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California Energy Commission  
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California Energy Commission

**DOCKETED**  
**12-ALT-02**

TN # 68810

DEC. 10 2012

RE: DOCKET NO. 12-ALT-2

SUBJECT: COMMENTS ON THE "2013-2014 INVESTMENT PLAN"

To the California Energy Commission:

Thank you for the opportunity to comment on the "2013-14 Investment Plan for the Alternative and Renewable Fuel and Vehicle Technology Program". This letter is submitted on behalf of the Bay Area Biosolids to Energy Coalition (Coalition). The Coalition has grown in four years from six to eighteen agencies representing a population of over four million. Its range and growing size reflect the great need and interest of our industry to maximize the energy value of biosolids as a means of achieving sustainable management of biosolids to meet our goals to become energy-neutral and ultimately energy positive.

One of the challenges in increasing available alternative vehicle fuels is feedstock supply. The wastewater industry can be a significant source of feedstock for renewable energy. Most wastewater biosolids are hauled hundreds of thousands of miles (over 800,000 annually for the eighteen coalition agencies alone) each year for direct land application, landfilling or in some cases energy-intensive composting. Our goal is to instead use them locally, as a critical component of the state's distributed renewable energy portfolio. With high energy value, there is significant potential for biosolids to be a 24/7 renewable feedstock to displace a portion of the fossil fuel used in California and the United States.

We have identified several technologies with the potential to produce different forms of renewable, alternative vehicle fuels. These fuels include a low-sulfur "clean diesel", hydrogen fuel, and fischer-tropsch liquids that can be used as fuel additives to reduce emissions.

The feedstock potential associated with wastewater treatment plants is vast and growing and produced on a 24/7 basis. In 2011, California treatment plants generated 710,000 dry metric tons (approximately 2.8 million wet tons) of biosolids<sup>1</sup>. The Bay Area alone generates over 158,000 dry metric tons of biosolids annually. One wet ton of biosolids has the potential to produce forty gallons of clean low sulfur diesel fuel or twenty-six kg of clean renewable hydrogen (equal to about twenty-six gallons of gasoline). Wastewater treatment plants have the potential to become feedstock and energy generators by harvesting locally-sourced energy in biosolids to offset local energy and fuel. Traditional technologies required large-scale regional facilities for economy of scale and energy-intensive drying prior to conversion, making it virtually impossible to generate net energy. Through our work, the Coalition has identified alternative technology approaches including some that can directly process high moisture feed stocks to produce drop-in liquid fuel. With the distribution network in place, renewable diesel is a

<sup>1</sup> U.S. EPA Region 9

good intermediate step towards reducing dependence on fossil fuel with the ultimate goal of zero emissions. The Coalition has also identified technologies to convert biosolids to hydrogen fuel for the next generation of vehicle.

Deployment of biosolids to liquid fuel in the near term at wastewater treatment plants can provide a local source of clean, renewable diesel and significantly reduce hauling and the associated emissions. However, bringing new technologies such as these to market requires state and federal investment. These processes have been pilot-tested and the next phase of development, commercial-scale demonstration, is capital intensive. Demonstration at market scale is an investment that is well-aligned with the Energy Commission's mission.

Investment by the Energy Commission in biosolids to liquid and hydrogen fuel supports our effort to attain the overarching goals of our Coalition: development of biosolids as a renewable energy source and reduction of greenhouse gases. Investment in biosolids to liquid and hydrogen fuel is an investment in developing technologies to meet the state's goals. It is an investment in helping public agencies, serving a public need, and reducing energy demand and greenhouse gases associated with wastewater treatment and biosolids management. Once demonstrated, these technologies can be easily replicated throughout the state by other wastewater treatment plants with the same objectives of our Coalition; and with that replication at plants throughout the state, the return on the state's investment in the demonstration will be magnified many times over.

We strongly encourage the Energy Commission to allocate funds towards biosolids to energy, to structure solicitations to meet this public need, to increase funding of alternative fuel production, and to issue a solicitation specifically targeted to renewable drop-in fuel and biosolids to hydrogen fuel. We suggest the Energy Commission consider how the funds dedicated to hydrogen fueling infrastructure could be used for on-site production of hydrogen fuel using renewable sources, such as biosolids. Such an allocation would help to increase hydrogen production from renewable resources and would ensure that the California Air Resources Board (CARB) is able to enforce the legal mandate that hydrogen used for transportation fuel be at least 33.3% from renewable sources.

We also request consideration of a funding category for biosolids to fuel. The Investment Plan proposes investment in biofuels, including funding for waste-based resources and identifies a number of waste-based sources for fuel.

Again, thank you for the opportunity to comment. The member agencies of the Bay Area Biosolids to Energy (BAB2E) project look forward to working with the California Energy Commission on implementation of this Plan.

Sincerely,



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Delta Diablo Sanitation District  
Program Manager, BAB2E Coalition

CQ:clk

cc: P.10089.03.04  
Chron File