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Officials: Farms could provide fuel of the future

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An event on Monday at Skidmore College brought together stakeholders interested in finding a way to promote the use of renewable natural gas. From left, Peter Wright of Cornell University's Dairy Environmental Systems Program; Joanna Underwood, founder of New York City-based Energy Vision; and state Assemblywoman Carrie Woerner, D-Round Lake.
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SARATOGA SPRINGS, N.Y. — New York's 625,000 dairy cows produce an almost limitless supply of "brown gold" – manure that can be used to make clean-burning renewable natural gas, to fuel vehicles throughout the state.

On a large scale, officials said such efforts would have a host of environmental benefits including a major reduction in greenhouse gas emissions, which contribute to climate change. But widespread adoption won't occur without a financially viable business model.

More than 100 stakeholders, including farm, energy and development firm representatives, along with state officials, gathered Monday at Skidmore College for a workshop called, "The Power of Organic Waste: Opportunities for Renewable Natural Gas in New York."

“You get a tremendous bang for your buck when you convert a fleet of trucks or buses to renewable natural gas,” said Joanna D. Underwood, founder of New York City-based Energy Vision, which organized the event. “Then you create the market for the guy who wants to buy an anaerobic digester.”

Anaerobic digesters convert manure to methane gas. Currently, the systems are found at 28 upstate New York farms, including Wagner Farms in Brunswick, Rensselaer County. Most farms use the electricity to power their operations, which reduces utility costs.

Or, they can obtain energy credits by putting the electricity back on the grid.

But Underwood said the potential for economic reward is much greater by using manure-produced methane to make renewable natural gas.

“When you refine the biogas and put it in a bus or a truck and use the new natural gas engines, it’s almost zero emissions in terms of nitrogen oxide, which damage the lungs,” she said. “It’s a very, very clean fuel.”

Such fuel could be used for a variety of uses in addition to vehicles, said Assemblywoman Carrie D. Woerner, D-Round Lake, a member of the Legislature’s Joint Commission on Rural Resources.

“All around us in this region we see demand growing,” she said. “Supply constraints could impact economic development.”

For example, GlobalFoundries’ large semiconductor plant at Luther Forest Technology Campus uses 474 cubic feet of natural gas per hour, and runs around the clock, she said.

“Imagine how much would be needed for them to build a second fab [factory],” Woerner said. “It’s hard to imagine them being able to do it without more infrastructure.”

A large facility, which converts manure and food waste to gas, could help supply the company’s need for natural gas while giving farms and restaurants a way to dispose of waste in a more environmentally friendly manner.

Peter Wright, of Cornell University’s Dairy Environmental Systems Program, said New York state’s cow population could support 229 anaerobic digesters “if it was more economically feasible.”

“Resources and technology are not the constraints,” he said. “The key is to monetize the environmental benefits and do it in a way that keeps the cost of verification low.”

Several state agencies such as the Department of Environmental Conservation and Department of Agriculture and Markets have a vested interest in seeing anaerobic digesters become more widely used, he said.

David Miller of the Attica-based firm, Sustainable Dairy Technologies, called on state leaders to host a summit to discuss such issues, similar to other meetings that have benefited the craft beverage and yogurt industries.

“We’re at a tipping point right now with the anaerobic digester issue, with the promise or demise of it,” he said. “There have been a lot of good suggestions, but nothing is really coming together in New York state to make this viable.”