5.7 Greenhouse Gas Emissions

This section describes the applicable laws and policies relating to greenhouse gas (GHG) emissions, discusses existing (baseline) GHG emissions, evaluates GHG emissions associated with the proposed Project, and analyzes compliance with applicable regulations. Consideration of the Project's consistency with applicable plans, policies, and regulations, as well as the introduction of new sources of GHGs is included in this section. GHG technical data is included as Appendix 3.

5.7.1 Regulatory Framework

Global climate change is addressed through the efforts of various federal, state, regional, and local government agencies, as well as national and international scientific and governmental conventions and programs. These agencies work jointly and individually to understand and regulate the effects of GHG emissions and resulting climate change through legislation, regulations, planning, policy-making, education, and a variety of programs.

Federal

The U.S. Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane (CH_4) and other non–carbon dioxide (CO_2) gases, agricultural practices, and implementation of technologies to achieve GHG reductions. USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

In *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), the United States Supreme Court held in April of 2007 that USEPA has statutory authority under Section 202 of the Clean Air Act (CAA) to regulate GHGs. The Court did not hold that USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare.

On May 19, 2009, the president announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO_2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile. According to

USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.[1]

On September 22, 2009, 74 Federal Regulation 56260, the USEPA issued the Mandatory Reporting of Greenhouse Gases Rule, which requires reporting of GHG data and other relevant information from large sources (industrial facilities and power plants that emit more than 25,000 metric tons CO2e [MTCO2e] emissions per year) in the United States.

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA. USEPA adopted a Final Endangerment Finding for the six defined GHGs (carbon dioxide [CO_2], methane [CH_4], nitrous oxide [N_2O], hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulphur hexafluoride [SF_6]) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the CAA consistent with the United States Supreme Court decision. USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicles and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

In addition to USEPA's efforts to implement GHG reporting and monitoring systems, the Obama Administration on June 25, 2013, released *The President's Climate Action Plan*, which promotes efforts to reduce GHG emissions by deploying clean energy solutions, developing and deploying advanced transportation technologies, and cutting energy waste in homes, businesses, and factories (The White House 2013).

In the most recent international climate change agreement adopted at the United Nations Framework Convention on Climate Change in Paris in December 2015 (the "Paris Accord"), the United States set its intended nationally determined contribution to reduce its GHG emissions by 26 to 28 percent below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28 percent. These targets were set with the goal of limiting global temperature rise to below 2 degrees Celsius and getting to the 80 percent emission reduction by 2050 (UNFCCC 2017).

However, on June 1, 2017, President Donald Trump issued a statement announcing that "the United States will cease all implementation of the non-binding Paris Accord and the draconian financial and economic burdens the agreement imposes on our country. This includes ending the implementation of the nationally determined contribution and, very importantly, the Green Climate Fund which is costing the United States a vast fortune" (The White House 2017).

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (42 USC 17001) includes several key provisions to increase energy efficiency and the availability of renewable energy to reduce GHG

[1] United States Environmental Protection Agency, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, (August 2012). Available at: http://www.epa.gov/oms/climate/documents/420f12051.pdf. Accessed March 2017.

emissions. First, the Energy Independence and Security Act sets a Renewable Fuel Standard that requires fuel producers to use at least 36 billion gallons of biofuel by 2022. Second, it increased Corporate Average Fuel Economy (CAFE) Standards to require a minimum average fuel economy of 35 miles per gallon for the combined fleet of cars and light trucks by 2020. Third, the Energy Independence and Security Act includes a variety of new standards for lighting, residential, and commercial appliance equipment.

Clean Power Plan

On August 3, 2015, President Obama and USEPA announced the Clean Power Plan. The Clean Power Plan sets achievable standards to reduce CO_2 emissions by 32 percent from 2005 levels by 2030 (The White House 2013). This Plan establishes final emissions guidelines for states to follow in developing plans to reduce GHG emissions from existing fossil fuel-fired electric generating units (EGUs). Specifically, USEPA is establishing: (1) CO_2 emission performance rates representing the best system of emission reduction (BSER) for two subcategories of existing fossil-fuel-fired EGUs, fossil-fuel-fired electric utility steam generating units and stationary combustion turbines; (2) state-specific CO_2 goals reflecting the CO_2 emission performance rates; and (3) guidelines for the development, submittal and implementation of state plans that establish emission standards or other measures to implement the CO_2 emission performance rates, which may be accomplished by meeting the state goals. This final rule would continue progress already under way in the United States to reduce CO_2 emissions from the utility power sector (USEPA 2016a). On February 9, 2016, the Supreme Court stayed implementation of the Clean Power Plan pending judicial review. In addition, USEPA is currently proposing to repeal the Clean Power Plan after completing a thorough review as directed by the Executive Order on Energy Independence (as discussed below) (USEPA 2018). In sum, the Clean Power Plan continues to face multiple legal challenges and its future is uncertain.

Executive Order on Energy Independence

On March 28, 2017, President Donald Trump signed Executive Order 13783, "Promoting Energy Independence and Economic Growth," which calls for:

- Review of the Clean Power Plan
- Review of the 2016 Oil and Gas New Source Performance Standards for New, Reconstructed, and Modified Sources
- Review of the Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Generating Units
- Withdrawal of Proposed Rules: Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations; and Clean Energy Incentive Program Design Details (USEPA 2018)

Given this executive order, President Trump's decision to withdraw from the Paris Accord, and the Trump Administration's comments concerning climate change, the federal regulations on GHG emissions are currently uncertain.

State

Regardless of the potential changes in federal regulation of GHG emissions, California remains committed to GHG emissions reductions. Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is occurring.

California Greenhouse Gas Reduction Targets

The Governor announced on June 1, 2005, through Executive Order S-3-05 (California Office of the Governor 2017), the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels.
- By 2020, California shall reduce GHG emissions to 1990 levels.
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

In accordance with Executive Order S-3-05, the Secretary of the California Environmental Protection Agency (CalEPA) is required to coordinate efforts of various agencies, which comprise the California Climate Action Team (CAT), in order to collectively and efficiently reduce GHGs. These agencies include California Air Resources Board (CARB), the Secretary of the Business, Transportation and Housing Agency, Department of Food and Agriculture, the Resources Agency, the California Energy Commission (CEC), and the Public Utilities Commission. The CAT provides periodic reports to the governor and legislature on the state of GHG reductions in the state as well as strategies for mitigating and adapting to climate change. The first CAT Report to the governor and the legislature in 2006 contained recommendations and strategies to help meet the targets in Executive Order S-3-05. The 2010 CAT Report, finalized in December 2010, expands on the policies in the 2006 assessment (CalEPA 2010). The new information detailed in the CAT Report includes development of revised climate and sea level projections using new information and tools that became available and an evaluation of climate change within the context of broader social changes, such as land use changes and demographic shifts.

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.
- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of CO_2 equivalent.

California Health and Safety Code, Division 25.5 – California Global Warming Solutions Act of 2006 (Assembly Bill 32)

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (Health and Safety Code Section 38561 (h)). The Scoping Plan must be updated every 5 years to evaluate AB 32 policies and ensure that California is on track to achieve its GHG emissions targets. CARB approved an initial Scoping Plan in 2008, followed by updates in 2014 and 2017. More detail on the Scoping Plan is provided later in this section.

Amendments to California Global Warming Solutions Act of 2006: Emission Limit (Senate Bill 32)

Signed into law on September 8, 2016, Senate Bill (SB) 32 (Amendments to California Global Warming Solutions Act of 2006: Emission Limit) amends HSC Division 25.5 and codifies the 2030 target in the recent Executive Order B-30-15 (40 percent below 1990 levels by 2030). The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by Executive Order B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below 1990 levels. SB 32 states the intent of the legislature to continue to reduce GHGs for the protection of all areas of the state and especially the state's most disadvantaged communities, which are disproportionately impacted by the deleterious effects of climate change on public health (California Legislative Information Website 2017). SB 32 was passed with companion legislation AB 197, which provides additional direction for developing the Scoping Plan. In 2016, the California State Legislature adopted SB 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030, while AB 197 includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

California Green Building Standards and California Energy Code

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development in 2008. CALGreen standards require new residential and commercial buildings to comply with mandatory measures under five topical areas: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides

voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code went into effect January 1, 2017.

The California Energy Code (California Code of Regulations, Title 24, Section 6) was created as part of the California Building Standards Code (Title 24 of the California Code of Regulations) by the California Building Standards Commission in 1978 to establish statewide building energy-efficiency standards to reduce California's energy consumption (California Building Standards Commission 2015). These standards include provisions applicable to all buildings, residential and nonresidential, which describe requirements for documentation and certificates that the building meets the standards (CEC 2016). These provisions include mandatory requirements for efficiency and design of energy systems, including space conditioning (cooling and heating), water heating, indoor and outdoor lighting systems and equipment, and appliances. California's Building Energy Efficiency Standards are updated on an approximately 3-year cycle as technology and methods have evolved. The 2016 Standards, effective January 1, 2017, focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings, and include requirements that will enable both demand reductions during critical peak periods and future solar electric and thermal system installations.

Additional Regulations and Executive Orders

Senate Bills 1078 and 107. SB 1078 (Chapter 516, Statutes of 2002) required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010.

Assembly Bill 1493. AB 1493 (also known as the Pavley Bill) required that CARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of GHG emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State."

To meet AB 1493 requirements, CARB approved amendments to the California Code of Regulations (CCR) in 2004 by adding GHG emissions standards to California's existing standards for motor vehicle emissions. When fully phased in, the near-term standards would reduce GHG emissions by approximately 22 percent, compared to the 2002 fleet emissions, while the mid-term standards would reduce emissions by approximately 30 percent.

Senate Bill 1368. SB 1368 (Chapter 598, Statutes of 2006) is the companion bill of AB 32 and was signed into law in September 2006. SB 1368 required the CPUC to establish a performance standard for baseload generation of GHG emissions by investor-owned utilities by February 1, 2007. SB 1368 also required the CEC to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards could not exceed the GHG emissions rate from a baseload combined-cycle, natural-gas-fired plant.

Senate Bill 97. SB 97, signed in August 2007 (Chapter 185, Statutes of 2007; Public Resources Code Sections 21083.05 and 21097), acknowledges that climate change is a prominent

environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research (OPR), which is part of the State Natural Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions (or the effects of GHG emissions), as required by CEQA.

OPR published a technical advisory recommending that CEQA lead agencies to make a good-faith effort to estimate project-related GHG emissions. Specifically, based on available information, CEQA lead agencies should estimate the emissions associated with project-related vehicular traffic, energy consumption, water usage, and construction activities to determine whether project-level or cumulative impacts could occur, and should mitigate the impacts where feasible. OPR requested CARB technical staff to recommend a method for setting CEQA thresholds of significance, as described in CEQA Guidelines Section 15064.7 that would encourage consistency and uniformity in CEQA GHG emissions analyses throughout the state.

The Natural Resources Agency adopted the CEQA Guidelines Amendments prepared by OPR, as directed by SB 97. On February 16, 2010, the Office of Administrative Law approved the CEQA Guidelines Amendments and filed them with the Secretary of State for inclusion in the CCR. The CEQA Guidelines Amendments became effective on March 18, 2010.

