INITIAL STUDY FOR THE CAIFORNIA DEPARTMENT OF WATER RESOURCES DRAFT CLIMATE ACTION PLAN PHASE 1: GREENHOUSE GAS EMISSIONS REDUCTION PLAN

This Initial Study has been prepared in accordance with the provisions of the California Environmental Quality Act (CEQA) and assesses the potential environmental impacts of implementing the proposed project described below. The Initial Study consists of a completed environmental checklist and brief explanations of the environmental topics addressed in the checklist.

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Introduction

The California Department of Water Resources (DWR) has developed the "Draft Climate Action Plan Phase 1: Greenhouse Gas Emissions Reduction Plan" (Draft Plan) to guide its efforts in reducing its greenhouse gas (GHG) emissions. The GHG emissions reduction measures proposed in the Draft Plan were developed for the purpose of reducing emissions of GHGs in California as directed by Executive Order (EO) S-3-05 and the California Global Warming Solutions Act of 2006 (AB 32), and to facilitate the streamlined review of certain projects under the California Environmental Quality Act (CEQA)[1] (CEQA Guidelines, section 15183.5, subd. (b)(1)(D).) The Draft Plan incorporates those GHG emissions reduction measures outlined in the California Air Resources Board's (CARB) Climate Change Scoping Plan (Scoping Plan) that apply to DWR's activities.[2] The Draft Plan also includes several GHG emissions reduction measures that have been specifically designed by DWR to address GHG emissions from DWR activities. All proposed GHG emissions reduction measures in the Draft Plan are discussed in this Initial Study.

The Draft Plan is designed to show how DWR will carry out existing laws, policies, and regulatory actions adopted by the Legislature, the Governor, and CARB and meet GHG reduction targets consistent with global climate stabilization. The Draft Plan describes 11 GHG emissions reduction measures that provide a broad framework under which future projects will be conceived, designed, and implemented so as to reduce GHG emissions from DWR activities. The Draft Plan is a department-wide plan and, accordingly, does not describe specific projects that will be adopted or funded.

DWR has completed this Initial Study because DWR intends to rely on the Draft Plan for analyzing the cumulative impacts of GHG emissions in most future DWR projects[3]. CEQA Guidelines section 15183.5 describes plans for the reduction of greenhouse gas emissions that may be relied upon to streamline the cumulative impacts analysis of later project-specific environmental documents. Under certain circumstances, a lead agency may determine that a proposed project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements of a previously adopted plan. CEQA Guidelines, section 15183.5, subdivision (b)(1) describes plan requirements including, but not limited to, the requirement that a "plan for the reduction of greenhouse gas emissions should be adopted in a public process following environmental review." [4] Thus, this Initial Study and subsequent environmental review were completed to fulfill this requirement.

Because DWR intends to rely on the Draft Plan and this Initial Study for analyzing *only* the contribution to cumulative impacts of GHG emissions from future DWR projects, this Initial Study focuses on analyzing the Draft Plan's GHG emissions reduction goals, the GHG emissions estimates for future DWR projects and

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1 See Guidelines implementing the California Environmental Quality Act (hereafter "CEQA Guidelines"), California Code of Regulations, title 14, section15000, *et seq*.

2 These measures were evaluated for their potential adverse impacts on the environment by CARB in 2008. In this IS, DWR conducts its own environmental analysis.

3 As set out in the Plan and discussed below, certain construction projects defined as "Extraordinary Construction Projects" will not be able to rely on the Plan for streamlined CEQA review; project-specific environmental review will be required for these projects.

4 CEQA Guidelines, section 15183.5, subdivision (b)(1)(F).

activities, and the eleven GHG emissions reductions measures. DWR will not rely on the Draft Plan or this Initial Study for analyzing the potential impacts resulting from implementation of future DWR projects on environmental resources other than those caused by GHGs.

While future projects and activities that implement the GHG emissions reduction measures are not the subject of this Initial Study, DWR recognizes that these projects and activities may have the potential to have adverse effects on other environmental resources. Therefore, in order to disclose the potential effects that could occur in the future as a result of future projects which implement the GHG emissions reduction measures, this Initial Study also identifies the potential for impacts to other resources. These potential future impacts may or may not occur and, as necessary, would be the subject of future project-specific environmental analysis, under CEQA and potentially the National Environmental Policy Act (NEPA).

Description of Proposed Project

The proposed project is implementation of the GHG Emissions Reduction Plan (now in draft form), which presents DWR's historical, current, and projected future GHG emissions, DWR's goals for reducing GHG emissions, and DWR's GHG emissions reduction measures designed to achieve the emissions reduction goals. Each element is described in detail in the Draft Plan which is incorporated herein by reference and attached hereto.

Consistent with California's GHG emissions reduction targets as outlined in AB 32, and EO S-3-05, and DWR's own Sustainability and Environmental Stewardship Policies (DWR, 2009 and DWR, 2011) and DWR's Sustainability Targets (Appendix A) the Draft Plan shows how DWR will make substantial reductions in its GHG emissions. Reducing GHG emissions attributable to DWR activities will reduce statewide emissions, promote market forces that support cleaner and more efficient sources of energy, and contribute to reducing overall global GHG emissions. By taking the actions outlined in this Plan, DWR will ensure that it is contributing to solving the problem of global warming.

This Plan presents DWR's near-term and long-term GHG emissions reduction goals:

- Near-term—reduce emissions by 50% below 1990 levels by 2020
- Long-term—reduce emissions by 80% below 1990 levels by 2050.

This Initial Study has been completed to:

- identify whether any of the elements within the Draft Plan, or the Draft Plan as a whole, would have a significant impact on the environment; and,
- evaluate the GHG emissions reduction goals and GHG emissions reduction measures identified in the Draft Plan and analyze the effects of the Draft Plan as a whole on DWR's future GHG emissions and their contribution to the cumulative impact of elevated atmospheric GHG concentrations.

The Draft Plan also includes a schedule for ongoing monitoring of DWR GHG emissions and periodic review and update of the Draft Plan.

Draft GHG Emissions Reduction Plan Scope

DWR's activities include managing, operating, and maintaining the State Water Project (SWP)[5]; maintaining approximately 1,600 miles of levees throughout the Central Valley of California; reviewing, awarding, and managing several grant and local assistance programs; planning, constructing, and managing a wide range of water supply, flood control, and environmental restoration projects throughout the state; and regulating the safety of dams within DWR's authority throughout the State.

Chapter V of the Draft Plan presents a department-wide inventory of GHG emissions from DWR's activities. The Draft Plan identifies 4 primary categories of activities performed by DWR: (1) ongoing operations of the SWP[6], consisting of primarily power purchases (operational); (2) typical construction activities performed by DWR or its contractors (construction); (3) maintenance activities performed on DWR owned or operated facilities (maintenance); and (4) DWR's business practices (business practices). All DWR activities that emit measureable amounts of GHGs have been categorized under one of the 4 primary activity areas listed above. In addition to DWR activities, the Draft Plan also analyzes and addresses a small group of specific types of activities performed by the Central Valley Flood Protection Board (CVFPB).[7]

Geographically, activities analyzed and addressed in the Draft Plan could occur anywhere DWR has or will perform activities. DWR's activities predominantly take place at SWP facilities operated by DWR, DWR's four field offices, four regional offices, headquarters facilities located around Sacramento, flood protection facilities operated and maintained by DWR located throughout the Central Valley, and DWR's two Flood Maintenance Yards. Purchases of electricity to operate DWR facilities could occur anywhere throughout the state of California or outside of California. GHG emissions resulting from the generation of electricity that is used to power DWR facilities, regardless of the location of that generation, are included in DWR's GHG emissions inventory and are analyzed and addressed by the Draft Plan.

In some cases, DWR activities involve environmental restoration activities and other activities that sequester carbon by natural processes. In addition, future projects could result in secondary actions taken by parties affected by a DWR project but outside of DWR's authority or ability to control. Treatment of these types of emissions is addressed separately from other types of emissions in Chapter IX of the Draft Plan.

Activities Not Eligible to Rely on the Draft Plan for Streamlined Review of Cumulative Impacts of GHG Emissions

As stated above, the Draft Plan analyzes and addresses emissions generated as a result of most DWR

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[5] The SWP is comprised of 20 pumping plants, 5 hydroelectric power plants, 4 pumping generating plants, 32 storage facilities (reservoirs and lakes), and about 700 miles of aqueducts and pipelines, which deliver water to 25 million Californians and to 750,000 acres of farmland and provide environmental benefits.

[6] Emissions from operation of the SWP include those generated as a result of contract water deliveries, environmental water deliveries, water transfers, and all other water moved through the SWP system.

[7] The CVFPB is independent of DWR; however, the two agencies work closely together and, in many cases, share staff and resources. The CVFPB periodically performs small flood control improvements and rehabilitation projects without federal involvement. These projects are often designed and managed by DWR staff, and the DWR Division of Engineering issues and manages the construction contracts on these projects. In these specific cases, where DWR Division of Engineering issues and manages construction contracts for CVFPB projects, the construction activities are also covered under the Draft GHG Reduction Plan.

construction activities. However, potential future construction projects that would involve construction emissions that are much larger than typical DWR construction projects could result in a disproportionally large contribution of GHG emissions. Therefore, as explained in Section V.B of the Draft Plan, DWR construction activities that are significantly larger than historical activities would not be eligible to rely on the Draft Plan for streamlined CEQA review of GHG emissions. The construction emissions from these types of projects, called Extraordinary Construction Projects, will not rely on the GHG analysis provided in the Draft Plan, and if necessary will be analyzed on a project-by-project basis.

The Draft Plan does not analyze or address emissions from activities that DWR funds through its various grant and local assistance programs or activities that DWR regulates as part of its dam safety function. Nor does the Draft Plan analyze or address the United States Bureau of Reclamation's coordinated operations of the Central Valley Project (CVP) facilities. While operation of CVP facilities is coordinated with operations of the SWP, DWR does not have authority over CVP operations.

Future Projects

Any future project relying on the Draft Plan must complete the following steps:

1) Identify, quantify, and analyze the GHG emissions from the proposed project and alternatives using a method consistent with that described in DWR internal guidance: "Guidance for Quantifying Greenhouse Gas Emissions and Determining the Significance of their Contribution to Global Climate Change for CEQA Purposes" (DWR, 2010) (guidance document may be revised).
2) Determine that construction emissions levels do not exceed the Extraordinary Construction Project threshold of 25,000 metric tons of carbon dioxide equivalents[8] ($mtCO_2e$) for the entire construction phase of the project or 12,500 $mtCO_2e$ in any single year of construction.
3) Incorporate into the design or implementation plan for the project all project-level GHG emissions reduction measures listed in Section VII of the Draft Plan and, if those reduction measures are not otherwise binding and enforceable, incorporate those requirements as mitigation measures applicable to the project. If any of the GHG emissions reduction measures do not apply to the project, it must be explained why the GHG emissions reduction measures are not applicable and why they have not been incorporated as mitigation measures.[9]
4) Determine that the project does not conflict with DWR's ability to implement any of the specific project GHG emissions reduction measures listed in Section VII of the Draft Plan.
5) If implementation of the proposed project would result in additional energy demands on the SWP system of 15 gigawatt hours per year (GWh/yr) or greater, the project must get written confirmation from the DWR SWP Power and Risk Office stating that DWR's Renewable Power Procurement Plan will be updated to accommodate the additional load

[8] Conventionally, GHGs have been reported as "carbon dioxide equivalents" (CO_2e). CO_2e takes into account the relative potency of non-CO_2 GHGs and converts their quantities to an equivalent amount of CO_2 so that all emissions can be reported as a single quantity.

[9] See CEQA Guidelines section 15183.5, subd (b)(2).

resulting from the proposed project at such time as the proposed project is ultimately implemented.

As required by CEQA Guidelines section 15183.5(b)(2), if there is substantial evidence that the effects of GHG emissions from a particular future project may be cumulatively considerable notwithstanding the project's compliance with the GHG emissions reduction measures in the Draft Plan, additional environmental review, as necessary, will be performed. Additionally, any project that cannot or does not rely on the analysis in the Draft Plan would, as necessary under CEQA, be required to provide its own analysis of GHG emissions from the project and analysis of the environmental effects of those GHG emissions.

Historical and Current GHG Emissions

As identified in the Draft Plan, DWR has determined that its current total emissions from all activities are 2.46 million $mtCO_2e$[10]. The vast majority of these emissions (98%) are from generation of electricity needed to move water through the SWP. These emissions are accounted for under operational emissions. Operational emissions fluctuate greatly from year to year and have ranged between 1.6 million and 4.1 million $mtCO_2e$. The second largest source of GHG emissions from DWR activities is construction activities. These emissions are generated primarily from construction of new facilities, but also include some maintenance activities that DWR contracts to others. These emissions typically come from burning of diesel fuel and gasoline to power construction equipment and on-site generators, and to transport building materials to construction sites and waste materials away from sites. Construction emissions typically account for a little less than 1% of total DWR emissions averaging about 24,000 $mtCO_2e$[11] per year.

The third source of GHG emissions is due to maintenance activities. As shown in the Draft Plan Section V, DWR's typical maintenance activities include routine maintenance projects and some small construction projects that DWR completes on SWP and flood protection facilities that it operates. These emissions typically come from burning of diesel and gasoline to power equipment. DWR's analysis of emissions data from 2007-2009 indicates that maintenance emissions constitute a very small portion of DWR's annual emissions, typically accounting for less than one third of one percent of annual emissions and averaging approximately 8,200 $mtCO_2e$ per year.

