

**STATE WATER RESOURCES CONTROL BOARD
BOARD MEETING SESSION – OFFICE OF RESEARCH, PLANNING AND PERFORMANCE
MAY 20, 2008**

ITEM 9

SUBJECT

STATUS REPORT ON CLIMATE CHANGE ACTIVITIES

DISCUSSION

Climate change is a phenomenon that will fundamentally alter water availability and use in California. Increased levels of greenhouse gases (GHG) in the atmosphere are a significant contributor to global warming. The State of California has assumed a leadership role in efforts to slow global warming. The Governor signed [Executive Order S-3-05](#) in June 2005 establishing GHG reduction targets of 25% (to 1990 levels) by 2020, and 80% below that level by 2050. In 2006, the State enacted the California Global Warming Act of 2006 (AB32) which, among other charges, established the Climate Action Team (CAT) to coordinate the efforts set forth under [Executive Order S-3-05](#).

The State Water Board and Department of Water Resources (DWR) held a joint climate change workshop in August 2007 to solicit suggestions of measures that could be implemented by the Water Board and/or Department of Water Resources to address climate change. From the suggestions received, 13 measures were formulated for further evaluation; seven for the Water Board, four for DWR, and two measures to be evaluated as joint efforts by the Water Board and DWR.

This agenda item updates the status of the recommended Water Board and joint agency measures. Of the seven Water Board measures, one has been incorporated into a CAT measure and submitted to the Air Resources Board (ARB), four are being developed by the Water Board and/or Regional Board(s), one is included in the Draft Strategic Plan Update, and one is suggested to be less than effective and not recommended for further development. Of the measures being evaluated for joint agency implementation, one has been incorporated into a CAT strategy and the second is being implemented.

In addition, all of the CAT subteams submitted strategies and measures to reduce GHG emissions to the ARB for inclusion in the AB32 scoping plan this year. The Water Board participates on five CAT subteams. Of the five subteams, the Water Board and DWR are co-leads for the Water-Energy subteam (WETCAT). This subteam has proposed five strategies that have been submitted to ARB representing the water-energy sector. Summaries of these strategies and associated measures are presented in this staff report. The ARB is compiling the submitted measures and evaluating them for inclusion in the scoping plan.

STATUS OF MEASURES RECOMMENDED FOR FURTHER EVALUATION BY THE WATER BOARD

1. Consider GHG emissions that could be produced in the development of water quality standards.

Description: This measure will be accomplished through development of a staff guidance document. The staff guidance is proposed as one of the approaches to be implemented per [Board Resolution 2007-0059](#), Item 4, which directs that:

State Water Board staff will develop approaches for evaluating the potential contribution of Greenhouse Gas emissions and potential adaptation strategies that should be considered as a component of the Water Boards' decisions or actions.

Staff guidance will be designed as a practical reference for consultation during development of water quality standards as well as other program activities such as Basin Planning or preparation of TMDLs. This guidance will be coordinated with the climate change training course proposed under measure 5 below.

Key Implementation Milestones/Actions: This project will include at least four standard project management milestones including (1) a kickoff meeting to define the document scope and content, identify resources and tasks, and prepare a project schedule, (2) preparation of a draft document, (3) review and comments, and (4) completion of a final version.

Next Step: This project will be initiated this spring with the kickoff meeting.

2. Promote, incentivize, and/or require the use of sustainable energy sources (methane, solar, wind) at water and wastewater treatment facilities.

Description: This recommended measure would increase the implementation of sustainable energy sources at water and wastewater treatment facilities. The Water Board has expressed support for increased reliance on sustainable resources to replace energy-intensive sources. This measure has been incorporated into WETCAT Strategy V, Increase Renewable Energy Production (refer to the WETCAT strategies and measures presented at the end of this staff report). The WETCAT strategy is described as,

Consistent with the Energy Commission's 2007 Integrated Energy Policy Report (IEPR) recommendation to "establish a more cohesive statewide approach for renewables development that identifies preferred renewable generation and transmission projects in a 'road map' for renewables", the purpose of this measure is to identify and implement specific projects that take advantage of the state's water system-related opportunities to generate renewable electricity.

Examples of energy existing within water systems (water and wastewater projects) include water moving through conduits, sunlight, wind, and gases emitted from decomposing organic wastes. Producing energy from these resources at water and wastewater facilities will reduce greenhouse gas (GHG) emissions by offsetting the need for the facilities to consume electricity derived from natural gas and coal, which constitutes nearly 60 percent, on average, of electricity supplied by California's electric grid.