Senate Bill 375. SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or alternative planning strategy (APS) that would prescribe land use allocation in that MPO's regional transportation plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for passenger car and light truck regional emissions for 2020 and 2035. Reduction targets are updated every 8 years, but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects may be ineligible for funding programs after January 1, 2012.

Senate Bill 350. Known as the Clean Energy and Pollution Reduction Act of 2015, SB 350 (Chapter 547, Statutes of 2015) was approved by Governor Brown on October 7, 2015. SB 350 will: (1) increase the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; (2) require the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; (3) provide for the evolution of the Independent System Operator (ISO) into a regional organization; and (4) require the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the Legislature intends to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation (Clean Energy and Pollution Reduction Act of 2015).

Executive Order S-20-06. On October 17, 2006, Governor Arnold Schwarzenegger signed Executive Order S-20-06, which calls for continued efforts and coordination among state agencies to implement GHG emission reduction policies, AB 32, and the Health and Safety Code (Division 25.5) through a market-based compliance program. In addition, Executive Order S-20-06 requires the development of GHG reporting and reduction protocols and a multistate registry through joint efforts among CARB, CalEPA, and the California Climate Action Registry. Executive Order S-20-06 directs the Secretary for Environmental Protection to coordinate with the CAT to plan incentives for market-based mechanisms that have the potential of reducing GHG emissions.

Executive Order S-1-07. Executive Order S-1-07 proclaims that the transportation sector is California's main source of GHG emissions, generating more than 40 percent of statewide emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least ten percent by 2020. This order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) can be adopted as a discrete early-action measure, as part of the effort to meet AB 32 mandates.

Executive Order S-13-08. Executive Order S-13-08 seeks to enhance the State's management of climate impacts including sea level rise, increased temperatures, shifting precipitation, and extreme weather events by facilitating the development of the State's first climate adaptation strategy. This would provide consistent guidance from experts on how to address climate change impacts in the State.

Executive Order S-14-08. Executive Order S-14-08 expands the State's Renewable Energy Standard to 33 percent renewable power by 2020.

Executive Order S-21-09. Executive Order S-21-09 directs CARB to adopt regulations to increase California's Renewables Portfolio Standard (RPS) to 33 percent by 2020. The target was signed into law as SB 2 by Governor Brown in April 2011. This builds upon SB 1078 (2002), which established the California RPS program, requiring 20 percent renewable energy by 2017, and SB 107 (2006), which advanced the 20 percent deadline to 2010.

Executive Order B-16-12. In March 23, 2012, Governor Brown issued Executive Order B-16-2012 to encourage zero-emission vehicles (ZEVs) and related infrastructure. It orders 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 concerning ZEVs. By 2020, the state's ZEV infrastructure should support up to one million vehicles. By 2025, Executive Order B-16-2012 aims to put over 1.5 million ZEVs on California roads and displace at least 1.5 billion gallons of petroleum. The Executive Order also directs state government to begin purchasing ZEVs. In 2015, 10 percent of state departments' light-duty fleet purchases must be ZEVs, climbing to 25 percent of light-duty fleet purchases by 2020. Executive Order B-16-2012 sets a target for 2050 to reduce GHG emissions in the transportation sector by 80 percent below 1990 levels (Office of Governor Edmund G. Brown Jr. 2012).

CARB Scoping Plan

On December 11, 2008, CARB adopted its Scoping Plan, which functions as a roadmap to achieve the California GHG reductions required by AB 32 through subsequently enacted regulations. CARB's Scoping Plan contains the main strategies California would implement to reduce the projected 2020 Business-as-Usual (BAU) emissions to 1990 levels, as required by AB 32. These strategies are intended to reduce CO_2e[2] emissions by 174 million metric tons (MT), or approximately 30 percent, from the State's projected 2020 emissions level of 596 million MTCO2e (MMTCO2e) under a BAU[3] scenario. This reduction of 42 million MTCO2e, or almost 10 percent from 2002 to 2004 average emissions, would be required despite the population and economic growth forecast through 2020.

CARB's Scoping Plan calculates 2020 BAU emissions as those expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial). CARB used 3-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. When CARB's Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

The 2008 Scoping Plan included several measures related to the water sector, including Measure W-1 (Water Use Efficiency), Measure W-2 (Water Recycling), Measure W-3 (Water System Energy Efficiency), Measure W-4 (Reuse Urban Runoff), Measure W-5 (Increase Renewable Energy Production), and Measure W-6 (Public Goods Charge). Of these measures, Measure W-3 is the most applicable to the proposed Project, as the single measure with greatest GHG benefit and specifically aimed at reducing GHG-related emissions for the overall water system for an agency by reducing the "magnitude and intensity" of energy use in California's water systems (CARB 2008). Measure W-3 has a target of 20 percent energy efficiency from 2006 levels. The Scoping Plan, however, also notes that GHG reductions in the water sector are not counted toward the AB 32 2020 goal and are "indirectly realized through the reduced energy requirements and are accounted for in the Electricity and Natural Gas sector" (CARB 2008).

First Update to the Climate Change Scoping Plan (May 2014)

The First Update to California's Climate Change Scoping Plan (2014 Scoping Plan Update) was developed by the CARB in collaboration with the CAT and reflects the input and expertise of a range of state and local government agencies. The 2014 Scoping Plan Update lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050.

2 Carbon dioxide equivalent (CO_2e) – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

3 "Business-as-Usual" refers to emissions expected to occur in the absence of any GHG reduction measure (CARB 2016). Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition."

The 2014 Scoping Plan Update provides various policy goals for the water sector, focused primarily on conservation (reducing water consumption reduces GHG emissions associated with production, treatment and conveyance of water), energy efficiency (minimizing GHG emissions due to electricity demand associated with the water sector), and reliance upon a diverse water supply portfolio that includes less energy-intensive water supply sources. However, the 2014 Scoping Plan Update notes that these AB 32–related policies have the potential to conflict with other public policies, programs, and regulations. Specifically, the 2014 Scoping Plan Update notes the following:

> *Multiple policy objectives must be balanced across a wide spectrum of State water and climate planning documents, such as the AB 32 Scoping Plan, the Safeguarding California Plan, the California Water Plan, the Delta Plan, the Bay Delta Conservation Plan, and the Integrated Regional Water Management Strategic Plan. The California Water Action Plan provides some guidance on the relationship between the priorities established in these water and climate planning documents by establishing priorities for the next five years. State agency collaboration and policy alignment requires a foundation of information sharing and feedback. Both agency staff and executives will need to devote more time to inter-agency dialogue to ensure that policy differences are resolved with a full understanding of the consequences of decisions taken. In addition, achieving efficient and aligned policies across agencies may require alterations to existing agency authorities and decision-making procedures* (CARB 2014).

Second Update to the Climate Change Scoping Plan (November 2017)

On December 14, 2017, CARB approved the final version of *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan Update), which outlines the proposed framework of action for achieving the 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels (CARB 2017a). The 2017 Scoping Plan Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. Through a combination of data synthesis and modeling, CARB determined that the target Statewide 2030 emissions limit is 260 MMTCO2e, and that further commitments will need to be made to achieve an additional reduction of 50 MMTCO2e beyond current policies and programs. The cornerstone of the 2017 Scoping Plan Update is an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal and ensure achievement of the 2050 limit set forth by E.O. B-30-15.

While acknowledging the water sector as essential to community health and long-term well-being, and the imperative for continued access to clean and reliable sources of drinking water, the 2017 Scoping Plan Update identifies the water sector as one of the state's larger energy users, referencing a 2013 study by the CEC that shows 12 percent of the total energy used in the state is related to water, with 10 percent associated with water-related end uses (e.g., heating, cooling, pressurizing, and industrial processes), and 2 percent associated with energy used by water and wastewater systems (e.g., pump, convey, treat) (DWR 2017). These figures indicate that the greatest potential for water-related energy savings resides with water end users, while water agencies have a role in improving end-user water conservation and in reducing the carbon intensity of their electricity sources. SB 350 and other regulations are expected to decarbonize the

electricity sector over time, which will in turn reduce the consumption of fossil-fuel-based energy to pump, treat, and convey water.

The 2017 Scoping Plan Update describes the State's integrated water management effort, which includes several targeted, agricultural, urban, and industrial-based water conservation, recycling, and water use efficiency programs that will help achieve GHG reductions through reduced energy demand within the water sector. The following high-level objectives and goals with respect to water are identified:

- Develop and support more reliable water supplies for people, agriculture, and the environment, provided by a more resilient, diversified, sustainably managed water resources system with a focus on actions that provide direct GHG reductions.
- Make conservation a California way of life by using and reusing water more efficiently through greater water conservation, drought tolerant landscaping, stormwater capture, water recycling, and reuse to help meet future water demands and adapt to climate change.
- Develop and support programs and projects that increase water sector energy efficiency and reduce GHG emissions through reduced water and energy use.
- Increase the use of renewable energy to pump, convey, treat, and utilize water.
- Reduce the carbon footprint of water systems and water uses for both surface and groundwater supplies through integrated strategies that reduce GHG emissions while meeting the needs of a growing population, improving public safety, fostering environmental stewardship, aiding in adaptation to climate change, and supporting a stable economy.

The 2017 Scoping Plan Update recognizes the close ties between water reduction and energy/GHG reduction (as well as interactions with natural and working lands, agricultural, waste management and transportation). The 2017 Scoping Plan Update identifies the following ongoing and proposed measures to contribute to the broader energy efficiency goals and reduce GHG emissions in the water sector: [4]

- As directed by Governor Brown's Executive Order B-37-16, DWR and State Water Resources Control Board (SWRCB) will develop and implement new water use targets to generate more statewide water conservation than existing targets (the existing State law requires a 20 percent reduction in urban water use by 2020 [SBx7-7, Steinberg, Chapter 4, Statutes of 2009]). The new water use targets will be based on strengthened standards for indoor use, outdoor irrigation, commercial, industrial, and institutional water use.
- SWRCB will develop long-term water conservation regulation, and permanently prohibit practices that waste potable water.
- DWR and SWRCB will develop and implement actions to minimize water system leaks, and to set performance standards for water loss, as required by SB 555 (Wolk, Chapter 679, Statutes of 2015).
- DWR and CDFA will update existing requirements for agricultural water management plans to increase water system efficiency.

- CEC will certify innovative technologies for water conservation and water loss detection and control.
- CEC will continue to update the State's Appliance Efficiency Regulations (California Code of Regulations, Title 20, Sections 1601–1608) for appliances offered for sale in California to establish standards that reduce energy consumption for devices that use electricity, gas, and/or water.
- California Environmental Protection Agency (CalEPA) will oversee development of a registry for GHG emissions resulting from the water-energy nexus, as required by SB 1425 (Pavley, Chapter 596, Statutes of 2016).
- The State Water Project has entered long-term contracts to procure renewable electricity from 140 MW solar installations in California.

As described in its Climate Action Plan, DWR will continue to increase the use of renewable energy to operate the State Water Project.

