Attachment 1: Description of Emission Reduction Measure Form

Please fill out one form for each emission reduction measure. See instructions in Attachment 2.

Title: California Water Use

Type of Measure (check all that apply):

- ☒ Direct Regulation
- ☒ Market-Based Compliance
- ☒ Monetary Incentive
- ☒ Non-Monetary Incentive
- ☒ Voluntary
- ☐ Alternative Compliance Mechanism
- ☒ Other Describe:

Responsible Agency: SWRCB, DWR, CEC. CPUC

Sector:

- ☐ Transportation
- ☐ Electricity Generation
- ☐ Other Industrial
- ☐ Refineries
- ☐ Agriculture
- ☐ Cement
- ☐ Sequestration
- ☐ Other Describe: **Water**

2020 Baseline Emissions Assumed (MMT CO2E):
The use of water in California contributes significantly to the state's greenhouse gas emission crisis. In California's Water-Energy Relationship (2005), the California Energy Commission (CEC), concluded that the water sector is the largest user of electrical energy in the state, accounting for 19 percent of all electricity consumed in California, 30% of non-power plant–related natural gas use, and 88 million gallons of diesel burned every year.

Despite some laudable progress in water use efficiency, most of California's efficiency potential remains untapped. Numerous analyses, including those presented in the "Investment Strategy for California Water" (2004), prepared by the Planning and Conservation League, DWR's "California Water Plan Update" (2005), the Pacific Institute's "An Efficient Future" (2006), and the CALFED Bay-Delta Program "Water Use Efficiency Comprehensive Evaluation" (2006), show that California can accommodate substantial increases in population while reducing our overall water use through cost-effective, environmentally-beneficial water management strategies.

However, without a substantial change in state agency policy, these reductions will not be achieved. Instead, greenhouse gas emissions from the water sector will continue to rise and California's communities and environment will be increasingly vulnerable to crisis and conflict resulting from the impacts of global warming on California's natural hydrology.

For example, the Department of Water Resources' 2005 California Water Plan Update (CWPU) predicts that overall water use in California will remain relatively steady through 2030, though urban water use is expected to increase by 3 million acre feet (AF) during that time while agricultural use will decrease. Because the energy-intensive end uses make urban water use generally more carbon-intensive than agricultral water use, this transition would result in an increase of CO2 from the water sector. In addition, several urban communities in California are currently planning to build large-scale oceanwater desalination facilities. Because ocean water desalination is the most carbon-intensive method of treating water, if these communities did build any such plants before the 2020 deadline and did not fully mitigiate for their energy-related emissions, it would greatly increase GHG emissions from water use.

In 2005, Governor Schwarzenegger's Climate Action Team estimated that the energy used to move and treat water in California results in the release of approximately 44 million tons of CO2 emissions annually.

We believe that the emission calculations used to predict the 2020 emissions baseline in the 2006 Climate Action Team report were based upon these "business as usual" assumptions about water use in California, although information about those assumptions is not readily available to the public.

Percent Reduction in 2020:
The Climate Action Team noted that accelerating investment in Water Use Efficiency to meet the CWPU (2005) 2030 water conservation goals by 2010 would result in a cumulative reduction of 40 million tons of emissions by 2030.

The Pacific Institute's "An Efficient Future" (2006), predicts that overall water use in California could be reduced by twenty percent by 2030. These water savings would result in substantial reductions in energy use and water-related GHG emissions.

Cost-Effectiveness ($/metric ton CO2E) in 2020: In testimony before the California Public Utilities Commission (CPUC) several utilities have stated that water use efficiency measures are more cost effective methods of reducing energy usage than traditional energy efficiency measures, sometimes costing as little as $.58 for every $1.00 spent on traditional energy efficiency programs. In addition, some policies, such as guidelines for the use of energy-intense ocean water desalination would be essentially cost-free.

Description: Fulfilling the mandate of AB 32, the Global Warming Solutions Act of 2006, and avoiding the unmanageable impacts predicted to occur in the absence of

such actions internationally, requires the full commitment of every state agency as well as all regional and local governments.

Fortunately, opportunities to reduce the greenhouse gas impacts from water use in California abound. Unfortunately, failing to achieve substantial greenhouse gas emission reductions in California would not only violate AB 32, it would also likely exacerbate the effects of global warming, causing additional strain on the state's water resources, including alternations of the timing, intensity, and duration of precipitation in California, which in turn affects the quantity and quality of California's water.

These water resource impacts complicate the regulatory activities of the multliple state agencies, especially in the establishment of water quality standards, permitting of water treatment facilities, determination of water rights and beneficial uses, and accurately predicting water availability.