Key Implementation Milestones/Actions: If this strategy is selected for inclusion in the AB32 Scoping Plan, an implementation plan will be developed by all agencies participating on the subteam and will include external input.

Next Step: Continued coordination with WETCAT partners. Because this measure is part of a WETCAT measure, it is suggested that the Water Board no longer pursue this measure as an independent action.

3. Develop partnerships (pilots) with local entities to evaluate strategies and measures on the local level before recommending for statewide consideration.

Description: The objective of this measure is to establish partnerships with local agencies that are in a position to implement and evaluate climate change measures. The Water Board is a member of the recently formed Bay Area, North Coast, Central Coast (BANCCC) sustainability workgroup. This workgroup includes representatives from the U.S. EPA, San Francisco Regional Water Board, North Coast Regional Water Board, Central Coast Regional Water Board, Sonoma County Water Agency, Santa Clara Valley Water District, California Coastal Commission, Trout Unlimited, City of San Luis Obispo, Ecology Action, Santa Cruz County Resource Conservation District, Silicon Valley Leadership Group, Bay Area Clean Water Agencies, and other interested parties. The workgroup collaborates on ideas, measures, and local water-related projects to reduce energy consumption and GHG emissions, and implement sustainable energy and water conservation strategies. Through this workgroup, specific approaches to achieve emission reductions and adaptation measures can be examined and piloted for possible statewide consideration. The proposed LID Center in the Central Coast Regional Water Board is a developing opportunity that will also support this measure. Similarly, as discussed under measure 4 below, the Santa Ana Regional Water Board has established a cooperative agreement process that could be considered a pilot research program to study emerging contaminants.

Key Implementation Milestones/Actions: None.

Next Step: The Water Boards should continue to identify and expand potential partnerships and become active participants in the development of additional projects.

4. Increase research and adopt standards that address potential (emerging) contaminants in order to assure safe and clean water supplies and to increase public confidence in water quality.

Description: As the volume and use of water and recycled waste water increases in response to changing climate conditions, there will be an increasing need to recognize and treat emerging contaminants to ensure the safety of our water supply as well as develop public acceptance of recycled water.

The Santa Ana Regional Water Board has pioneered a cooperative agreement with local water agencies. As part of the cooperative agreement, the water agencies will undertake a series of studies of emerging constituents. The studies will use best available science and focus on those emerging constituents that are indicators for classes of chemicals, thus reducing the overall burden of monitoring and analysis. Information developed through this agreement will be an invaluable first step, may be used as a model to expand research into emerging contaminants in other areas of the State and will help to identify additional research and standards needs.

Key Implementation Milestones/Actions: None.

Next Step: The State Water Board will meet with Cal/EPA and the Department of Public Health (DPH) to identify opportunities for joint action on this issue; the ad hoc multi-agency Perchlorate and other Contaminant Issues committee has been formed to meet monthly to communicate about current and future actions; and the Water Boards will follow the

progress of the studies and reports under the Santa Ana Regional Water Board's cooperative agreement and continue to identify additional research needs and opportunities.

5. Review internal processes and organizational structure that impairs the Water Boards' ability to consider the impacts of climate change in decision-making. Establish an internal training program to educate staff in the subject of climate change and the significant role of water and energy.

Description: A Training Academy course on climate change is proposed as one component of the overall climate change orientation and training efforts. Staff is evaluating opportunities to have the UC Davis Extension Land Use and Natural Resources Program participate in development and delivery of a climate change course that is focused on the specific work of the Water Boards.

Key Implementation Milestones/Actions: This project will include at least three milestones including (1) a kickoff meeting to define objectives and content of the training course, assign resources and tasks, and prepare a development schedule, (2) preparation of the course materials and content, (3) scheduling presentation of the course through the Water Academy.

Next Step: The kick-off meeting will be scheduled later this Spring.

6. Address climate change in Basin Plans in order to reduce energy use, enhance local water supply. Incentivize urban water reuse, water conservation, and recycling through the setting of policy.

Description: This recommendation has been incorporated into the DRAFT Strategic Plan Update as a component of Objective 4.2 which states:

As an element of the California Water Quality Plan, describe the connections between water quality, water quantity, and climate change to better understand the effect of climate change on our water resources, specifically water quality, and to identify and prioritize actions that can help reduce greenhouse gases and address adaptation needs.