The final source of GHG emissions from DWR activities is business practice emissions. Emissions from business activities are released by the generation of electricity, which is purchased by DWR (or the owners of buildings that DWR leases) to illuminate and cool buildings and facilities, and by the burning of natural gas at facilities for heating and water heating. Emissions associated with business transportation, such as fleet cars and air travel, are also accounted for under this category. Emissions from business practices also represent only a tiny fraction of total average annual DWR emissions. Between 2007 and 2009 these emissions constituted about two thirds of one percent of DWR's total emissions and averaged approximately 17,500 $mtCO_2e$ per year.

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[10] This amount is based on the average of DWR emissions from years 2007-2010 .

[11] This amount is based on trendline analysis of emissions estimates for 1990-2008. As noted within the Draft GHG Plan Section V, DWR construction emissions have been estimated using a number of assumptions and extrapolations. In addition, construction emissions fluctuate significantly from year to year depending on the specific projects under construction. Because of these factors, DWR has established benchmarks for historical (1990) and current emissions from construction activities by using the trendline value at 1990 and 2008 respectively.

Estimates of historical and current GHG emissions are calculated using several methodologies. As explained in the Draft Plan Section V.A, these methods differ based on available data, scale of emissions, and source of emissions. Table 1 below, shows DWR's historical (1990) and current levels of GHG emissions for each category and provides the total level of emissions at each time period.

Table 1. Emissions Summary ($mtCO_2e$)

	Operational Emissions *($mtCO_2e$)*	**Construction Emissions** *($mtCO_2e$)*	**Maintenance Emissions** *($mtCO_2e$)*	**Business Practices** *($mtCO_2e$)*	**Total Annual Emissions** **($mtCO_2e$)**
Estimated 1990 Emissions	*2,692,000*†	*28,200*††	*8,200*†††	*17,500*†††	***2,746,000***
Estimated Current Average Annual Emissions	*2,410,000*††††	*23,600*††	*8,200*	*17,500*	**2,459,000**

† Based on average of emissions 1988-1992

†† Based on trendline analysis of emissions estimates 1990-2008

††† Assumed to be at current levels

†††† Based on average of 2007-2010 emissions

GHG Emissions Reduction Goals

Both EO S-3-05, signed by Governor Schwarzenegger in 2005, and Assembly Bill (AB) 32, also known as the Global Warming Solutions Act of 2006, establish statewide GHG emissions reduction targets for California: reduce statewide emissions to 1990 levels by 2020. EO S-3-05 goes further to set a 2050 target of reducing statewide emissions levels to 80% below 1990 levels. These targets are consistent with global climate stabilization (CARB, 2008).

DWR has used these statewide targets and its own Sustainability Policy as a guide for setting its own goals for reducing emissions and establishing aggressive goals that will ensure that emissions reductions from DWR activities meet or exceed emissions reductions identified in AB 32 and EO S-3-05,

DWR has established the following GHG Emissions Reduction Goals:

- Near-term: Reduce GHG emissions from DWR activities by 50% below 1990 levels by 2020
- Long-term: Reduce GHG emissions from DWR activities by 80% below 1990 levels by 2050

Table 2 below, shows the quantified DWR Emissions Reduction Goals for 2020 and 2050 and the necessary reductions from current emissions that would be needed to achieve each of the goals.

Table 2. Quantified Emissions Levels and Emissions Reduction Goals ($mtCO_2e$)

	Operational Emissions	Construction Emissions	Maintenance Emissions	Business Practices	Total Annual Emissions	Total Emissions Reduction (from current)
Estimated 1990 Emissions	*2,692,000*	*28,200*	*8,200*	*17,500*	**2,746,000**	**N/A**
Estimated Current Average Annual Emissions	*2,410,000*	*23,600*	*8,200*	*17,500*	**2,459,000** (10% below 1990 levels)	**N/A**
2020 Emissions Reduction Goal	*N/A*	*N/A*	*N/A*	*N/A*	**1,373,000** (50% below 1990 levels 44% below current levels)	**1,089,000**
2050 Emissions Reduction Goal	*N/A*	*N/A*	*N/A*	*N/A*	**549,000** (80% below 1990 levels 77% below current levels)	**1,910,000**

DWR GHG Emissions Reduction Measures

In order to achieve the GHG emissions reduction goals listed above, DWR has developed 11 GHG emissions reduction measures, which address all major sources of GHG emissions from DWR activities.

Each of the 11 GHG emissions reduction measures is listed in Table 3 below, along with a short description of the measure. Each of the GHG emissions reduction measures is identified as an operational measure (OP), construction measure (CO), or business practice measure (BP).

The Draft Plan articulates DWR's goals for GHG emissions reductions and the steps it will take to achieve those emissions reductions. The 11 GHG emissions reduction measures articulated in the Draft Plan consist of 3 distinct types of measures: 1) project level actions (PL), specific actions (SA), and conditional measures (CM).

- Measures defined as PL will be implemented on all future projects undertaken by DWR that rely on the Draft Plan, subject to the exceptions articulated in the Draft Plan. Any environmental impact caused by or resulting from implementation of any of the PL measures would be analyzed, as necessary in future project-specific CEQA analyses.
- Measures defined as SA are specific actions or a series of actions that will be implemented by DWR as distinct actions. These actions may not require CEQA analysis as they may be exempt under CEQA or not considered "projects" as defined by Public Resources Code section 21065. SA measures that are considered "projects" and not exempt from CEQA would be analyzed, as necessary, in future project-specific CEQA analyses.
- Measures defined as CM may be carried out when the appropriate project conditions exist and may be implemented as individual projects or as elements of other larger projects. In either case, any

analysis of environmental impacts, if required, would be undertaken as necessary, in project-specific analyses.

Table 3. Description of DWR GHG Emissions Reduction Measures

	Measures	Description
1.	**OP-1** Reid Gardner Power Termination (SA)	Termination of DWR's interest in Unit #4 of the Reid Gardner Power Station in Nevada and substituting foregone electrical power with other less GHG intensive electricity supplies
2.	**OP-2** Energy Efficiency Improvements (SA)	Increasing energy efficiency of pumps and turbines throughout the SWP system through design, construction, and refurbishment methods
3.	**OP-3** Renewable Energy Procurement Plan (SA)	Increasing the proportion of energy used to run the SWP with energy supplies from renewable sources
4.	**OP-4** Local Renewable Generation (SA)	Exploring ways to develop renewable energy on land DWR owns.
5.	**OP-5** Lower Emissions Energy Resources (SA)	Establishment of contracts for or ownership of high efficiency energy resources
6.	**OP-6** Carbon Sequestration Actions (CM)	Implementing environmental restoration activities that have the potential to improve sequestration of carbon by natural processes
7.	**CO-1** Construction BMPs (PL)	Implementing practices aimed at minimizing fuel consumption by construction equipment and transportation of materials, reducing the amount of landfill material, and reducing emissions from cement production
8.	**CO-2** Statewide Equipment and Fuel Regulations (PL)	GHG emissions reductions achieved by compliance with current and anticipated air quality regulations
9.	**BP-1** SMUD Commercial Greenergy Program (SA)	Purchasing 259,000 kilowatt hours (kWh) each month for the next ten years of SMUD Greenergy
10.	**BP-2** SMUD Carbon Offset Program (SA)	Purchasing 2,580 mt of carbon offsets each year for the next ten years
11.	**BP-3** DWR Sustainability Initiatives (SA)	Identifying, measuring, and implementing specific business practices to reduce consumption of energy and other resources

Table 4 below, provides the annual emissions reductions estimated for each of the GHG emissions reduction measures. In total DWR expects the GHG emissions reduction measures to reduce DWR's GHG emissions by more than 1.1 million $mtCO_2e$ by 2020.

Table 4. DWR GHG Reduction Measures

Measure	2020 Annual Emissions Reduction ($mtCO_2e$)	2050 Annual Emissions Reduction ($mtCO_2e$)
OP-1 Reid Gardner Power Termination	882,700	882,700
OP-2 Energy Efficiency Improvements	48,500	48,500+
OP-3 Renewable Energy Procurement Plan	157,320	1,573,200
OP-4 On-Site Renewable Generation	10	Unknown
OP-5 Lower Emissions Energy Resources	23,180	23,180+
OP-6 Carbon Sequestration Actions	Unknown	Unknown
CO-1 Construction Best Management Practices	580	Not quantified
CO-2 Statewide Equipment and Fuel Regulations	900	Not quantified
BP-1 SMUD Commercial Greenergy Program	960	960
BP-2 SMUD Carbon Offset Program	2,580	2,580
BP-3 Implement DWR Sustainability Initiatives	Not quantified	Not quantified
Total Annual Reductions	**1,116,730**	**N/A**

For some of the GHG emissions reduction measures listed in Table 4, the estimated annual emissions reduction is either unknown or not quantified. "Unknown" indicates that the level of the reductions that will be realized from the measure is too speculative at this time. Emissions reductions from these measures depend on the scale and extent to which they are implemented in the future. For measures that have unknown emissions reductions, a value of zero (0) has been assumed when calculating total reductions in annual emissions. "Not quantified" indicates that the emissions reductions from the measure, while expected to occur, are too difficult to quantify and may never be fully known. For example, one of DWR's sustainability initiatives is to reduce the use of paper by requiring that all printers default to two-sided printing. This action will no doubt reduce the amount of paper that DWR buys and, thus, reduce emissions from the production and transportation of paper. However, calculating the actual amount of paper that is saved by this action (versus other concurrent actions) would be extremely difficult and time consuming, and the resulting reduction in emissions in any case would likely be small. For measures that have emissions reductions that are not quantified, a value of zero (0) has been assumed when calculating total annual emissions reductions. DWR includes these actions to show that it is reducing emissions wherever possible, not just in areas where large and quantifiable reductions can be made. Actual emissions reductions resulting from reduction measures that are unknown or not quantified at this time will be in addition to quantified emissions reductions.

GHG Emissions Projections

Based on the inventories of historical GHG emissions from DWR activities, the emissions reductions expected from each of the 11 GHG emissions reduction measures, and projections of electricity resources and operations[12] DWR expects to have GHG emissions of less than 1.1 million $mtCO_2e$ by the year 2020. This level of emissions would achieve DWR's near-term emissions reduction goal of reducing GHG emissions to 50% below 1990 levels by 2020. Further, the Draft Plan will place DWR on a trajectory to achieve its long-term

[12] Projected emissions include quantified emissions reductions from the 11 GHG emissions reductions measures as well as projections of electricity resources and operations..

GHG emissions reduction goal of 80% below 1990 levels by 2050 (550,000 $mtCO_2e$). DWR is committed to continued implementation of the GHG emissions reduction measures beyond 2020, as well as development of additional GHG emissions reduction measures as part of future updates to the Draft Plan.

Project Location (Areas Covered by the Draft GHG Emissions Reduction Plan)

The Draft Plan covers all areas where DWR has or will perform activities. DWR's activities predominantly take place at SWP facilities operated by DWR, DWR's 4 field offices, 4 regional offices, headquarters facilities located around Sacramento, flood protection facilities operated and maintained by DWR located throughout the Central Valley, and DWR's 2 Flood Maintenance Yards (Figure 1). The Draft Plan also includes areas outside of California from which DWR purchases power to perform its activities.

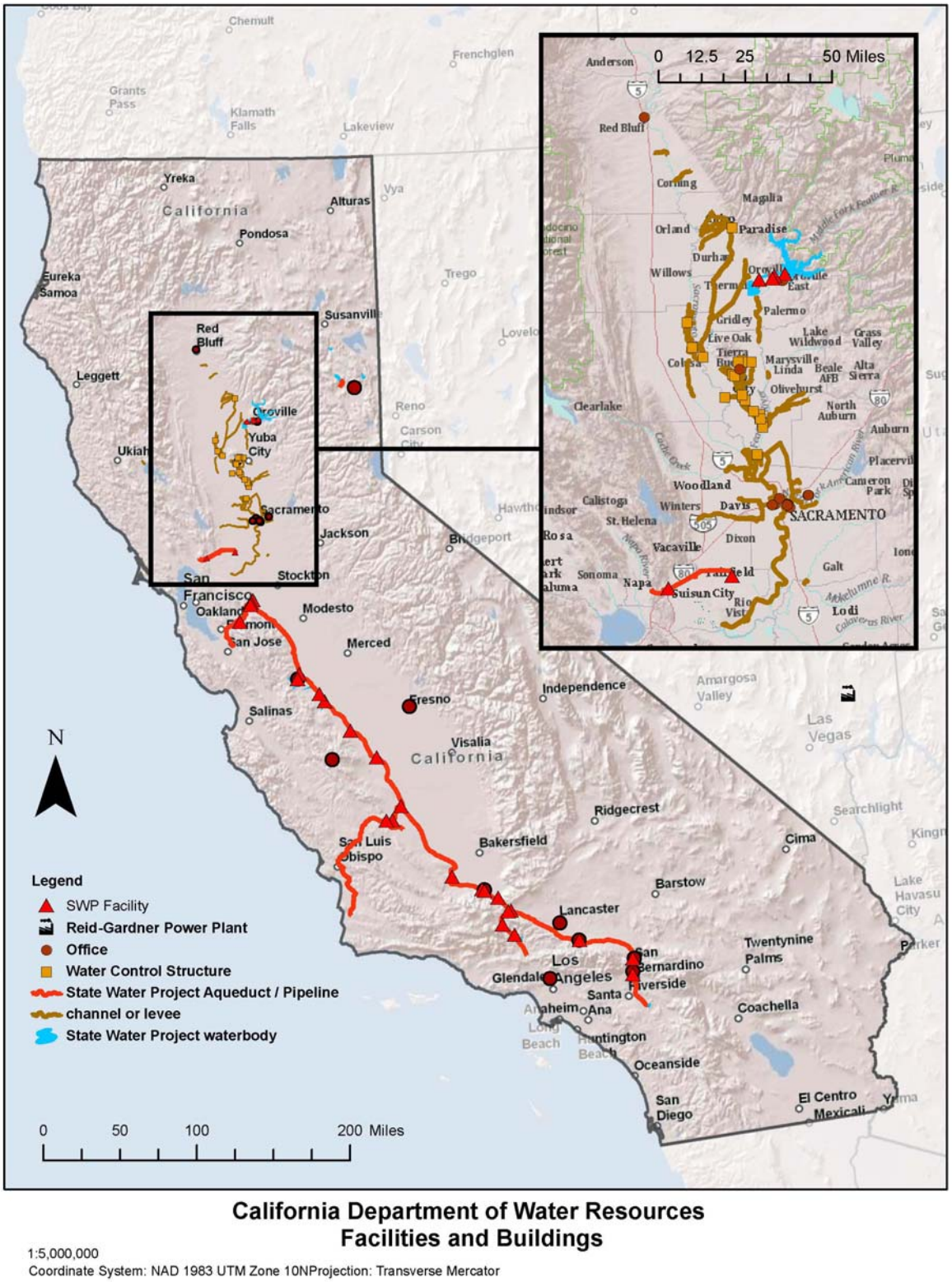
Objectives

The Draft Plan establishes a comprehensive strategy for DWR to reduce its GHG emissions and to

- document DWR's progress in reducing its GHG emissions consistent with the GHG emissions reduction targets established in AB 32 and EO S-3-05 to reduce GHG emissions to 1990 levels by the year 2020, and
- provide DWR's analysis of forecasted GHG emissions and GHG emissions reductions associated with most future DWR projects and activities. If DWR finds, after CEQA analysis, that the Plan reduces the impact of future activities to a less than significant level, DWR may rely on the Draft Plan for streamlined cumulative impacts analysis of GHG impacts in future project-specific environmental documents consistent with CEQA Guidelines section 15183.5, subdivision (b)(2).

