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DeWitt eyed for huge energy plant

Coal-to-gas facility proposed at old cement factory near Jamesville. It would employ up to 150 people.

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By Tim Knauss
Staff writer

At a 126-acre site in DeWitt, energy entrepreneur Adam Victor plans to build a facility capable of transforming 10,000 tons of coal per day into natural gas for use in homes, businesses or power plants.

Victor said he has an option to buy the former Alpha Cement factory site south of Rock Cut Road, between Jamesville Quarry and Clark Reservation State Park, where he intends to build a \$1.3 billion coal gasification facility.

If his ambitious proposal succeeds, the plant would be one of the first of its type in the country. It would produce enough natural gas to supply 16 percent of all residential use in New York.

Coal gasification is an old process, but it's sparking new commercial interest and technological innovation thanks to the high cost of natural gas and the nation's problematic dependence on foreign oil.

Victor, who is based in New York City, said the gas produced at his facility would be cheaper than natural gas from wells and would provide the energy equivalent of 30,000 barrels a day of crude oil.

The facility would capture up to 90 percent of the carbon dioxide given off during gasification. The carbon dioxide could be shipped to Texas to augment oil well production, he said.

Victor's company, Empire Synfuel LLC, is one of four companies hoping to win a contract this month from the New York Power Authority as part of a clean coal initiative established by Gov. George Pataki. But Victor said he intends to build the coal gasification plant with or without a state contract.

The project requires no government subsidies, Victor said.

DeWitt town Supervisor Jim DiStefano, who toured the site Friday with five other town board members, said he is enthusiastic about the project, which could create 2,000 construction jobs and 100 to 150 permanent jobs.

"It just sounds tremendous," he said. "We need energy sources, and anything we can do to reduce our dependence on foreign oil, I think it's a win situation for the United States."

The project would require permits from the town and from state agencies, which will review

the project under provisions of the State Environmental Quality Review Act.

Details about the project and its environmental impact will be submitted to the town board within 90 days, said Jack Loveland, the former president of O'Brien & Gere engineering company, who is a management consultant on the project.

Victor said he has known Loveland for two decades. O'Brien & Gere helped build Victor's Project Orange power plant, on Taylor Street, Syracuse. It was completed in 1992.

DeWitt town board member Ed Michalenko, who was unable to take the tour Friday, said it's hard to assess the proposal until plans are filed.

"The devil is always in the details," he said.

Loveland said he hopes to have the facility operating by 2010. In broad outline, here's how the Empire Synfuel project would work, according to Victor and Loveland:

Each day, a freight train would bring in 100 rail cars of coal - 10,000 tons - from Pennsylvania or West Virginia. The coal would be unloaded in an enclosed structure, during daylight hours, to minimize noise and dust.

The coal would be fed into 10 40-foot-high gasifiers, heated to 3,000 degrees Fahrenheit and mixed with steam and small amounts of oxygen. Without burning the coal, gasifiers break it down chemically into synthesis gas, composed mainly of hydrogen and carbon monoxide. Further processes remove sulfur, mercury, carbon dioxide and other impurities.

In a process called methanation, the low-calorie syngas would be converted to high-calorie substitute natural gas, methane, that is chemically identical to natural gas from the earth. The methane would be pumped through 18-inch gas mains to an interstate gas pipeline about two miles away.

The slag left over from gasification - about 2,000 tons per day - is glass-like and inert. It can be landfilled or recycled into construction materials, Victor said. Initially, much of the slag would be used as fill at the site, he said.

Air emissions from the process are insignificant, Victor said.

Empty rail cars would leave the site the way they came, back through Syracuse and west to pick up more coal. The trains would not cross busy Route 173, south of the facility in Jamesville.

Loveland said he is trying to find a second site where the carbon dioxide could be loaded onto rail cars after being piped over from the former Alpha Cement site. Empire Synfuel hopes to sell 100 rail cars a day of carbon dioxide to an oil company in Texas, where it could be pumped deep into mature oil wells to bring up more oil.

The carbon dioxide could be loaded on trains at the Alpha Cement site, but Loveland said he would prefer to find another location. He did not specify where.

The production of liquid or gaseous fuels from coal is an old technology, dating to the days when gaslights in Syracuse and elsewhere were lit with coal gas. Germany used coal gasification extensively during World War II, and South Africa has used it since the 1950s.

The technology has improved with time.

In the early 1980s, the federal government provided loan guarantees to help develop the \$2 billion Great Plains Synfuels plant, in North Dakota, which makes substitute natural gas from lignite, a low-quality coal. The privately owned facility pipes carbon dioxide 200 miles

north to Canadian oil fields, where the gas is injected into the ground to enhance oil production.

There are about two dozen new coal gasification projects proposed around the country, said Robert Beck, executive director of the National Coal Council, an industry group that advises the U.S. Department of Energy.

But most of those projects involve generating electricity from syngas, which is lower in quality than methane. Beck said he's heard of only one other project besides Empire Synfuel that would take the extra step to convert syngas into methane.

Gov. Mitch Daniels, of Indiana announced plans in October for a \$1.5 billion coal gasification facility to make methane for sale to the state's three largest natural gas utilities. The plant aims to be in operation by 2011.

If a coal gasification project makes methane, it's simpler and more profitable to sell the output as natural gas than to generate power, Beck said.

In September, the New York Power Authority put out requests for proposals from power plants to supply electricity using clean-coal technology and to develop ways to sequester carbon dioxide, which is believed to cause global warming.

Empire Synfuel submitted a bid, as did three other companies, although Victor said he's more interested in selling natural gas than in producing electricity. Empire Synfuel could either sell gas directly to the power authority for use in its power plants or make electricity at Project Orange with gas from Empire Synfuel.

Victor's project still has a long way to go. Besides securing permits, Victor must negotiate long-term contracts for coal supply, rail transportation and natural gas sales before he can secure financing for the project, he said.

Citibank has indicated an interest in financing the deal, he said.

Environmentalists are divided over developing coal as an alternative fuel. New gasification technology has the potential to strip out many pollutants, but some critics worry about the environmental impacts of increased mining.

But other environmental groups say it's worthwhile to investigate advanced coal technology, because coal is bound to remain a significant source of U.S. energy.

"We can't eliminate coal," said Katherine Kennedy, a senior attorney at the Natural Resources Defense Council. "So although other technologies are the ones we're going to favor, we're looking for solutions on the coal front, too."

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