Key Implementation Milestones/Actions: The DRAFT Strategic Plan Update identifies the following milestones/actions for preparation of the California Water Quality Plan and updating the Basin Plans through which portions of this recommendation will be addressed:

Action 4.1.1: *Develop, by June 2009, the internal processes and mechanisms that will be used to determine how the Basin Plans and the statewide plans and policies, will be integrated to create the California Water Quality Plan that identifies statewide water quality priorities.*

Action 4.1.2: *Develop a Memorandum of Understanding with the Department of Water Resources, by December 2009, to establish the coordination necessary for the development and incorporation of the California Water Quality Plan into the California Water Plan to identify the State's integrated priorities for water quality and water supply.*

Action 5.1.1: *Convene a statewide stakeholder group by August 2008 that will provide input and advice on defining the scope and approach for future Basin Plan updates. Each Regional Water Board shall determine the need to convene a group of local interests as an element of this process.*

Next Step: Adoption of the Strategic Plan Update and implementation of the Objectives and Actions defined by that document.

7. Promote research to identify ways to reduce GHG emissions from septic tanks and increase regulation to limit those emissions accordingly.

Description: Septic tanks are a source of methane emissions. In California, approximately 10% of the population relies on septic systems. Water Board staff prepared a preliminary evaluation of GHG emissions from septic systems and estimates that septic systems produce approximately 74 tons of methane per day statewide.

Septic tank emissions occur from small individual systems largely dispersed throughout rural areas of the state. The total volume of emissions is comparatively small compared to other GHG sources. Practical and/or economical means to reduce emissions from rural septic systems have not been identified. Consequently, any potential GHG reductions that might be realized by this measure are suggested to be minimal and the per unit cost relatively expensive.

Key Implementation Milestones/Actions: None.

Next Step: Further development of this strategy is not recommended.

MEASURES RECOMMENDED FOR FURTHER EVALUATION BY THE WATER BOARD IN COLLABORATION WITH DWR

1. Promote partnerships with energy providers to create the connection in the public's mind that by saving water they also save energy and reduce carbon emissions. As an example, promote a "flex your water" campaign.

Description: This recommended measure is a component of WETCAT Strategy III: End Use Water Conservation and Efficiency. That strategy includes public outreach and education to reduce water consumption and increase efficiency of use. The Department of Water Resources is the lead agency for this strategy. The Water Boards and the California Energy Commission (CEC) have significant roles in the success of this measure, but other agencies and energy providers with experience in water use, public education, and consumer marketing will be consulted for their experience and assistance.

This CAT measure will be even more aggressively implemented as a result of the Governor's recent directive to achieve a 20 percent reduction in per capita water use statewide by 2020. This directive builds upon the *California Water Plan Update 2005*, which identified water use efficiency as a "foundational action" for California water management.

Key Implementation Milestones/Actions: Preparation of an implementation plan is required following adoption of the AB32 Scoping Plan.

Next Step: Continued coordination with DWR, CEC, and the California Public Utilities Commission (CPUC). Because this measure is part of a WETCAT measure, it is recommended that the Water Board no longer pursue this measure as an independent action.

2. Modify grant selection criteria to prioritize water quality improvement projects that incorporate water conservation, urban water reuse, water recycling, energy efficiency and other measures that reduce GHG emissions.

Description: The Water Board will continue to prepare and revise grant criteria as appropriate to consider climate change and sustainability measures. Since 2000, California voters have approved four ballot measures that allocated \$1.627 billion in bond funds to the Water Board. The most recent funds will be made available through the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84). Proposition 84 will include grant funds for the Clean Beaches [PRC 75060(a)], Stormwater [PRC 75050(m)], and Agricultural Water Quality Programs (PRC 75029.5). These new grant programs under Proposition 84 could include criteria for how well a proposal incorporates climate strategies. This strategy has the potential for tracking/reporting GHG reduction as part of the grantee's reporting requirements.

In early 2005, the Water Board adopted sustainability as a core value for all California Water Boards' activities and programs, and directed staff to consider sustainability in all policies, guidelines and regulatory actions. In 2008, the State Water Board reaffirmed this commitment through resolution.

Key Implementation Milestones/Actions: None.

