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Blue Flint

Strong in the energy industry



The liquefaction carbon dioxide skid for carbon capture/sequestration is at the Blue Flint Ethanol facility.

Blue Flint: Strong in the energy industry

BY PATRICIA STOCKDILL

The Blue Flint Ethanol production facility near Underwood continues striving to remain a strong, viable player in North Dakota's energy industry.

In addition to ethanol, Blue Flint also produces livestock distillers grains and corn oil for renewable diesel.

After years of research and development, the facility began its first injection of carbon dioxide (CO₂) produced during its refining process into deep underground wells on the plant site in October 2023.

"Carbon dioxide was the only product we produced that we were not gaining value for. It was being vented into the atmosphere," described Blue Flint CEO Jeff Zueger.

The company worked to identify beneficial uses of CO₂ since it began in 2007, but carbon capture became a focus in 2018, as CO₂ reductions became an increasing objective across the nation and beyond. As a result, the company established its Vision Carbon Zero objective.

Efforts increased after carbon capture and sequestration tax credits were expanded in the 2018

federal budget and allowed smaller CO₂ emitters, such as Blue Flint, to qualify for Internal Revenue Service (IRS) tax credits under Section 45Q in IRS tax regulations, Zueger explained.

The N.D. Industrial Commission awarded Blue Flint's parent company, Midwest Ag Energy, a \$3.4 million grant in January 2020 to study the feasibility of carbon capture at its facility. Harvestone Low Carbon Partners acquired Midwest Ag Energy in 2022.

In collaboration with Energy and Environmental Research Center (EERC) researchers at the University of North Dakota and seismic survey companies, contractors surveyed about 9 square miles around the Blue Flint facility, determining safe setback distances from infrastructure in an active mine site. Drilling rigs set vibration sources about 60 feet below the surface to develop 3D graphics of subsurface rock formations in the winter of 2021-22.

EERC led the project's research and analysis efforts, Zueger described, confirming the geology could safely support carbon capture and sequestration.

“They are the experts behind the science of evaluating, modeling and building the case to demonstrate the permit application is properly given proper diligence and fully developed,” he added.

In North Dakota, carbon capture and sequestration project developers are required to demonstrate to the N.D. Department of Natural Resources and Industrial Commission the best available science is used to ensure CO₂ won’t unintentionally escape out of the storage reservoir at the permitted storage facility, Zueger described. Sites also require monitoring, verifying and reporting plans issued by the U.S. Environmental Protection Agency (EPA).

The state of North Dakota received primacy on Class VI permitting from the EPA, which allows state regulators to have permitting authority for carbon capture and sequestration for Class VI wells. To receive authority, the state of North Dakota’s regulatory agencies had to demonstrate their expertise in understanding and evaluating the entire process for any project to move forward, Zueger continued.

Blue Flint’s ability to implement carbon capture and sequestration helps ensure the long-term sustainability of the facility, Zueger explained. It can help increase opportunities in higher value markets, for example.

“This project will provide additional long-term stability in the regional economy,” he said.

Throughout the multi-year process, Blue Flint and its parent companies worked closely with an array of entities on the local, state and national level, including North American Coal/Falkirk Mine and Coal Creek Station.

“They have been key business partners that enabled this project to occur in this area and we appreciate the support they have provided,” Zueger said.

Blue Flint is one of McLean Electric Cooperative’s (MEC) largest member-owners for load demand, described McLean Electric General Manager/CEO Mark Doyle. Carbon capture and sequestration addresses a compliance issue for the ethanol plant, he added, and it’s important for the plant, as an MEC member and player in the regional economy, to stay viable and competitive in the evolving energy market.

“We’re pleased they’re working to stay leaders in the ethanol market,” he said.

Even before carbon capture and sequestration, Doyle credited Blue Flint’s energy efficiency through its collaborative relationship with Coal Creek Station in using the power plant’s waste steam. Blue Flint’s pioneering efforts to meet carbon emission compliance is impressive, he added.

As Blue Flint’s electricity provider, MEC’s role was to ensure adequate, reliable and cost-effective electrical capacity to facilitate the carbon capture process, Doyle explained, which increased its electrical needs.

MEC worked with the Blue Flint team to plan and implement the additional electrical service needs the new equipment brought to the Blue Flint site, Zueger described.

This included a large medium-voltage distribution expansion at the site and providing power to both the injection well site and the monitoring well site.

