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Luverne plant first to make green methanol

By Mavis Fodness

Three months after purchasing the former Gevo Inc. plant in Luverne, A.E. Innovation debuted a partnership with a bio-processing firm to create green methanol.

CapCO₂ Solutions of Ridgeview, New York, will use the Luverne plant as a model to capture the carbon dioxide emitted during the ethanol-making processes and turn the waste product into methanol, a fuel commonly used in cruise ships.

Representatives from A.E. Innovation, CapCO₂ Solutions, the city of Luverne and Methylenium Energy hosted an open house Wednesday, Aug. 20, at the Agri-Energy plant west of Luverne.

About 100 people attended the event.

Jeff Bonar with CapCO₂ Solutions explained the Luverne plant will be the first ethanol manufacturer to commercially produce methanol.

"This is not a pilot plant," Bonar said. "It's the lighthouse plant — we're going to light the way for all the other ethanol plants that we'd be doing."

He anticipates the Luverne plant will be producing methanol by 2027, once all the equipment is in place.

Methanol is produced by capturing the carbon dioxide emitted during the ethanol manufacturing process, mixing it with hydrogen using water electrolysis, and synthesizing it under pressure and high temperatures.

Max Lyubovsky with Methylenium Energy of Falls Church, Virginia, developed the methanol-making technology and began



Mavis Fodness photo/0828 Agri-Energy Collaboration Methanol

Jeff Bonar with CapCO₂ Solutions speaks with attendees at an open house Wednesday afternoon, Aug. 20, at the Agri-Energy plant west of Luverne. Bonar introduced a new partnership that will take the carbon dioxide emitted by the plant and convert it to green methanol, a fuel commonly used in cruise ships.

► AGRI-ENERGY to produce renewable energy

piloting the process in 2009.

"Now by partnering with ethanol plants we can put all the pieces together," Lyubovsky said.

Wind energy will be used to power the process.

"If you want it to be green methanol, it has to be from renewable power," Bonar said.

The Agri-Energy plant has two wind turbines west of Luverne and will also be able to accept electricity that is not currently being used on the electrical grid from nearby wind farms.

"The grid won't take that electricity, but we will," he said. "There

are more inefficiencies in the system that we can take advantage of."

Bonar said a nearby wind farm has not been built to full capacity and may also contribute electricity for the Luverne plant.

"The renewable power facility just to our west has nine permitted turbine sites, but they were never built on because they didn't think they could sell the electricity," he said.

Former Beaver Creek resident David Kolsrud with A.E. Innovation said he has been working with Bonar for several years to use waste produced to create some-

thing useful.

He said the Agri-Energy plant has been emitting carbon dioxide for nearly 30 years and said, "We didn't know that it had any value until now."

Kolsrud is one of the original Agri-Energy investors who built the Luverne plant to produce ethanol from corn in 1996.

Gevo Inc. purchased the plant in 2010 and retrofitted the plant to produce isobutanol.

The plant was idled in 2022.

Kolsrud said the plant is expected to produce ethanol again in November.