

Item #12
December 12, 2012
Energy Commission Business Meeting

Environ Strategy Consultants, Inc.
Grant Agreement ARV-12-021
For
Anaerobic Digestion of Food Waste
To Create Biomethane CNG Fuel

Summary

Environ Strategy Consultants, Inc. will demonstrate how up to 300 tons per day of solid food waste can be diverted from the Inland Empire Utilities Agency's solid waste handling facility in Chino, California to create biomethane gas. The goal of the project is to combine a new food waste pre-processing system with existing anaerobic digesters to create biomethane for conversion into Compressed Natural Gas fuel.

The Energy Commission is providing \$1,211,370 in Alternative and Renewable Fuel and Vehicle Technology Program funds and Environ Strategy Consultants will contribute an equal amount as match funding.

The project will utilize 2 existing anaerobic digesters at the facility that were designed to handle liquid food waste only. The recipient will design and install a new solid food waste processing system to screen, mix, and chemically adjust the solid waste material prior to introduction into the anaerobic digesters.

The pilot project supported by this grant will convert enough biogas to compressed natural gas to displace the equivalent of 750-1,000 gallons of diesel fuel. The CNG produced during the project will be used in a demonstration of fueling heavy-duty refuse collection trucks and for an on-site generator that will produce renewable electricity for the facility.

Benefits

The use of solid food waste to generate biogas will reduce GHG emissions by removing food from landfills that release methane gas into the atmosphere. This is significant because methane is thought to contribute to global warming 25 times more than CO₂.

The compressed natural gas produced will have a Carbon Intensity of 11.26 gCO₂e/MJ which is 83.45 gCO₂e/MJ less than the 94.71 gCO₂e/MJ baseline for ultra-low sulfur diesel. This is an 88% reduction in Carbon Intensity relative to the baseline for ultra-low sulfur diesel (ULSD).

Commercialization of this process could convert 300 tons per day of solid food waste into compressed natural gas for transportation would displace the equivalent of 1.76 million gallons of diesel fuel per year. The use of this amount of biofuel would eliminate almost 40 million pounds of CO₂ vehicle emissions per year.

Implementation Schedule

This project is scheduled to be completed by October 30, 2014.

Participants

Environ Strategy Consultants has extensive experience in the fields of anaerobic digestion, solid waste recycling, and renewable energy development. A key partner, Firm Green, Inc., has over a decade of experience developing technologies to convert waste to fuel and efficiently process biogas for use as compressed natural gas.

The project will be located at 16090 Mountain Avenue, Chino, CA, 91710. The main contact is John McNamara, (714) 919-6510 ; jmcmamara@environstrategy.com

Assembly District: 61

Senate District: 29

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