

Item #9
December 1, 2010
Energy Commission Business Meeting

CLEAN WORLD PARTNERS

Grant Agreement ARV-10-026
For

Pre-Development Activities for a Biomethane
Production Facility

Summary

Clean World Partners plans to design, build, and manage a biomethane production facility at the Sacramento Recycling and Transfer Station in Sacramento, California. The facility will use an anaerobic digestion system known as Anaerobic Phased Solids (APS) to produce a high quality biomethane transportation fuel from locally produced food and green waste. APS Digester technology employs fewer moving parts, requires less energy to operate, is highly scalable, relies upon commercially available components and possesses innovative design features that minimize pre-treatment time. Successful completion of this project will drive new technology advancement as the facility will serve as a model to help accelerate the deployment and market penetration of integrated anaerobic digestion systems.

Clean World partners will use this grant to further evaluate technical, economic and environmental impact elements of the facility, evaluate and reduce associated risks, perform tests and material assessments to verify operating characteristics, and to refine and improve waste collection processes. Once completed, this project will provide a reliable, locally produced supply of 71,324,285 standard cubic feet (SCF) of compressed natural gas (CNG), displacing 584,000 gallons of gasoline annually. Fuel produced from this project will be sold to the Yolo County Transit District CNG bus fleet, meeting over two-thirds of their annual demand for their fleet transit vehicles.

The Energy Commission is providing \$1,315,430 in Alternative and Renewable Fuel and Vehicle Technology Program funds and the project team will provide \$1,826,069 in match funds.

Benefits

This project will result in the creation of 137 direct and 87 indirect jobs during the construction phase and 16 full-time permanent jobs through 2030. When the facility

becomes operational, 584,000 gallons of gasoline will be displaced and 36,500 tons of organic waste will be diverted from area landfills annually. Biomethane produced will have a greenhouse gas reduction of 87 percent below the diesel baseline, equivalent to 15,512 metric tons per year. Co-products will include renewable hydrogen, concentrated liquid fertilizer, clean water, and marketable compost.

Participants

Clean World Partners, LLC develops innovative, advanced anaerobic digestion systems designed to convert waste into energy.

UC Davis' Dr. Ruihong Zhang, PhD, developed the APS digester technology and has extensive experience with data collection, analysis, and research in anaerobic digestion. She will be providing technical support, data collection, and report preparation.

SMUD will participate in a feedstock resource assessment and procurement program plan and implementation, as well as design and install infrastructure requirements for the use of additives that will help enhance biogas production.

BLT Enterprises has more than 25 years of experience in development and operation of material recovery facilities (MRFs) and transfer stations. They will be responsible for waste processing and handling procedures.

Innovative Technical Solutions, Inc. has expertise in design-build, construction, facility maintenance, and environmental remediation. They will manage and coordinate the design, including site work, building, and systems for feedstock delivery and processing; APS Digester; gas conditioning, and residual processing.

Other project partners include Onsite Power Systems, Environmental Management Corporation, HDR, and Gas Technology Institute

Implementation Schedule

Upon execution of this grant agreement, the recipient anticipates that the pre-development work will be completed in 12 months.