Next Step: The Water Board will continue to prepare and revise grant criteria as appropriate to consider climate change and sustainability measures.

CLIMATE ACTION TEAM STATUS

The California Environmental Protection Agency (Cal/EPA) oversees the Climate Action Team (CAT). The CAT was established to formulate strategies to achieve the GHG reductions mandated by the California Global Warming Solutions Act of 2006 (AB32) and identify longer-term adaptation measures. There are upwards of ten CAT subteams, each evaluating a particular sector. The CAT subteams include Agriculture, Cap and Trade, Cement, Economics, Forestry, Green Buildings, Recycling and Waste Management, Local Government/Smartgrowth, State Fleet, and Water-Energy. Water Board staff participates on five CAT subteams with the listed agencies as key partners, as noted below:

- (1) Agriculture.....SWRCB, CDFR, Cal/EPA, ARB, DPR, DTSC, CEC
- (2) ForestrySWRCB, Resources, Cal/EPA, ARB, CalFire, CEC, Board of Forestry, Parks and Recreation, Fish and Game, Sierra Nevada Conservancy, National Park Service, US Forest Service.
- (3) Recycling and Waste ManagementSWRCB, IWMB, Cal/EPA, ARB, CDFR, CEC, PUC, DOC.
- (4) Local Government/Smartgrowth.....CEC, Cal/EPA, ARB, Caltrans, Conservation, DWR, HCD, IWMB, OPR, PUC, DPH, Education, DOC, DGS.
- (5) Water-Energy.....SWRCB, Resources, DWR, Cal/EPA, ARB, PUC, CEC DFG, DOC, CalFED.

The CAT subteams have been meeting regularly to identify strategies that will reduce GHG emissions. A preliminary list of proposed strategies and measures formulated by the CAT subteams were forwarded to the Air Resources Board (ARB) in January. CAT strategies are

broad efforts, typically including multi-agency participation. Each strategy consists of measures that contribute to the overall objective of the strategy. Detailed descriptions of CAT measures were provided to the ARB in early March for consideration of inclusion in the draft AB32 Scoping Plan to be released in the summer for public review and comment. The final draft AB32 Scoping Plan is scheduled for completion in October and consideration by the ARB in November 2008. Following are summaries of the draft strategies and measures submitted by the WETCAT subteam to the ARB for consideration. These draft strategies and measures are subject to change and/or further refinement in response to review and comment.

Strategy I: Water Recycling

Draft Measure 1: Require Water Recycling Plans at Wastewater Treatment Plants

Agency: State Water Resources Control Board

Energy production is a significant source of greenhouse gas emissions. Approximately 19% of electricity and 30% of natural gas (non-power plant) consumed in California are used to deliver, treat, and dispose of water. Long-distance water conveyance, such as that from Northern to Southern California, accounts for a significant portion of the energy used to provide water.

Water recycling reduces energy use by providing local water more efficiently than importing “new” water from nonlocal sources. This CAT measure proposes that NPDES permits be amended to require preparation and implementation of water recycling plans at wastewater treatment plants (WWTPs) in communities that rely on imported water supplies and/or communities where water recycling would require less energy than current water supplies.

Modern treatment facilities are capable of producing wastewater that is suitable for recycling. The publication *Water Recycling 2030: Recommendations of California’s Recycled Water Task Force* reports that approximately 10% of municipal wastewater in California is being recycled, but as much as 23% of the municipal wastewater flow could be recycled. This CAT measure will help achieve the 23% recycling goal by 2030. Finding suitable markets and funding treatment and distribution system costs are challenges to increasing the use of recycled water.

A substantial energy savings could be realized if recycled wastewater was used to replace potable water in appropriate applications such as irrigation. The amount of energy required to import or recycle water varies widely throughout the state. The California Energy Commission (CEC) has reported that water supply and conveyance of water from northern to southern California consumes an estimated $3.2 \pm$ Megawatt hours per acre-foot (MWh/AF). In sharp contrast, the estimated cost to recycle wastewater is approximately $0.7 \pm$ MWh/AF. As a result, the potential energy savings that could be realized through water recycling is estimated as 2.5 MWh/AF for southern California communities that import water.

Strategy II: Urban Water Reuse

Draft Measure 1: Urban Water Reuse (revised 4/03/08)

Agency: State Water Resources Control Board

This CAT measure proposes to evaluate the potential benefits of an urban water reuse strategy. Although urban water reuse may have the potential to achieve energy and emission reductions by reducing the use of new water, sufficient information is not available at this time to quantify the volume of water that could be captured and reused, or the energy savings that could be realized. This measure is being evaluated for future consideration.

