that have adopted the California standards (USEPA 2010c).

State

CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and State air pollution control programs in California. There are numerous State plans, policies, regulations, and laws related to GHGs and global climate change. Following is a brief discussion of the plans, policies, and regulations most relevant to the proposed project (presented in approximate chronological order).

Assembly Bill 1493

In 2002, AB 1493 required CARB to develop and adopt, by January 1, 2005, regulations that achieve “the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the state”. To meet the requirements of AB 1493, CARB approved amendments to the *California Code of Regulations*. Amendments include (1) the addition of GHG emission standards to California’s existing motor vehicle emission standards and (2) the requirement that automobile manufacturers meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016. In order to enact State standards for vehicle emissions, a waiver was required from the USEPA.

Subsequent to prolonged litigation, the State of California committed to (1) revise its standards to allow manufacturers to demonstrate compliance with the fleet-average GHG emission standard by “pooling” California and specified State vehicle sales; (2) revise its standards for 2012–2016 model year vehicles so that compliance with USEPA-adopted GHG standards would also comply with California’s standards; and (3) revise its standards, as necessary, to allow manufacturers to use emissions data from the federal CAFE program to demonstrate compliance with the AB 1493 regulations (CARB 2009a). As described above, the USEPA/NHTSA rule to implement the GHG reduction standards was issued on April 1, 2010.

Executive Order S-3-05

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce snowpack in the Sierra Nevada Mountains, further exacerbate California’s air quality problems, and potentially cause a rise in sea levels. In an effort to avoid or reduce the impacts of climate change, Executive Order S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

Assembly Bill 32, the California Global Warming Solutions Act of 2006

The California Legislature adopted the public policy position that global warming is “a serious threat to the economic well-being, public health, natural resources, and the environment of California” (*California Health and Safety Code* §38501). Furthermore, the State Legislature has determined that “the potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra Nevada snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious disease, asthma, and other human health-related problems”, and that “Global warming will have detrimental effects on some of California’s largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry. It will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the State” (*California Health and Safety Code* §38501). These public policy statements became law with the enactment of AB 32, the California Global Warming Solutions Act of 2006, signed by Governor Arnold Schwarzenegger in September 2006. AB 32 is now codified as *California Health and Safety Code*, Sections 38500–38599.

AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction is to be accomplished through an enforceable statewide cap on GHG emissions to be phased in starting in 2012. AB 32 directs CARB to establish this statewide cap based on 1990 GHG emissions levels; disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms. Emissions reductions under AB 32 are to include carbon sequestration projects and best management practices that are technologically feasible and cost-effective. As of August 2010 when this climate change analysis was prepared, CARB had not yet promulgated GHG emissions or reporting standards that are directly applicable to the proposed project.

Senate Bill 97 and Amendments to CEQA Guidelines

SB 97 directs the CNRA to adopt amendments to the CEQA Guidelines that require evaluation of GHG emissions or the effects of GHG emissions by January 1, 2010. The CNRA has done so, and the amendments to the CEQA Guidelines, in a new Section 15064.4, titled Determining the Significance of Impacts from Greenhouse Gas Emissions, provide that (CNRA 2009a):

- (a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
 - (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or
 - (2) Rely on a qualitative analysis or performance based standards.
- (b) A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:
 - (1) The extent to which the project may increase or reduce greenhouse gas 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 greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The amendments add a new Section 15126.4(c), Mitigation Measures Related to Greenhouse Gas Emissions. This new section includes the following:

“...Lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:

- (1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency’s decision;
- (2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures;
- (3) Off-site measures, including offsets that are not otherwise required, to mitigate a project’s emissions;
- (4) Measures that sequester greenhouse gases;
- (5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

Governor’s Office of Planning and Research Technical Advisory

On June 19, 2008, the Governor’s Office of Planning and Research (OPR) issued a Technical Advisory on addressing climate change impacts of a proposed project under CEQA (OPR Climate Change Advisory) (OPR 2008). The OPR Climate Change Advisory recommends that lead agencies quantify, determine the significance of, and (as needed) mitigate the cumulative climate change impacts of a proposed project. The OPR Climate Change Advisory identifies that each lead agency is required, under CEQA, to exercise its own discretion in choosing how to determine significance in the absence of adopted thresholds or significance guidelines from the State, CARB, or the applicable local air district.

CARB Scoping Plan

In December 2007, CARB published California’s GHG inventory, which compiled statewide anthropogenic GHG emissions and sinks for the years 1990 through 2004. The total statewide GHG 1990 emissions level, and therefore the 2020 emissions target, is 427 million metric tons of carbon dioxide equivalent (MMT CO_2e).³ Achieving this target requires a reduction of 169 MMT CO_2e (approximately 30 percent) from the State’s projected 2020 emissions of 596 MMT CO_2e (business-as-usual), and a reduction of 42 MMT CO_2e (almost 10 percent) of the 2002–2004 average emissions.