With respect to project-level GHG reduction actions and thresholds for individual development projects, the 2017 Scoping Plan Update indicates:

> *Beyond plan-level goals and actions, local governments can also support climate action when considering discretionary approvals and entitlements of individual projects through CEQA. Absent conformity with an adequate geographically-specific GHG reduction plan as described in the preceding section above, CARB recommends that projects incorporate design features and GHG reduction measures, to the degree feasible, to minimize GHG emissions. Achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development.*

Renewable Energy: California Renewables Portfolio Standard Program

Established in 2002 under SB 1078, accelerated in 2006 under SB 107, expanded in 2011 under SB X1-2, and again in 2015 under SB 350, California's RPS is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities (IOUs), electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 50 percent of total procurement by December 31, 2030.[5]

California Cap-and-Trade Program

Authorized by the California Global Warming Solutions Act of 2006 (AB 32), the Cap-and-Trade Program is a core strategy that California is using to meet its statewide GHG reduction targets for 2020 and 2030, and ultimately achieve an 80 percent reduction from 1990 levels by 2050. Pursuant to its authority under AB 32, CARB has designed and adopted a California Cap-and-Trade Program to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020 (17 CCR

[5] As of 2015, California's top three POUs were on track or ahead of their respective RPS targets, with PG&E, SCE, and SDG&E reporting RPS procurements for 2020 at 29.5 percent, 24.5 percent and 35.2 percent, respectively (www.cpuc.ca.gov/rps_homepage/, accessed November 8, 2017).

Sections 95800 to 96023). Under the Cap-and-Trade Program, an overall limit is established for GHG emissions from capped sectors (e.g., electricity generation, petroleum refining, cement production, and large industrial facilities that emit more than 25,000 metric tons CO_2e per year) and declines over time, and facilities subject to the cap-and-trade permits to emit GHGs. The statewide cap for GHG emissions from the capped sectors commenced in 2013 and declines over time, achieving GHG emission reductions throughout the program's duration (see generally 17 CCR Sections 95811, 95812). On July 17, 2017, the California legislature passed Assembly Bill 398, extending the Cap-and-Trade Program through 2030.

The cap-and-trade regulation provides a firm cap, ensuring that the 2020 and 2030 statewide emission limits will not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not direct GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are ensured on a state-wide basis.

California's Cap-and-Trade Program will substantially reduce California's GHG emissions associated with electricity production, which will in turn benefit the Project. Since the majority of the Project's GHG emissions are indirect emissions associated with electricity consumption, this Program addresses GHG reduction of Project-related indirect emissions.

Regional

Southern California Association of Governments

The Southern California Association of Governments (SCAG), which is the Metropolitan Planning Organization for the region in which West Basin operates, prepares the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) every four years (CARB 2017b). The RTP/SCS provides the regional blueprint for transportation improvements over the next twenty years as well as population forecasts and policies to encourage land use patterns that reduce GHG emissions in order to meet the GHG emissions reduction targets for the region. The population forecasts are used by a number of agencies to plan for the future. The South Coast Air Quality Management District (SCAQMD) uses the SCAG forecast as the basis of the analysis in the Air Quality Management Plan (AQMP).

In February 2011, CARB adopted targets for SCAG for transportation-related GHG emissions. The targets include a per capita reduction of 8 percent for 2020 and 13 percent for 2035 compared to the 2005 baseline. On April 7, 2016, SCAG adopted the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), the 4-year update to the 2012 RTP/SCS (SCAG 2016). Using growth forecasts and economic trends, the 2016 RTP/SCS provides a vision for transportation throughout the region for the next 25 years. It considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address mobility needs. The 2016 RTP/SCS describes how the region can attain the GHG emission-reduction targets set by CARB by achieving an 8 percent reduction by 2020, 18 percent reduction by 2035, and 21 percent reduction by 2040 compared to the 2005 level on a per capita basis (SCAG 2016). Compliance with and implementation of 2016 RTP/SCS policies and strategies would have co-benefits of

reducing per capita criteria air pollutant emissions associated with reduced per capita vehicle miles traveled (VMT).

South Coast Air Quality Management District

The Project site is located in the South Coast Air Basin (Air Basin), which consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside Counties, in addition to the San Gorgonio Pass area in Riverside County. The South Coast Air Quality Management District (SCAQMD) is responsible for air quality planning in the Air Basin and developing rules and regulations to bring the area into attainment of the ambient air quality standards.

Air districts typically act in an advisory capacity to local governments in establishing the framework for environmental review of air pollution and GHG impacts under CEQA. This includes recommendations regarding significance thresholds, analytical tools to estimate emissions and assess impacts, and mitigation measures for potentially significant impacts. Although districts also address some of these issues on a project-specific basis as responsible agencies, they may provide general guidance to local governments on these issues. Because of its expertise in establishing air quality analysis methodologies and comprehensive efforts to establish regional and localized significance thresholds for criteria pollutants, local public agencies have asked SCAQMD for guidance in quantifying GHG impacts and recommending GHG significance thresholds to assist them with determining whether or not GHG impacts from projects are significant under CEQA.

After AB 32 was passed, the SCAQMD formed a Climate Change Committee along with a Greenhouse Gases CEQA Significance Thresholds Working Group and the SoCal Climate Solutions Exchange Technical Advisory Group. On September 5, 2008, the SCAQMD Board approved the SCAQMD Climate Change Policy, which outlines actions SCAQMD will take to assist businesses and local governments in implementing climate change measures, decreased the agency's carbon emissions, and provided information to the public regarding climate change. On December 5, 2008, the SCAQMD adopted an annual screening level threshold of 10,000 $MTCO_2e$ for industrial projects for which the SCAQMD is the lead agency or has discretionary approval (SCAQMD 2008). The SCAQMD, in accordance with CEQA Guidelines Section 15064.7, adopted its annual threshold for industrial sources under a public review process as part of stakeholder working group meetings that were open to the public and based on substantial evidence. The intent of the threshold is to capture 90 percent of total emissions from all new or modified industrial and stationary source sector projects subject to a CEQA analysis where the SCAQMD is the lead agency. Data collected by the SCAQMD from its Annual Emissions Reporting Program indicates that a 90 percent capture rate would cover a substantial portion of future project emissions and would exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. The SCAQMD estimates that these small projects will in aggregate contribute less than 1 percent of the future 2050 statewide GHG emissions target.

West Basin Municipal Water District 2015 Urban Water Management Plan

In compliance with the Urban Water Management Planning Act as amended by the Water Conservation Act of 2009 (SB X7-7),[6] West Basin prepared the *West Basin Municipal Water District 2015 Urban Water Management Plan* (2015 UWMP) to include an assessment of present and proposed future measures, programs, and policies that would support the SB X7-7 goal to achieve a 20 percent statewide reduction in urban per capita water use by 2020 (West Basin 2016). Although each of West Basin's retail agencies must prepare individual 2015 UWMPs with individual baseline and target calculations, West Basin's 2015 UWMP provides a regional target that will allow these retailers and West Basin to collaborate on the most effective programs to ensure that the targeted demand reductions can be met.

The 2015 UWMP demonstrates how West Basin proposes to meet its service area's retail demands over the next 25 years and provide long-term water reliability. Table 4.2 of the 2015 UWMP (West Basin's Service Area Projected Water Supplies (AFY)) shows how West Basin plans to diversify its supply by shifting to locally produced reliable water supplies, including recycled water and desalination and reducing reliance on imported water. Implementation of the 2015 UWMP will reduce the need for imported water supplies from about 57 percent in 2015 to 43 percent by 2025 (West Basin 2016). As described in the 2015 UWMP, West Basis has implemented a wide array of conservation efforts since the 1990s that contribute to reductions in water use and its associated embedded energy. Table 7.1 of the 2015 UWMP (Metropolitan Demand Forecasting Model for Water Conservation – West Basin AF Savings and Future Projections) provides an estimate of 28,512 AF in water savings from West Basin conservation programs in 2015, with the majority coming from passive measures (e.g., installation of water conserving devices). As indicated by Table 7.1, annual savings from water conservation efforts are expected to increase over time, to 32,280 AF in 2020, 37,928 AF by 2030, and 42,773 AF by 2040.

Local

City of El Segundo

The City of El Segundo does not currently have any regulations, significance thresholds, or laws addressing climate change that are relevant to the Project. The City adopted an Energy Efficiency Climate Action Plan (EECAP) in 2015 that focused on reducing the community's GHG emissions related to energy use. The EECAP includes two measures designed to reduce GHG emissions associated with water use by promoting water use efficiency in alignment with the SB X7-7 goal of reducing per-capita water use by 20 percent by the year 2020. Although the City does not have jurisdiction over West Basin (as a water wholesaler to the City), the West Basin 2015 UWMP is consistent with the EECAP in that it demonstrates how the region's water retailers will collaborate with West Basin on the most effective efficiency programs to ensure that the SB X7-7 target can be met (City of El Segundo 2015).

[6] Descriptions of the Water Conservation Act of 2009 and SB X7-7 are provided in Section 5.16, *Utilities and Service Systems.*

GHG Reduction Activities by West Basin Municipal Water District

In 2005, West Basin participated in the Affordable Desalination Demonstration Project operated out of the Port Hueneme Seawater Desalination Test Facility. This study focused on the energy reduction technologies through innovate reverse osmosis (RO) membranes and energy recovery devices.

Since 2008, West Basin has been a member of the California Climate Action Registry and a founding member of The Climate Registry. Both organizations are voluntary organizations that protect and promote early actions to reduce GHG emissions by ensuring that its members receive appropriate consideration for early actions in light of future state, federal, or international GHG regulatory programs. In addition, these organizations provide support for its members by setting consistent and transparent standards to calculate, verify, and publicly report GHG emissions into a single registry.

In 2016, West Basin was honored with the Cool Planet Award by The Climate Registry. The Cool Planet Award "recognizes the valuable contribution of Southern California Edison (SCE) business customers who demonstrate exemplary leadership in energy and carbon management within their business size and industry" (The Climate Registry Website 2016)

Department of Water Resources Water Use Efficiency Grant

West Basin applied to the Department of Water Resources (DWR) for a Water Use Efficiency grant through its Water-Energy Grant Program (Program). This Program is for the implementation of residential, commercial, and institutional water efficiency programs or projects that reduce GHG emissions as well as water and energy usage. West Basin applied to this Program for its Conservation, Landscape, Energy, and Natural Gas (CLEAN) Project. West Basin's CLEAN Project will provide water and energy efficiency devices, rebates, education, and customer assistance to residents, focusing on the disadvantaged community (DAC) areas of West Basin's service area. A DAC is defined through a statewide screening methodology that is used to identify communities that represent pollution burden exposures and environmental effects and population characteristics.

