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Passing biogas: R-Qubed project converts cow manure to methane

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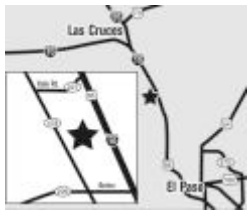

Some locals sarcastically joke that the stretch of dairy farms along Interstate 10 south of Las Cruces should be re-named “Buenos Aires” (fresh air).

It’s a reference to a less than aromatic sector of I-10 in southern New Mexico, not a reflection on the capital of Argentina. But that soon might change, thanks to a $72 million plan by R-Qubed Energy Inc. of El Paso to build one of New Mexico’s first biogas plants, near the towns of Vado and Berino.

The plant will convert cow manure from local dairies into methane gas for use at **Public Service Co. of New Mexico**’s natural gas plants. It also will make fertilizer and compost from manure, and recycle effluent water for re-use on farms, said R-Qubed President Eduardo Rodriguez.

“The plant will help dairy operations deal with environmental issues caused by manure piling up on the ground,” Rodriguez said. “The manure releases methane, a greenhouse gas, and it endangers water resources through storm runoff. By recycling the manure, we’ll also reduce odor and fly populations significantly.”

Once fully operational, the plant will create enough methane to supply energy to about 4,000 average households, Rodriguez said.

PNM has sent R-Qubed a letter of intent to purchase its gas. The utility also requested permission from the New Mexico Public Regulation Commission to count methane purchases toward its compliance with the state renewable energy portfolio, which requires large utilities to derive 10 percent of their power from clean sources by 2011, and 20 percent by 2020.

Cynthia Bothwell, integrated resource planning manager for PNM, said methane gas from manure offers a more consistent power source than other alternatives, such as solar and wind.

“Unlike other renewable resources that are intermittently available, PNM can use renewable fuel purchased from R-Qubed in existing fossil fuel facilities that are dependable and reliable, without the need to build additional infrastructure,” Bothwell said.

However, it could take a few years before R-Qubed delivers much methane, since the company plans to build its plant in phased quadrants.

Construction of the first section is scheduled to start late this year at a cost of $26 million. R-Qubed is now raising capital through private investors, and from lending institutions.

"We're probably between four to six months away from when we can start construction," Rodriguez said. "Once we break ground, it will take about nine months to complete and three months to be commissioned."

R-Qubed, which stands for renewable and responsible resources, will partner with **Reynolds Inc.** of Indiana to construct the water treatment facility and pipeline system for the plant.

Entec Biogas of Austria will build the plant itself, using technology that mimics a cow's digestive system. In Entec plants, a biodigester – essentially a huge tank – is filled with liquid manure and stirred slowly for three weeks at about 100-degree temperatures. During that time, microbes in the manure produce gases, including methane.

Entec has built digesters in more than a dozen countries, generating confidence in its reliability, said Lenny Martínez, Gov. Bill Richardson's policy advisor for rural economic development.

"R-Qubed is using a proven biodigester system," Martínez said. "I'm optimistic the project will move forward."

Nevertheless, raising the funds might prove difficult. A New Jersey company, for example, recently froze plans to build a $36 million biogas facility in Clovis because of the credit environment.

"Funding is a big challenge, although the company may have gotten some of its financing in place before the markets went south," Martínez said.

Either way, R-Qubed is laying the groundwork for its plant. It held two town hall meetings with local communities in March and April to solicit support for the project, and it's currently negotiating with dairies to buy manure.

Michael Weatherly, whose family owns Buena Vista Dairy in Mesquite, said he and his neighbors are excited about the project.

"It's kind of a win-win for everybody," Weatherly said. "It's good for us because it consumes our waste product and recycles our water. It's good for the community because it reduces odors and creates energy. It's just good all the way around."

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