³ CO_2e emissions are commonly expressed in metric tons of carbon dioxide equivalent (MTC CO_2e). Larger quantities of emissions, such as on the State or world scale, are expressed in million metric tons of carbon dioxide equivalent (MMT CO_2e). Metric tons may also be stated as “tonnes”. The CO_2e for a gas is derived by multiplying the tons of the gas by the associated global warming potential (GWP) such that $\text{MMT}\text{CO}_2\text{e} = (\text{million metric tons of a GHG}) \times (\text{GWP of the GHG})$. For example, the GWP for CH_4 is 21. This means that emissions of 1 million metric tons of CH_4 are equivalent to the emissions of 21 million metric tons of CO_2 .

AB 32 requires CARB to develop a Scoping Plan to lower the State's GHG emissions to meet the 2020 limit. The Scoping Plan was approved at the December 2008 board meeting and the measures in the Scoping Plan, listed in Table 5.17-2, will be developed and in place by 2012. As shown in the table, statewide measures addressing vehicle emissions, energy efficiency, vehicle fuel, and power generation are planned to achieve the greater amounts of emissions reductions. However, reductions at all levels will be needed to reach the 2020 targets.

Key elements of the Scoping Plan include (1) expanding and strengthening existing energy efficiency programs and building and appliance standards; (2) achieving a statewide renewable energy mix of 33 percent; (3) developing a California cap and trade program linked with other similar programs; (4) establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets; (5) implementing existing laws and standards such as California's clean car standards (identified in Table 5.17-1 as Light Duty Vehicle GHG Standards and described above under the AB 1493 heading), goods movement measures, and the Low Carbon Fuel Standard (LCFS); and (6) issuing targeted fees to fund the State's long-term commitment to AB 32 administration (CARB 2008b).

On April 23, 2009, CARB approved the LCFS, which has a goal to reduce GHG emissions from California's transportation fuels by 10 percent, equal to 16 MMTCO₂e, by 2020. The regulation requires providers, refiners, importers, and blenders to ensure that the fuels they provide for the California market meet an average declining standard of "carbon intensity". This is established by determining the sum of GHG emissions associated with the production, transportation and consumption of a fuel, also referred to as the "fuel pathway" (CARB 2009b).

**TABLE 5.17-2
AB 32 SCOPING PLAN RECOMMENDED GREENHOUSE GAS
REDUCTION MEASURES**

Recommended Reduction Measures	Reductions Counted toward 2020 Target of 169 MMTCO ₂ e	Percentage of Statewide Year 2020 Target
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	18.2%
Energy Efficiency	26.3	15.1%
Renewable Portfolio Standard (33% by 2020)	21.3	12.2%
Low Carbon Fuel Standard	15	8.6%
Regional Transportation-related GHG Targets ^a	5	2.9%
Vehicle Efficiency Measures	4.5	2.6%
Goods Movement	3.7	2.1%
Million Solar Roofs	2.1	1.2%
Medium-/Heavy-Duty Vehicles	1.4	0.8%
High-Speed Rail	1.0	0.6%
Industrial Measures	0.3	0.2%
Additional Reduction Necessary to Achieve Cap	34.4	19.8%
<i>Total Estimated Reductions from Cap and Trade Program and Associated Measures</i>	<i>146.7</i>	<i>84.3%</i>
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	11.6%
Sustainable Forests	5	2.9%

TABLE 5.17-2 (Continued)
AB 32 SCOPING PLAN RECOMMENDED GREENHOUSE GAS
REDUCTION MEASURES

Recommended Reduction Measures	Reductions Counted toward 2020 Target of 169 MMTCO _{2e}	Percentage of Statewide Year 2020 Target
Cap and Trade Program and Associated Measures		
Industrial Measures (for sources not covered under cap and trade program)	1.1	0.6%
Recycling and Waste (landfill methane capture)	1	0.6%
<i>Total Estimated Reductions from Uncapped Sources/Sectors</i>	27.3	15.7%
Total Reductions Counted Towards 2020 Target	174.0^b	100%
Other Recommended Measures – Not Counted Towards 2020 Target	Estimated Reductions MMTCO_{2e}	
State Government Operations	1.0 to 2.0	
Local Government Operations	To Be Determined	
Green Buildings	26	
Recycling and Waste	9	
Water Sector Measures	4.8	
Methane Capture at Large Dairies	1	
MMTCO _{2e} : million metric tons of carbon dioxide equivalent; GHG: greenhouse gas(es) ^a Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 Regional target. ^b The total reduction for the recommended measures slightly exceeds the 169 MMTCO _{2e} of reductions estimated in the Draft Scoping Plan. This is the net effect of adding several measures and adjusting the emission reduction estimates for some other measures. Source: BonTerra Consulting 2010		