The Draft GHG Emissions Reduction Plan also does the following:

- provides DWR's analysis and measures to reduce GHG emissions;
- provides guidance to DWR decision-makers, project managers, planners, and construction managers regarding key design features and implementation procedures that need to be incorporated into future projects to reduce GHG emissions; and
- includes performance monitoring and a schedule for regular updates to the Draft Plan.



California Department of Water Resources
Facilities and Buildings

1:5,000,000
Coordinate System: NAD 1983 UTM Zone 10NProjection: Transverse Mercator

Figure 1. DWR Facilities and Buildings.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

This Initial Study has been prepared because DWR intends to rely on the Draft Plan for cumulative impacts analysis of later projects covered by the Draft Plan. Since the Draft Plan and Initial Study will be used by DWR only for the cumulative analysis of GHG emissions from future DWR projects,[13] this Initial Study focuses on the analysis detailed in the Draft Plan of the GHG emissions reduction goals, the GHG emissions estimates for future DWR projects and activities, and the GHG emissions reduction measures. The Draft Plan provides a broad framework under which future projects will be conceived, designed, and implemented so as to reduce GHG Emissions from DWR activities. The Draft Plan will not result in the approval, adoption, or funding of any specific project or activity. Rather the Draft Plan is a planning study as defined by CEQA Guidelines section 15262 and will have **no impact** on any other resource.

Future projects or activities that rely on the analysis in the Draft Plan to streamline review of the cumulative impacts analysis of GHG emissions must still analyze the potential environmental impacts to other resources, as appropriate.

Even though DWR is not proposing any project that may result in potential adverse environmental effects at this time, in order to fully disclose the potential impacts of possible future activities that implement the GHG emissions reduction measures identified in the Draft Plan, this Initial Study analyzes the action as a whole by discussing the potential for impacts to other resources as a result of activities that implement these measures.

DETERMINATION:

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

Signature

2/29/12

Date

[13] The Plan was not designed, and is not intended, to streamline the review of projects not analyzed and addressed in the Plan.

EVALUATION OF ENVIRONMENTAL IMPACTS

The Draft Plan describes 11 GHG emissions reduction measures that DWR will implement to achieve its near-term and long-term GHG emissions reduction goals. Each of the 11 measures and the potential impacts of activities that implement the GHG emissions reduction measures are described below.

OP-1 Reid Gardner Power Termination. Since 1979, DWR has had a partial interest in Unit #4 of Reid Gardner Power Station, which is a coal-fired power plant in Moapa, Nevada. DWR currently receives up to 235 megawatts (MW) of electricity from the plant. In 2007, DWR committed to terminating its interest in Reid Gardner in 2013 and will cease receiving electricity from the plant at that time.
Thereafter, SWP power procurement efforts will focus on procuring cleaner less GHG-intensive sources. Shifting DWR's electricity demand to less carbon intensive electricity sources could potentially result in new power plants or other facilities being developed to serve this demand. The potential impacts to environmental resources of activities that implement OP-1 are discussed below.

OP-2 Energy Efficiency Improvements. Energy efficiency improvements include state-of-the-art design, construction, and refurbishment methods that DWR is using to maintain and improve energy efficiency of each hydroelectric generating and pumping unit in the SWP system. Activities that implement OP-2 involve existing facilities and most DWR hydroelectric and pumping units are housed inside of buildings. Activities that implement OP-2 would have very little or no potential for adversely affecting environmental resources and are not discussed further in this Initial Study.

OP-3 Renewable Energy Procurement Plan. DWR's Renewable Energy Procurement Plan describes the rate at which DWR will increase the amount of renewable energy used to run the SWP. The Renewable Energy Procurement Plan does not describe the size, type or location of any specific renewable energy source or project. New renewable energy resources acquired pursuant to the Renewable Energy Procurement Plan could be developed by DWR, acquired through long or short-term power delivery contracts, or could be acquired through other means. The potential impacts to environmental resources of activities that implement OP-3 are discussed below.

OP-4 Local Renewable Energy Generation. DWR will investigate the potential to site renewable energy generation on DWR-owned lands. The potential impacts to environmental resources of activities that implement OP-4 are discussed below.

OP-5 Lower Emissions Energy Resources. DWR will establish contracts for and ownership of high efficiency energy resources. These resources would likely be efficient natural gas-fired combined-cycle power plants but may involve other high efficiency power generating technologies that do not fall under the Renewable Energy Procurement Plan (OP-3). The potential impacts to environmental resources of activities that implement OP-5 are discussed below. In addition, DWR has already completed a project specific environmental review for the Lodi Energy Center (CEC, 2009). The Lodi Energy Center is a 280 MW combustion turbine project in San Joaquin County, California, currently under construction with an on-line date of July 2012. DWR has a 33.5% ownership interest in the Lodi Energy Center and expects to receive about 500 GWh of electricity from the facility per year. Lodi Energy Center is an example of a project that implements OP-5.

OP-6 Carbon Sequestration Actions. Future DWR projects will likely involve environmental restoration activities, and many of these activities will improve the sequestration of carbon by natural processes. Depending on the location of these environmental restoration activities, the restoration outcomes may affect environmental resources. The potential impacts to environmental resources of activities that implement OP-6 are discussed below.

CO-1 Construction BMPs. DWR has developed a list of construction Best Management Practices (BMPs). All future DWR projects will be evaluated to determine if BMPs are applicable and feasible and will be incorporated into future DWR projects when applicable and feasible. Most, but not all, projects will implement the BMPs. Most of the practices have very limited or no potential to impact on environmental resources. All BMPs would be temporary, occur during construction and maintenance activities, and are not intended to be permanent features of sites. The potential impacts to environmental resources of activities that implement CO-1 are discussed below.

CO-2 Statewide Equipment and Fuel Regulations. DWR will benefit from existing and expected future statewide equipment and fuel regulations that will result in reduced GHG emissions from construction equipment. California has already implemented and is expected to implement several additional improvements to statewide regulations of construction equipment. If appropriate, these regulations have been or will be the subject of CEQA review. DWR's implementation of statewide equipment and fuel regulations will have no potential to adversely affect any environmental resource and are, therefore, not discussed further in this Initial Study.

BP-1 SMUD Commercial Greenergy Program. DWR will purchase "Greenergy" from the Sacramento Municipal Utility District (SMUD) in order to ensure that a portion of its retail energy use is being served by renewable electricity supplies. This measure essentially describes a contractual relationship between DWR and SMUD for procurement and supply of electricity. However, the potential impacts to environmental resources of activities that implement BP-1 are discussed below.

BP-2 SMUD Carbon Offset Program. DWR will purchase carbon credits from SMUD in order to ensure that a portion of its retail natural gas use is being offset by projects that sequester or reduce GHG emissions. This measure essentially describes a contractual relationship between DWR and SMUD for procurement of GHG offsets. DWR's purchase of SMUD Carbon Offsets will have no potential to adversely affect any environmental resource and is not discussed further in this Initial Study.

BP-3 DWR Sustainability Initiatives. DWR's Sustainability Initiatives describe multiple activities that DWR will employ to reduce its impact on the environment (including emissions of GHGs) and improve the sustainability of its business practices. These actions typically do not require construction or any physical alteration of facilities. Instead, most activities stemming from this GHG emissions reduction measure focus on changing employee behavior and reducing the impact of staff activities and will have no potential for affecting any environmental resource and are not discussed further in this Initial Study.

Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. GREENHOUSE GAS EMISSIONS. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

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

The Draft Plan is designed to achieve DWR's aggressive, department-wide GHG emissions reduction goals, which are consistent with global climate stabilization.

- **Reduce GHG emissions by 50% below 1990 levels by 2020**
- **Reduce GHG emissions by 80% below 1990 levels by 2050**

DWR's near-term GHG emissions reduction goal will result in GHG emissions reductions of 44% below current levels and place DWR on a trajectory for further reductions through 2050. Achievement of this goal would ensure that future DWR activities that are consistent with the Draft Plan would have no impact on the environment with respect to GHG emissions. By taking the actions outlined in the Plan, DWR will ensure that it is contributing to solving the problem of global warming.

DWR's emissions reduction goals, as stated above, rely on gross emissions reductions i.e., a decrease in the total amount of GHG emissions being produced by DWR. However, when developing and establishing GHG emissions reductions goals DWR considered the option of using the rate of GHG emissions per acre-foot of water delivered (i.e., efficiency/performance based goal). DWR recognizes that both gross emissions reductions and improvements in efficiency are important ways to measure reductions in GHG emissions. DWR has analyzed its emissions trajectory using the GHG emissions reduction goals described above (i.e., gross emissions reductions) and alternative GHG emissions reduction goals based on GHG emissions per acre-foot of water delivered (achieving 50% below 1990 levels of GHG efficiency in 2020 and 80% below 1990 levels of GHG efficiency in 2050). This analysis showed that the trajectory of GHG emissions reductions and the overall emissions reductions would be nearly identical irrespective of which type of GHG emissions reduction goal was used. The efficiency GHG emissions reduction goal (i.e., GHG emissions/acre-foot of water delivered) option was eventually rejected because improvements in per unit efficiency could not ensure that new projects would not adversely impact environmental conditions; e.g. a very large new project might meet

the requirements of a GHG emissions-per-acre-foot-level but could result in increasing the gross amount of GHG emissions and, therefore, potentially contribute to a cumulative impact. Efficiency/performance emissions reductions may also be inconsistent with meeting the goals of AB 32 and EO S-3-05 because they could allow an entity to increase emissions (while increasing efficiency) and could therefore conflict with or hurt efforts to reduce the state's overall emissions.

DWR's GHG emissions reduction goals will be achieved by implementation of the GHG emissions reduction measures proposed in the Section VII of the Draft Plan. Combined, the 11 GHG Emissions Reduction Measures will result in more than 1,100,000 mt of GHG emissions reductions per year in 2020 and result in the downward trajectory of total DWR GHG emissions (shown in Figure 2 below). Figure 2 shows that DWR intends to continue reducing GHG emissions through 2050, eventually achieving its long-term goal of 80% below 1990 levels.

Special Analysis of GHG Emissions Reduction Measure OP-1

As shown in Table 4 above, Measure OP-1, Reid Gardner Power Termination, constitutes DWR's single largest annual emission reduction (882,700 mtCO_2e per year). DWR recognizes that termination of its interest in Reid Gardner Power Station does not necessarily reduce GHG emissions to the atmosphere from this station. It is possible that these emissions would continue with another buyer taking the electricity. However, DWR, through its actions is reducing the market demand for carbon-intensive electricity, and increasing the market demand for less carbon-intensive options. DWR further believes that emissions reductions from OP-1 are documentable emissions reductions toward meeting regulatory and administrative targets set in AB 32 and EO S-3-05. This element of the Draft Plan is consistent with the AB 32 Scoping Plan, which specifically references the termination of Reid Gardner and other coal power plant contracts and their replacement with less GHG emitting sources as a strategy to reduce coal-based power generation by approximately 10,000 GWh (9.7 million mtCO_2e) by 2020 (CARB, 2008 – Appendix C at C-95-96). However, DWR also recognizes that there may be some question with respect to CEQA about accounting for these reductions because of CEQA's broader boundary for accounting for GHG impacts. Thus—<u>for CEQA purposes only</u>—DWR has conducted an additional analysis that assumes that there would be zero global GHG emissions reduction associated with measure OP-1 (Reid Gardner Termination).

