



DTE Vantage Revs up Dairy RNG Work



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Arlene Karidis | May 09, 2023

The renewable energy world has taken some twists and turns, and the ability to anticipate what likely lies ahead and adapt is key to advancing along the shifting course.

DTE Vantage, a part of DTE Energy, has a story on riding the curve and laying more tracks. It begins with the developer's first landfill gas-to-power contract in the late 1980's, followed by its early entrance, and subsequent expansion, into dairy farm renewable gas (RNG). The story continues through a brand-new business focus that's percolating.

The short version of DTE's narrative is that it has snagged 13 RNG projects with two more under construction—four are landfill gas projects and the remainder are investments in dairy RNG. Now it's brought together a new group to be able to add carbon capture and storage to its portfolio.

Jeff Spearin, director of Biomass Assets at DTE Vantage, reflects on how the company, among the largest renewable fuels producers in the Midwest, decides which basket to drop which eggs in, and how to thrive in a business that's seen a boon, accompanied by a lot of competition.

What project types are prioritized evolves, depending on how end products are marketed or monetized, and policy comes into play here.

More states are looking to implement low-carbon fuel credit programs similar to California's, Oregon's, and Washington's to advance renewable fuels markets. And the U.S. Environmental Protection Agency's (EPA) Renewable Fuel Standard (RFS) program is going through new rule making procedures now.

"Such new rules and new targets potentially change the types of projects we look to develop," Spearin says.

In DTE's early days, renewable power from biogas was valuable and sought, which drove development of those projects.

"Once RNG [which is cleaner and of a higher BTU than raw biogas] was maturing, we began focusing on making pipeline-quality RNG, continuing with an initial focus on landfill gas.

"But as [landfill] RNG was increasingly evaluated for carbon intensity it became clear that not all RNG was the same," Spearin says.

Dairy has the best carbon profile, so with the escalating push to decarbonize the economy, cow manure has become a popular feedstock for renewable transportation fuel. Farmers have been open to stepping in as offtakers to generate revenue and cut their own emissions.

The year 2019 was a big first – the first dairy project for DTE Vantage, and the first one of its kind in the state of Wisconsin.

Matsche Farms, housing the company's newest project in that state, manages 10,000 cows and will produce enough RNG to fuel about 1,600 vehicles a year.

Timing has been a good friend.

"We are one of the early movers in dairy RNG, which allowed us to learn the business when it was new. But it takes good digester operations expertise to scale, just as it takes good gas well field operations to make headway in the landfill biogas market," Spearin says.

Every project is unique. And operating systems and management support systems must be designed to maximize the value and potential of each of them.

With that understanding, the scope of the Wisconsin-centric developer's role varies.

In the dairy space the team may construct, own, and operate digesters, or when farmers own the digester, DTE's job is solely to process the biogas and carry through to getting it injected into the pipeline.

On the landfill side DTE commonly has upstream involvement, beginning with tuning and balancing how biogas is pulled from wellfields, though it may just collaborate as the biogas offtaker.

Staying on top of California's Low-Carbon Fuel Standard (LCFS) program and EPA's RFS program is critical and a complex job.

"We need to explain to our host partners how the market works and how credits are generated. And we need to help them understand the potential for future projects and factors that could impact their longevity," Spearin says.

To be able to tap into credits also calls for painstaking monitoring and reviewing of project data.

"You are in the gas business, but you are also in the data business because to substantiate a product as RNG that's compliant with regulations, you must collect and report a tremendous amount of details.

You have to show where biogas came from; how it moved through your processing facility; how it made it to the pipeline system; and how it was consumed as transportation fuel or other credit-eligible fuel," Spearin says.

Logistics carry their own bag of challenges. Seven of DTE's nine farm partners are a good distance from natural gas pipelines. In answer, an interconnect facility in Newton, Wisconsin serves as a hub. Raw biogas is compressed on trucks, delivered to Newton, decompressed, processed, and injected directly into the interstate pipeline.

Farm and DTE's staff do a lot of back and forth interaction to stay abreast of operational changes that can have impact. Adjustments in livestock populations or the mix of livestock, among multiple factors, can affect how a project runs and how the product is registered with carbon credit programs.

Key partners Clean Energy Renewable Fuels and U.S. Venture get the transportation fuel to end markets through their own dispensing network.

Clean Energy, an early investor in RNG, has been a strategic partner for years, predating both its and DTE's move into dairy projects.

DTE Vantage's first dairy RNG projects were also Clean Energy's first, coming online shortly after the California Air Resources Board (CARB) expanded the pathway processing and reporting obligations under the LCFS. The companies joined forces to bring low-carbon intensity dairy RNG to Clean Energy's California stations.

"Our focus has always been securing the lowest carbon intensity fuel available, which naturally led us to the dairy market on the heels of rising LCFS prices and more onerous carbon reduction policies," says Sean Wine, vice president, Renewables Distribution, Clean Energy.

"We shared a common goal [with DTE Vantage] in leveraging the carbon reduction benefits of dairy RNG to decarbonize the transportation sector.

Additionally, because of the relationship established previously on landfill projects, we had strong functional teams that could execute vision and navigate the regulatory complexities of the changing markets," he says.

DTE Vantage is looking out for the next emerging technologies.

"We are eyeing carbon capture and sequestration now as we have seen enough interest and maturity in technologies to be willing to put resources behind developing a business there," Spearin says.

Then there's hydrogen.

"There's a lot of talk around the potential and future of hydrogen as a fuel source. So that's another one. We are always keeping an eye on what the next opportunity [in clean alternative fuels] might be," he says.