Senate Bill 375

Signed September 30, 2008, SB 375 provides for a new planning process to coordinate land use planning and regional transportation plans and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 requires Metropolitan Planning Organizations, including the Southern California Association of Governments (SCAG), to incorporate a Sustainable Communities Strategy (SCS) in their regional transportation plans that will achieve GHG emission reduction targets set by CARB. There are two mutually important facets to SB 375: reducing vehicle miles traveled (VMT) and encouraging more compact, complete, and efficient communities for the future. SB 375 also includes provisions for exemptions from or streamlined CEQA review for projects classified as transit priority projects. However, a requirement for these CEQA features is that the project must conform to the SCS, and SCAG's SCS is currently scheduled for adoption in April 2012.

Title 24 Energy Efficiency Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, of the *California Code of Regulations* [CCR], known as "Title 24") were established in 1978 in response to a legislative mandate to reduce California's energy consumption. Since that time, Title 24 has undergone several revisions. Effective January 1, 2010, the adopted 2008 Title 24 standards replace the 2005 Title 24 standards. The California Energy Commission adopted the 2008 changes in order to (1) "Provide California with an adequate, reasonably-priced, and

environmentally-sound supply of energy” and (2) “Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its greenhouse gas emissions to 1990 levels by 2020” (CEC 2009).

An impact analysis of the 2008 Energy Efficiency Standards estimates that compared to the 2005 Standards, for new multi-family residential construction, electricity use will be reduced by 19.7 percent; peak demand will be reduced by 7.4 percent; and gas consumption will be reduced by 7.0 percent. For new non-residential construction, electricity use will be reduced by 4.9 percent; peak demand will be reduced by 7.2 percent; and gas consumption will be reduced by 9.4 percent. These percent savings are relative to heating, cooling, lighting, and water heating only and do not include other appliances, outdoor lighting that is not attached to buildings, plug loads, or other energy uses (CEC 2007).

Title 24 Green Building Standards

The California Green Building Standards Code (24 CCR 11) were adopted in June 2008. The purpose of the Green Building Standards is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental air quality (CBSC 2009). Although the Green Building Standards became effective August 1, 2009, according to the cover date; effective dates for various elements are specified within the publication. Accordingly, the California Building Standards Commission (CBSC) advises that this version of the standards is primarily a voluntary one. There are mandatory provisions within the Code, but these are items that are currently either required by state law or required by existing regulations. Most of the mandatory provisions adopted by the Department of Housing and Community Development (HCD) have a delayed effective date until the 2010 State building codes are in effect.⁴ The CBSC states that nothing within California Building Standards Law would preclude a local jurisdiction from adopting the current voluntary version of the Code prior to its effective date on January 1, 2011 (CBSC 2010).

Regional

South Coast Air Quality Management District

Air quality in Los Angeles County is regulated by the South Coast Air Quality Management District (SCAQMD) and is further discussed in Section 5.3, Air Quality, of this EIR. Beginning in April 2008, the SCAQMD convened a working group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. The Working Group meets approximately once per month. On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold for industrial projects where the SCAQMD is the lead agency. The interim screening threshold for industrial projects is 10,000 metric tons of carbon dioxide equivalent per year (MTCO₂e/yr).

In September 2010, the Working Group presented a tiered approach to determining GHG significance (SCAQMD 2010). At Tier 1, GHG emissions impact would be less than significant if the project qualifies under a categorical or statutory CEQA exemption. At Tier 2, the GHG emissions impact would be less than significant if the project is consistent with a previously

⁴ The indoor water use measures are required as of July 1, 2011.

adopted GHG reduction plan that meets specific requirements.⁵ At Tier 3, the Working Group proposes extending the 10,000 MTCO₂e/yr screening threshold applicable to industrial projects where SCAQMD is the lead agency, described above, to other lead agency industrial projects. For residential and commercial projects the Working Group proposes the following Tier 3 screening values: either (1) a single 3,000 MTCO₂e/yr threshold for all land use types or (2) separate thresholds of 3,500 MTCO₂e/yr for residential projects, 1,400 MTCO₂e/yr for commercial projects, and 3,000 MTCO₂e/yr for mixed use projects. A project with emissions less than the applicable screening value would have less than significant GHG emissions. These proposals could be considered by the SCAQMD Board by December 2010.

Projects with emissions greater than the Tier 3 screening values would be analyzed at Tier 4 by one of three methods:

1. **A percent emission reduction target.** This method is used by the Sacramento Metropolitan and San Joaquin Valley Air Districts and the City of San Diego. The SCAQMD Working Group made no recommendation relative to this method.
2. **Early implementation of applicable AB 32 Scoping Plan Measures.** The Working Group assumes implementation of AB 32 measures would be incorporated in method 3 below.
3. **Efficiency Targets.** On the project level, 2020 GHG emissions should not exceed 4.8 MTCO₂e/year per service population (SP) where SP is project residents plus employees. Further, 2035 GHG emissions should not exceed 3.0 MTCO₂e/year per SP. This efficiency methodology is used by the Bay Area Air District.