For this additional analysis, DWR assumes that historical GHG emissions from Reid Gardner Unit #4 continue because some other entity purchases all power previously taken by DWR, and that the only GHG emissions reduction DWR will realize are from implementation of the other 10 GHG emissions reduction measures. Each of the other 10 GHG emissions reduction measures results in a net reduction to global GHG emissions and is thus documentable toward meeting regulatory and administrative targets and for CEQA purposes. The analysis is displayed in Figure 2 below, which shows that DWR's emissions trajectory is strongly negative (showing decreasing emissions) even without accounting for emissions reductions associated with OP-1 (dotted line). When OP-1 reductions are included in the trajectory, DWR's total emissions decline

substantially in 2013 (when power deliveries from Reid Gardner would cease) and continue to decline through 2050 (dashed line).

Thus, whether GHG emissions reductions achieved under measure OP-1 are included or not, the Draft Plan will result in fewer GHG emissions than under current conditions and places DWR on a downward emissions path toward substantial further reductions by 2050, consistent with global climate stabilization. Therefore, the Draft Plan would have **no adverse impact** on global GHG emissions.

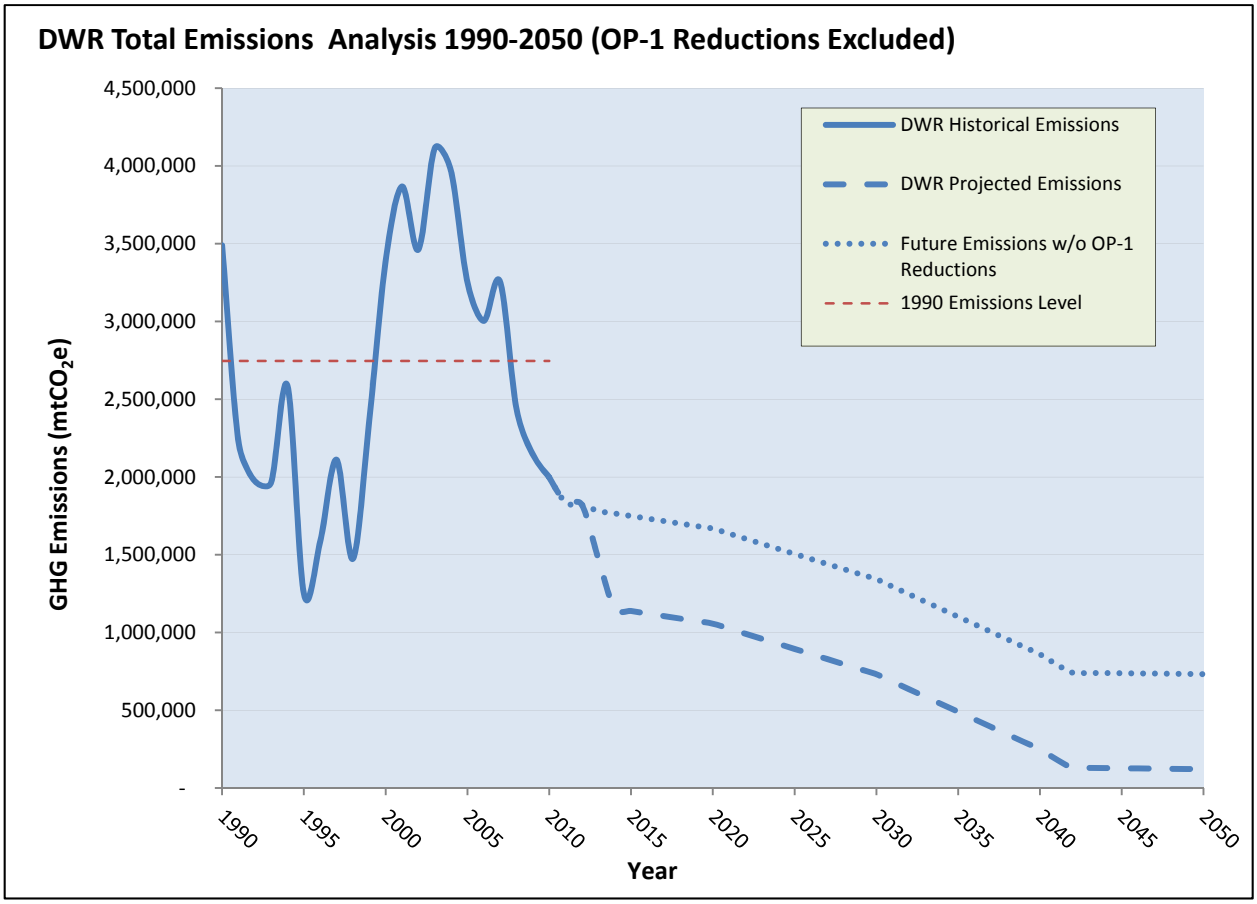


Figure 2. DWR Total Emissions Analysis 1990-2050 **(OP-1 Reductions Excluded)**

Special Analysis of the Effect of the CAISO Market Redesign and Technology Upgrade

Section V and Appendix G of the Draft Plan describe in detail how the California energy market changed in 2009 when the California Independent System Operator (CAISO) implemented the Market Redesign and Technology Upgrade (MRTU). This market change significantly streamlines the way DWR accounts for emissions from its electricity generation and use. Prior to MRTU DWR generated and purchased significantly more resources than it needed to operate its facilities. Under MRTU DWR's load demand is balanced with the resources it purchases. This shift in energy market procedure and accounting is not likely to have resulted in significantly lower GHG emissions associated with the CAISO market area. However, for DWR's accounting purposes, this new system reduces GHG emissions associated with its electricity operations.

Because the changes in DWR GHG emissions accounting associated with the MRTU may not be considered emissions reductions in the context of CEQA, for CEQA purposes only, DWR has conducted and additional special analysis which excludes the emissions accounting shift caused by MRTU.

For this analysis, DWR has reconstructed its historical emissions as if the MRTU had been in place during the entire historical and current emissions analysis period (1988-2010). In this reconstruction, DWR ignores all purchases and exchanges for electricity that it actually made in these years and instead calculates the amount of electricity it would have had to purchase from the CAISO market to meet the balance of SWP pump load less DWR electricity generation. Then DWR uses the same methodology for calculating GHG emissions that it used in 2010 and will use in the future under MRTU to convert electricity to emissions. ***In this analysis, all GHG emissions associated with OP-1: Termination of Reid Gardner are also removed.***

The analysis, shown below in Figure 3, demonstrates that DWR's 1990 Emissions (average 1988-1992) would have been 2,420,000 $mtCO_2e$, about 300,000 $mtCO_2e$ less than under pre-MRTU conditions. Current emissions (2007-2010) would have been 2,270,000 $mtCO_2e$. DWR's 2020 emissions (without the OP-1 reductions) are projected to be 1,670,000 $mtCO_2e$ (no change from previous analysis). Therefore, without considering emissions reductions caused by MRTU or reductions from termination of Reid Gardner electricity DWR will still realize substantial emissions reductions below its 1990 emissions (31% reduction) and its current emissions (26% reduction).

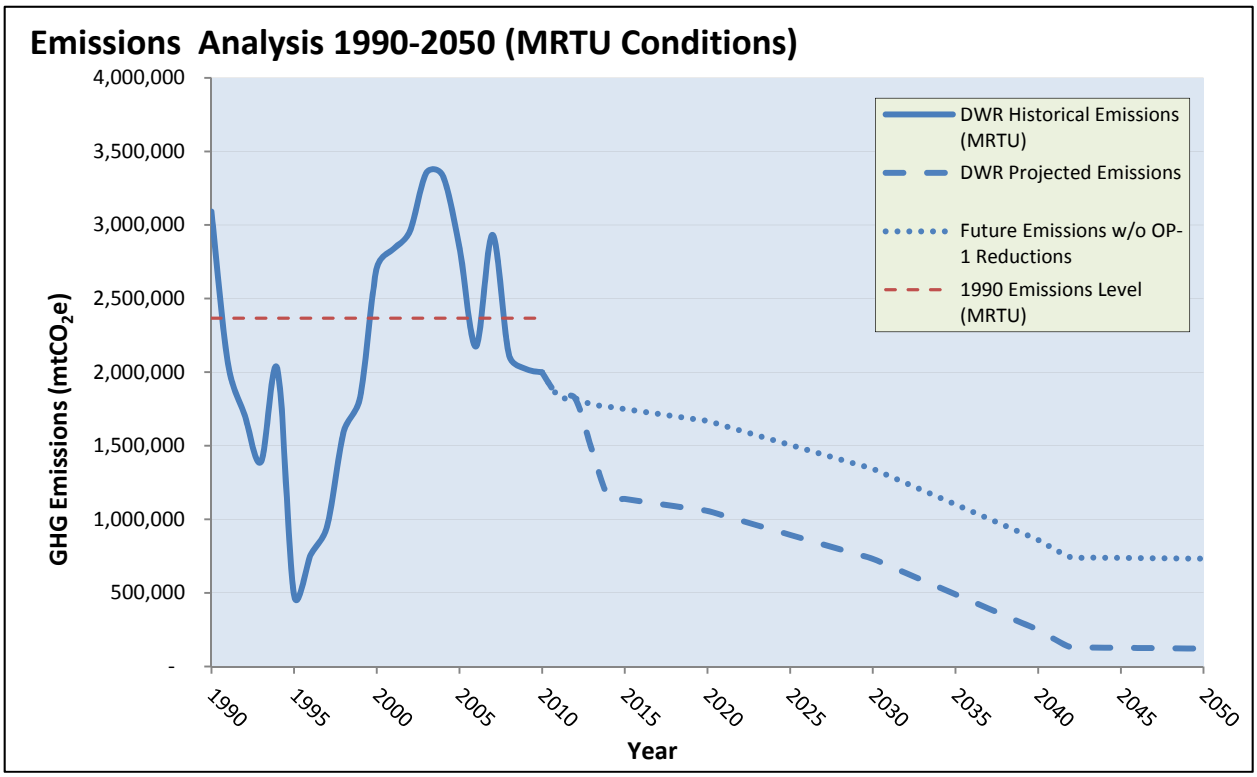


Figure 3. Emissions Analysis 1990-2050 **(MRTU Conditions)**

Projected Future GHG Emissions

Projected future emissions include expected average emissions from operations of the SWP, estimated future emissions from construction projects that are not considered Extraordinary Projects, estimated future emissions from maintenance activities, and estimated future emissions from business practice activities. In short, projected emissions include all ongoing emissions from DWR activities plus emissions that are expected from future activities analyzed and addressed by the Draft Plan. By implementing DWR's GHG emissions reduction measures, DWR will be able to reduce overall GHG emissions while it continues to operate the SWP, implement construction projects to maintain, expand, and improve water management infrastructure and facilities, and perform its business activities.

Conclusion

The Draft Plan shows how DWR will achieve a downward GHG emissions trajectory through 2050. It identifies all potential sources of GHG emissions that could contribute to the cumulative impact of climate change and identifies GHG emissions reduction measures that will result in sustained and permanent reductions in GHG emissions from the DWR activities analyzed and addressed in the Draft Plan. These measures ensure that DWR will achieve its near-term 2020 GHG emissions reduction goal and places DWR on a trajectory to meet its 2050 long-term GHG emissions reduction goal. Thus, implementation of the Draft Plan would both directly and indirectly reduce DWR's GHG emissions levels. There would be **no impact with regard to generation of GHG emissions either directly or indirectly from the Draft Plan**.

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

Nationally and in California, several laws and other regulatory actions have been adopted that address GHG emissions. Chapter I of the Draft Plan discusses the laws, administrative actions, and regulations that have been passed or adopted within the State of California aimed at reducing GHG emissions. A summary of the key state and federal laws, regulations, and policies related to GHG emissions are provided in Appendix A to the Draft Plan. The most pertinent of those laws, regulations and policies are also described below.

Executive Order S-3-05

EO S-3-05 made California the first state to formally establish GHG emissions reduction goals. EO S-3-05 includes the following GHG emissions reduction targets for California:

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

The Global Warming Solutions Act of 2006

In 2006, California passed the California Global Warming Solutions Act (AB 32). (Health and Safety Code sections 38500, *et seq.*). AB 32 codified the 2020 GHG emissions reduction target established in

EO S-3-05 to reduce GHG emissions to 1990 levels by 2020. AB 32 also requires CARB to design and implement emission limits, regulations, and other measures to meet the target.

In December of 2007, CARB approved the 2020 emission limit (1990 level) of 427 million $mtCO_2e$. In 2008, CARB adopted the Scoping Plan, which outlined regulations, market mechanisms, and other actions that would be undertaken to meet the 2020 emissions target.

Neither AB 32 nor the Scoping Plan specifically identify the emissions reductions that individual companies or state agencies need to make in order to meet the emissions reduction targets. DWR's current emissions are already 10% below its 1990 levels. DWR's Draft Plan is consistent with CARB's efforts to engage other agencies in efforts to reduce emissions from activities under their own jurisdiction. DWR's 2020 Emissions Reduction Goal of less than 1.4 million $mtCO_2e$ will reduce DWR's total GHG emissions by 44% below current levels. For illustration purposes, this level of reduction meets and exceeds the level of GHG emissions reduction that has been suggested by the Climate Action Team[14] for State agencies—30% reduction by 2020 and is twice what might be considered DWR's share of the GHG emissions reductions from the water sector called for in the Scoping Plan[15].

Other Plans, Policies or Regulations

DWR, as part of its Sustainability Policy (DWR, 2009) has established internal sustainability targets, including the goal of reducing DWR's GHG emissions to 50% below 1990 levels by 2020.

Conclusion

The Draft Plan shows that DWR's current emission levels are already below 1990 levels and its near-term (2020) goal is to reduce emission levels to 50% below 1990 levels. DWR's long-term goal of 80% below 1990 levels by 2050 would put DWR's emissions in line with estimates of the required worldwide reductions needed to bring about long-term climate stabilization and avoidance of the most severe impacts of climate change.

