

Partnership Delivers Renewable Fuel for Michigan

Dairy to produce renewable natural gas to heat homes, help environment

Consumers Energy announced an agreement with Swisslane Farms earlier this year to build a biodigester facility that will convert agricultural waste into clean, renewable natural gas, or RNG.

RNG is renewable fuel, interchangeable with conventional natural gas. Produced from organic wastes and other renewable sources, it can help heat Michigan homes, power stoves and dry grain for farmers. RNG is a key technology available to reduce methane emissions, a greenhouse gas more potent than carbon dioxide.

Swisslane Farms, located in Kent County, plans to provide manure from its dairy cows to the production facility, which means the manure would no longer be stored in open lagoons where it produces methane released to the atmosphere.

Instead, the closed biodigester will contain the manure and capture the methane, clean and condition it, and place it in existing gas pipelines. This methane capture process is equivalent to removing about 4,000 gasoline vehicles from the road each year.

"This project is an exciting first step in a cleaner natural gas future for our customers," said Greg Salisbury, Consumers Energy's vice president of gas engineering and supply. "Michigan will need natural gas for years to come. We also expect the role of natural gas to evolve, and RNG provides exciting opportunities to help the environment and the economy. We're proud to work with the agricultural community to lead Michigan's clean energy transformation."

The \$17 million project, which requires regulatory approval, could start production in late 2023. Ultimately, the biodigester could produce enough RNG annually to heat nearly 1,000 homes on a cold winter day. Investments like the Swisslane project contribute to the growth of the RNG industry and provide sectors such as

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Are You on the Right Plan?

Take time to make sure you are on the right energy plan that fits your personal and business needs.

ELECTRIC

If you are a small or medium business, you're likely taking service between 120 to 600 volts, and if you are a big business you are taking service at 2,400 volts or greater. Time of use rates may also be a better choice for you.

NATURAL GAS:

- GS-1** Best for annual use up to 1,000 Mcf
- GS-2** Best for annual use from 1,000 Mcf to 10,000 Mcf
- G2-3** Best for annual use greater than 10,000 Mcf



Choosing the right rate can lead to savings for your farm.

TIPS: Confirm you are on the correct residential or business rate by comparing the rate code on your bill with its rate description.

Learn more about electric and natural gas rates at ConsumersEnergy.com/ratesbiz.

If you're still not sure if you are on the best rate, contact our Business Center at 800-805-0490

Harvesting the Sun

We're asking farmers to help us lead Michigan's clean energy transformation

In June 2021, we announced our Clean Energy Plan, a 20-year blueprint to eliminate coal, give customers more control to reduce energy waste and dramatically boost the amount of electricity we generate from clean, renewable sources.

That's why we're planning to add 8,000 megawatts of competitively bid, utility-scale solar power by 2040 — when solar power will comprise more than half of our electric capacity.

Since the earliest days of our 135 years serving Michigan, we've worked alongside farmers to create economic prosperity while protecting the natural resources we all cherish. Solar power is the next chapter in our long, fruitful partnership.

Below are answers to questions about what solar expansion means for Michigan's farmers.

Why is Consumers Energy sold on solar?

In addition to its environmental benefits, solar is increasingly cost competitive and we can add it gradually to meet Michigan's changing energy needs without building a large, new fossil fuel power plant.

We've already begun adding more clean, renewable, solar-generated electricity for Michigan and plan to bring 1,100 megawatts of solar capacity online by 2024.

We currently procure our solar energy through a competitive bidding process where solar developers, including Consumers Energy itself, bid projects to sell to the company outright or to just sell us the power.

How will solar impact electric reliability for Michigan?

As optimistic as we are about the future of solar energy, we understand the sun doesn't always shine — especially in Michigan.

That's one reason our Clean Energy Plan also includes purchasing a proposed natural gas-fired plant (in Covert) and Karn 3 & 4 is scheduled to be in service until 2031 at the latest.

These proposed moves will supply reliable, on-demand electricity to meet Michigan's energy needs when renewables such as solar and other sources are not available.

What does this opportunity mean for Michigan's farm community?

The transition from growing crops to growing energy can provide revenue to create a wide variety of options.

Utility-scale solar projects provide an ongoing revenue source for participating landowners, much like an additional crop, and can increase the community's overall tax base to help fund education and critical basic services.

How much land is needed for solar and where are the best locations?

Generating solar energy requires significant tracts of land — roughly five acres per megawatt of electricity — that's flat, open and treeless with direct access to the sun.

We're considering potential locations such as farm fields — including those less ideal for growing crops — brownfield sites and state and recreational lands. Distance to existing transmission infrastructure is also a critical factor for solar developments.

The closer, the better. Lack of access or long distances to high-voltage transmission and distribution can increase costs and other siting issues.

How does a solar array affect property values?

The presence of solar does not appear to make a significant impact for landowners or neighbors. Property values are determined by a wide variety of factors, including the



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preferences of individual buyers, making it difficult to draw general conclusions.

Does a farm family have to sign up all its land to participate in a solar project?

No. Our goal is to meet Michigan's farmers where they are to start a conversation about mutually beneficial solar solutions.

While some families may feel ready to sell some or all of their property for solar development outright, others may want to enter into long-term easement agreements so the property can return to agricultural use at the conclusion of solar energy production.

We are also interested in exploring opportunities that would allow solar and farming to exist at the same location or acquiring marginal land while allowing prime fields to continue producing crops.

How does a solar project affect the land?

New solar installations have minimal impact on agricultural land. Topsoil is left in place and solar array sites are seeded with native grasses and pollinating plants to promote biodiversity.