Projects with GHG emissions not meeting the Tier 4 targets would be required to provide mitigation in the form of real, quantifiable, and verifiable offsets to achieve the target thresholds. The offsets may be achieved through project design features, other on-site methods, or by off-site actions, such as energy efficiency upgrade of existing buildings.

County

Green Building Program

On November 18, 2008, the County of Los Angeles adopted a Green Building Program intended, in part, to improve design and construction techniques that promote water conservation. Title 22, Chapter 22.52, Part 20, Green Building, of the *Los Angeles County Code*, as a component of the Green Building Program, requires the installation of smart irrigation controllers and high-efficiency toilets; drought-tolerant landscaping (included as *Los Angeles County Code*, Title 22, Chapter 22.52, Part 21) provides additional standards for the design and installation of landscaping using drought-tolerant plants that require minimal use of water and limitations on turf areas; and Title 12, Chapter 12.84, Low Impact Development, of

⁵ The plan must (A) Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area; (B) Establish a level, based on substantial evidence, below which the contribution to greenhouse gas emissions from activities covered by the plan would not be cumulatively considerable; (C) Identify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within the geographic area; (D) Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level; (E) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; (F) Be adopted in a public process following environmental review (CEQA Guidelines §15183.5).

the *Los Angeles County Code* encourages the preservation of watersheds, drainage paths, water supplies, and natural resources through compliance with additional development standards. Where a conflict exists between provisions of the Green Building Program and other ordinances, statutes, regulations or requirements, the stricter provision shall apply (*Los Angeles County Code*, Title 22, Chapter 22.52, Part 20, Green Building).

Countywide Energy and Environmental Policy

The Countywide Energy and Environmental Policy was adopted by the Board of Supervisors of the County of Los Angeles on January 16, 2007, to provide guidelines for the development and enhancement of energy conservation and environmental programs within County departments. The policy was also the County’s response for the need for energy conservation and reduction in GHG emissions. It directs the County to track its GHG emissions with the California Climate Action Registry and to reduce its facilities’ energy consumption by 20 percent by the year 2015. Under this policy, the Los Angeles County Energy Program (LACEP) provides financing for energy efficiency or solar improvements, and the County’s Capital Project Program requires all new County buildings (greater than 10,000 square feet) to be Leadership in Energy & Environmental Design (LEED) Certified at the Silver Level. Additionally, the County has pledged to be a “Cool County” by establishing a GHG emissions footprint, developing a GHG mitigation plan, working with local entities to reduce regional GHG by 80 percent by 2050 (or 2 percent per year), and supporting federal legislation to raise CAFE standards. The County has also implemented various internal programs on energy conservation, water conservation, waste reduction and recycling, green purchasing and contracting, and alternative fuel vehicle purchasing. On January 13, 2009, the County created an action plan for developing a Comprehensive Renewable Energy Program to develop renewable energy projects on existing County facilities and properties.

Environmental Setting

Global, National, State, and Regional Contributions to Greenhouse Gas Emissions

Table 5.17-3 shows the magnitudes of GHG emissions on the global, national, State, and regional scale.

**TABLE 5.17-3
 COMPARISON OF WORLDWIDE GHG EMISSIONS**

Area and Data Year	Annual GHG Emissions (MMTCO ₂ e)
World (2006)	29,000
United States (2007)	7,150
California (2008)	474
Los Angeles County (2008)	93
MMTCO ₂ e: million metric tons of carbon dioxide equivalent; GHG: greenhouse gas(es)	
Source: WRI 2009, USEPA 2009b, CARB 2010, SCAG 2008.	

Worldwide, China is the world’s largest GHG emitter, contributing approximately 19 percent, just ahead of the U.S., with approximately 18 percent. Approximately half of global emissions come from developed countries and half from developing countries; note that China and India are considered developing countries (WRI 2009). The most common GHG is CO₂, which constitutes

approximately 84 to 85 percent of all GHG emissions in the U.S. and California. The primary contributors to California GHG emissions are transportation; electric power production from both in-state and out-of-state sources; and industrial uses.

The *Total Emissions Summary Report for the County of Los Angeles* shows that total GHG emissions of 411,459 MTCO₂e of direct emissions and 122,307 MTCO₂e of indirect emissions were generated by County facilities and operations in 2006 (Los Angeles County 2008). A portion of these GHG emissions were generated at the WND BRA, which contains recreational facilities and other land uses that emit GHGs directly or indirectly through the generation of vehicle trips and the use of electricity, natural gas, and water.