DWR's Draft Plan articulates DWR's intentions with respect to reducing its GHG emissions in a manner that is consistent with EO S-3-05, AB 32, and the Scoping Plan. As demonstrated in the Draft Plan under Section III, as well as Table 4 above, by implementing the GHG emissions reduction measures within the Draft Plan, DWR will not only meet but exceed the 2020 emissions reductions required under EO S-3-05 and AB 32, as well as

[14] The Climate Action Team, established by Governor Schwarzenegger, is the cabinet level committee tasked with coordinating achievement of the statewide GHG emissions reduction goals,

[15] The Scoping Plan lists 6 GHG emissions reduction measures for the water sector (not all of which apply to DWR's core activities) for a total of 4.8 million $mtCO_2e$. DWR has estimated that total water sector emissions under the Scoping Plan baseline condition (average of 2002-2004 emissions) were 36.3 million $mtCO_2e$. Thus, the combined effect of the 6 water sector measures would result in a 13% reduction in total water sector emissions. DWR accounts for approximately 7% of total water sector emissions. 7% of the 4.8 million $mtCO_2e$ emissions reduction would therefore be approximately 350,000 $mtCO_2e$. DWR's projected emission reduction of over 1.100,000 $mtCO_2e$ is nearly three times this amount.

allow DWR to continue to contribute significantly to the achievement of the targets by maintaining its downward GHG trajectory.

Therefore, nothing in the Draft Plan conflicts with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs. In fact, the Draft Plan is designed to carry out and be consistent with the applicable plans, policies, or regulations, most specifically, AB 32's 2020 emission reduction goals. There would be **no impact with regard to GHG emissions as a result of a conflict with an applicable plan, policy or regulation adopted for the purpose of reducing emissions of GHGs.**

Other Environmental Resources

Aesthetics

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in degradation of any aesthetic resources. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact to aesthetics, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect aesthetic resources.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, **OP-3 Renewable Energy Procurement Plan**, **OP-4 Local Renewable Energy Generation**, and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new future power plants or other facilities being developed to serve this demand. However, these future power plants or facilities are not the subject of this action. Future proposed facilities, if undertaken, may impact visual character and may result in impacts to aesthetic values. Future

development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Depending on the location of future environmental restoration activities, the restoration outcomes may affect surrounding aesthetic resources should, for instance, future activities degrade the visual character of a site. Future projects or elements of larger projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

CO-1 Construction BMPs. BMP 4, which specifies that batch plants for producing concrete be set up on-site or as close to the construction site as possible, and BMP 6, which provides clear signage that posts equipment idling time requirements at the entrances to the construction sites, could have potential impacts to aesthetics if implemented in future projects or activities. In addition, the vegetation management BMPs include using fire as a tool rather than gasoline or diesel-powered equipment, which may temporarily disrupt the visual character of maintenance sites if implemented in future projects. Future projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

Agriculture

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AGRICULTURE. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in degradation of any agricultural resources. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on agricultural resources, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect agricultural resources.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, **OP-4 Renewable Energy Generation**, **OP-5 Lower Emissions Energy Resources,** and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive

electricity sources could potentially result in new future power plants or other facilities being developed to serve this demand. However, these future power plants or facilities are not the subject of this action. Future proposed facilities, if undertaken, may impact agricultural resources, such as conversion of farmland to other land uses. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Depending on the location of these environmental restoration activities, the restoration outcomes may affect agricultural resources should, for instance, future activities occur on agricultural lands and result in the conversion of those lands. Future projects or elements of larger projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

CO-1 Construction BMPs. Construction BMPs have very limited or no potential to impact agricultural resources when implemented in future projects or actions as they would only modify how construction is carried out, not where construction is done.

Air Quality

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in degradation of air quality. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on air quality, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect air quality.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, **OP-4 Renewable Energy Generation**, **OP-5 Lower Emissions Energy Resources,** and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new future power plants or other facilities being developed to serve this demand. However, these future power plants or other facilities are not the subject of this action. Construction of future facilities, if undertaken, may impact air resources in the short-term but would likely have no impact or would likely have beneficial impacts on air quality during operation of the facilities. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Depending on the location of carbon sequestration activities, construction of these projects or project elements might expose sensitive receptors to air pollutants, though construction would be temporary. Carbon sequestration actions could potentially involve the creation or restoration of marshy or wetland areas, which under certain conditions could emit objectionable odors as vegetation degrades. Future projects or elements of larger projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

CO-1 Construction BMPs. Construction BMPs are designed to reduce GHG emissions from construction activities and would generally result in cleaner more efficient equipment being used for construction activities. CO-1 also includes measures that would reduce emissions from vehicles and machinery. CO-1 would have very little or no potential to adversely affect air quality and would likely act to reduce adverse impacts of construction activities on air quality.

Biological Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. BIOLOGICAL RESOURCES: Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in degradation of biological resources. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on biological resources, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect biological resources.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, **OP-4 Renewable Energy Generation, OP-5 Lower Emissions Energy Resources,** and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new future power plants or other facilities being developed to serve this demand. However, these future power plants or other facilities are not the subject of this action. Construction of future facilities, if undertaken, could potentially impact biological resources. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Construction of future carbon sequestration projects or project elements could temporarily affect biological resources. Conversely, once construction is complete and carbon sequestration projects begin functioning, they would generally tend to provide beneficial habitat for biological resources. There may be a potential that this type of future project, if undertaken, could shift habitat from one natural community type to another, potentially creating additional habitat for one natural community type at the expense of another. Future projects or elements of larger projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

CO-1 Construction BMPs. Construction BMPs have very limited or no potential to impact biological resources as they would only modify how construction is carried out, not where construction is done.

Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. CULTURAL RESOURCES: Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☐	☒
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in degradation of cultural resources. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on cultural resources, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect cultural resources.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, **OP-4 Renewable Energy Generation**, **OP-5 Lower Emissions Energy Resources,** and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new future power plants or other facilities being developed to serve this demand. However, these future power plants or facilities are not the subject of this action. Construction of these future facilities, if undertaken, may potentially impact cultural resources by disturbing historical, archaeological, paleontological, or other cultural resources. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Construction of potential future carbon sequestration projects or project elements could potentially affect cultural resources if areas need to be disturbed in order to

construct carbon sequestration projects. Construction of future projects could potentially impact cultural resources by disturbing historical, archaeological, paleontological, or other cultural resources. Future projects or elements of larger projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

CO-1 Construction BMPs. Construction BMPs have very limited or no potential to impact cultural resources as they would only modify how construction is carried out, not where construction is done.

Geology and Soils

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☒
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in degradation of geology or soil resources. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on geology and soil resources, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect geology and soil resources.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, **OP-4 Renewable Energy Generation**, **OP-5 Lower Emissions Energy Resources,** and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new power plants or other facilities being developed to serve this demand. However, these future power plants or facilities are not the subject of this action. It is possible that a future power plant or other facility, if undertaken, could be sited in an area the effects geologic or soil resources or that could be affected by landslides, seismic fault lines, or unstable soils Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Development of potential future carbon sequestration projects or carbon sequestration elements within a larger future potential project could potentially be sited in areas that affect geologic or soil resources or that could be affected by landslides, seismic fault lines, or unstable soils. However, carbon sequestration actions would likely not involve development of facilities that would encourage human habitation or expose humans to risks of landslides, seismic fault lines, or unstable soils. Therefore, it is unlikely that any carbon sequestration action would adversely affect geologic or soil resources or increase the risk to humans from geologic or soil resources. Future projects or elements of larger projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

CO-1 Construction BMPs. Construction BMPs have very limited or no potential to impact geologic or soil resources as they would only modify how construction is carried out, not where construction is done. No construction BMP would impact the potential for soil erosion or topsoil loss during construction.

Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or	☐	☐	☐	☒

working in the project area?				
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in increased risk from hazards or hazardous materials. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on hazards or hazardous materials, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially increase risk to hazards or hazardous materials.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, **OP-4 Renewable Energy Generation**, **OP-5 Lower Emissions Energy Resources,** and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new power plants or other facilities being developed to serve this demand. However, these future power plants or facilities are not the subject of this action. Future construction of these facilities, if undertaken would unlikely increase risk from hazards or hazardous materials. The types of power plants or other facilities that might be constructed to implement these GHG reduction measures would tend to have very low or no potential to expose people or property to additional hazards and would tend to require the use of and production of much less hazardous material than other higher GHG emitting energy sources. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Development of future carbon sequestration projects or carbon sequestration elements within a larger future project would have very little or no potential to increase exposure to hazards or hazardous materials.

CO-1 Construction BMPs. Construction BMPs have very limited or no potential to increase exposure to hazards or hazardous materials as they would only modify construction procedures and construction equipment in ways that would tend to reduce exposure to hazards. The BMPs require use of alternatives to traditional internal combustion engines. Alternatives would tend to require less oil and other hazardous materials, and should reduce the use of internal combustion driven generators on construction sites.

Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☒
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☐	☒
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard	☐	☐	☐	☒

delineation map?				
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in impacts to hydrology or water quality. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on hydrology or water quality, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect hydrology or water quality.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, **OP-4 Renewable Energy Generation**, **OP-5 Lower Emissions Energy Resources,** and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new power plants or other facilities being developed to serve this demand. However, these future power plants for facilities are not the subject of this action. Future construction of these facilities, if undertaken, could potentially temporarily affect hydrologic resources or water quality. Operation of future new power plants or other facilities if developed to implement these GHG emissions reduction measures would tend to have very little or no potential for impacts on hydrology or water quality as the types of facilities that are likely to be developed pursuant to implementing these GHG emissions reduction measures tend to have low or no cooling water demands (as compared to other higher GHG emitting power generating technologies) and result in little or no water pollution. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Development of future carbon sequestration projects or carbon sequestration elements within a larger future project could potentially result in adverse impacts to water quality or hydrology by changing runoff characteristics, or promoting biological processes that allow contaminates already in the soil to mobilize. However, future carbon sequestration actions would be at least as likely or more likely to have beneficial impacts on hydrological resources and water quality by improving runoff characteristics or promoting biological processes that demobilize or sequester

contaminants. Future projects or elements of larger projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

CO-1 Construction BMPs. Construction BMPs have very limited or no potential to adversely affect hydrological resources or water quality. None of the construction BMPs would likely change any construction procedure that might have the potential to adversely impact on hydrological resources or water quality.

Land Use and Planning

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will conflict with existing land use planning activities. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on existing land use planning activities, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect existing land use planning activities.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, **OP-4 Renewable Energy Generation**, **OP-5 Lower Emissions Energy Resources,** and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less

carbon-intensive electricity sources could potentially result in new power plants or other facilities being developed to serve this demand. However, these future power plants or facilities are not the subject of this action. It is possible that a future power plant or other facility, if undertaken, could be sited in an area that conflicts with existing land use planning activities. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Development of future carbon sequestration projects or carbon sequestration elements within a larger future project could potentially be sited in areas that conflict with existing land use planning activities. Future projects or elements of larger projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

CO-1 Construction BMPs. Construction BMPs have very limited or no potential to conflict with existing land use planning activities as they would only modify how construction is carried out, not where construction is done.

Mineral Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in degradation of mineral resources. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on mineral resources, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect mineral resources.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, **OP-4 Renewable Energy Generation**, **OP-5 Lower Emissions Energy Resources,** and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new power plants or other facilities being developed to serve this demand. However, these future power plants or facilities are not the subject of this action. It is possible that a future power plant or other facility, if undertaken could be sited so as to reduce the availability or potential for future access of mineral resources. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Development of future carbon sequestration projects or carbon sequestration elements within a larger project could potentially be sited so as to reduce the availability or potential for future access of mineral resources. Any future projects or elements of larger projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

CO-1 Construction BMPs. Construction BMPs have very limited or no potential to impact mineral resources as they would only modify how construction is carried out, not where construction is done.

Noise

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☒
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in noise impacts. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on noise, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect noise.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, **OP-4 Renewable Energy Generation**, **OP-5 Lower Emissions Energy Resources,** and

BP-1 SMUD Commercial Greenergy Program all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new power plants or other facilities being developed to serve this demand. However, these future power plants or facilities are not the subject of this action. Construction of new power plants or other facilities, if undertaken, could result in temporary increases in noise from construction operations. In addition, some types of low or no-GHG energy generation have the potential to create sound, such as the sound made by a rotating wind turbine. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Development of future carbon sequestration projects or carbon sequestration elements within a larger project could temporarily increase noise levels in the project area if construction equipment is required to construct carbon sequestration projects. Conversely, once construction is complete and carbon sequestration projects begin functioning, they would generally tend to provide natural areas with limited potential for disturbing levels of noise. Future projects or elements of larger projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

CO-1 Construction BMPs. Construction BMPs would likely have beneficial impacts on noise levels coming from construction sites. The BMPs require use of alternatives to traditional internal combustion engines. Alternatives would tend to be much quieter, and should reduce the use of internal combustion driven generators on construction sites. Carpooling and transportation minimization practices would likely reduce car and truck traffic to the site further reducing noise levels.

Housing and Population

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Housing and Population. Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in population or housing impacts. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on population or housing, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect population or housing.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, OP-4 Renewable Energy Generation, OP-5 Lower Emissions Energy Resources, and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new power plants or other facilities being developed to serve this demand. However, these future power plants or facilities are not the subject of this action. Construction of new power plants or other facilities, if undertaken, however, is not expected to significantly affect population growth, or directly or indirectly induce the construction of single- or multiple-family units. No significant population relocation or growth inducement is expected from implementation of these measures on future projects. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Development of future carbon sequestration projects or carbon sequestration elements within a larger project would not likely have impacts on population or housing. No population relocation or growth inducement is expected from this measure.

