

Plant turns sewage into power

Methane gas tapped to fuel power cells and produce electricity

By Ann Griffith
Staff writer

Drive south in Malibu Canyon, make a left along a private road past wild grasses and oak trees and you'll come upon the building where they turn human waste into electricity.

In this tranquil setting, methane gas, a byproduct of waste from a sewage treatment plant, powers fuel cells to produce electricity.

Onsite Power Systems of Camarillo hopes the current energy crisis will spur more plants like this one, which it designed for the Las Virgenes Municipal Water District in Calabasas. The publicly traded company is also working with the University of California, Davis, to treat livestock waste in a way that the methane can be used to power farms and dairies.

"It's the wave of the future," said Orville Moe, chief technical officer for Onsite. "If things go right, our investment will be reward-

ed. We see this going to tens of millions to hundreds of millions of dollars."

Many sewage treatment plants, including some in Ventura County, dispose of their methane gas by converting it to electricity. The Las Virgenes plant is different in that it uses a nonpolluting chemical reaction to produce electricity rather than a combustion engine, which pollutes.

The project has generated interest among municipalities and state officials looking for electricity alternatives. The technology is basic but the way Onsite uses it is unusual.

"I am favorably disposed to this," said Michal C. Moore, a California Energy commissioner who participated in the dedication ceremony for the Las Virgenes Plant three years ago. "If they can submit bids for creating new

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technologies, we're going to step up to the plate and make available some incentive dollars."

The facility, however, has limited application with methane.

Each sewage treatment plant only produces enough methane to power a portion of that plant. Electricity production at Las Virgenes can provide about 90 percent of the sewage plant's power. Trash dumps also produce methane and have been known to use combustion engines to produce electricity.

Area cities, such as Ventura, Thousand Oaks and Camarillo, say the cost of fuel cells has kept them out of reach for most municipalities.

"Usually there's a minimum plant size required before it is economical," said Bob Westdyke, Camarillo public works director. "With electricity prices going up, that size may be going down. We should look into it again."

The Las Virgenes plant cost \$2.6 million to build, including more than \$1 million in grants from the California Energy Commission and the federal government.

Factoring in the cost reduction because of the grant, the electricity at Las Virgenes costs about 4 cents a kilowatt hour to produce, compared to the recent market rate of 25 cents.

If the Las Virgenes methane weren't powering the sewage plant, it could power about 300 homes, Moe said.

Ventura uses a combustion engine at its sewage treatment plant to burn methane. The program has cut the power bill there by 25 percent.

The fuel cell systems also can work with natural gas and other fuels. Experts say the systems are especially good as an onsite backup source of power at apartments and businesses.

"One of the things we've been lacking is the focus," said John Mungenast, who is on the high-technology power cluster committee with the Economic Development Corp. of Ventura County. "I get involved in this every 10 years and then the price of oil goes down and interest goes away."

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