5.17.3 THRESHOLDS OF SIGNIFICANCE

It is accepted as very unlikely that any individual development project would have GHG emissions of a magnitude to directly impact global climate change; therefore, any impact would be considered on a cumulative basis. The following significance criteria are derived from Appendix G of the State CEQA Guidelines. The project would result in a significant adverse impact related to GHG emissions if it would:

Threshold 5.17.1: *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or*

Threshold 5.17.2: *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

With respect to Threshold 5.17.1, the State, the SCAQMD and the County of Los Angeles have not established quantitative thresholds applicable to the proposed project to determine the quantity of GHG emissions that may have a significant effect on the environment. CARB, SCAQMD, and various cities and agencies have proposed, or adopted on an interim basis, thresholds of significance or threshold levels that require the implementation of GHG emission reduction measures. For residential and commercial projects, the suggested thresholds range from 1,400 to 3,500 MTCO₂e per year. As described above, the SCAQMD has established an interim screening threshold of 10,000 MTCO₂e per year for industrial projects where the SCAQMD is the lead agency. There are no specific thresholds for recreational uses or for the improvements proposed under the MDPI.

5.17.4 ENVIRONMENTAL IMPACTS

Project Design Features

There are no project design features that specifically relate to GHG emissions.

Standard Conditions

There are existing federal, State, and regional regulations that would directly or indirectly reduce GHG emissions. Compliance with these regulations would be required for proposed facilities and improvements in the WND BRA. These include:

SC 5.17.1 In accordance with the Countywide Energy and Environmental Policy, proposed facilities and improvements in the WND BRA shall be designed and operated in consideration of the County's goals to reduce its facilities' energy consumption by 20 percent by the year 2015 and to reduce regional GHG by 80 percent by 2050.

In addition, individual facilities shall implement County programs on energy conservation, water conservation, waste reduction and recycling, green purchasing and contracting, and alternative fuel vehicle purchasing at the WNDBRA.

The following standard condition is included in Section 5.13, Transportation, but would also reduce vehicle trips and related GHGs:

SC 5.15.3: *In accordance with the 2010 Draft Title 24 Green Building Standards, future recreational facilities in the WNDBRA shall provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passersby, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one 2-bike capacity rack.*

The following standard conditions are included in Section 5.16, Utilities and Service Systems, but would also reduce impacts related to GHGs:

SC 5.16.3: *Proposed facilities and improvements in the WNDBRA shall comply with the County's Green Building Program, which requires the use of design and construction techniques that promote water conservation. These techniques include installation of smart irrigation controllers and high-efficiency toilets, drought-tolerant landscaping, and low-impact development (LID) Standards.*

SC 5.16.6: *Proposed facilities in the WNDBRA shall implement waste reduction, disposal, and recycling measures during construction and operation in accordance with the County's Integrated Waste Management Plan. As part of this plan, the Construction and Demolition Debris Recycling and Reuse ordinance of the County requires all development projects to recycle 50 percent or all construction waste materials. A Recycling and Reuse Plan (RRP) must be submitted to the Department of Public Works, Environmental Programs Division, after an application for a permit is filed for a project.*

SC 5.16.7: *Proposed facilities in the WNDBRA shall comply with all Title 24 Energy Efficiency Standards in effect at the time of application for building permits (Title 24). Title 24 covers the use of energy-efficient building standards, including ventilation, insulation, and construction and the use of energy saving appliances, conditioning systems, water heating, and lighting. Title 24 also includes the Title 24 Green Buildings Standards on planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. Plans submitted for building permits shall include written notes demonstrating compliance with energy and green building standards and shall be reviewed and approved by the Building and Safety Division of the Los Angeles County Department of Public Works prior to building permit issuance.*

Impact Analysis

GHG Emissions

Threshold 5.17.1: **Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Construction Emissions

Temporary impacts would result from construction of the proposed facilities and improvements in the WNDBRA. GHGs would be emitted by off-road and on-road construction equipment and worker vehicles. In the absence of specific designs, sizes, and project sites for each of the proposed facilities and improvements, construction GHG emissions cannot be readily calculated or quantified. However, these GHG emissions would be short-term and incremental as each project is constructed in the WNDBRA. Thus, GHG emissions from construction activities at the WNDBRA would be considered less than significant.

Operations Emissions

Long-term annual GHG emissions attributed to the proposed facilities and improvements would be generated from the increased use of electricity and water within the WNDBRA and from vehicle trips generated by each project. GHG emissions cannot be calculated with any degree of accuracy due to the lack of data on specific designs, sizes, and project sites for each of the proposed facilities and improvements.