Energy production is a significant source of greenhouse gas emissions. Approximately 19% of electricity and 30% of natural gas (non-power plant) consumed in California are used to deliver, treat, and dispose of water. A reduction of GHG emissions may be realized by replacing energy-intensive water supplies with sources that require less energy. This Climate Action Team (CAT) measure proposes to increase local water supplies by:

- 1) increasing regional stormwater capture, infiltration, and groundwater recharge,
- 2) adopting emerging strategies, such as Low Impact Development, to reduce stormwater runoff and increase infiltration in urban and suburban areas, and,
- 3) constructing small dispersed facilities to capture and reuse dry weather flows.

Urban development and the reliance on traditional storm drain systems have reduced opportunities for stormwater infiltration in many areas of the state. As a consequence, precipitation that might otherwise infiltrate is discharged, and subsequently unavailable for future use. This CAT measure would promote development of infiltration facilities on a regional scale to increase groundwater supplies. Infiltration basins are distinguished from traditional detention and surface storage facilities as they provide only temporary storage until captured water infiltrates.

Traditional storm drain systems are designed to capture and convey water away from developed areas as swiftly as possible, typically discharging to receiving streams or water bodies. The adverse hydrologic and water quality effects that stormwater discharge has inflicted on natural communities demonstrate the need for management strategies that provide greater protection of receiving waters. Nontraditional stormwater management emphasizes the use of vegetated channels and natural landscapes to intercept and convey runoff, slowing the discharge rate, increasing infiltration, and ultimately reducing storm water discharge volume. The most recognized contemporary nontraditional approach is Low Impact Development (LID), but the basic components of this management strategy are components of prominent land use and planning techniques such as Ahwahnee Water Principals, Landform Grading, Clustered and Conservation Development, and Smart Growth. This CAT measure promotes nontraditional stormwater management as a mechanism to augment local water supplies.

Finally, this CAT measure proposes the development of small, dispersed water capture, storage and reuse facilities to increase local water supplies. In the urban environment, water is available from a multitude of sources on a year-round basis. Sources of urban water include stormwater discharge, but also water that becomes available from various urban activities like landscape irrigation, leaking pipes, washing cars, etc. These facilities could capture water infiltrated by nontraditional stormwater management practices.

Strategy III: End Use Water Conservation and Efficiency

Draft Strategy: Reduction of Greenhouse Gas Emissions through Water Use Efficiency

Agencies: Department of Water Resources, State Water Resources Control Board, California Energy Commission

The Governor has identified conservation as one of the key ways to provide water for Californians and protect and improve the Delta ecosystem. He has directed state agencies to develop and implement a more aggressive plan to help achieve a 20 percent reduction in per capita water use statewide by 2020. This directive builds upon the *California Water Plan Update 2005*, which identified water use efficiency as a “foundational action” for California water management.

To implement this goal, DWR is collaborating with the California Energy Commission, the California Public Utilities Commission and the State Water Resources Control Board to develop and implement various measures and strategies to increase water use efficiency and thereby reduce greenhouse gas emissions related to water use. To support this implementation, this conservation initiative will need to utilize the many Integrated Regional Water Management (IRWM) planning efforts throughout California. During 2008, the four-agency group will collaboratively prepare a statewide water use efficiency measure for consideration in the Public Review Draft of the California Water Plan Update 2009.

California will achieve 1.76 MAF of urban water savings by 2020 to meet the Governor's call for a 20 percent per capita reduction in statewide water use:

The California Public Utilities Commission 2005 Water Action Plan adopted the principle of efficient use of water and the objective of strengthening water conservation programs to a level comparable to those of energy utilities. It states that “The Commission will use existing tools to strengthen utility conservation programs, and will provide the necessary direction to do so by initiating formal proceedings where appropriate.” Measures for achieving the directed water conservation target include:

- Best Management Practices
- Appliance Efficiency Standards
 - Landscape Water Conservation
 - Irrigation Efficiency
 - Analytical Tools

Total Annual water savings (including savings from code enforcement) of 1.76 MAF can be achieved through 2020. It is assumed that local agencies are implementing locally cost-effective water conservation measures.