Other Energy Efficiency Activities

From 1995 to 2013, West Basin's recycling and conservation programs have offset the need for imported water and have reduced per capita water use in the service area 27 percent. Reduced per capita water use has reduced energy consumption associated with treating and transporting water and wastewater, which in turn has reduce GHG emissions. West Basin's widespread reuse of recycled water has replaced more energy intensive imported supplies which has also contributed to a reduction in energy use. In addition, solar power accounts for 10 percent of the power to run the water recycling facility. Based on capacity output and solar power in place, this system provided 903,800 kWh for its first year of operation (January to December 2007), producing 534,000 kWh in 2015, with an average estimated production of 783,000 kWh/year.[7] Additionally,

[7] Estimated to reduce CO2 emissions by 7,400 tons over 30 years, which is equivalent to annual CO2 sequestration from over 200 acres of U.S. forest or reducing vehicle miles travelled by more than 500,000 miles annually (https://us.sunpower.com/commercial-solar/case-studies/west-basin-municipal-water-district/ and https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator, accessed December 1, 2016).

as part of a recent expansion, West Basin installed six Variable Frequency Drives to ensure efficient operation and energy management. These upgrades reduced electricity demand by approximately 5.29 million kWh per year, which equates to eliminating 1,370 MTCO2e from the atmosphere per year, based on current SCE emission factors.[8]

5.7.2 Environmental Setting

The study area for climate change and the analysis of GHG emissions is broad given that worldwide emissions and their global effects influence climate change. However, the study area is also limited by the CEQA Guidelines Section 15064(d), which directs lead agencies to consider an "indirect physical change" only if that change is a reasonably foreseeable impact, which may be caused by the project.

In general, the baseline against which to compare a project's potential impacts includes the natural and anthropogenic drivers of global climate change, including worldwide GHG emissions from human activities, which grew more than 70 percent between 1970 and 2004. The State of California is leading the nation in managing GHG emissions. Accordingly, a project's impact analysis relies on guidelines, analyses, policies, and plans for reducing GHG emissions established by CARB.

Global Climate Change – Greenhouse Gases

GHGs trap heat in the atmosphere. GHGs are emitted by natural processes and human activities. The accumulation of GHGs in the atmosphere regulates the earth's temperature.

The natural process through which heat is retained in the troposphere is called the "greenhouse effect." [9] GHGs trap heat in the troposphere (the layer of the atmosphere closest to the earth's surface) through a threefold process: The Earth absorbs shortwave radiation emitted by the sun; the earth emits a portion of this energy in the form of long wavelength radiation; and GHGs in the troposphere absorb this long wavelength radiation and emit some of it into space and some of it toward the earth. This "trapping" of the long wavelength (thermal) radiation emitted back toward the earth is the underlying process of the greenhouse effect.

The primary GHGs in the earth's atmosphere are water vapor, CO_2, CH_4, N_2O, and ozone, with the most abundant being water vapor and CO_2 (USEPA 2016b). Although water vapor has not received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Natural processes such as evaporation from oceans and rivers and transpiration from plants contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively. The primary human-related source of water vapor comes from fuel combustion in motor vehicles;

8 Notice of Installation Report (IR) Review & Incentive Approval, SCE, June 4, 2014. GHG savings based on 2016 SCE emission factor (0.24 MTCO2e/MWh) available from SCE's *2016 Corporate Responsibility Report*, available at https://www.sce.com/wps/portal/home/about-us/who-we-are/corporate-responsibility/, accessed December 5, 2017.

9 The troposphere is the bottom layer of the atmosphere, which varies in height from the earth's surface to 10 to 12 kilometers.

however, it contributes less than a significant amount (less than 1 percent) to atmospheric concentrations of water vapor.

Not all GHGs possess the same ability to induce atmospheric warming; as a result, the warming contribution of a GHG is commonly quantified in the common unit of carbon dioxide equivalent (CO_2e) over a 100-year period, by applying the appropriate global warming potential (GWP) value.[10] By applying the applicable GWP to each GHG, Project-related emissions can be tabulated in the common unit of metric tons per year CO_2e. GWP ratios are provided by the Intergovernmental Panel on Climate Change (IPCC). Historically, GHG emission inventories were calculated using the GWPs from the IPCC's Second Assessment Report, published in 1996. The IPCC has since updated the GWP values based on the latest science in its Fourth Assessment Report (AR4) and Fifth Assessment Report, published in 2007 and 2013, respectively. CARB uses the AR4 GWPs in the statewide GHG emissions inventory, in the current Climate Change Scoping Plan, and in the current version of the California Emissions Estimator Model (CalEEMod).[11]

The six GHGs that are regulated by AB 32 include CO_2, methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). The Project-related GHGs discussed and analyzed in this subchapter are CO_2, CH_4, and N_2O[12]:

- *Carbon Dioxide (CO_2)*. CO_2 is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, CO_2 emissions from fossil fuel combustion increased by a total of 7.4 percent between 1990 and 2014 (USEPA 2016b). CO_2 is the most widely emitted GHG and is the reference gas (GWP of 1) for determining GWPs for other GHGs.
- *Methane (CH_4)*. CH_4 is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. The United States' top three CH_4 sources are landfills, natural gas systems, and enteric fermentation. CH_4 is the primary component of natural gas, used for space and water heating, steam production, and power generation. The GWP of CH_4 is 25.
- *Nitrous Oxide (N_2O)*. N_2O is produced by both natural and human related sources. Primary human-related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. The GWP of N_2O is 298.
- *Hydrofluorocarbons (HFCs)*. HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase out of chlorofluorocarbons (CFCs) and Hydrochlorofluorocarbons (HCFCs) gains momentum. The 100-year GWP of HFCs ranges from 12 for HFC-161 to 14,800 for HFC-23 (USEPA 2016b).

[10] GWPs and associated CO_2e values were developed by the IPCC, and published in its Second Assessment Report in 1996. Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report. The IPCC updated the GWP values based on the latest science in its AR4. The CARB reports GHG emission inventories for California using the GWP values from the IPCC AR4.

[11] Version 2016.3.1, available at http://www.caleemod.com.

[12] All GWPs are given as 100-year GWP. Unless noted otherwise, all GWP Potentials were obtained from the IPCC. (IPCC, Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the AR4 of the IPCC, 2007).

- *Perfluorocarbons (PFCs)*. PFCs are compounds consisting of carbon and fluorine, and are primarily created as a byproduct of aluminum production and semiconductor manufacturing. PFCs are potent GHGs with a GWP several thousand times that of CO_2, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years) (USEPA 2016c). The Global Warming Potential of PFCs range from 7,390 to 12,200 (USEPA 2016c).
- *Sulfur hexafluoride (SF_6)*. SF_6 is a colorless, odorless, nontoxic, nonflammable gas. SF_6 is the most potent GHG that has been evaluated by the IPCC, with a GWP of 22,800 (USEPA 2016c).

5.7.3 Significance Thresholds and Criteria

CEQA Guidelines Appendix G, Environmental Checklist Form, includes questions pertaining to the significance of a project's impact on climate change. The issues presented in the Environmental Checklist have been used as thresholds of significance in this section. Accordingly, the Project would have a significant adverse environmental impact if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment (refer to Impact GHG 5.7-1).
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs (refer to Impact GHG 5.7-2).

These two CEQA Guidelines Appendix G threshold questions are related because in order to avoid global environmental harm, emissions in the developed world must be reduced compared to today and policies have been developed to address this potential harm. Therefore, it is necessary to consider Project emissions in the context of overall policy consistency.

Methodology

At this time, there is no consensus in the state of California among CEQA lead agencies regarding the analysis of global climate change and selection of significance criteria. Numerous organizations, both public and private, have released advisories and guidance with recommendations designed to assist decision makers in the evaluation of GHG emissions given the current uncertainty regarding emissions thresholds of significance.

CEQA leaves the determination of significance to the reasonable discretion of the lead agency and encourages lead agencies to develop and publish thresholds of significance to use in determining the significance of environmental effects. Lead agencies may elect to rely on thresholds of significance recommended or adopted by state or regional agencies with expertise in the field of global climate change (CEQA Guidelines Section 15064.7[c]).

The 2017 Scoping Plan Update describes how the State is currently implementing several targeted, agricultural, urban, and industrial-based water conservation, recycling, and water use efficiency programs as part of an integrated water management effort that will help achieve GHG reductions through reduced energy demand within the water sector. The 2017 Scoping Plan Update also notes that while it is important for every sector to contribute to the State's climate goals, the right to "safe, clean, affordable, and accessible water adequate for human consumption,

cooking, and sanitary purposes" as outlined in AB 685 (Eng., Chapter 524, Statutes of 2012) (California Legislative Information Website 2017), also known as the "human right to water" bill, should take precedence over achieving GHG emission reductions from water sector activities where a potential conflict exists (CARB 2017a). However, the 2017 Scoping Plan Update does not specify GHG reductions needed from the water sector to meet the goals of AB 32 and SB 32, recognizing that the energy intensity of water varies greatly depending on the geography, water source, and end use, and that "(a)s the energy sector is decarbonized through measures such as increased renewable energy and improved efficiency, energy intensities will also be reduced" (CARB 2017a).

In a 2008 letter to the California Coastal Commission and the California State Lands Commission regarding the Carlsbad Desalination Plant (Poseidon) EIR (CEC 2008), the CEC expressed support for "Poseidon's plan to mitigate carbon emissions from the increase in electricity required to deliver the project's water to customers, as compared with the baseline of current electricity required to serve those customers with State Water Project water." At the time, CARB expressed similar support for this approach, and in a subsequent 2010 letter to the California Coastal Commission (CARB 2010), CARB Chairman Mary Nichols reiterated CARB's position regarding the Carlsbad Desalination Plant EIR and associated Poseidon Resources Energy Minimization and Greenhouse Gas Reduction Plan: "we believe the amount of emissions reduction that should be required need not exceed the net impact, that is, the direct emissions from the project, less emissions that would be associated with providing an equivalent amount of existing supplies."

West Basin is committed to reducing the Project's GHG emissions to "net zero" (net carbon neutral) compared to continued use of imported water supplied by MWD. This means that the Project's net increase in GHG emissions over the emissions associated with an equivalent volume of water supplied by MWD would be 100 percent offset through a combination of Project design features and mitigation measures. The threshold of significance used in this document is net zero; i.e., the project would have a significant impact on GHG emissions if it were to increase emissions above net zero as compared to emissions associated with imported water. It is anticipated that emissions (both from imported water and emissions associated with Project operation) will change over time as California transitions to cleaner energy in accordance with SB 350 and other regulations.

MWD currently imports most of its water from: (1) the Colorado River Aqueduct (CRA), which collects water from the Colorado River at Lake Havasu and conveys water through a 242-mile-long aqueduct; and (2) the State Water Project (SWP), which collects water from rivers in Northern California, primarily through the Sacramento-San Joaquin River Delta, and conveys water over 400 miles, lifting water over 2,000 feet in elevation, to Southern California. Both imported sources of water require extensive pumping that consumes energy. As shown in **Table 5.7-1**, these energy intensities are estimated to be 7,523 kWh/MG for CRA water and 9,708 kWh/MG for SWP water (California Air Pollution Control Officers Association 2010).

The availability of these imported water supplies to Southern California varies and depends on many factors. During the recent long droughts, there were periods of time where water allocation

from the SWP was zero. The opposite situation (i.e., using only SWP) has also been experienced in the past. Thus, the energy intensity for the imported water ranges between 7,523 kWh/MG and upward toward 9,708 kWh/MG.