In addition, the role EERC plays is vital to North Dakota, Doyle continued.

“We feel very fortunate that the state of North Dakota has organizations like EERC to further the energy industry in the state, such as clean coal and enhanced oil recovery,” he said. ■

About Blue Flint Ethanol

- One of three ethanol biorefineries of the Harvestone Low Carbon Partners, along with Dakota Spirit, Jamestown, and Iroquois Bio-Energy Company, Rensselaer, Ind., Harvestone Low Carbon Partners was formed in 2022 when it acquired Midwest Energy Partners, the owners of Blue Flint and Dakota Spirit, along with the Indiana facility.
- Blue Flint, located adjacent to Rainbow Energy Center’s Coal Creek Station near Underwood, was established in 2007.
- Purchases more than 25 million bushels of corn

annually, which is used to produce more than 70 million gallons of ethanol, along with carbon dioxide, distillers grains for livestock feed and corn oil for renewable diesel.

- Provides E85 fuel to North Dakota fuel station retailers.
- Maximizes its productivity through the use of Coal Creek Station’s waste steam for energy during its refining and dry distillers grains production processes. In turn, the use of the steam helps Coal Creek Station’s efficiency. ■



The First Congregational Church UCC in Garrison launched a new program, Meals of Love, in conjunction with the Garrison Area Resource Center and Food Pantry. The church donates new crockpots to two food basket recipients each month and serves samples, along with providing recipes of a meal item made with ingredients from each month's food items. The new program received a \$500 Operation Round Up grant in October 2023.

February, the month of love, with Operation Round Up in action

BY PATRICIA STOCKDILL

Sometimes all it takes is a group of folks gathering for coffee and conversation to put love on the table.

That is how a new program launched by the First Congregational Church UCC, called Meals of Love, began, described the Rev. Sue Williams.

Once a month, worshippers gather for coffee and conversation after services at the Garrison church.

"We just talk about things. A group of people sitting around and drinking coffee in the church basement," Williams said with a smile. One of the gatherings found people discussing the topic of what they loved about their Garrison community and their church.

Meals of Love grew out of church members asking themselves how they could use their gifts – their talents – in the community. Ideas flowed when someone mentioned the Garrison Area Resource Center (GARC) and its companion organization, the Food Pantry.

Not all of those in need of the Food Pantry's monthly

food baskets had crockpots in which to cook meals.

Sometimes it's a challenge to come up with meal ideas and the tricks of making a particular meal, even if it's a quick one.

And sitting in that church basement were volunteers willing to share the expense of gifting crockpots to food pantry recipients. Others were willing to share recipes.

Then others – people already certified through the N.D. Department of Health to cook food made in certified kitchens – volunteered to make samples to distribute to food basket recipients.

Beginning in January, several church volunteers gathered at The Cubby Hole, Garrison Area Improvement Association's (GAIA) public meeting facility complete with its certified kitchen, to make a food item using ingredients in the January Food Pantry distribution baskets.

Others were next door at the Food Pantry, passing out

freshly made meal samples as people came to accept their food basket.

Afterward, Food Pantry volunteers drew two names from among those who received baskets that month, and they were given new crockpots donated by the benevolent church member.

That simple act of caring and sharing won't end in January. Instead, church members will continue Meals of Love, not just in the month of love (February), but the goal is to have the program become a staple at Food Pantry distributions. Each month, volunteers will cook and distribute samples made from some of the ingredients in that month's food basket, along with providing its recipe.

Operation Round Up, a program sponsored by McLean Electric Cooperative (MEC) member-owners, played a large role in helping establish the program through a \$500 grant awarded in October 2023.

"We're so grateful for the Operation Round Up grant," Williams said, because it helped develop the program.

She also credited the N.D. Department of Health for helping the church ensure they met all North Dakota food handling and safety procedures, GAIA for allowing use of the Cubby Hole and its kitchen to prepare food as well as GARC and the Food Pantry for their interest in supporting the program.

Church member Jill Gackle, Garrison, was familiar with Operation Round Up, which helped meld the idea,

application and its beginnings into reality.

Even though First Congregational Church is sponsoring the program, Williams encourages anyone with an interest in sharing ideas or talent to help volunteer in making it a success. The goal, she added, is to eventually serve as a model program in other communities around North Dakota.

"We want to build relationships," Williams added.