Land can generally be farmed again after serving as a solar installation.

What's the impact on the environment and local wildlife?

Protecting the planet is one of our top priorities and solar is a responsible environmental choice that highlights our commitment to Michigan's ecosystem.

Solar panels don't leach or emit any harmful chemicals into the soil or the air and aren't expected to negatively affect local wildlife.

We'll complete a detailed environmental inventory of the project area and will work with landowners and applicable federal, state and local agencies to consider all environmental concerns.

This includes identifying and protecting any threatened or endangered species and their habitats.

How does a solar array impact my neighbors?

Solar panels have minimal impact for nearby residents. Their visual profile is minimal — particularly compared to wind energy.

Panels are installed strategically to reduce any visible glare and don't impact internet, phone, or satellite services.

Solar panels do not make any noise.

There can be a low humming noise associated with electrical equipment connecting solar panels to the grid, but sound studies are performed before and after construction to ensure noise is at acceptable levels defined by local zoning ordinances.

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agriculture with innovative opportunities to reduce their greenhouse gas emissions.

"We are proud of the positive impact this will have on our community while combining our passion for caring for the land, our animals and environment," said Matt Oesch, CEO of Swisslane Farms. "For generations our family has embodied the role of being stewards of the land. Our partnership with Consumers Energy will allow us to make a positive difference in producing a sustainable, renewable energy source for the generations to come."

Swisslane Farms recently won the national Outstanding Dairy Farm Sustainability Award from the Innovation Center for the U.S. The farm also runs Dairy Discovery, a nonprofit

dedicated to educating the West Michigan community about the "integrity of production practices and benefits of technology use in the dairy industry."

The farm has been in the Oesch family since 1915 when current CEO Matt Oesch's great-grandfather bought it. As a farm owned by the same family for more than 100 years, Swiss Lane is part of the state's Centennial farm program, which is supported by the Consumers Energy Foundation.

In 2019, Consumers Energy set a goal to achieve net zero methane emissions by 2030. The plan includes accelerated infrastructure replacement, innovative leak detection and key process changes to eliminate, avoid and minimize methane emissions.



The program is preparing to hire and train up to 24 additional renewables employees over the next two years.

Renewables Graduates First Class

Matt Conn sought a new challenge along his career path.

It was 2019, and he had been working at Consumers Energy for six years, having joined the company after a stint in the Army. He worked as a gas field worker, and most recently as a trenching machine operator.

He saw a job posting about a new company apprenticeship program with a focus on renewable energy.

Fast forward to Feb. 9, 2022, and Conn is one of four employees who is about to embark on a renewables career after graduating with the first class of the Renewable Specialist Apprenticeship.

It was formed in a partnership with the Utility Workers Union of America (UWUA) and Michigan State Utility Workers Council (MSUWC).

The nearly three-year program, developed jointly by our Learning and Development team and Power for America (P4A), trains apprentices to

climb great heights to fix hydraulics and complete advanced electrical troubleshooting. Once the program is complete, apprentices are certified to work in wind, solar and battery fields.

"This is the future, and there's no place I would rather be in this company," said Conn, who lives in Birch Run. "This is a great opportunity, and I can't wait to see what happens next for this class."

Joining Conn in the first class are:

- **Keith J. Boulis** of Bay City, who started with the company in 2013 as a meter reader and was an auxiliary operator at the Karn plant, which is scheduled to close in 2023.
- **Paul Turner** of Midland, who joined the company in 2016 as a gas field intern. He joined the company after a stint in the Army.
- **Justin Fodo** of Bay City, who began his Consumers Energy career in 2018 as a gas field worker and then was an environmental operator at the Karn plant.

Andrew Snider, Director of Renewable Operations, said this first class worked as a team and put in long training hours to become renewable specialists.

Snider added the class helped to smooth out bumps in the road for enrollees in the program's second and third cohorts.

The program is preparing to hire and train up to 24 additional renewables employees over the next two years — and helps ensure no worker is left behind in the clean energy transformation.

"This remarkable group will always be remembered as the first class," Snider said. "We are here to celebrate them and how they will help us power Michigan's clean energy future."

All of this was made possible thanks to our extraordinary partnership between Consumers Energy, UWUA and MSUWC.

Efficient Use of Livestock Waterers

Readily available water is critical to any farm that raises livestock, helping the animals to be healthy and productive.

The following steps should be taken to ensure the waterer runs efficiently:

- Locate the waterer inside a building since wind over the water surface increases heat loss.
- If the unit must be placed outside, construct a wind-break. Many modern fountains use thermal floats or covers over the water bowl to limit heat loss. These covers are effective and animals soon learn to operate them to access water.
- If the fountain has an adjustable thermostat, make sure it is set just above freezing. It should not energize the heating element every time cool water enters the drinking bowls.



- Measuring the temperature of the water on cold days is a good way to check the setting. Every degree above what is needed increases energy consumption.
- Use caulk or other material to fill openings that allow heat loss. Many

units are installed on a concrete pad or pedestal. Where these two surfaces meet, heat will be lost to the concrete unless insulation material is used to create a thermal break.

Source Tips from Rural Electricity Council

A Cleaner Natural Gas Future

Renewable natural gas, or RNG, is clean energy produced from Michigan agriculture.

At Consumers Energy, we're exploring how RNG can reduce greenhouse gas emissions and protect the planet. And we want to help our customers do the same.

If you'd like to know more about how your farm can help, please contact us at agservices@cmsenergy.com.

