

Global Water Intelligence

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Market-Leading Analysis of the International Water Industry

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SRF-in' USA Stimulus package to benefit state revolving funds

Proof that dry sludge can give you gas

A Connecticut city is seeking to turn dried sludge pellets into energy. It is the latest advance in the water-energy nexus, as Kathy Shandling discovers.

The concept of gasification is about to find a new home within the water sector. In its interest to develop a unique option for generating electrical power, the Water Pollution Control Authority (WPCA) of Stamford, Connecticut, is actively exploring a way to produce gas from dried pelletised wastewater residuals, or sludge, through a gasification technology known as downdraft gasification.

The project concept is still being tested by the authority in a pilot phase, funded by a \$1.5 million grant from the US Department of Energy, which has been matched by the city of Stamford. The ultimate goal is to build a 10MW power plant – enough to meet the needs of about 3,000 households, and the full-scale gasification and power facility has now entered the design stage. A shortlist of construction companies has been drawn up with a view to building a gasification reactor and providing reliable internal combustion engines best suited for the gas.

Stamford plans to use 10% of the energy

generated to run the wastewater treatment facility, and sell the remaining 90% into the local power grid. "This is a win-win situation for our city," Mayor Dannel P. Malloy told GWI. "We can use the sludge to generate environmentally friendly renewable energy that will also ultimately save us money."

The WPCA project team consists of Carlin Contracting, the US Department of Energy and the city of Stamford, with CH2M Hill heading the design-build team. While the full financing package still needs to be put in place, it is anticipated that ground will be broken for the \$60 million project by mid- to late summer 2009. According to the WPCA, funding for the project will most likely comprise a mixture of grants, revenue bonds, and private project finance.

Currently in Stamford, wastewater residuals are dried to create a Class A biosolid that can be pelletised and used as fertiliser. The goal of the WPCA is to take the management of biosolids one

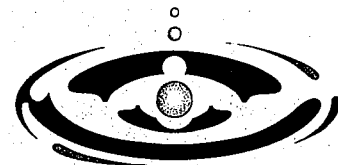
step further and convert the dried sludge into a fuel gas that will ultimately produce electricity. Jeff Fournier, senior project manager at Carlin Contracting, told GWI that the project seeks to "demonstrate the availability of a reliable, valuable and consistent fuel source."

Jeanette Brown, the executive director of the WPCA, stresses the fact that gasification is a clean and effective alternative to fossil fuels. "If all the wastewater treatment plants in the US made the proactive decision to gasify their waste, the output could provide power to millions of households per day," she told GWI.

As the development and implementation of the Stamford gas project moves forward, the WPCA believes that the concept could be replicated not only in other US cities, but also in other urban regions across the globe. After all, every city in the world generates sewage, and the prospect of putting the resultant sludge to a new productive use could change the way cities traditionally view wastewater disposal.



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