TABLE 5.7-1
ENERGY AND GREENHOUSE GAS INTENSITY OF IMPORTED WATER (MWD) SOURCES

Source of Import	kWh/MG[1]	kWh/Acre-feet[1]
State Water Project to LA Basin	9,708	3,163
Colorado River Aqueduct to LA Basin	7,523	2,451

SOURCE: [1]California Air Pollution Control Officers Association 2010.

Both CRA and SWP systems generate some hydroelectricity, a renewable energy, to provide power to the conveyance systems and power providers for these two systems are different and involved different parties. Given the complexity of these two systems, to accurately determine the emission factors of each of these systems would require a thorough study. As such, for the purpose of this EIR, this analysis has adopted a simplified approach for estimating the emission factors of these two systems by assuming that their emission factors to be the same and are equal to the 2016 eGrid factor for California of 528 lbs CO2e/MWh. The 2016 eGrid factor should provide a good representation of the GHG emissions associated with imported water use. Using this emission factor and assuming a 50:50 mix[13] (resulting in an estimated 8,616 kWh/MG, the emissions associated with imported water are estimated at 15,064 MTCO2e/year (see Table 5.7-3). If the Local Project were in operation today, and assuming it replaced water at a 50:50 mix CRA:SWP, it would need to reduce emissions to below 15,064 MTCO2e/year to be considered net carbon neutral compared to imported water. Using the same energy and GHG intensity factors, the Regional Project under current conditions would have to reduce emissions to below 45,192 MTCO2e/year to be considered net carbon neutral (see Table 5.7-4).

Potentially Significant Impacts

The environmental factors determined to be potentially affected by the Project, identified in the Notice of Preparation (see Appendix 1A), are analyzed below. Feasible mitigation measures are recommended, where warranted, to avoid or minimize the Project's significant adverse impacts.

[13] The 2003 multi-state Colorado River quantitative settlement agreement forced MWD to reduce its pumping from the Colorado River by 53 percent -- from 1.20 MAFY to 0.56 MAFY. As a result, MWD now operates its imported water delivery system to base load its Colorado River allotment and draw from the SWP only as needed to serve demand that cannot be met by the lower cost water available from the Colorado River Aqueduct. Consequently, the proposed Project would result in MWD having a reduced demand on the SWP, should SWP have sufficient supply (see Section 2.3, Need for the Project and Section 7.3.1, No Project Alternative). If the proposed project replaces only SWP water the difference in emissions between desalination and imported water would be less (because emissions associated with SWP water are higher than emissions associated with CRA water).

5.7.4 Impacts and Mitigation Measures

Greenhouse Gas Emissions

Impact GHG 5.7-1: Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

West Basin is committed to reducing emissions to a net carbon neutral. As described in **Mitigation Measures GHG-1 and GHG-2**, West Basin would be required use the applicable energy intensity and emission factors at the time to quantify the GHG emissions associated with electricity used by imported water and the Local Project and/or Regional Project. Mitigation measure GHG-1 requires that the difference in calculated GHG emissions between imported water and ocean water desalination would be mitigated through mitigation measures.

Project design features to improve efficiency include the use of energy recovery devices (for the RO process), and energy efficient pumps, devices, and equipment. These Project-specific measures would be in addition to West Basin's broader commitment to energy efficiency as exhibited through the system-wide energy savings associated with its ongoing conservation and water recycling programs, which have substantially reduced West Basin energy demand. Mitigation Measures in Section 5.2, *Air Quality*, will also reduce construction- and operation-related air emissions, including GHGs. As described in mitigation measure GHG-1, meeting these thresholds may also require West Basin to generate "clean energy" on-site with rooftop solar photovoltaic (PV) systems and/or off-site through renewable energy contracts/credits, and, if needed, purchase verified carbon offsets. Depending on the methodologies and GHG offset protocols approved by CARB, there might also be opportunities for West Basin to invest in projects that could result in atmospheric GHG reduction.

The analyses below provide a comparison of Local Project and Regional Project emissions, both direct and indirect.

Direct Construction Emissions:

- Direct emissions would result from construction equipment powered by fossil fuels (e.g., diesel) and vehicles trips (mobile sources) for the transport of materials and construction workers to and from the Project site.

Indirect Construction Emissions:

- Indirect emissions would result from electric-powered construction equipment and electric-powered vehicles that transport materials and construction workers to and from the Project site.

Direct Operational Emissions:

- Direct emissions would result from vehicle trips (mobile sources) by West Basin employees, visitors, and vendor deliveries.
- Direct emissions would result from emergency diesel backup generators regulated by SCAQMD, typically permitted to operate a maximum of 200 hours per year with maintenance testing of no more than 50 hours per year, per SCAQMD Rule 1110.2.

- Direct emissions would result from marine vessel emissions for offshore maintenance activities (anticipated to be infrequent), such as screen cleaning and repairs.

Indirect Operational Emissions:

- Indirect emissions would result from electric-powered operational equipment at the proposed desalination facilities. These emissions are shown in Tables 5.7-3 (Local Project) and 5.7-4 (Regional Project), and are the primary emissions associated with the Project.
- The administration building would also consume electricity for heating, cooling, and lighting (approximately 50 percent of the administration building would be occupied by West Basin).

Both the Local Project and the Regional Project involve siting the screened ocean intake and concentrate discharge adjacent to the existing El Segundo Generating Station (ESGS) and the ocean water desalination facility within the existing ESGS boundaries. The specific location of the screened ocean intake and concentrate discharge would not substantially affect GHG emissions associated with the Project. As such, an analysis of conservative conditions (i.e., activities that have the potential for the greatest impact) using conservative modeling assumptions is provided below.

The following analysis evaluates potential impacts associated with constructing and operating each of the three primary elements of the Project, including offshore, coastal, and inland Project components for both the Local and Regional Projects. **Table 5.7-2** summarizes the impact significance conclusions.

TABLE 5.7-2
SUMMARY OF IMPACT GHG 5.7-1 GHG EMISSIONS

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact GHG 5.7-1: Impacts from GHG emissions.			
Local Project			
Construction	LTSM	LTSM	LTSM
Operation	LTSM	LTSM	LTSM
Regional Project			
Construction	LTSM	LTSM	LTSM
Operation	LTSM	LTSM	LTSM

NOTES:
LTSM = Less than Significant impact with mitigation

Local Project Emissions Estimates

Table 5.7-3 presents the total estimated GHG emissions for the Local Project in annual MTCO2e, including construction emissions for all Project components as well as operational emissions associated with energy use.

TABLE 5.7-3
LOCAL PROJECT TOTAL GREENHOUSE GAS EMISSIONS

SOURCE	Total $MTCO_2e$[1,2]/ yr
Amortized Construction Emissions per Operational Year[3]	
Desalination Facility	625
Marine Construction Activities	101
Desalinated Water Conveyance	171
Total Direct and Indirect (Construction) Emissions	***897***
Annual Operational Energy Emissions[4]	
Local Project Operational Energy Emissions	***25,126***
TOTAL LOCAL PROJECT EMISSIONS	***26,023***
Current imported water emissions[5]	15,064
Local Project Emissions to be Mitigated *(based on current emission factors)*	***10,959***

NOTES:

1 CO_2 Equivalent values (CO2e) include emissions of CO_2, N_2O and CH_4 reported in CO_2 equivalencies using the EPA Greenhouse Gas Equivalencies Calculator (USEPA 2017).

2 Numbers may not add to exact total due to rounding.

3 Construction emissions are amortized over a Project lifetime of 30 years based on conservative estimate of grading at ESGS South site. The Project lifetime is based on the standard 30- year SCAQMD assumption (http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-13/ghg-meeting-13-minutes.pdf?sfvrsn=2, accessed June 2016).

4 Operational energy emissions are indirect emissions from electricity consumption by ocean water desalination facility equipment operations and conveyance system pumps as stated in Section 3, *Project Description* (Table 3.7), estimated using the most recent emission factor (2016) publicly reported by Southern California Edison (SCE) using the Power/Utility Protocol (PUP). Direct emissions from generators and vehicle trips are negligible and are not included in operational emissions.

5 Emissions estimate for current imported water, based on a 50:50 blend of CRA:SWP water, the average energy intensity of those imported water supplies (8,616 kWh/MG), and the statewide average GHG emission factor for utility-supplied electricity in California (2016 (eGrid factor = 528 lbs CO2e/MWh, equivalent to 0.24 MTCO2e/MWh).

Refer to Appendix 3 for detailed model input/output data.

Construction emissions were estimated using CalEEMod.[14] The CalEEMod outputs are included in Appendix 3. Local Project construction would result in direct emissions of CO_2, CH_4, and N_2O from construction equipment operations. Transport of materials and construction workers to and from the Project site would also result in GHG emissions. Construction activities would be temporary and would cease upon Project completion. As shown in Table 5.7-3, Local Project construction would result in approximately 897 $MTCO_2e$/year GHG emissions (after being amortized over 30 years, consistent with SCAQMD guidance). Construction GHG estimates are conservative in that emissions are based on export of all soil to be excavated and import of all soil to be used as infill; it is likely that much of the soil that is excavated from the ESGS South Site can be reused on-site rather than exported and disposed, which would reduce the number of

14 CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects. The model quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Further, the model identifies mitigation measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from measures chosen by the user.

construction vehicle trips compared to what was assumed in the CalEEMod emissions calculations.

Operational emissions were calculated for desalination facility operations based on energy use. As shown in Table 3-3 in the Project Description, average electrical demand for Local Project operation would be approximately 12.4 MW, taking into account facility energy recovery devices that reduce energy use by the desalination process. As shown in Section 5.6.4, *Energy* (Table 5.6-4), annual electricity use by the Local Project is estimated at approximately 104,700 megawatt hours (MWh) per year for all Project components, assuming continuous year-round operation.[15] Operational emissions for the Local Project are estimated at 25,126 MTCO2e/year, based on the most recent electricity emission factor reported by SCE.

As indicated in Table 5.7-3, Local Project construction and operations combined would result in GHG emissions of approximately 26,023 $MTCO_2e$/yr. Local Project operations would also result in some minor indirect GHG emissions from fuel consumed by emergency generator and vehicle trips (estimated at 120 per day) associated with employees and maintenance and inspection activities.[16] Relative to GHG emissions associated with operation of the RO equipment, estimated emissions from the generators and vehicle trips are negligible and are not included in the table.

As noted in the Section 5.5.4 *Energy*, Local Project operations would also result in some minor indirect GHG emissions from fuel consumed by emergency generators and vehicle trips (estimated at 120 per day) associated with employees and maintenance/inspection activities. Relative to GHG emissions associated with operation of the RO equipment, estimated emissions from the emergency generators and vehicle trips would be negligible and are not included in the table.

Table 5.7-3 indicates that the Local Project emissions would be approximately 10,959 MTCO2e over the emissions currently estimated for an equivalent volume of imported water (15,064 MTCO2e). Note that as California's electricity providers increase the percentage of renewable energy in their portfolios, per SB 350 and California's RPS program, GHG emissions associated with Project operations will be reduced. Both the Local Project's total emissions and the emissions associated with imported MWD water are anticipated to go down over time due to the RPS, with the likely result that the Project emissions subject to mitigation would be less than the current estimate of 10,959 MTCO2e. Additionally, as shown in Table 5.7-1, the emission factors for the CRA and SWP are different. Depending on the rate of renewable integration into these two systems in the future and also the amount of water imported from each system on a year to year basis, the amount of GHG emissions to be mitigated by this project would also be changed. For example, assuming the 50 percent renewables standard is met by 2030, as mandated by SB 350, Local Project emissions would be reduced to approximately 17,800 MTCO2e in 2030, while

[15] The project would be equipped with emergency diesel backup generators regulated by SCAQMD, typically permitted to operate a maximum of 200 hours per year with maintenance testing of no more than 50 hours per year, per SCAQMD Rule 1110.2. Energy use and associated GHG emissions would be negligible compared to emissions from desalination plant electricity use.

