

## DOCKETED

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<b>Project Title:</b>	Water Energy Technology (WET) Program
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*Comment Received From: Paul Kelley*

*Submitted On: 6/15/2015*

*Docket Number: 15-WATER-01*

## **Bay Area Biosolids To Energy Coalition - Comments**

*Additional submitted attachment is included below.*



## Bay Area Biosolids to Energy Coalition

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June 12, 2015

Sent via email to: [docket@energy.ca.gov](mailto:docket@energy.ca.gov)

Pamela Doughman  
California Energy Commission

SUBJECT: DROUGHT RESPONSE DOCKET 15-WATER-01, WET PROGRAM

Dear Ms. Doughman:

The Bay Area Biosolids to Energy Coalition (BAB2E) supports the Governor's directive from Executive Order B-29-15 to invest in the deployment of innovative water management technologies, and we appreciate the opportunity to comment on the proposed Water Energy Technology program. We strongly encourage the Energy Commission jointly with the Department of Water Resources (DWR) and the Water Board to develop a program that is broad and flexible enough to consider the range of new and emerging technologies that may have significant benefits once replicated, but may not fit within current funding opportunities.

Innovative technologies often need significant financial investment in order to be deployed. This proposed program has the potential to fill a funding gap for these new technologies, provided that the administering agencies do not make the new program too restrictive, or duplicate existing grant funding programs.

Regarding duplication, there are several existing state and federal grant funding programs that address some of the water and energy savings and greenhouse gas (GHG) reduction projects presented as examples for the newly proposed WET program, including:

- The [State Water Efficiency and Enhancement Program](#) (SWEEP) administered by the California Department of Food and Agriculture (coordinated with the Water Board and DWR) that funds agricultural irrigation projects that provide water savings and reduce GHG emissions;
- The new [Water-Energy Grant](#) program administered by DWR that provides grants for water efficiency programs or projects that reduce water and energy use and GHG emissions;
- The Bureau of Reclamation's (USBR) [Water and Energy Efficiency Grant](#) program for projects to conserve and use water more efficiently, increase the use of renewable energy and improve energy efficiency; and,
- And desalination funding programs administered by [USBR](#) and by [DWR](#). More funding (\$100 million) will become available to DWR for desalination from Proposition 1.

These existing competitive grant programs are very important, but their requirements can be very restrictive, limiting eligible applicants and setting high bars that new technologies may not be able to meet. We believe that California is a leader in new innovation and we encourage the State to use this opportunity to move new water and energy technology forward, not provide duplicative programs or establish additional limitations that prevent deployment of much needed innovative water management technologies.

**Coalition members:** Central Marin Sanitation Agency; City of Burlingame; City of Livermore; City of Millbrae; City of Richmond; City of San Jose; City of Santa Rosa; Delta Diablo; Dublin San Ramon Services District; Fairfield-Suisun Sewer District; Ironhouse Sanitary District; Palo Alto Regional Water Quality Control Plant; San Mateo County Sanitation District; San Francisco Public Utilities Commission; Sausalito Marin City Sanitary District; Silicon Valley Clean Water; Union Sanitary District; Vallejo Sanitation & Flood Control District; West County Wastewater District

The Bay Area Biosolids to Energy Coalition is comprised of 19 wastewater agencies serving over 4 million people working together to implement a regional biosolids management solution that maximizes the renewable energy potential in wet biosolids and minimizes GHG emissions. The Coalition is working to implement an innovative hydro thermal water oxidation technology. This technology can be scaled and deployed at wastewater treatment plants, reclaiming water from wet biosolids, producing steam for on-site use or electricity conversion, and reducing GHG emissions over current biosolids management methods.

However, without adequate financial assistance, the cost to implement this first of its' kind technology in the U.S. will result in biosolids management costs that are two to three times higher than current options, and therefore, not likely to get approval from the public agency decision makers.