Compliance with SCs 5.17.1, 5.16.3, and 5.16.7 would reduce energy and water consumption of the proposed facilities and improvements, and would also reduce the overall GHG emissions associated with the proposed MDPI. Other SCs discussed in this EIR that would reduce vehicle trip generation (SC 5.15.3), water consumption (SCs 5.16.3 and 5.16.7), and solid waste generation (SC 5.16.6) from the proposed facilities and improvements would also indirectly reduce operational GHG emissions. Project GHG emissions would also be reduced by implementation of the statewide measures that include, but are not limited to, the requirements for new vehicles to have reduced GHG emissions (i.e., the CAFE standards); the LCFS; and the increasing amount of renewable energy generation.

The GHG emissions from proposed facilities and improvements set forth in the MDPI are expected to be minimal due to the type, size, and potential of these facilities and improvements to attract a limited number of users. Also, these facilities would not lead to a large number of permanent users/visitors who would come to the WNDBRA daily. Rather, the proposed facilities and improvements are likely to be used intermittently by residents of the surrounding communities and the larger region, mainly during the late afternoon hours on weekdays and during the weekends. Even the amphitheater is not anticipated to be in constant use to generate vehicle trips that would result in significant GHG emissions. The energy and water use, solid waste disposal, and wastewater treatment demands that would be generated by the proposed facilities and improvements are also not expected to generate significant GHG emissions since most facilities would not be lighted and limited restroom facilities would be added to the WNDBRA.

In addition, the proposed recreational facilities at the WNDBRA would meet the recreation needs of the surrounding residents, reducing the need to travel to venues farther than the WNDBRA to engage in hiking, biking, fishing, picnicking, sports, field games, camping, and other recreational activities. With projected increases in the local population of the County, the WNDBRA would provide recreational facilities for existing and future residents, reducing the total VMT in the County and associated GHG emissions. Thus, long-term GHG emissions would be considered less than significant.

When actual designs and proposals are developed, subsequent environmental review will verify the potential of each project to generate GHG emissions and the need to comply with current GHG regulations or to implement mitigation measures to ensure that each proposed facility or improvement would not result in significant impacts related to GHG emissions.

Conflict with GHG Reduction Plan, Policy or Regulation

Threshold 5.17.2: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As discussed above in Regulatory Setting, there are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State plan and policy is AB 32. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. This goal has been calculated by various methods as reducing 2020 GHG emissions by 28 to 30 percent compared to “business as usual”. The achievement of this reduction quantitatively at the plan level requires speculation as to the timing of implementation and effectiveness of Statewide policies, as well as the characterization of business as usual. However, as discussed above, the proposed facilities and improvements under the MDPI would implement a number of programs that would reduce GHG emissions as required by the State and County. The proposed MDPI would also not conflict with the Recommended Reduction Measures under the AB 32 Scoping Plan, which are listed above in Table 5.17-2. Several recommended measures, such as the California cap-and-trade program, the implementation of vehicle standards, and high speed rail, are beyond the scope of this project. Other measures, such as those related to industrial uses, are not relevant. The MDPI does not conflict with the remaining measures, such as energy efficiency and waste diversion and recycling requirements. In addition, by providing restoration and vegetation management, the MDPI would contribute to recommended measures such as sustainable forests.

Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493) and the LCFS are being implemented at the Statewide level and compliance at the plan or project level is not necessary. Therefore, the proposed MDPI does not conflict with these plans and regulations.

SB 375 is also being addressed at the State and regional level, and application at the plan or project level is not anticipated until 2012 or later. Notwithstanding the future date of applicability, the proposed facilities and improvements under the MDPI would provide recreational opportunities to serve residents of the surrounding areas, resulting in shorter vehicle trips and reducing regional VMT, another goal of SB 375. The intensification of the recreational land uses at the WND BRA is also representative of efficient land use envisioned by SB 375. The proposed MDPI would not conflict with SB 375.

The regulations, plans, and polices adopted for the purpose of reducing GHG emissions that are directly applicable to the proposed MDPI include:

- Title 24 Energy Efficiency Standards for Residential and Nonresidential Buildings and
- Title 24 California Green Building Standards Code.

By implementing SCs 5.16.3 and 5.16.7, the proposed facilities and improvements in the WND BRA would comply with both of these regulations.

The County of Los Angeles' Green Building Program is intended, in part, to improve design and construction techniques that promote water conservation. Because energy use and GHG emissions are embodied in the treatment and transportation of water, this regulation can be considered a regulation to reduce GHGs. This project complies with this regulation through SC 5.16.3, which states that "proposed facilities and improvements in the WNDBRA shall comply with the County's Green Building Program that requires the use of design and construction techniques that promote water conservation", including "installation of smart irrigation controllers and high-efficiency toilets, drought-tolerant landscaping, and LID Standards"

In addition, the Countywide Energy and Environmental Policy requires the County to reduce its facilities' energy consumption by 20 percent by the year 2015, and provides guidelines for the development and enhancement of energy conservation and environmental programs within County departments. This policy is the County's response for the need for reduction in GHG emissions. This project would comply with this regulation through SC 5.17.1, which states that "proposed facilities and improvements in the WNDBRA shall be designed and operated in consideration of the County's goals to reduce its facilities' energy consumption by 20 percent by the year 2015 and to reduce regional GHG by 80 percent by 2050", and that "individual facilities shall implement County programs on energy conservation, water conservation, waste reduction and recycling, green purchasing and contracting, and alternative fuel vehicle purchasing at the WNDBRA".