We therefore propose that the SWRCB, DWR, CEC and the CPUC undertake the following activities:

1) Integrate Climate Change into California Water Planning

Adopt the provisions of AB 224 (Wolk) into all major water planning documents in California, including the California Water Plan Update, State Water Project Delivery Reliability Report, Urban Water Management Plans, and Integrated Regional Water Management Plans, as well as all FERC re-licensing, flood plans, surface storage studies, and CEQA/NEPA documents.

Review and comment on Environmental Impact Reports (EIRs) and Environmental Impact Statements (EISs) regarding the adequacy of the lead agency's global warming analysis. For example, when reviewing and commenting on an EIR/EIS for a new water treatment facility, the SWRCB and the appropriate Regional Water Quality Control Board (RWQCB) should ensure that the environmental review includes alternatives analysis of various pollution prevention measures and compares the greenhouse gas emissions associated with each alternative. Likewise, for major development projects, the SWRCB and the appropriate RWQCB should ensure that the EIR/EIS adequately analyzes any deterioration to water quality resources from the emission of climate disrupting emissions.

2) Require Certification of Best Management Practices that Reduce GHG Emissions

SWRCB, DWR, CEC and the CPUC should partner to create a certification program that ensures implementation of Urban Water Conservation Best Management Practices contained in the MOU of the California Urban Water Conservation Council (CUWCC). Require water agencies to demonstrate certification as a minimum standard to receive grant funds from Proposition 84 and other funding sources. Prioritize funding for those projects that will demonstrably decrease water and energy demand, increase water and

energy efficiency, and reduce GHG emissions. Collaborate to improve Urban Water Conservation BMPs to specifically target GHG emission reductions.

3) Transition to a Carbon-Neutral Energy Portfolio for California's Water

Ensure that DWR and other water agencies across the state aggressively develop a carbon-neutral energy portfolio and tie these new sources to the divestment and decommissioning of high GHG emitting power supplies. For example, DWR should consider entering into contracts to develop large-scale solar generation projects on lands owned by DWR (e.g. Sherman Island) and provide a clear schedule for divestiture of the Reid-Gardner coal power plant by January 1, 2010.

Actively participate in planning efforts between the CPUC and the CEC regarding appropriate locations for large-scale renewable energy development in California.

In all surface storage studies, ensure that all GHG emissions directly and indirectly induced from the construction and operation of the facility have been properly quantified.

4) Reduce Consumptive Water Use and Related GHG Emissions

Partner with other agencies to fund and implement aggressive water conservation and water recycling to reduce consumptive water use. Ensure that these activities are tied to reductions in pumping of surface and groundwater and the resultant GHG emission reductions are properly quantified.DWR and its partner agencies should ensure that the 2009 California Water Plan Update articulates the steps necessary to achieve the 3.1 million AF from urban water use efficiency described in the 2005 CWPU.

In addition, DWR should create a series of graduated "caps" on annual pumping from the Harvey O. Banks Pumping Plant and the Edmonston Pumping Plant that demonstrate the agency's commitment to achieving immediate GHG reductions.

5) Accurately Measure California Water Use and Related GHG Emissions

SWRCB, DWR, CEC and the CPUC should partner to create a statewide water use database and a system for reporting water deliveries and diversions. Ensure that the database includes the GHG emissions that result from each water delivery and, where feasible, from each phase of water use—storage and diversion, conveyance, treatment, local distribution, end use, wastewater treatment, and disposal. Implement administrative actions identified by the CALFED staff proposal on water measurement and by the AB 2717 Landscape Task Force, including measuring crop water use consumption via remote sensing, better assessment of net groundwater usage, and upgrading the California Irrigation Management Information System (CIMIS).

6) Undertake a Full Stakeholder Process to Reassess Beneficial Uses and Water Rights through a Carbon Lens

These fundamental issues of water use in California deserve careful attention and public input. For example, in consideration of the constraints imposed upon global warming on California's water resources, the SWRCB should re-examine whether to permit the irrigation of selenium laden lands as a beneficial use of California water.

As Governor Schwarzenegger has said, "the time for action is now." We look forward to working with the CAT agencies as they consider these recommendations and devise a series of actions that effectively address our global warming crisis.

Sincerely,

Matt Vander Sluis
Global Warming Program Manager

Emission Reduction Calculations and Assumptions:

Cost-Effectiveness Calculation and Assumptions:

Implementation Barriers and Ways to Overcome Them:

Potential Impact on Criteria and Toxic Pollutants:

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