CO-1 Construction BMPs. Construction BMPs would be unlikely to have impacts on population or housing as they only apply to short-term construction activities and would not induce population growth or housing development in any area.

Public Services

XIV. PUBLIC SERVICES.	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☐	☒
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in public services impacts. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on public services, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect public services.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, OP-4 Renewable Energy Generation, OP-5 Lower Emissions Energy Resources, and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new power plants or other facilities being

developed to serve this demand. However, these future power plants or facilities are not the subject of this action. Construction of new power plants or other facilities, if undertaken, are not expected to cause any adverse impacts to public services. Any need for public services, such as additional electricity transmission infrastructure that would support or be connected to these measures would be evaluated, as required, in project-specific CEQA analysis, and potentially, NEPA analysis. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Development of future carbon sequestration projects or carbon sequestration elements within a larger project are not expected to cause any adverse impacts to public services. Future projects or elements of larger projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

CO-1 Construction BMPs. Construction BMPs would be unlikely to impact public services as they only apply to short-term construction activities, do not increase the necessity for fire protection or other public services.

Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in recreation impacts. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on recreation, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect recreation.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, OP-4 Renewable Energy Generation, OP-5 Lower Emissions Energy Resources, and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new power plants or other facilities being developed to serve this demand. However, these future power plants or facilities are not the subject of this action. Construction of new power plants or other facilities, if undertaken, could affect view sheds that may indirectly affect recreational resources. However, the GHG emissions reduction measures are not expected to affect recreational opportunities in the State. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Development of future carbon sequestration projects or carbon sequestration elements within a larger project is not expected to affect recreation. Once construction is complete and carbon sequestration projects begin functioning, they would generally tend to provide natural areas and could potentially enhance recreational opportunities, depending on location and accessibility.

CO-1 Construction BMPs. Construction BMPs have very limited impacts or no potential to impact recreation as they would only modify how construction is carried out, not where construction is done.

Transportation/Traffic

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in transportation or traffic impacts. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on transportation or traffic, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect transportation or traffic.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, OP-4 Renewable Energy Generation, OP-5 Lower Emissions Energy Resources, and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new power plants or other facilities being developed to serve this demand. However, these future power plants or facilities are not the subject of this action. Construction of new power plants or other facilities, if undertaken, could result in temporary increases in traffic from construction operations but would be unlikely to have any long-term impacts on transportation or traffic. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Development of future carbon sequestration projects or carbon sequestration elements within a larger project could temporarily increase traffic levels in the project area if construction equipment is required to construct carbon sequestration projects. Future projects or elements of larger projects which implement this GHG reduction measure would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

CO-1 Construction BMPs. Construction BMPs would likely have beneficial impacts on transportation and traffic coming to and from construction sites as the BMP's require carpooling and transportation minimization practices, when feasible, that would likely reduce car and truck traffic to the sites.

Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in utilities or service systems impacts. Therefore, there will be **no impact**.

Even though DWR has determined that implementation of the Draft Plan will have no impact on utilities or service systems, below is a brief description of how future projects or activities that implement the GHG emissions reduction measures could potentially affect utilities or service systems.

GHG Emissions Reduction Measures OP-1 Reid Gardner Power Termination, OP-3 Renewable Energy Procurement Plan, OP-4 Renewable Energy Generation, OP-5 Lower Emissions Energy Resources, and **BP-1 SMUD Commercial Greenergy Program** all describe measures that DWR will take to shift its electricity demand to less GHG intensive electricity sources. Shifting DWR's electricity demand to less carbon-intensive electricity sources could potentially result in new power plants or other facilities being developed to serve this demand. However, these future power plants or facilities are not the subject of this action. If undertaken, construction of new power plants or other facilities and their operations are not anticipated to result in a substantial increase in the generation of waste or wastewater and would be unlikely to require any permitted facility to expand its capacity to accommodate any increased quantities of waste or wastewater. Construction and operation of new power plants or facilities could potentially require additional sources of water depending on the type and location of these energy facilities. Future development of facilities or infrastructure pursuant to these measures would be subject to CEQA, as necessary, and potentially, NEPA on a project-by-project basis.

OP-6 Carbon Sequestration Actions. Development of future carbon sequestration projects or carbon sequestration elements within a larger project would have very little or no potential to impact utilities and service systems because they would tend not to produce waste that would be landfilled, would be unlikely to be connected to a potable water system or wastewater collection systems, and would have very low or no electricity requirement.

CO-1 Construction BMPs. Construction BMPs have very limited potential to impact utilities and service systems as they would only modify how construction is carried out, not where construction is done. However, BMP #3 requires that a grid connected electricity service drop be used to supply temporary site power for construction when feasible, this could marginally increase electricity demand on local electricity grids and utilities.

Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

The Draft Plan describes the 11 GHG emissions reduction measures that DWR will employ to reduce GHG emissions; it does not describe specific projects with which these measures would be implemented. Future projects that incorporate or implement the GHG emissions reduction measures described in the Draft Plan will disclose and analyze potential impacts from implementation of the measures as required by CEQA. No element of the Draft Plan will result in findings of significance. Therefore, there will be **no impact**.

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

The Draft Plan proposes GHG emission reduction goals and measures to lessen environmental impacts and does not contain emission reduction goals and measures that would either directly or indirectly

substantially reduce habitat, reduce wildlife populations, threaten animal or plant communities, or restrict the range of species. There will be **no impact**.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

The Draft Plan would not result in any adverse environmental impacts that are cumulatively considerable. The project is intended to contribute to a cumulative reduction in GHG emissions which would have beneficial cumulative environmental effects.

GHG reduction goals and measures within the Draft Plan that may be relied upon in future actions that may result in indirect adverse environmental impacts are evaluated throughout this Initial Study. However, as DWR has concluded that these are not part of the project, they are not part of the project's impacts. Since there are no impacts from the project, itself, the project will not contribute to a significant cumulative impact. Therefore, there will be **no impact**.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

The Draft Plan is a policy document intended to reduce DWR's GHG emissions. The Draft Plan's GHG reduction goals and measures strive to protect the environment, enhance human health and safety and conserve natural resources. Adoption and implementation of the Draft Plan would result in beneficial environmental effects, and would not cause substantial adverse direct or indirect effects on human beings resulting from a change in the physical environment. There would be **no impact**.

Citations:

California Air Resources Board. 2008. *Climate Change Scoping Plan and Appendices, Volumes I, II, and III.* (http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm)

California Department of Water Resources. 2009. *Policy on Sustainability*, section 8001; *In:* Department Administrative Manual.

California Department of Water Resources. 2010. *Guidance for Quantifying Greenhouse Gas Emissions and Determining the Significance of their Contribution to Global Climate Change for CEQA Purposes*.

California Department of Water Resources. 2011. *Policy on Environmental Stewardship*, section 2140; *In:* Department Administrative Manual.

California Department of Water Resources. 2012. *Draft Department of Water Resources Climate Action Plan Phase 1: Greenhouse Gas Emission Reduction Plan. (Attached).*

California Energy Commissions. 2009. Staff Assessment Lodi Energy Center Application for Certification Docket number 08-AFC-10. CEC-700-2009-010-FSA

California Governor's Office Executive Order S-3-05.(http://gov.ca.gov/news.php?id=1861)

Appendix A. DWR Sustainability Targets Memorandum

State of California

California Natural Resources Agency

Memorandum

Date: SEP 20 2010

To: All DWR Employees

From: Department of Water Resources

Subject: Sustainability Targets

Over the past two years, the Department of Water Resources (DWR) has made notable progress in carrying out its mission in a more sustainable manner, by minimizing its impacts on the environment and reducing its greenhouse gas (GHG) emissions. DWR's goals and measures for ecosystem stewardship and sustainability will be achieved through implementation of DWR's Sustainability Policy signed in April, 2009.

As we build on this effort to be a sustainable leader within State government and the California water community, we must now establish clear and measurable targets to accomplish these goals. As part of that implementation, I am establishing the following initial sustainability targets for DWR, specifically for the environmental aspects of water, wastewater, energy, carbon, and waste:

- *Water* - 20 percent reduction in per employee water use by 2020;
- *Wastewater* - Incorporate recycled wastewater into facilities when technically feasible and cost-effective;
- *Energy* - Progressive acquisition of 360 GWh of renewable energy resources by 2020; reduce grid-based retail energy demand 20 percent by 2015; ensure Energy Star purchasing;
- *Carbon* - 50 percent reduction below 1990 levels by 2020; 80 percent reduction below 1990 levels by 2050; and
- *Waste* - 50 percent diversion from waste stream by 2020.

The Department's Sustainability Workgroup will work with individual DWR organizations to assist in meeting these targets. The Workgroup will also annually review these targets and issue a report card on our progress towards meeting these targets every April.

Mark W. Cowin
Director

DWR 9046 (Rev. 1/09)

APPENDIX B

DWR RESPONSE TO COMMENTS

DWR Response to Comments

The public comment period on the DWR Draft Initial Study/Negative Declaration (Draft IS/ND) for the Draft Department of Water Resources Climate Action Plan Phase I: Greenhouse Gas Emissions Reduction Plan was initially announced as March 5, 2012 to April 9, 2012. However, on April 8th, 2012 DWR extended the comment period to May 3, 2012 to ensure that the Notice of Intent was correctly posted in all 58 Counties within the State of California with adequate time for the public and agencies to review and comment on the IS/ND. At the end of the public comment period, DWR had received a total of 6 emails or letters. DWR appreciates and thanks the agencies and individuals for taking time to review and submit comments on the Draft IS/ND. The comments are important to DWR. DWR has prepared written responses to the comments. The comments clarify and/or amplify text in the Draft IS/ND, as appropriate. One comment resulted in a change to the Draft Climate Action Plan Phase I: Greenhouse Gas Emissions Reduction Plan (Draft Plan). These changes do not alter the conclusion of the Draft IS/ND. None of the comments resulted in changes to the Draft IS/ND.

This Response is divided into two parts. Part I is a General Response to Comments which provides background and context for the activities proposed in the Draft IS/ND. Part II includes Specific Responses to the agency and individual comments. The emails and letters have been assigned a number, shown in the Index list below. DWR separated the comments into two sections: Section A includes comments from state and federal agencies and Section B includes the comments received from one individual. Actual comments are provided in Appendix C. At the beginning of each response, the corresponding comment letter number is listed and the comment or a summary of the comment is provided.

Index of Agencies and Individuals Commenting

Section A. Governmental Organizations

Agency-1 California Energy Commission

Agency-2 California Department of Transportation

Agency-3 United States Environmental Protection Agency, Region 9

Section B. Individuals

Individual-1 Kiran Magiawala

PART I

GENERAL RESPONSE TO COMMENTS

A. CEQA Review of the Draft IS/ND

The proposed Draft Climate Action Plan Phase 1: Greenhouse Gas Emissions Reduction Plan (Draft Plan) described in this draft Initial Study/Negative Declaration (IS/ND) is subject to the California Environmental Quality Act (CEQA) process. DWR completed the IS/ND because DWR intends to rely on the Draft Plan for analyzing the cumulative impacts of GHG emissions in most future DWR projects.[1] CEQA Guidelines section 15183.5 describes plans for the reduction of greenhouse gas emissions that may be relied upon to streamline the cumulative impacts analysis of later project-specific environmental documents. Under certain circumstances, a lead agency may determine that a proposed project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements of a previously adopted plan. CEQA Guidelines, section 15183.5, subdivision (b)(1) describes plan requirements including, but not limited to, the requirement that a "plan for the reduction of greenhouse gas emissions should be adopted in a public process following environmental review."[2] Thus the draft IS/ND on the draft Plan was prepared analyzing the potential of this activity to impact the environment. The legally required and standard period of time for reviewing a Negative Declaration is 30 days.

DWR filed a Notice of Intent to adopt a Draft IS/ND for the proposed Draft Plan at the State Clearinghouse on March 1, 2012. Between the dates of March 4 and March 7, 2012 DWR published the same Notice of Intent in the following newspapers with broad distribution in the counties in which the project is proposed:

- Plumas County News
- San Jose Mercury News
- Fresno Bee
- San Diego Union-Tribune
- Sacramento Bee
- Chico Enterprise-Record
- Oroville Mercury-Register
- San Francisco Chronicle
- Bakersfield Californian

[1] As set out in the Draft Plan, certain construction projects defined as "Extraordinary Constructions Projects" will not be able to rely on the Draft Plan for streamlined CEQA review; project-specific environmental review will be required for these projects.

[2] CEQA Guidelines, section 15183.5, subd. (b)(1)(F).

- The Tribune (San Luis Obispo)
- The Los Angeles Times

DWR also provided copies of the Draft Plan and Draft IS/ND to the following libraries:

1. California State University, Chico
   Meriam Library
2. Fresno County Public Library
3. Kern County Library System
4. Los Angeles Public Library
   Central Library
5. Los Angeles Public Library
   Valencia Library
6. Napa City-County Library
7. Orange County Public Library
   Garden Grove Regional Branch
8. Plumas County Library
9. Riverside Public Library
10. The California State Library
11. Sacramento Public Library
    Central Library
12. San Diego Public Library
    Central Library
13. San Francisco Public Library
14. Public Library of Stockton and San Joaquin County
15. Tulare County Free Library

16. San Luis Obispo City-County Library

This Notice of Intent included information on the length of the public comment period, where to submit comments, and where copies of the Draft Plan and Draft IS/ND could be obtained, including a website address. Also, as required by CEQA, after DWR submitted the Notice of Intent and copies of the Draft IS/ND to the State Clearinghouse, the State Clearinghouse notified the following responsible and trustee agencies: San Francisco Bay Conservation and Development Commission; Department of Boating and Waterways; Department of Conservation; Department of Fish and Game; Headquarters; Native American Heritage Commission; Department of Parks and Recreation; Central Valley Flood Protection Board; Resources Agency; State Water Resources Control Board, Division of Water Quality; State Lands Commission; Caltrans, District 3; Caltrans, Division of Transportation Planning; Delta Protection Commission: The Notices of Intent and IS/ND was also sent to the Clerk/Recorder's offices of every County within the State of California.