Strategy IV: Energy Intensity of Water System

•Draft Measure 1: Implement cost effective energy efficiency measures in water system infrastructure projects

Agencies: Department of Water Resources, Water Resources Control Board, California Energy Commission, and California Public Utilities Commission.

To meet the needs of Californians, the state's water systems include natural and man-made facilities for the capture, storage, conveyance, treatment, distribution and re-use of water, requiring energy at nearly every step. Consistent with the recommendations of the *California Water Plan Update 2005* and 2005 Integrated Energy Policy Report, this measure seeks to reduce the magnitude¹ and intensity² of the California's water systems through the further implementation of energy efficiency measures (more efficient technologies, re-operation and or re-design) in infrastructure projects.

Setting a target of a 10 percent reduction from 2006 levels would yield a savings of 2,200 GWh and a reduction of 20 percent would yield a savings of 4,400 GWh per year. This reduction in electricity consumption would in turn reduce the GHG emission associated with this amount of electricity generation. An assessment of actual potential is needed to determine if such targets are reasonable.

•Draft Measure 2: Construct tools and protocols to evaluate, measure, and verify the energy impacts of water system and end use conservation and efficiency activities/programs

Agencies: California Public Utilities Commission, California Energy Commission, Department of Water Resources, and State Water Resources Control Board

To accurately assess the amount of potential Greenhouse Gas Emission reductions that are possible from implementing either water-related efficiency and conservation measures or developing low carbon intense water related renewable resources, various tools are needed to evaluate, measure and verify in more detail the amount of energy saved at various stages upstream and downstream of the conservation or efficiency activity or effort.

Use of these tools will assist in program implementation and evaluation of program effectiveness. These tools can assist water agencies and regional boards determine the most effective measures to implement as part of their water management strategies under existing requirements. These tools will be beneficial to ensuring the cost-effectiveness of projects and governmental accountability.

•Draft Measure 3: Conduct research and demonstration projects that explore ways to reduce the energy intensity of the water use cycle and better manage the energy demand of the water system.

Agency: California Energy Commission – PIER

Evaluate and conduct research to: deploy advanced emerging technologies in the water system to lower energy intensity; examine opportunities to shift loads off peak; integrate into the grid intermittent renewable generation from water systems; and better understand the interaction of water and energy within the state and identify new and innovative technologies and measures for mutually achieving energy and water efficiency savings.

¹ Total energy consumed by a particular segment of the water use cycle. Peak demand is usually measured in megawatts and annual consumption in kilowatt-hours or megawatt hours.

² Total energy consumed per unit of water to perform a water management-related action, such as desalting, conveyance, etc... This demand is usually measured in kilowatt-hours per million gallons.

Strategy V: Increase Renewable Energy Production

Draft Measure: Develop renewable projects that can be co-located with existing water system infrastructure

Agencies: Energy Commission and Public Utilities Commission

Consistent with the Energy Commission's *2007 Integrated Energy Policy Report* (IEPR) recommendation to "establish a more cohesive statewide approach for renewables development that identifies preferred renewable generation and transmission projects in a 'road map' for renewables", the purpose of this measure is to identify and implement specific projects that take advantage of the state's water system-related opportunities to generate renewable electricity. Renewables are sources of energy that are naturally replenished, thus diminishing the supply problems potentially encountered with finite resources (i.e., fossil fuels). Examples of energy existing within water systems (water and wastewater projects) include water moving through conduits, sunlight, wind, and gases emitted from decomposing organic wastes. Producing energy from these resources at water and wastewater facilities will reduce greenhouse gas (GHG) emissions by offsetting the need for the facilities to consume electricity derived from natural gas and coal, which constitutes nearly 60 percent, on average, of electricity supplied by California's electric grid.

This measure is motivated by multiple objectives. In addition to GHG reduction, projects will help achieve the following benefits:

- Better management of on-site electricity load at water system sites
- Mitigation of electricity price volatility
- Contribution to meeting the RPS
- Disposal of organic wastes contained in wastewater in an environmentally-preferred manner

Implementation will involve four strategies:

- 1) Regulatory framework: CPUC implementation of AB 1969 (Yee, 2006) feed-in tariffs provides MPR-based fixed price contracts for excess electricity,
- 2) Encouraging use of existing financial incentives
- 3) Assessing economic potential to better target future incentives
- 4) Researching technologies to lower costs and improve performance.