[16] Using conservative assumptions about average trip length (10 miles) and vehicle fuel efficiency (25 mpg), 120 vehicle trips over 365 days per year would consume approximately 21,000 gallons of fuel and produce approximately 185 MTCO2e per year.

the emissions associated with the same volume of imported water would be reduced to approximately 10,800 MTCO2e, netting a difference of approximately 7,000 MTCO2e above the threshold that would be subject to mitigation by Mitigation Measure GHG-1.[17]

To reduce the Local Project's GHG emissions, Mitigation Measure GHG-1 requires West Basin to develop an Energy Minimization and Greenhouse Gas Reduction Plan that updates the Project's GHG emission calculations based on final design plans and specifies the method(s) by which West Basin will achieve the required reduction in GHG emissions, currently estimated at approximately 10,959 $MTCO_2e$/year for the Local Project. Mitigation Measure GHG-2 requires West Basin to submit an Annual GHG Verification Report for the purposes of third-party verification and validation of the Project's actual annual GHG emissions as well as the GHG reduction measures. West Basin currently anticipates that the required GHG emissions reductions will be accomplished through a variety of innovative project design features (such as energy recovery devices), on-site renewable energy projects (such as on-site solar panels), off-site renewable energy projects (such as power purchase agreements with one or more renewable energy providers), and/or purchasing verified GHG Offset Credits. In any case, the Annual GHG Verification Report would be subject to independent verification to ensure that the required GHG emissions reductions have been achieved, and the emissions reduction requirement will be updated annually (a "truing up" process) based on the Project's estimated actual GHG emissions.

Local Project

Construction-Related Impacts

All Project Components

As indicated in Table 5.7-3, Local Project construction would result in relatively modest indirect and direct emissions totaling approximately 897 $MTCO_2e$/yr (after being amortized over 30 years), which are included in the calculation of total Local Project emissions. As discussed above, through a combination of project design features and Mitigation Measures GHG-1 and GHG-2, total Local Project GHG emissions would be reduced to less than the emissions associated with an equivalent volume of imported water (currently estimated at 15,064 MTCO2e).

Mitigation Measures:

Implement Mitigation Measures GHG-1 and GHG-2.

Local Project Significance Determination:

Less than Significant Impact with Mitigation Incorporated

[17] As of 2016, 28 percent of SCE's electricity procurement was from eligible RPS sources (www.cpuc.ca.gov/rps_homepage/, accessed January 18, 2018). Increasing the RPS to 50 percent means that SCE's 2030 electricity emission factor would be approximately 0.17 compared to its 2016 emission factor of 0.24. statewide, approximately 30 percent of electricity was from eligible RPS sources in 2016, according the CEC (CEC 2017). Thus, the eGrid factor would also be approximately 0.17 compared to its 2016 emission factor of 0.24.

Operational Impacts

All Project Components

As indicated in Table 5.7-3, Local Project operations would result in 25,126 $MTCO_2e$/yr GHG emissions. Accounting for construction emissions (amortized over 30 years), total Local Project emissions would be 26,023 $MTCO_2e$/yr. As discussed above, through a combination of project design features and Mitigation Measures GHG-1 and GHG-2, total Local Project GHG emissions would be reduced to less than the emissions associated with an equivalent volume of imported water (currently estimated at 15,064 MTCO2e).

Mitigation Measures:

Implement Mitigation Measures GHG-1 and GHG-2.

Local Project Significance Determination (Construction and Operation Combined):

Less than Significant Impact with Mitigation Incorporated.

Regional Project Emissions Estimates

Table 5.7-4 presents the total estimated GHG emissions for the Total Project (Local Project emissions plus Regional Project expansions) in annual MTCO2e, including construction emissions for all Project components as well as operational emissions associated with energy use. The emissions estimates in Table 5.7-4 assume that the Local Project would be built first and the Regional Project would expand on the infrastructure established by the Local Project. As such, Local Project emissions are attributed as the first phase of a potential future Regional Project.

TABLE 5.7-4
REGIONAL TOTAL PROJECT ANNUAL GREENHOUSE GAS EMISSIONS
(LOCAL PROJECT + REGIONAL PROJECT)

Source	Total MT of $CO_2e^{1,2}$/yr
AMORTIZED TOTAL CONSTRUCTION EMISSIONS PER OPERATIONAL YEAR [3]	
Local Project Total Direct Construction	897
Regional Ocean Water Desalination Facility Expansion	120
Regional Marine Construction Activities	25
Regional Desal. Water Conveyance Components Expansion	171
Total Construction Emissions	***1,197***
ANNUAL OPERATIONAL ENERGY EMISSIONS[4]	
Local and Regional Project (20 MGD + 40 MGD)	76,319
Regional Pump Station	4,441
Total Operational Energy Emissions	***80,760***
TOTAL ANNUAL PROJECT EMISSIONS	***81,957***
Current imported water emissions[5]	45,192
Annual Emissions to be Mitigated *based on current emission factors)*	***36,765***

TABLE 5.7-4
REGIONAL TOTAL PROJECT ANNUAL GREENHOUSE GAS EMISSIONS
(LOCAL PROJECT + REGIONAL PROJECT)

NOTES:

1 CO_2 Equivalent values (CO2e) include emissions of CO_2, N_2O and CH_4 reported in CO_2 equivalencies using the USEPA Greenhouse Gas Equivalencies Calculator (USEPA 2017).

2 Total may be slightly off due to rounding.

3 Construction emissions are amortized over a Project lifetime of 30 years. The Project lifetime is based on the standard SCAQMD 30-year assumption (http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-13/ghg-meeting-13-minutes.pdf?sfvrsn=2, accessed June 2016).

4 Operational energy emissions are indirect emissions from electricity consumption by ocean water desalination facility equipment operations and conveyance system pumps as stated in Section 3, *Project Description* (Table 3.7), estimated using the most recent emission factor (2016) reported by SCE using the Power/Utility Protocol (PUP).

5 Emissions estimate for current imported water, based on a 50:50 blend of CRA:SWP water, the average energy intensity of those imported water supplies, and the statewide average GHG emissions factor for utility-supplied electricity in California in 2016 (eGrid).

Refer to Appendix 3 for detailed model input/output data.

Construction emissions for the Regional Project expansion were estimated using the CalEEMod. The CalEEMod outputs are included in Appendix 3. As with the Local Project, the Regional Project construction would result in direct emissions of CO_2, CH_4, and N_2O from construction equipment operations. Transport of materials and construction workers to and from the Project site would also result in GHG emissions. Construction activities would be temporary and would cease upon Project completion. As shown in Table 5.7-4, the Total Project construction (Regional Project expansion plus the Local Project emissions presented in Table 5.7-3) would result in approximately 1,197 $MTCO_2e$/year GHG emissions (amortized over 30 years). The analysis assumes Local Project construction has been completed when Regional Project construction begins. Similar to the Local Project calculations, the Regional Project estimated CO_2, N_2O, and CH_4 total construction emissions are amortized over 30 years.

Operational emissions were calculated for desalination facility operations based on energy use of a 60 MGD facility. As shown in Table 3-4 in the Project Description, average electrical demand for the Regional Project operation producing 60 MGD of drinking water would be approximately 40.0 MW, taking into account facility energy recovery devices that reduce energy use by the desalination process. As shown in Section 5.6.4, *Energy* (Table 5.6-5), annual electricity use by the Regional Project that produces 60 MGD of drinking water is estimated at approximately 336,500 MWh per year for all Project components, assuming continuous year-round operation. Operational emissions for the Regional Project are estimated at 80,760 MTCO2e/year, based on the most recent electricity emission factor reported by SCE.

As noted in the Section 5.5.4 *Energy*, operations of a 60 MGD facility would also result in some minor indirect GHG emissions from fuel consumed by emergency generators and vehicle trips (estimated at 120 per day) associated with employees and maintenance/inspection activities. Relative to GHG emissions associated with operation of the reverse osmosis equipment, estimated emissions from the emergency generators and vehicle trips would be negligible and are not included in the table.

As indicated in Table 5.7-4, total Project construction and operations (Local Project plus Regional Project) would result in GHG emissions of approximately 81,957 $MTCO_2e$/year. Table 5.7-4 indicates that the Total Project emissions, including the emissions required to be mitigated

for the Local Project and the incremental increase in emissions resulting from implementation of the Regional Project, would be approximately 36,765 MTCO2e/year over the emissions currently estimated for an equivalent volume of imported water (45,192 MTCO2e/year). This represents an incremental increase in GHG emissions of 25,806 MTCO2e/year resulting from the implementation of the Regional Project (adding another 40 MGD). Note that as California's electricity providers increase the percentage of renewable energy in their portfolios, per SB 350 and California's RPS program, GHG emissions associated with Project operations will be reduced. Both the Local Project's total emissions and the emissions associated with imported MWD water are anticipated to be reduced over time due to the RPS, with the likely result that the Project emissions subject to mitigation will be less than the current estimate of 35,765 MTCO2e/year. As discussed previously, it is noted that depending on the rate of renewable integration into these two systems in the future and also the amount of water imported from each system on a year to year basis, it is expected that the amount of GHG emissions to be mitigated by this project would also be changed on an annual basis. For example, assuming the 50 percent renewables standard is met by 2030, as mandated by SB 350, Regional Project emissions would be reduced to approximately 53,000 MTCO2e in 2030, while the emissions associated with the same volume of imported water would be reduced to approximately 32,300 MTCO2e, netting a difference of approximately 20,700 MTCO2e above the threshold that would be subject to mitigation by Mitigation Measure GHG-1.[18]

Regional Project

Construction-Related Impacts

All Project Components

As indicated in Table 5.7-4, Regional Project construction would result in approximately 1,197 $MTCO_2e$/year GHG of amortized emissions. As discussed above, through Mitigation Measures GHG-1 and GHG-2, total Regional Project GHG emissions would be reduced to less than the emissions associated with an equivalent volume of imported water (currently estimated at 45,192 MTCO2e).

Mitigation Measures:

Implement Mitigation Measures GHG-1 and GHG-2.

Regional Project Significance Determination:

Less than Significant Impact with Mitigation Incorporated.

Operational Impacts

All Project Components

As indicated in Table 5.7-4, Regional Project operations would result in 80,760 $MTCO_2e$/yr GHG emissions. Accounting for construction emissions (amortized over 30 years), total Regional

[18] As of 2016, 28 percent of SCE's electricity procurement was from eligible RPS sources (www.cpuc.ca.gov/rps_homepage/, accessed January 18, 2018). Increasing the RPS to 50 percent means that SCE's 2030 electricity emission factor would be approximately 0.17 compared to its 2016 emission factor of 0.24. Statewide, approximately 30 percent of electricity was from eligible RPS sources in 2016, according the CEC (CEC 2017). Thus, the eGrid factor would also be approximately 0.17 compared to its 2016 emission factor of 0.24.