And relationships can extend far beyond the walls of a church basement and coffee. ■



Chrissy Lyle, Nicholas Heinzen and the Rev. Sue Williams, left to right, with the First Congregational Church UCC in Garrison, show the two new crockpots donated through their new program, Meals of Love.

About Operation Round Up

- McLean Electric Cooperative (MEC) member-owners round up their monthly electric bills to the nearest dollar.
- The money goes into a trust account and a volunteer Operation Round Up board of directors distributes grants to nonprofit organizations or individuals in need who are dealing with medical or emergency situations.
- The maximum amount an MEC account could contribute is \$11.88 annually. MEC member-owners contribute about \$1,200 to the program monthly.
- Grants are available to anyone within the cooperative's service area meeting the criteria for individuals or nonprofit organizations.
- The 2024 grant application deadlines are April 30 and Sept. 30.
- Applicants simply need to have 501(c)(3) federal nonprofit tax exemption status and provide their verification letter with the application. Qualifying

- applicants can apply on behalf of individuals or families.
 - Individual and family grant recipients can remain anonymous.
 - Applicants can apply for a maximum of \$2,500 annually and can submit more than one grant each year if they haven't met that amount in a calendar year.
 - Unlike most government agency-based grants, Operation Round Up grants don't require matching funds.
 - MEC helps facilitate the program through its board of directors nominating volunteers who select the Operation Round Up board of director volunteers.
- The next Operation Round Up grant distribution is in May. More information about the program and applications are available on MEC's website, www.mcleanelectric.com, clicking "Grants & Scholarships" on the home page and then "Operation Round Up Program" as well as on MEC's Facebook page.



MAKING A CHANGE?

Call your co-op!

Whether you are building a new structure or upgrading an existing service, it is important to communicate with McLean Electric Cooperative (MEC) while in the planning stages.

Before any construction takes place regarding the need for new electrical service or changes to existing service, contact MEC.

Are you planning to add electric heat to your home or workspace? Installing an electric grain dryer? Call McLean Electric Cooperative FIRST!

Then, MEC will be able to ensure placement of any structures will not be near power lines. Safe clearance is essential for all structures. For example, the National Electrical Safety Code requires an 18-foot minimum vertical clearance from the highest point of the filling port of a grain bin to nearby high-voltage wires and a 55-foot minimum distance from the power line to the grain bin wall.

If you are considering a plan for a new grain bin or reconstruction of an existing bin's site, please let us assist you in maintaining a safe environment for you and your family.

We will also make sure the proper electrical equipment is in place to serve any new loads. An upgrade to your electrical service may be required.

MEC strives to provide affordable, reliable electricity every day. But when members add items that demand a greater amount of electricity, the current system may need to be adjusted.

So, contact MEC when adding anything requiring a greater amount of electricity to verify the service provided by the cooperative will be sufficient.

And call ahead of time! It's important to be able to plan and implement any changes in the system before the project is completed.

By working together, we can do great things!

And, if you are planning to dig, be sure to call 811 so underground facilities can be marked.

Numerous utility lines may be buried on your property, ranging from electric and telephone lines to water and sewer lines, but North Dakota One Call will help you locate these lines before your project begins.

Contact North Dakota One Call and utility line owners will locate and mark their lines. These locates do not include any lines you may have installed to your private facilities, such as detached garages, wells or yard lights.

Go online at www.ndonecall.com or call 800-795-0555 or 811. ■



Don't let the chill affect your bill

When cold weather approaches, you can keep your home comfortable and still keep your energy bills from escalating, with these winter tips from McLean Electric Cooperative:

TAKE ADVANTAGE OF SUN

Open curtains on the south-facing windows during the day to allow sunlight to naturally heat the home, and close them at night to reduce the chill from cold windows.

COVER DRAFTY WINDOWS

Use a heavy-duty, clear plastic sheet on a frame or tape clear plastic film to the inside of window frames during the cold winter months. Make sure the plastic is sealed tightly to the frame to help reduce infiltration.

Install tight-fitting, insulating drapes or shades on windows that feel drafty after weatherizing.

ADJUST THE TEMPERATURE

When you are asleep or out of the house, turn the thermostat back to save as much as 10% a year on your heating and cooling bills. A smart or programmable thermostat can make it easy to set back your temperature. But make sure the temperature is comfortable for pets and small children.

FIND AND SEAL LEAKS

Seal air leaks around plumbing penetrations, gaps around chimneys and recessed lights in insulated ceilings, and unfinished spaces behind cupboards and closets.