DWR posted the IS/MND on http://www.water.ca.gov/climatechange/CAP.cfm from March 2nd, 2012 through May 3, 2012.

The proposed project is for implementation of the Draft Plan which presents DWR's historical, current, and projected future GHG emissions, DWR's goals for reducing GHG emissions, and DWR's GHG emissions reduction measures designed to achieve the emissions reduction goals. Each element is described in detail in the Draft Plan.

Consistent with California's GHG emissions reduction targets as outlined in AB 32, and EO S-3-05, and DWR's own Sustainability and Environmental Stewardship Policies (DWR, 2009 and DWR, 2011) and DWR's Sustainability Targets, the Draft Plan shows how DWR will make substantial reductions in its GHG emissions. Reducing GHG emissions attributable to DWR activities will reduce statewide emissions, promote market forces that support cleaner and more efficient sources of energy, and contribute to reducing overall global GHG emissions. By taking the actions outlined in this Plan, DWR will ensure that it is contributing to solving the problem of global warming.

The Plan presents DWR's near-term and long-term GHG emissions reductions goals:

- Near-term – reduce emissions by 50% below 1990 levels by 2020
- Long-term – reduce emissions by 80% below 1990 levels by 2050

A. Concerns Regarding DWR's Proposed Draft Plan:

No comments were received that expressed concerns over DWR's proposed Draft Plan.

B. Best Management Practices:

DWR included construction BMPs in the Draft Plan. Construction BMPs would likely have beneficial impacts on transportation and traffic coming to and from construction sites as the BMPs require carpooling and transportation minimization practices, when feasible, that would likely reduce car and truck traffic to the sites.

The California Department of Transportation commented that, "[t]*o reduce AM and PM congestion from construction related traffic, we suggest considering 'no AM/PM Peak Hour construction traffic' be added to the list of BMP's." (See Comment # 1, California Department of Transportation, Part II, Section A, Agency 2.)*

DWR has evaluated the suggestion of the California Department of Transportation and two additional BMPs will be added to the final DWR Climate Action Plan Phase I: Greenhouse Gas Emissions Reduction Plan (Climate Action Plan) that address the California Department of Transportation's concerns about AM/PM Peak Hour construction traffic. The two new BMP's will be implemented on all projects except in cases where a variance is granted as described in the Climate Action Plan.

PART II

SPECIFIC RESPONSES TO COMMENTS FROM AGENCIES AND INDIVIDUALS

SECTION A.

Specific Responses to Comments from State and Federal Agencies

Two governmental agencies submitted letters to DWR, copies of which are provided in Appendix C. As noted in the Index above, DWR identifies each comment letter with the label "Agency" followed by a number. DWR's responses to comments are provided following a summary of each letter.

Agency-1 - California Energy Commission

Comments from California Energy Commission (4/11/12)

I discussed Appendix G of DWR's draft Climate Action Plan with Al Alvarado of the CEC's Electricity Supply Analysis Office. He had no major concerns with what you've written on electricity issues, but did have a few comments or points of clarification that I found helpful....

----

1. The ARB default emission value is the 437 that DWR uses in Table 1, but I am not sure where the 670 comes from or what it represents. The default value is a convoluted calculation, based on a marginal gas-fired power plant in WECC, but if we used this plant's heat rate the variable operating costs would be higher than typical spot market prices or above an incentive price for a CA entity to buy.

DWR Response:

The default emission value of 437 mtCO2e/GWh comes from the Mandatory GHG Emissions Reporting regulations (California Code of Regulations Title 17 Division 3, Chapter 1, Subchapter 10, Section 95111.) According to conversations with Webster Tasat, California Air Resources Board, GHG Emissions Inventory Manager, this number originally came from the 2000-2009 California GHG Emissions Inventory and was calculated using a complex methodology. The Inventory includes the calculated value for default electricity purchases for each year 2000-2008. However, DWR acquired additional data for years 1990-1999 from Larry Hunsaker (California Air Resources Board) on February 2, 2012. The year 2001 lists a default factor of 656.79 $mtCO_2e/GWh$. Applying a 2% loss factor to that number yields 669.92 $mtCO_2e/GWh$. DWR uses the actual default factor for the year in question applied to all energy purchased from unspecified sources to make its calculations. Therefore, for year 2001, DWR used a default factor of 670 $mtCO_2e/GWh$ to calculate the GHG emissions associated with electricity it purchased from unspecified sources in that year.

2. The Lodi project emission factor sounds right.

DWR Response:

Comment noted.

3. The 2% transmission loss is what ARB is using for imports from a remote generator to the CA border (interconnection point). The key question is who will DWR purchase spot market power from in the future when the Reid Gardner agreement terminates. If they are purchasing power during the evenings, they could likely find coal generators as sellers. Hardly anyone else purchases electricity during off-peak periods.

DWR Response:
The California Air Resources Board is responsible for AB32 rule making, administration, compliance, and the associated processes and procedures including establishing emission factors.

As stated by the commenter, the 2% transmission loss assumed by ARB and required for use in the Mandatory Reporting Regulations assumes a long distance transmission of electricity and is therefore conservative for most applications. With respect to the comment about resources available for purchase during evenings, under the California Independent System Operator's (CAISO) Market Redesign and Technology Upgrade (MRTU) DWR will not have any ability to influence the available resources when it demands electricity. MRTU allows CAISO to connect energy load with energy supply at the most efficient price. Coal fired power plants may in fact be supplying some of the power to the grid at low demand periods (when DWR typically purchases the bulk of its electricity), however, DWR finds no evidence at this time to indicate that a disproportionate amount of energy would be provided by high emissions sources during these times of day. Further, even if high emissions sources were providing a disproportionate share of electricity resources during non-peak demand periods the default factor would still be applicable because DWR has no control over which resources are dispatched and when. The California electrical power grid functions as an integrated system making it impossible to associate a spot market purchase of electricity with a specific generation resource.

4. I looked at Reid Gardner Units within the eGRID database, but only for 2005 emission rates (EF doesn't change much yr to yr). I'm curious of the quantity of electricity generated and sent to CA from Unit 4 has historically varied more from year to year?

DWR Response:

Yes, DWR's records indicate that electricity delivered from Reid Gardner Unit 4 to DWR between 1990 and 2010 has fluctuated between over 1,800 GWh/yr to less than 400 GWh/yr. These numbers are all public record and can be found in Bulletin 132, issued annually by DWR.

5. If DWR's quantity received dropped from 1,200 GWh to 900 GWh in one year - - was it due to DWR selling off more electricity from Unit 4 or down time at Unit 4? Do you know why it dropped 25%?

DWR Response:

The drop in quantity of electricity received from Reid Gardner Unit 4 between 2010 and 2011 is predominantly a function of market conditions, and DWR's strategy of minimizing uneconomic generation from Unit 4, as allowable under the participation

agreement between DWR and NV Energy. Since 2008 natural gas prices have fallen significantly making energy produced from coal fired power plants less economical compared to gas-fired power available on the spot market. DWR's participation agreement for Reid Gardner Unit 4 power allows NV Energy to use Unit 4 as a capacity resource which provides NV Energy peak power capture rights. DWR is contractually required to schedule a defined minimum generation for Unit 4, which is about 40% of nameplate capacity.. DWR's entitlement share of Unit 4 generation is 90.4% before considering NV Energy's peak power capture ability, and DWR has historically received a bit less than 80% of the electricity generated by Reid Gardner Unit 4. The drop in energy provided to DWR in 2010 when compared to 2009 represents DWR's strategy to minimize the amount of uneconomic power generation from Unit 4, within the constraints of the participation agreement.

6. When the draft report says DWR estimates taking 900 GWh in 2011 (should be known already), 2012, and half of 2013 - - a) will DWR be selling Unit 4 generation to other parties, b) reducing ownership share, c) have Unit 4 reduce its output, or some other handling of ownership share of generation?

DWR Response:

DWR's interest in Reid Gardner Station Unit 4 will terminate in July of 2013, as provided in the participation agreement between DWR and NV Energy. At the time the draft was released, the electricity consumption data for 2011 were preliminary, thus DWR listed the 2011 quantity as an estimate. The actual amount of power received from Reid Gardner in 2011 was 850 GWh. DWR is evaluating options to cease taking Unit 4 power into California prior to the July 2013 termination of its Unit 4 participation agreement and strategies to otherwise minimize the generation of Unit 4 between now and July 2013 to the extent feasible and allowable under the agreement. After July 26, 2013, NV Energy will have exclusive ownership and control of Reid Gardner Unit 4 power generation, and DWR will not be receiving power from Reid Gardner Station after that date.

7. Your draft report notes on page 99 that the shift in GHG emissions accounting "....may not result in real emission reductions." It seems this is useful qualifier, but one that might not be well recognized or understood by most readers of the plan.

DWR Response:

DWR has attempted to disclose and explain the effect of MRTU as clearly as possible and has even provided an analysis showing how emissions accounting would have looked had MRTU been in place during the entire period 1990 to present.

Agency-2 - California Department of Transportation (Caltrans)

Comments from Caltrans (4/2/12)

Negative Declaration and Initial Study
California Department of Water Resources
Draft Climate Action Plan Phase I: Greenhouse Gas Emissions Reduction Plan

Dear Mr. Schwarz:

The California Department of Transportation (Caltrans) appreciates the opportunity to comment on the Draft Climate Action Plan Phase 1: Greenhouse Gas Emissions Reduction Plan. The Draft Plan is designed to show how the California Department of Water Resources (DWR) will carry out existing laws, policies, and regulatory actions adopted by the Legislature, the Governor, and the California Air Resources Board and meet Greenhouse Gas (GHG) reduction targets consistent with global climate stabilization.

The Department's Local Development-Intergovernmental Review (LD-IGR) Program is your partner in stewardship of the public interest, our part of which are the present and future mobility needs of California. We offer the following comment at this time:

---

1. To reduce AM and PM congestion from construction related traffic, we suggest considering "no AM/PM Peak Hour construction traffic" be added to the list of BMP's.

DWR Response:

A Construction BMP stating: “Limit deliveries of materials and equipment to the site to off peak traffic congestion hours” will be added to the final DWR Climate Action Plan Phase I: Greenhouse Gas Emissions Reduction Plan (Plan) and will be implemented on all projects except in cases where a variance is granted as described in the Plan.

In addition, a Pre-Construction and Final Design BMP stating: “Evaluate the feasibility of restricting all material hauling on public roadways to off-peak traffic congestion hours. During construction scheduling and execution minimize, to the extent possible, uses of public roadways that would increase traffic congestion.”

DWR has considered Caltrans’ suggestion to limit all AM/PM Peak Hour construction traffic and found it to be infeasible as a blanket BMP applying to all projects. In some cases, such a BMP could significantly lengthen construction duration which would likely result in increased impacts to other resources. However, DWR recognizes the importance of minimizing construction impacts to public roadways and the potential for increased GHG emissions that could result from traffic congestion. The additional BMPs will be included in the final Plan and will ensure that future DWR projects consider traffic congestion impacts and minimize those impacts to the extent feasible.

Agency-3 US EPA, Region 9

Comment from US EPA Region 9, March 8, 2012.

1. On page 57, in the OP-4 Onsite Renewable Energy section only 10 mtCO2e/yr seems too low. For example, we recently surveyed a handful a solar projects that reduced over 27,000 mtCO2e/yr with a total only 15MW generating capacity installed. Anyhow, I might be overlooking something but wanted to pass this along.

DWR Response:

This GHG emission reduction measure is still in the feasibility stage. DWR has initiated a pilot project to investigate the feasibility and efficacy of installing renewable energy generating facilities on DWR properties. However, several questions remain about balancing the operational flexibility and maintenance accessibility of water management facilities, safety, and cost with the potential to generate renewable electricity. DWR has thus assumed a very conservative level of GHG emissions reduction as a result of these types of activities. As stated in the Plan on page 57, “if pilot projects prove the efficacy of this type of project, significant additional GHG reduction could be realized in the future. DWR intends to more fully explore this GHG emissions reduction measure in future Plan updates.”

SECTION B.

Specific Responses to Comments from Private Individuals

Individual-1 Kiran R. Magiawala, PhD

March 8, 2012

My name is Kiran Magiawala and I am a retired engineer and a volunteer in Southern California. I interact with local water agencies.

In reference to
this announcement at http://www.water.ca.gov/climatechange/CAP.cfm and call for public comments for the same, I have some questions. Perhaps you can share with me your thoughts on how to proceed.

---

1. Would looking into statewide prevention of evaporation losses, generating more water resources in process while generating electricity using solar floatovoltaics type concept, qualify as a public comment mention candidate in such a context of DWR Climate Action Plan?

If yes, then I wouldn't know as to in which section of the report one addresses such an insert. Any thoughts?

DWR Response:

The concept of floating solar photovoltaic panels deployed on State Water Project (SWP) reservoirs and/or conveyance facilities has been discussed and investigated previously by DWR. Several operational and other feasibility issues have been identified with this type of approach and DWR has determined that at this time other technologies provide greater benefits with lower costs and fewer barriers to implementation.