To date, this new technology has not been a good fit within existing state and federal grant funding opportunities, despite that fact that the project will create renewable energy, reclaim water, and reduce GHG emissions. Of note is that this technology is not limited to processing biosolids; it can process all kinds of wet (~10-20% solids) materials or wastes. This includes food waste, industrial sludge and other wet, organic biomass substances. New technologies need financial support through grants to deploy, and once this happens, the technology becomes financeable through traditional sources and can be replicated across the state and nation, resulting in significant cumulative water and energy savings and emissions reductions, such as those being sought by Governor Brown. We ask that the WET program be developed as the vehicle to provide critical funding opportunities for these types of cutting-edge water management technologies, which will then pave the way for widespread use throughout California.

In response to the June 2<sup>nd</sup> Public Workshop, we have provided some answers to the questions posed by the Energy Commission, which are attached to this letter.

Thank you for considering these comments.

Sincerely,

A handwritten signature in black ink that reads "Paul Kelley". The signature is written in a cursive, flowing style.

Paul Kelley  
Executive Director  
Lead agency for the Bay Area Biosolids to Energy Coalition

cc: District File 10089.  
Chron File  
Executive Director

Attachment: Response to Program Questions asked at the June 2, 2015 Public Workshop

## Attachment 1

### Response to Program Questions asked at the June 2, 2015 Public Workshop

*1. What emerging technologies should be considered that provide direct on-site energy, water, and greenhouse gas savings for each of the identified sectors?*

New technologies exist that can maximize the energy potential from biosolids, reclaim water, and reduce greenhouse gas emissions, and these should be considered for funding through the WET program. One example is a hydro thermal water oxidation technology that the Bay Area Biosolids to Energy Coalition is pursuing for implementation at a wastewater treatment facility. The selected project will process 22,500 wet tons/year of biosolids, and be capable of generating 250 KW, equivalent energy for 250 homes or 6 acres of solar energy production. The project will reduce emissions, and will reclaim 5.4 million gallons per year of water, enough to meet daily water needs for over 50 homes. A minimum of \$5 million in grant funds, in combination with low-interest loans, is needed to construct this first cutting-edge project. Successful deployment will allow replication across the state, reducing unit costs and providing significant cumulative benefits including direct on-site energy production, water savings, and greenhouse gas reductions. With broad deployment, the cumulative savings will be significant because the 19 members of the Bay Area Biosolids to Energy Coalition alone produce over 393,000 wet tons of biosolids annually, and these agencies currently haul biosolids nearly one-million miles per year, consuming energy and generating GHG emissions. The technology will also have applicability to other wet materials or wastes, so replication and benefits can extend significantly beyond the wastewater community.

*2. What are some of the main barriers preventing implementation of advanced water and energy saving projects?*

The primary barrier for new technologies is having funds to cross the “[commercialization valley of death](#)”. Sufficient capital is needed to move the technology from demonstration to full commercial scale. Local public agencies are willing to partner with private industry, but cannot bear the entire financial burden for the initial deployment. However, once deployed, the technology can be replicated and commercialized, bringing costs down and providing significant cumulative benefits. Many new technologies do not fit within current, prescriptive grant funding opportunities, which further delays commercial development and the associated benefits that the new technology could bring for water and energy savings and GHG reductions. The WET program should be designed to provide funding opportunities for these new and innovative technologies, without creating such specific or restrictive requirements that prevent these types of projects from being eligible or competitive.

*3. To what extent is broadband or internet availability a factor that prevents implementation of water and energy saving projects, especially on farms and in rural areas?*

No comment.

*4. Are there any operational, regulatory, or other constraints that prevent installing projects quickly?*

New projects must comply with CEQA and obtain required permits from regulatory agencies. These approvals can all happen, but they take time and the project sponsor typically has no control over regulatory timelines.

*5. What is the capability of obtaining utility data showing pre- and post-energy and water use? If utility data is not available, how will pre- and post-results be documented?*

Significant capability exists at wastewater treatment facilities for obtaining data to document energy and water use and savings. However, we ask the Energy Commission not to add words like “significant” to the Governor’s language and to refrain from developing strict minimum levels of savings for a project (e.g., the Energy Commission criteria states “display *significant* water savings, energy savings, and greenhouse gas emission reductions” while the Governor’s language says “achieve water and energy savings and greenhouse gas reductions...”). One project by itself may not meet an Energy Commission definition of “significant” savings, but when deployed statewide, the savings can be huge.