



Biowaste to energy demonstration project gets funding in US

24 April 2013

Chemergy's HyBrTec technology will convert biosolids to hydrogen to generate electricity in a US\$1.75 million project.

The California Energy Commission has approved funding for the Bay Area Biosolids to Energy (BAB2E) coalition to demonstrate biosolids-to-energy conversion at the Delta Diablo Sanitation District (DDSD) facility in Antioch, California.

The BAB2E partnership, which consists of 19 San Francisco Bay Area public agencies responsible for waste water treatment, will use the funding to demonstrate the efficacy of Miami-based **Chemergy Inc.**'s proprietary *HyBrTec* technology - which converts biosolids into hydrogen fuel for use in generating electricity.

Lawrence Livermore National Laboratory (LLNL) will support the analysis over the 24-month project valued at \$1.75 million.

Biosolids are an energy rich resource, but wastewater treatment plants have limited options for managing biosolids and most must haul them far distances for land application and placement in landfills. The coalition aims to diversify their options for managing biosolids and reduce the required hauling miles by tapping biosolids energy content.

The demonstration project will evaluate the *HyBrTec* process to produce renewable hydrogen, non-anthropogenic carbon dioxide, and thermal energy from biosolids. According to Chemergy, *HyBrTec* can produce renewable hydrogen from biowaste such as manure, paper, wood/crop residues, municipal solid waste, and virtually any organic material.

According to a company statement, the amount of hydrogen produced depends on the specific feedstock; however, one-ton of biosolids consisting of 50 wt% water, 40 wt% cellulosic organics, and 10 wt% inorganics will produce 165 pounds of hydrogen (with the energy equivalence to 74 gallons of gasoline) while yielding 1.8 MWh of 175°C thermal energy.

HyBrTec allows much higher feedstock utilization than traditional organic processes such as anaerobic digestion or fermentation that depend on 'bugs' and are susceptible to process upsets, while also avoiding the need for capital intensive equipment used in high temperature gasification or pyrolysis. Because wastewater is a co-reactant, wet-biosolids may be utilised, which significantly decreases pretreatment energy requirements.

On completion of the BAB2E demonstration program, the *HyBrTec* demonstration system will be employed as an educational and marketing platform for near-term large-scale commercial applications.