In the context of DWR's Climate Action Plan, DWR has developed 11 GHG emissions reduction measures that will result in over 1 million metric tons of GHG emissions reductions per year by 2020. The specific technology suggested by the commenter could be deployed under emissions reduction measure OP-3 or OP-4 depending on the size and characteristics of a potential "floatovoltaic" project. The emissions reduction measures detailed in the draft Climate Action Plan do not specify or limit the potential technologies that could be deployed. However, floating solar photovoltaic arrays deployed on SWP reservoirs and/or conveyance facilities remain a technology that could be explored and possibly used in the implementation of the GHG emissions

reduction measures.

March 12, 2012

2. “I have enclosed information on solar floatovoltaics.”

DWR RESPONSE:

Comment noted. The information contained within the email will be included in the public record.

March 21, 2012

3. “One more technology worth looking into.”

DWR RESPONSE:

Comment noted. The information contained within the email will be included in the public record.

APPENDIX C

COMMENTS

The following comments were received from state and Federal agencies.

Agency #1: California Energy Commission

Comment received via email

Schwarz, Andrew

From: Pierre duVair [Pduvair@energy.ca.gov]
Sent: Wednesday, April 11, 2012 12:44 PM
To: Schwarz, Andrew
Cc: Al Alvarado
Subject: This time correct email address - Informal input draft DWR CAP

Hi Andrew,

I discussed Appendix G of DWR's draft Climate Action Plan with Al Alvarado of the CEC's Electricity Supply Analysis Office. He had no major concerns with what you've written on electricity issues, but did have a few comments or points of clarification that I found helpful....

The ARB default emission value is the 437 that DWR uses in Table 1, but I am not sure where the 670 comes from or what it represents. The default value is a convoluted calculation, based on a marginal gas-fired power plant in WECC, but if we used this plant's heat rate the variable operating costs would be higher than typical spot market prices or above an incentive price for a CA entity to buy. Comment #1

The Lodi project emission factor sounds right. Comment #2

The 2% transmission loss is what ARB is using for imports from a remote generator to the CA border (interconnection point).

The key question is who will DWR purchase spot market power from in the future when the Reid Gardner agreement terminates. If they are purchasing power during the evenings, they could likely find coal generators as sellers. Hardly anyone else purchases electricity during off-peak periods. Comment #3

I looked at Reid Gardner Units within the eGRID database, but only for 2005 emission rates (EF doesn't change much yr to yr). I'm curious of the quantity of electricity generated and sent to CA from Unit 4 has historically varied more from year to year? Comment #4

If DWR's quantity received dropped from 1,200 GWh to 900 GWh in one year - - was it due to DWR selling off more electricity from Unit 4 or down time at Unit 4? Do you know why it dropped 25%? Comment #5

When the draft report says DWR estimates taking 900 GWh in 2011 (should be known already), 2012, and half of 2013 - - a) will DWR be selling Unit 4 generation to other parties, b) reducing ownership share, c) have Unit 4 reduce its output, or some other handling of ownership share of generation?. Comment #6

Your draft report notes on page 99 that the shift in GHG emissions accounting "....may not result in real emission reductions." It seems this is useful qualifier, but one that might not be well recognized or understood by most readers of the plan. Comment #7

Regards,

Pierre

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Agency #2 California Department of Transportation (CalTrans)

Comment received via State Clearinghouse

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION PLANNING
P.O. BOX 942874, MS-32
SACRAMENTO, CA 94274-0001
PHONE (916) 653-1067
FAX (916) 653-4570
TTY 711
www.dot.ca.gov/hq/tpp/

Flex your power!
Be energy efficient!

April 2, 2012

Andrew Schwarz, Engineer
Division of Statewide Integrated Water Management
California Department of Water Resources
901 P Street, 2nd Floor
Sacramento, CA 95814-6424

Draft Climate Action Plan
SCH# 2012032002

Dear Mr. Schwarz:

The California Department of Transportation (Caltrans) appreciates the opportunity to comment on the Draft Climate Action Plan Phase 1: Greenhouse Gas Emissions Reduction Plan. The Draft Plan is designed to show how the California Department of Water Resources (DWR) will carry out existing laws, policies, and regulatory actions adopted by the Legislature, the Governor, and the California Air Resources Board and meet Greenhouse Gas (GHG) reduction targets consistent with global climate stabilization.

The Department's Local Development-Intergovernmental Review (LD-IGR) Program is your partner in stewardship of the public interest, our part of which are the present and future mobility needs of California. We offer the following comment at this time:

- To reduce AM and PM congestion from construction related traffic, we suggest considering "no AM/PM Peak Hour construction traffic" be added to the list of BMP's. Comment #1

For questions regarding this comment letter please contact Josh Pulverman, LD-IGR Statewide Coordinator, Office of Community Planning at (916) 653-0808, or at josh_pulverman@dot.ca.gov.

Sincerely,

Josh Pulverman for Terri Pencovic

Terri Pencovic
Branch Chief, Office of Community Planning
LD-IGR Statewide Program Manager

c: Scott Morgan, State Clearinghouse
Gary Arnold, Sr. Transportation Planner, Caltrans District 4

"Caltrans improves mobility across California"

Agency #3 U.S. Environmental Protection Agency

Comment received via email

From: Eric Byous <Byous.Eric@epamail.epa.gov>
To: "Andrew, John" <jandrew@water.ca.gov>
Sent: Thu, Mar 8, 2012 23:41:52 GMT+00:00
Subject: quick comment on draft of DWR Climate Action Plan

Hi John,

I had a question after a quick look at DWR's draft Climate Action Plan that was recently released for review. On page 57, in the OP-4 Onsite Renewable Energy section only 10 mtCO2e/yr seems too low. For example, we recently surveyed a handful a solar projects that reduced over 27,000 mtCO2e/yr with a total only 15MW generating capacity installed. Anyhow, I might be overlooking something but wanted to pass this along.

Comment #1

take care,
Eric

.....

Eric Byous
415.972.3531
Sustainable Infrastructure Office (WTR-4)
USEPA, Region 9
75 Hawthorne St., San Francisco, CA 94105
fax: 415.947.3537

http://www.epa.gov/region09/waterinfrastructure/index.html

----- Forwarded by Karen Schwinn/R9/USEPA/US on 03/07/2012 02:57 PM -----

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From: Water Plan E News <WPENews@water.ca.gov>
To: "cwp_enews@water.ca.gov" <cwp_enews@water.ca.gov>
Date: 03/07/2012 02:41 PM
Subject: [CWP_ENews] ~~ RMS Workshops~ Climate Plan~ EIR Hearings~ Revised Regulation~ Landscape Webinar~ Contaminated Water ~~
Sent by: cwp_enews-bounces@water.ca.gov

This week's Water Plan eNews includes:

•

The following comments were received from individual citizens.

Comments from Kiran Magiawalla

Comments via email

Schwarz, Andrew

From: Kiran Magiawala [kiran_magiawala@yahoo.com]
Sent: Thursday, March 08, 2012 3:59 PM
To: Schwarz, Andrew
Subject: On DWR Climate Action Plan

8 March, 2012

Dr. Andrew Schwarz
California Department of Water

Greetings Dr. Schawrz.

My name is Kiran Magiawala and I am a retired engineer and a volunteer in **Southern** California.
I interact with local water agencies.

In reference to this announcement at http://www.water.ca.gov/climatechange/CAP.cfm and call for public comments for the same, I have some questions. **Perhaps** you can share with me your thoughts on how to proceed.

Would looking into statewide prevention of evaporation losses, generating more water resources in process while generating electricity using solar floatovoltaics type concept, qualify as a public comment mention candidate in such a context of DWR **Climate** Action Plan? Comment #1

If yes, then I wouldn't know as to in which section of the report one addresses such an insert. **Any thoughts?**

I have left a telephone message for you today and look forward to chat with you briefly.

Thanks and regards,

Kiran.

Kiran R. Magiawala PhD
Retired Engineer, Citizen Scientist and Volunteer
Tele: 310-978-1434
Email: kiran_magiawala@yahoo.com

Schwarz, Andrew

From: Kiran Magiawala [kiran_magiawala@yahoo.com]
Sent: Monday, March 12, 2012 4:20 PM
To: Schwarz, Andrew
Subject: Re: On DWR Climate Action Plan
Attachments: Floatovoltaics Overview.pdf

pdf attachment can be downloaded by clicking here

Thank you kindly Mr. Schwarz for the telecon this afternoon. I learned a great deal from your perspective.

I will follow-up on the suggestion that you made.

I have enclosed herewith some information on solar floatovoltaics that may be of interest to you. My contact at SPGSolar is:

Comment #2

Shahrzad Sharei
Sr. Project Development Coordinator
415-382-2193
SPG Solar, Inc.
www.spgsolar.com

Please follow-up with her at your convenience. Perhaps it is worth pursuing in the larger context. Please let me know as to where does this go from here. I have no personal interest in the subject matter/technology accept to bring it to your attention in capacity of a volunteer.

Thanks again and regards.

Kiran.

Kiran R. Magiawala PhD
Retired Engineer, Citizen Scientist and Volunteer
Tele: 310-978-1434
Email: kiran_magiawala@yahoo.com

From: "Schwarz, Andrew" <aschwarz@water.ca.gov>
To: Kiran Magiawala <kiran_magiawala@yahoo.com>
Sent: Monday, March 12, 2012 2:44 PM
Subject: RE: On DWR Climate Action Plan

Dr. Magiawala,

It was nice chatting with you. As I mentioned, the California Water Plan would be another appropriate venue for you to voice your desire to see floating photovoltaic solar panels investigated more thoroughly: http://www.waterplan.water.ca.gov/

In addition if you have more information about existing on water installations of photovoltaic panels that might provide case studies or useful data to the department in our investigation of available renewable electricity technologies I would be interested in see it.

Thank you,

Andrew Schwarz P.E.

Climate Adaptation
Division of Statewide Integrated Water Management
California Department of Water Resources

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Schwarz, Andrew

From: Kiran Magiawala [kiran_magiawala@yahoo.com]
Sent: Wednesday, March 21, 2012 11:40 AM
To: Pamela Adams; William Hasencamp
Cc: Shahrzad Sharei
Subject: Power From The Sun: Floating Concentrating Photovoltaic Systems

Greetings.

Pray you this news item on Floating Concentrating Photovoltaic Systems by now.

One more technology worth looking into. Comment #3

Regards.

Kiran.

http://www.fastcoexist.com/1679519/power-from-the-sun-floating-on-top-of-sewage

http://www.solaris-synergy.com/Technology.html
http://www.youtube.com/watch?v=pl8dfRuR10s

Kiran R. Magiawala PhD
Retired Engineer, Citizen Scientist and Volunteer
Tele: 310-978-1434
Email: kiran_magiawala@yahoo.com

APPENDIX D

CHANGES/ADDITIONAL INFORMATION INCLUDED IN THE FINAL CLIMATE ACTION PLAN PHASE I: GREENHOUSE GAS EMISSIONS REDUCTION PLAN

Changes/Additional Information included in the Final Climate Action Plan Phase I: Greenhouse Gas Emissions Reduction Plan

The follow minor changes and additional information have been included in the Final Climate Action Plan Phase I: Greenhouse Gas Emissions Reduction Plan (Final Plan). These changes and additions are minor and do not change any of the analysis or conclusions made in the Initial Study and Draft Negative Declaration.

General: The word “draft” has been removed from the title of the Plan throughout the document.

Page 2: Spelling of Lauma Jurkevics has been corrected.

Page 3 and Page 24: Definition of CAISO has been corrected (“Service” has been changed to “System”).

Page 4-8: Table of Contents page numbers have been updated.

Page 32: Figure 2 has been updated with slightly revised data and additional data covering years 1988, 1989, and 2010. The information and assumptions used in the analysis for the Initial Study and Draft Negative Declaration were updated several times during the development of the Draft Plan. The figure shown in the Draft Plan was based on older assumptions and data. The revised figure shown in the Final Plan contains the same data and assumptions that were used in the analysis done in the Initial Study and Draft Negative Declaration.

Page 35: Figure 4 and Table 4 have been updated. Data points covering 1988 and 1989 have been added to both the graph and table. The title of Figure 4 has been modified from “Water Conveyed, Energy Purchased, and Emissions 1990-2009” to “Water Conveyed and SWP Load 1988-2009” to more accurately describe the information contained in the figure. The data in the “Emissions” column of Table 4 has been updated. The information and assumptions used in the analysis for the Initial Study and Draft Negative Declaration were updated several times during the development of the Draft Plan. The data shown in the “Emissions” column of Table 4 shown in the Draft Plan were based on older assumptions. The revised table shown in the Final Plan contains the data and assumptions that were used in the analysis done in the Initial Study and Draft Negative Declaration.

Page 37: An additional footnote (number 15) has been added in the Operation Emissions Summary box. The foot note, which states: “The “Current Emissions” period is the period for which third-party verified emissions registry data is available” has been added to clarify why the period 2007-2010 was chosen to define the “current emissions” period.

Page 57: In the OP-3 Renewable Energy Procurement Plan box, the words “Annual Increase in” have been added before “Renewable Energy Procurement Rate” in order to more clearly describe the information being provided in the column of the box.

Page 88: An additional Best Management Practice, BMP 6, has been added to address the comment provided by the California Department of Transportation. The following text has been

added: “BMP 6: Limit deliveries of materials and equipment to the site to off peak traffic congestion hours.”

Page 89: An additional Best Management Practice, BMP 15, has been added to address the comment provided by the California Department of Transportation. The following text has been added: “BMP 15: Evaluate the feasibility of restricting all material hauling on public roadways to off-peak traffic congestion hours. During construction scheduling and execution minimize, to the extent possible, uses of public roadways that would increase traffic congestion.”