Project would turn Milwaukee trash into energy

By Thomas Content of the Journal Sentinel

Posted: Feb. 2, 2010

Trash would be converted into electricity at Project Apollo, a renewable energy project proposed for Milwaukee's north side, developers said Tuesday.

Alliance Federated Energy announced plans to develop a $225 million renewable energy plant that would create 250 construction jobs and 45 full-time jobs. The first phase of the project is expected to be running by 2013.

The plant would use technology developed by Westinghouse Plasma Corp. of Madison, Pa., to convert the waste at high heat into a synthetic gas, or syngas. That, in turn, could be used as a fuel to generate power.

The first phase of the renewable energy facility is expected to process about 1,200 tons of municipal and industrial waste per day. That would generate 25 megawatts of electricity, or enough to power roughly 20,000 typical homes, according to Alliance Federated Energy. A second phase is envisioned that would generate another 25 megawatts of power, company spokesman Josh Morby said.

Alliance is a Milwaukee-based company that focuses on developing and financing renewable energy projects. The company was founded in 2005, and Apollo is its first announced project.

The location of the project hasn't been announced, but the developer is planning to locate in Milwaukee.

Asked if the company is considering the former Tower Automotive site in Milwaukee, Morby said, "We have an option on a site that's approximately 25 acres on the north side of Milwaukee, but we're in discussions with the DNR on other potential brownfield sites in the city."

Alliance executives have met with representatives of the state's Office of Energy Independence to explore funding options for the project, Morby said.

"This commercially proven technology is the ultimate in recycling," Christopher Maloney, Alliance chief executive, said in a statement. "And we are pleased to be building our first project right here in Wisconsin, a state committed to promoting environmental stewardship and technological innovation."

Like many renewable energy developments, the project is small, and would generate less than 5% of the electricity being generated from the coal-fired power plant that We Energies opened Tuesday in Oak Creek.

The Apollo announcement was praised by Gov. Jim Doyle, who has been pushing development of more renewable energy in the state.

"We are pleased that AFE has selected Wisconsin for their first renewable energy project," Doyle said in a

statement. "This technology has real potential to help us address the growing need for clean renewable power. Project Apollo will create new clean energy jobs in our state, reduce the need for continued landfilling of our wastes, and reduce greenhouse gases."

Garbage-to-energy projects in the past have involved incinerators, which raise environmental concerns because of the pollutants released from incinerator smokestacks. But this project would not involve burning trash.

Instead, the process uses plasma, a highly ionized or electrically charged gas. Plasma torches similar to those used in some foundries are used to create intense heat, which then converts solid or liquid wastes into gas.

The company wants to pursue an agreement with an electric utility to buy the power that would be generated at the Milwaukee site.

Alliance said it has received initial commitments from Badger Disposal of Wisconsin to supply about 30% of the waste material needed for the energy project. Badger Disposal is an industrial waste management services company. Discussions are under way concerning the sale of the power and gas.

Alliance Federated Energy said it will work with Aecom Technology Corp., which will handle permitting for the project, as well as CorVal-Ryan, a Minnesota firm, to design and build the facility.

"We believe that plasma gasification technology has the potential to be a major player in the renewable energy market and are excited to be working with AFE on their Apollo Project," said Bob Cutshall, president of CorVal-Ryan. "We have a number of plasma gasification-based renewable energy projects in design or under construction and see that number growing in the coming years."

Several plasma gasification facilities are operating around the world, but there are no commercial plants operating yet in the United States, Alliance spokesman Morby said.

A large project using the technology has been proposed to retrofit a Massachusetts coal-fired power plant to burn biomass in addition to coal. Other projects using the technology are in the planning stages in International Falls, Minn.; New Orleans; and Tallahassee, Fla.

Plasma gasification is also being used at an ethanol plant being developed by Illinois-based Coskata in Pennsylvania. In addition, several projects are in development in Asia, including a plant in Japan that converts metal left over from shredded cars into electricity. The technology can use fly ash created by the process of burning coal, as well as industrial waste or household trash, to create gas, Morby said.