Project emissions would be 81,957 $MTCO_2e$/yr. As discussed above, through a combination of Project Design Features and Mitigation Measures GHG-1 and GHG-2, total Regional Project GHG emissions would be reduced to less than the emissions associated with an equivalent volume of imported water (currently estimated at 45,192 MTCO2e).

Mitigation Measures:

Implement Mitigation Measures GHG-1 and GHG-2.

Regional Project Significance Determination (Construction and Operation Combined):

Less than Significant Impact with Mitigation Incorporated.

Mitigation Measures:

The following mitigation measures apply to both the Local and Regional Projects, unless otherwise noted.

AQ-1 – AQ-4: Refer to Section 5.2, *Air Quality* for additional mitigation measures that will also serve to reduce Project-related GHG emissions.

GHG-1: West Basin shall prepare an Energy Minimization and GHG Reduction Plan prior to the start of Project construction activities. The purpose of the plan is to document Project GHG emissions and the net incremental emissions required to be offset to achieve net carbon neutrality for the Project (no net increase in GHG emissions beyond emissions associated with an equivalent volume of imported MWD water).

The Energy Minimization and GHG Reduction Plan shall include a summary of state-of-the-art energy-scale desalination facilities and shall include a commitment by West Basin to incorporate all available feasible energy recovery and conservation technologies, or, if West Basin finds that any of the technologies will not be feasible for the Project, the plan shall clearly explain why such technology is considered to be infeasible. The carbon footprint estimate for the Project shall include consideration of all proposed energy recovery and conservation technologies that will be employed by the Project, and shall describe the approximate GHG emissions reductions that will be associated with each technology., and shall describe the approximate GHG emissions reductions that will be associated with each technology.

The Energy Minimization and GHG Reduction Plan shall include a detailed description of the GHG emissions footprint for all operational components of the approved Project based on manufacturer energy usage specification data for each piece of equipment and the most current power system emissions factor available for GHG emissions based on the energy portfolio of West Basin's electricity provider for the Project. The plan shall, at minimum, include the following elements:

1) **Project GHG Emissions** – Given that the GHG estimates presented in the EIR document are based on current emission factors for electricity and equipment and transportation engines commonly used at this time, the calculations presented in the EIR represent a conservative estimate of Project GHG emissions since the emission factors will decrease as more renewable sources of electricity are used as required by SB 350. West Basin shall conduct additional analysis to update the GHG emission estimates based upon final design, equipment to be used, and other emission factors appropriate for the Project prior to construction. Upon completion of construction, West Basin shall conduct further analysis to determine the actual (or better estimate

of) GHG emissions during the construction phase, and these GHG emissions calculations shall be verified by a third-party accredited under ISO 14065[19] or other state-recognized accreditation standards. The updated GHG emissions shall be used as the basis for amortized construction GHG emissions (over 30 years of Project operation). The GHG emissions for Project operation shall be estimated based on the final design of the Project and the current applicable emission factors (updated annually thereafter). Annual GHG reporting requirements are described in Mitigation Measure GHG-2.

2) **Updated MWD and Department of Water Resources GHG Emissions** – Updated emissions associated with importing water purchased from MWD shall be calculated annually.

3) **GHG Mitigation Options** – The Energy Minimization and GHG Reduction Plan shall include GHG mitigation strategies that shall, at minimum, be sufficient to offset the Project's incremental GHG emissions over the net zero threshold of significance and shall be verifiable and feasible to implement over the Project life. Subject to potential review and modification by permitting agencies, the plan shall include some or all of the following, depending on regulatory feasibility, technological feasibility, and availability:

   a. Minimize Project's Energy Demand. West Basin is committed to constructing and operating an environmentally sound Project that minimizes electricity demand through implementation of reasonable and feasible design measures.

   b. On-Site Renewable Energy Use. During the design phase, West Basin would conduct analysis to optimize on-site renewable energy use to reduce further reduce Project GHG emissions, based on the site layout, environmental factors, and viable technology available.

   c. Renewable Power Purchase Agreement. West Basin will procure renewable energy from off-site sources within California via purchases from one or more of the following, depending on regulatory feasibility and availability: (a) SCE; (b) an electric service provider through Local Government Renewable Energy Self-Generation Bill Credit Transfer (with a 5 MW cap) (SCE 2016); (c) a community choice aggregator such as Los Angeles Clean Power Alliance or South Bay Clean Power; or (d) other renewable energy provider.

   d. Renewable Energy Certificates.[20] Procure and retire Renewable Energy Certificates (also known as RECs, green tags, Renewable Energy Credits, Renewable Electricity Certificates, or Tradable Renewable Certificates) for projects or activities located in California.

   e. Carbon Offsets.[21] Procure and retire Carbon Offsets, in a quantity needed to achieve net carbon neutrality for the Project. "Carbon Offset" means an

[19] ISO 14065: Greenhouse gases -- Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition, International Organization for Standardization, Switzerland.

[20] Renewable energy certificates, or RECs, represent one megawatt hour (MWh) of energy generated from a clean, renewable source, such as wind, solar, hydro, or certain types of renewable biomass. Since these renewable energy resources generate little to no carbon as they produce energy, they represent an indirect emission reduction, whereby a "clean" energy source "offsets" the demand for "dirty" fossil-fueled energy.

[21] Carbon offsets, also known as VERs or CRTs (carbon reduction tons), represent the act of reducing, avoiding, destroying or sequestering the equivalent of a ton of greenhouse gas (GHG) in one place to "offset" an emission taking place somewhere else. Offsets generally represent direct emission reductions or sequestration -- for example,

> instrument issued by an Approved Registry and shall represent the past reduction or sequestration of 1 metric ton of CO_2e achieved by a GHG emission reduction project or activity within California. "Approved Registry" means: (i) the Climate Action Reserve, the American Carbon Registry, the Verified Carbon Standard, or the Clean Development Mechanism or (ii) any other entity approved by CARB to act as an "offset project registry" under the state's Cap-and-Trade Program.

West Basin shall implement items a. and b. and progress through the remainder (items c. through e.) on the basis of the options' physical and economic feasibility, as reasonably determined by West Basin, with low-cost options preferred over high-cost options. In the event that options have equivalent costs, options enumerated higher in the above list shall be selected by West Basin over options enumerated later in the above list.

GHG-2: West Basin shall prepare and publish an annual GHG Report to quantify annual GHG emissions resulting from Project operation and the annual GHG emissions avoided by not using imported water sources. The sum of the GHG emissions from Project operation and the amortized construction emissions minus the avoided GHG emissions from not using imported water would be used to determine the annual incremental GHG emissions that must be mitigated by the Project. The findings of this report shall be validated and verified by a third-party accredited under a state-recognized standard, such as ISO 14065 or similar. If the amount of GHG emissions that West Basin mitigates for in a given year exceed the actual net GHG emissions for that year (i.e., GHG emissions from the Project minus the avoided GHG emissions from not using imported water), then West Basin may choose to reduce the amount of GHG emissions to be mitigated in the following year[22] However, should the opposite be true, West Basin must make up GHG mitigation differences in the following year. Such makeup mitigation shall be verified and validated in the following year's report.

The schedule of GHG reports and verification and validation activities shall be as follows:

Year Prior to Opening

1. Finalize total construction emissions based on method described in the Energy Minimization and GHG Reduction Plan and calculate annualized emissions to be amortized over 30 years.

2. Estimate GHG emissions for projected energy consumption in Year 1 of operation based on the final design calculated using the method described in the Energy Minimization and GHG Reduction Plan and using updated applicable emissions factors.

3. Estimate avoided GHG emissions from imported water in year 1 of operation based on updated emissions factors applicable.

4. Calculate GHG emissions to be mitigated.

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the destruction of methane emitted from decaying manure at a dairy farm. So they can be used to offset direct emissions, like those from Scope I in a company's footprint.

22 Following year means that the year immediately after the year being reported.

5. Implement GHG mitigation strategy identified for Year 1.

6. Publish third-party validated and verified GHG report.

Year 1 of Operation and On

1. Implement GHG mitigation strategy based on estimated emissions and collect energy consumption data.

Year 2 of Operation and On

1. Calculate actual GHG emissions from prior year (Year 1 and on) of Project operation and add to amortized calculated construction emissions.

2. Calculate avoided GHG emissions from imported water in prior year (Year 1) operation.

3. Identify mitigation requirement for Year 1 (actual emissions minus avoided emissions). For any over-mitigation (credit) apply to current year (Year 2) mitigation requirement; for any under-mitigation add to current year (Year 2) mitigation requirement.

Publish third-party validated and verified GHG Report.

Greenhouse Gas Emissions Impacts

Impact GHG 5.7-2: Would the Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

The significance of GHG emissions from the Project (both the Local Project and the Regional Project) is evaluated based on whether the Project is consistent with the relevant statewide and regional mandates, plans, policies, and regulations designed to reduce GHG emissions.

The following analysis evaluates potential impacts associated with constructing and operating each of the three primary elements of the Project, including offshore, coastal, and inland Project components for both the Local and Regional Projects. **Table 5.7-5** summarizes the impact significance conclusions.

CARB's Scoping Plan

Through the 2017 Scoping Plan Update, CARB is implementing a variety of statewide programs to reduce GHG emissions that will contribute to meeting reduction goals of AB 32, SB 32, and Executive Order S-3-05. These and other efforts would reduce emissions related to energy generation and therefore would reduce emissions from all activities that use energy, including the Project. Thus, it is reasonable to expect that Project GHG emissions would decline with implementation of the regulatory initiatives identified by CARB in the Scoping Plan (including the 2014 and 2017 updates) as well as other technological innovations.

TABLE 5.7-5
SUMMARY OF IMPACT GHG 5.7-2 CONFLICT WITH PLAN, POLICY, OR REGULATION WITH THE PURPOSE OF REDUCING GHG EMISSIONS

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact GHG 5.7-2: Conflict with plan, policy, or regulation with the purpose of reducing GHG emissions.			
Local Project			
Construction	LTS	LTS	LTS
Operation	LTSM	LTSM	LTSM
Regional Project			
Construction	LTS	LTS	LTS
Operation	LTSM	LTSM	LTSM

NOTES:
LTS = Less than Significant, no mitigation proposed
LTSM = Less than Significant impact with mitigation

The 2017 Scoping Plan Update recognizes that AB 32 and SB 32 establish an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target. The Scoping Plan "identifies how the State can reach our 2030 climate target to reduce greenhouse gas (GHG) emissions by 40 percent from 1990 levels, and substantially advance toward our 2050 climate goal to reduce GHG emissions by 80 percent below 1990 levels" (CARB 2017a). The regulations, programs, and other mechanisms outlined by the Scoping Plan for reducing GHG emissions in California would serve to reduce the Project's post-2020 emissions level to the extent applicable by law, such as transitioning the energy sector toward zero carbon.