Add caulk or weatherstripping to seal air leaks around leaky doors and windows.

MAINTAIN YOUR HEATING SYSTEM

Schedule routine service for home heating systems.

Replace furnace and heat pump filters once a month or as needed.

REDUCE HEAT LOSS FROM FIREPLACE

Keep the fireplace damper closed unless a fire is burning. Keeping the damper open is like keeping a window wide open during the winter; it allows warm air to go right up the chimney. Check the seal on the fireplace flue damper and make it as snug as possible.

LOWER WATER HEATING COSTS

Keep the temperature of the water heater to 120 degrees. This will not only save energy, it will also help avoid scalding. ■



McLean County community calendar:

Events and activities to see and do

McLean County area food pantry February distribution dates, times and locations:

- **Community Cupboard of Underwood food distribution:** 10 a.m.-noon Feb. 17, 208 Lincoln Ave., Underwood. Like us on Facebook, Community Cupboard of Underwood, for food pantry distributions, thrift store and other information.
- **Community Food Pantry serving the communities of Ryder, Makoti, Roseglen, Plaza, White Shield, Parshall and those in need:** 10 a.m.-1 p.m. Feb. 24, 181 Ellsworth, Makoti.
- **Community Thrift Store serving the communities of Ryder, Makoti, Roseglen, Plaza, White Shield, Parshall and the region, 181 Ellsworth, Makoti. Store hours:** 3-6 p.m. Tuesday, 4-7 p.m. Thursday and 10 a.m.-1 p.m. Saturday, except holidays.
- **Free Community Clothing Share & Exchange Store:** Noon-6 p.m. every Thursday, 221 Main St., Turtle Lake.
- **Garrison Area Resource Center & Food Pantry:** Noon-2 p.m. and 5-7 p.m. Feb. 22, Garrison.
- **McLean Family Resource Center:** McLean County residents can contact the center, 701-462-8643, for an appointment to pick up baskets along with more information or assistance through the center's services, 205 Seventh St., Washburn.
- **McLean Family Resource Center Clothing Outlet:** 10 a.m.-5 p.m. Monday, Wednesday and Friday, and 10 a.m.-1 p.m. first Saturday of every month, 205 Seventh St., Washburn.
- **Our Savior Lord's Food Pantry, Max:** Noon-3 p.m. and 5-7 p.m. Feb. 19, Max City Hall, 215 Main St., Max.
- **The Lord's Pantry:** 2-4 p.m. Feb. 8 and 10 a.m.-noon Feb. 24, Trinity Lutheran Church, 515 Kundert St., Turtle Lake.

- **Wilton Food Pantry:** "Mini" distributions every Friday, 11:30 a.m. until gone; full food distribution, 4-6 p.m. Feb. 15, Wilton Senior Citizens Center, 42 Dakota Ave., Wilton.

Area food pantries often experience high needs for the following items: baked beans, pork and beans, canned fruit, tuna, chicken and vegetables, cereal, oatmeal, granola and breakfast bars, juice, macaroni and cheese, hamburger and tuna helper, pancake mix, syrup, pasta, spaghetti, Alfredo and pasta sauce, peanut butter, jelly, rice side dishes, soups, chili, and household items, such as body wash and soap, dish soap, laundry detergent, shampoo and conditioner, toilet paper, toothpaste and toothbrushes. Contact local food pantries for drop-off locations, information or a list of additional needs in your community.

February activities:

- **The McLean Family Resource Center is sponsoring Greater Access for Groceries throughout February, providing free gas cards to help pay travel expenses to pick up food baskets during the month. Contact the Center at 701-462-8643 for more Greater Access for Groceries information and to schedule an appointment for the food basket.**
- **Feb. 9:** McLean County Ag Show, 9 a.m.-3 p.m., Garrison High School, Garrison.
- **Feb. 17:** Garrison Fire Department Annual Buffalo Feed, 4:30-8 p.m., Garrison City Auditorium.
- **Feb. 24:** Evening Hike Series, Full Snow Moon Candlelight Hike with additional activities beginning at 4 p.m. at Fort Stevenson State Park Visitor Center, Garrison. Hike starts at 6 p.m.

Nonprofit organizations and communities throughout McLean County are encouraged to contact Patricia Stockdill, stockdill.patricia@gmail.com, or telephone 701-337-5462, to submit community events. ■

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District 4, Ruso

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