Thus, the proposed MDPI would support State, regional, and County goals for GHG emissions reductions and would not conflict with the State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. No significant impacts would occur, and no mitigation is required.

5.17.5 CUMULATIVE IMPACTS

As discussed above, the assessment of GHG emissions is inherently cumulative because GHG emissions would contribute to climate change, which is a global phenomenon. Therefore, the analysis above describes the cumulative impact of the proposed MDPI on GHG emissions and global climate change. It is very unlikely that the proposed facilities and improvements in the WNDBRA would generate GHG emissions of a magnitude to directly impact global climate change. Thus, the cumulative impact of the proposed MDPI on climate change would be less than significant.

5.17.6 MITIGATION PROGRAM

No significant adverse impacts related to GHG emissions would occur, and no mitigation is provided at the plan level. However, individual facilities and improvements at the WNDBRA would have to implement GHG reduction measures, as required by the County and State, as standard conditions (SCs) above. Any additional mitigation measures would have to be identified at the time that each project concept and design is developed and prepared for construction.

5.17.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The GHG emissions associated with the proposed facilities and improvements under the MDPI would not be significant due to the type and size of projects. Also, the proposed MDPI (including identified SCs) would not conflict with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions. Cumulative contributions to global climate change would be less than significant.

5.17.8 REFERENCES

- California Air Resources Board (CARB). 2009a (August 7). *Staff Report: Initial Statement of Reasons For Rulemaking, Notice of Public Hearing to Consider Proposed Amendments to New Passenger Motor Vehicle Greenhouse Gas Emission Standards*. Sacramento, CA: CARB. <http://www.arb.ca.gov/regact/2009/ghgpv09/ghgpvisor.pdf>.
- . 2009b (April 23). News Release, California Adopts Low Carbon Fuel Standard. Sacramento, CA: CARB. <http://www.arb.ca.gov/newsrel/nr042309b.htm>.
- . 2008a (February). *Comparison Of Greenhouse Gas Reductions For The United States And Canada Under U.S. CAFE Standards And California Air Resources Board Greenhouse Gas Regulations, An Enhanced Technical Assessment*. Sacramento, CA: CARB. <http://www.climatechange.ca.gov/publications/arb/ARB-1000-2008-012/ARB-1000-2008-012.PDF>.
- . 2008b (October). *Climate Change Proposed Scoping Plan, a Framework for Change*. Sacramento, CA: CARB.
- . 2010 (May 12). California Greenhouse Gas Inventory for 2000-2008 — by Category as Defined in the Scoping Plan (million tonnes of CO₂ equivalent) — (based upon IPCC Second Assessment Report's Global Warming Potentials). Sacramento, CA: CARB. http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-08_2010-05-12.pdf.
- California Building Standards Commission (CBSC). 2009 (January). *California Green Building Standards Code*. Sacramento, CA: CBSC. http://www.documents.dgs.ca.gov/bsc/2009/part11_2008_calgreen_code.pdf.
- . 2010 (June). *2010 California Green Building Standards Code*. Sacramento, CA: CBSC. http://www.documents.dgs.ca.gov/bsc/CALGreen/2010_CA_Green_Bldg.pdf.
- California Climate Action Registry (CCAR). 2009 (January). *California Climate Action Registry General Reporting Protocol, Version 3.1*. Los Angeles, CA: CCAR.
- California Climate Change Center (CCCC). 2009 (March). *DRAFT 2008 Climate Action Team Biennial Report to the Governor and Legislature*. Sacramento, CA: California Energy Commission, CCCC. <http://www.energy.ca.gov/2009publications/CAT-1000-2009-003/CAT-1000-2009-003-D.PDF>
- California Energy Commission (CEC). 2009. 2008 Building Energy Efficiency Standards. Sacramento, CA: CEC. <http://www.energy.ca.gov/title24/2008standards/>.
- . 2007. *2007 Integrated Energy Policy Report (CEC-100-2007-008-CMF)*. Sacramento, CA: CEC.
- . 2006a (December). *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 (Staff Final Report, Publication CEC-600-2006-013-SF)*. Sacramento, CA: CEC. <http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF>.