In recognizing the close ties between water use reduction and energy/GHG reduction, the Scoping Plan points to data showing that the greatest potential for water-related energy savings resides with water end users, while water agencies have a role in improving end-user water conservation and in reducing the energy intensity of their portfolios. The 2017 Scoping Plan Update recommends that "local water and wastewater utilities move toward low carbon or net-zero carbon water management systems" and that they "should develop distributed renewable energy where feasible" and "incorporate design features and GHG reduction measures, to the degree feasible, to minimize GHG emissions" (CARB 2017a). However, the 2017 Scoping Plan Update does not specify GHG reductions needed from the water sector to meet the goals of AB 32 and SB 32, recognizing that the energy intensity of water varies greatly depending on the geography, water source, and end use, and that "(a)s the energy sector is decarbonized through measures such as increased renewable energy and improved efficiency, energy intensities will also be reduced" (CARB 2017a).

The 2017 Scoping Plan Update describes how the State is currently implementing several targeted, agricultural, urban, and industrial-based water conservation, recycling, and water use efficiency programs as part of an integrated water management effort that will help achieve GHG reductions through reduced energy demand within the water sector. The 2017 Scoping Plan Update also notes that while it is important for every sector to contribute to the State's climate

goals, the right to "safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes" as outlined in AB 685, also known as the "human right to water" bill, should take precedence over achieving GHG emission reductions from water sector activities where a potential conflict exists (CARB 2017a). This is consistent with a 2014 letter sent by CARB Chairman Mary Nichols to the Association of California Water Agencies, clarifying the intent of the 2014 Scoping Plan Update with respect to water reliability and diversification. Ms. Nichols indicated, "[a]lthough the Update and the Water Action Plan emphasize the importance of conservation and water use efficiency for sustaining our water sources, it also recognizes the importance of local agencies developing new water supplies. We acknowledge that local water agencies must balance many factors, including supply diversification, to ensure a reliable water supply. As noted by the Board, a one-size fits-all approach for the water sector would not be appropriate for California Water utilities facing a wide variety of conditions" (CARB 2014)

With mandated GHG reductions by utility providers (SB 350) and energy and water conservation measures implemented by West Basin, it is anticipated that GHG emissions resulting from West Basin activities will be reduced compared to 1990 emissions. But the percentage reduction is currently unknown. In accordance with applicable regulations and public sentiment in California, West Basin will continue to pursue technological and other solutions to reduce per capita water demand and implement energy conservation at West Basin facilities.

West Basin is reducing GHG emissions through its water recycling and conservation efforts. As noted above in Section 5.7.1, from 1995 to 2013 West Basin's recycling and conservation programs have offset the need for imported water and reduced per capita water use in the service area by 27 percent. **Table 5.7-6** summarizes the estimated GHG reductions associated with district-wide conservation and recycled water efforts (i.e., avoidance of imported water use) in 2015 and future years. Based on water conservation figures presented in the UWMP, annual GHG reductions associated with water conservation in are estimated at 20,718 MTCO2e, increasing to 27,561 by 2030 and 31,081 MTCO2e by 2040. Based on the carbon intensity difference between recycled and imported water, the GHG reductions associated with West Basin's recycled water activities are estimated at 2,522 MTCO2e, increasing to 3,824 by 2030 and 31,081 MTCO2e by 2040.

West Basin has and will continue to achieve operational GHG reductions through energy conservation programs and local solar PV installations. For example, at the Edward C. Little Water Recycling Facility, GHG reductions result from the solar panel project and Variable Frequency Drive project, which have a combined estimated GHG reduction of over 300 metric tons annually (or more than a 10 percent reduction in energy use at that facility). And as noted above in Section 5.7.1, solar panels provide 10 percent of the power needed to run West Basin's water recycling facility.

TABLE 5.7-6
ESTIMATED GHG SAVINGS FROM WEST BASIN WATER CONSERVATION AND RECYCLING PROGRAMS

	2015	2020	2030	2040
UWMP water savings (acre-feet)[1]	28,512	32,280	37,928	42,773
UWMP energy savings per year (MWh)	80,041	90,619	106,474	120,075
UWMP GHG reduction per year (MTCO2e)[2]	20,718	23,456	27,561	31,081
Water recycling (acre-feet) [3]	29,110	38,894	44,135	44,135
Water recycling GHG reduction per year (MTCO2e) [4]	2,522	3,370	3,824	3,824
Total GHG reduction per year (MTCO2e)	**23,241**	**26,827**	**31,385**	**34,906**

NOTES:
1 Figures from West Basin 2015 UWMP (West Basin 2016).
2 Based on average energy intensity of imported SWP and CRA water (8,616 kWh/MG = 2,807 kWh/AF) and most recent eGrid emissions factor for California statewide electricity (528 lbs CO2e/MWh for 2016). Thus, average carbon intensity of imported water = 0.73 MTCO2e/AF.
3 Volumes from West Basin 2015 UWMP for recycled water consumed within West Basin's service area.
4 Represents net reduction compared to imported water. The carbon intensity of recycled water = 0.64 MTCO2e/AF, calculated using the verified direct and indirect carbon emissions for 2015 (Climate Registry 2016).

As discussed in Impact GHG 5.7-1, West Basin is committed to pursuing reasonable and feasible energy minimization and efficiency as part of the Project, including consideration of onsite rooftop solar and energy recovery devices. Mitigation Measure GHG-1 commits West Basin to reducing Project GHG emissions below a threshold of net carbon neutral compared to existing conditions by incorporating state-of-the-art energy minimization and efficiency measures into the Project design, offsetting the Project's incremental additional energy demand (compared to an equivalent volume of MWD imported water) through the use of on-site renewable energy and/or off-site through renewable energy contracts/credits, and/or through the purchase of verified carbon offsets.

Requirements for Energy Providers to Reduce Emissions

The majority of the Local Project's and Regional Project's operational GHG emissions would be indirect emissions from the Project's use of electricity, which would be provided by the local SCE electrical power grid. Because of SB 350 and California's RPS program that requires investor-owned utilities to increase procurement from eligible renewable energy sources to 50 percent of total procurement by 2030, SCE has steadily increased the amount of renewables in its energy production portfolio, which lowers the overall indirect emissions associated with use of its electricity. Indirect emissions associated with the use of SCE's electricity will continue to drop through at least 2030 as more and more electricity from renewable power generators is brought onto the grid.[23]

Other State Plans and Requirements

CARB's Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing

[23] As of 2016, California's top three POUs are well on their way toward meeting their 2030 RPS targets, with PG&E, SCE, and SDG&E reporting RPS procurements at 33 percent, 28 percent, and 43 percent, respectively (www.cpuc.ca.gov/rps_homepage/, accessed December 4, 2017).

market mechanisms to achieve SB 32's emissions-reduction mandate of reducing statewide emissions to 40 percent below 1990 by 2030. The Cap-and-Trade Program serves to reduce the cumulative effect of state-wide and global GHG emissions.

Relative to the GHG impacts of imported water, DWR and MWD are each committed to help meet the State's GHG reduction goals. DWR is implementing a range of GHG measures as outlined in its "Clean Energy for the State Water Project" and associated Greenhouse Gas Emissions Reduction Plan (DWR 2016). DWR is currently projecting to be ahead of its 2020 and 2050 GHG targets (DWR 2016).

In summary, the State's existing and proposed regulatory framework requires the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Various combinations of policies could allow the statewide emissions level to achieve these requirements. The Scoping Plan outlines how regulations, programs, and new technologies can enable the State to achieve the 2030 and 2050 targets. Some of these measures are likely to reduce the Project's GHG emissions. For example, vehicles traveling to and from the Project site would continue to be subject to increasingly stringent fuel standards, or future requirements for electrified engines or fuel cell technology, as determined by CARB. In addition, construction trucks and equipment could be subject to more stringent emissions standards, including the possibility of Tier IV emissions standards.

SCAG RTP/SCS

The additional water supply that would be provided by the Project would reduce dependency on imported water and would not result in a net increase in West Basin's total water supply portfolio, since the objective of the Project is to improve water supply reliability, help meet current and projected demands, and reduce the usage of imported water. Therefore, the Project would not change land use designations, generate substantial new vehicle trips, or induce population growth. As such, the Project would be consistent with the RTP/SCS. As indicated in Section 3, *Project Description*, the Project's purpose is to diversify West Basin's portfolio in response to limitations on available MWD water supply. The potable water that would be produced by the Project is accounted for in the 2015 UWMP, which accounts for population projections and their relationship to retail water demands in SCAG's 2012 RTP/SCS.

Local Community Climate Action Plans

The Project could site conveyance pipelines within unincorporated Los Angeles County, as well as El Segundo, Redondo Beach, Lawndale, Gardena, and Hawthorne. However, the County's Community Climate Action Plan and the climate action plans of the City of El Segundo and the other surrounding areas focus on local infrastructure and land use development projects and do not include measures applicable to other agencies' infrastructure projects, such as regional water conveyance from a wholesaler to the City. As such, the Project would not conflict with a local GHG plan, as the Project does not change the land use designations, generate substantial new vehicle trips, or induce population growth.

Local and Regional Project

Construction-Related Impacts

All Project Components

As discussed above and in Section 5.2, *Air Quality*, Local Project construction would be consistent with applicable plans and policies and may include conformance with Tier 4 CARB/USEPA emission standards.

Mitigation Measures:

None Required.

Local and Regional Project Determination:

Less than Significant Impact.

Operational Impacts

All Project Components

As discussed above and in Section 5.2, *Air Quality*, Project operations would not conflict with state or federal climate change plans, including AB 32, SB 32, and Executive Orders S-3-05 and B-30-15 reduction goals. The Project is consistent with the 2017 Scoping Plan Update in that it incorporates feasible design features to minimize GHG emissions and, through Mitigation Measures GHG-1 and GHG-2, reduces Project GHG emissions to below a threshold of net carbon neutral compared to existing conditions. Therefore, with the implementation of Mitigation Measures GHG-1 and GHG-2, the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and the impact would be less than significant.

Mitigation Measures:

Implement Mitigation Measures GHG-1 and GHG-2.

Local and Regional Project Significance Determination:

Less than Significant Impact with Mitigation Incorporated.

5.7.5 Cumulative Impacts

It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory (California Air Pollution Control Officers Association 2008). GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (California Air Pollution Control Officers Association 2008). The State has implemented a vast array of regulations, policies, and programs to reduce the state's contribution to global GHG emissions. The Project, on both a Local and a Regional level, would ensure that there would be no net increase in GHG emissions compared to existing conditions associated with water supplied by MWD, and thus would not represent a cumulatively considerable contribution toward global GHG emissions.

Similarly, all future development with the potential to generate GHG emissions would be required to demonstrate compliance with applicable federal and state regulatory requirements, including General Plan goals and policies of the affected jurisdiction, intended to reduce and/or avoid potential adverse environmental effects. As such, cumulative impacts to GHG emissions would be mitigated on a project-by-project level, and in accordance with the established regulatory framework, through the established regulatory review process.

5.7.6 Significant Unavoidable Impacts

Implementation of the Local Project and Regional Project would result in less than significant impacts with mitigation incorporated with respect to GHG emissions. No significant unavoidable impacts have been identified.

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