- California Governor's Office of Planning and Research (OPR). 2009 (April 13). Letter to Honorable Mike Chrisman, California Secretary for Natural Resources, Natural Resources Agency, regarding Transmittal of the Governor's Office of Planning and Research's Proposed S897 CEQA Guidelines Amendments to the Natural Resources Agency. Sacramento, CA: OPR. http://www.opr.ca.gov/ceqa/pdfs/Transmittal_%20Letter.pdf.
- . 2008 (June 18). *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*. Sacramento, CA: OPR. <http://www.opr.ca.gov/ceqa/pdfs/june08-ceqa.pdf>.
- California Natural Resources Agency (CNRA). 2009a (December 30). CEQA Guidelines. Sacramento, CA: CNRA. <http://ceres.ca.gov/ceqa/guidelines/>.
- . 2009b (December). *California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008*. Sacramento, CA: CNRA. <http://climatechange.ca.gov/adaptation/index.html>
- California Office of Administrative Law. 2010 (May 14, current through). *California Code of Regulations* (Title 14, Natural Resources; Division 6, Resources Agency; Chapter 3, Guidelines for Implementation of the California Environmental Quality Act). Sacramento, CA: the State. <http://government.westlaw.com/linkedslice/default.asp?Action=TOC&RS=GVT1.0&VR=2.0&SP=CCR-1000>.
- Howrey Global Climate Law Blog (Howrey). 2009 (June 26). Global Climate Change Law Blog: American Clean Energy and Security Act (H.R. 2454) Passed by House. Washington D.C.: Howrey LLP. <http://www.globalclimatelaw.com/2009/06/articles/environmental/american-clean-energy-and-security-act-hr-2454-passed-by-house/print.html>.
- Intergovernmental Panel on Climate Change (IPCC). 2007 (February). *Climate Change 2007: The Physical Science Basis. Summary for Policymakers* (Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change). Boulder, CO: IPCC, Working Group I.
- Los Angeles, County of. 2008 (May 20). *Total Emissions Summary Report for the County of Los Angeles*. Los Angeles, CA: the County.
- Open Congress. 2009. H.R. 2454 American Clean Energy and Security Act of 2009. New York, NY: OpenCongress. <http://www.opencongress.org/bill/111-h2454/show>.
- Rimpo and Associates. 2008 (February). URBEMIS 2007 Version 9.2.4. Rimpo and Associates. www.urbemis.com.
- South Coast Air Quality Management District (SCAQMD). 2010 (September 28). Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group Meeting #15 (a PowerPoint Presentation given at SCAQMD headquarters in Diamond Bar, California).
- . 2009a (July 29). Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group #12 (slide presentation). Diamond Bar, CA: SCAQMD. <http://www.aqmd.gov/ceqa/handbook/GHG/july29mtg/ghgmtg12.pdf>.

- . 2009b (November 19). Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group #14 (slide presentation). Diamond Bar, CA: SCAQMD. <http://www.aqmd.gov/ceqa/handbook/GHG/2009/nov19mtg/ghgmtg14.pdf>
 - . 2008 (October). *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Thresholds*. Diamond Bar, CA: SCAQMD. Southern California Association of Governments (SCAG). 2009 (Accessed September 26). Adopted 2008 RTP Growth Forecast, by City. <http://www.scag.ca.gov/forecast/index.htm>.
 - . 2008 (January). Draft 2008 Regional Transportation Plan Program Environmental Report, Chapter 3.2 Air Quality. Los Angeles, CA: SCAG. <http://www.scag.ca.gov/RTPpeir2008/draft/index.htm>.
- U.S. Environmental Protection Agency (USEPA). 2010a. The Green Book Nonattainment Areas for Criteria Pollutants. Washington D.C.: USEPA. <http://www.epa.gov/oar/oaqps/greenbk/index.html>.
- . 2010b (May 5). Designation of Areas for Air Quality Planning Purposes; California; San Joaquin Valley, South Coast Air Basin, Coachella Valley, and Sacramento Metro 8-Hour Ozone Nonattainment Areas; Reclassification. *Federal Register* (Volume 75, No. 86, pp. 24409–24421). Washington, D.C.: USEPA. <http://edocket.access.gpo.gov/2010/pdf/2010-9599.pdf>.
 - . 2010c (April). *Regulatory Announcement: EPA and NHTSA Finalize Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks*. <http://www.epa.gov/otaq/climate/regulations/420f10014.pdf>.
 - . 2009 (April). 2009 U.S. Greenhouse Gas Inventory Report, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007. Washington, D.C. USEPA. <http://www.epa.gov/climatechange/emissions/usinventoryreport.html>
 - . 2008. Climate Change – Greenhouse Gas Emissions. Washington, D.C.: USEPA. <http://www.epa.gov/climatechange/emissions/index.html>.
- World Resources Institute (WRI). 2009. Climate Analysis Indicators Tool (CAIT) version 7.0. Washington, D.C.: WRI. <http://cait.wri.org/>.
- . 2008. Climate Analysis Indicators Tool (CAIT). Total GHG Emissions in 2000. Washington, D.C.: WRI. <http://cait.wri.org/>.

This page intentionally left blank