



WE TAKE RELIABILITY SERIOUSLY

by Craig Buros, CEO & General Manager



February's cold snap was a harsh reminder that—first, December and January were mild—and second, reliable electricity is essential.

Wisconsin experiences extreme weather year-round. We need reliable electricity in the summer as the heat can get oppressive and, in the winter, temperatures dipping below zero for multiple days in a row is life threatening.

You expect reliable and affordable electricity from your electric cooperative, so how does Vernon Electric Co-op deliver on that commitment? As your local electric cooperative, we work with Dairyland Power Cooperative—our wholesale power provider—as they explore innovative ways to decrease our carbon intensity while delivering safe, reliable, affordable, and sustainable electricity.

The key to meeting the energy needs so essential to your quality of life is balancing electricity supply with demand. While that may sound simple, there is a complex web of facilities and organizations that work together to make it happen each day. A sophisticated network of electricity generators and tens of thousands of miles of electrical lines work together to ensure that enough electricity is available on the coldest winter morning and during the dog days of summer.

Dairyland has a goal of 50 percent reduction in carbon dioxide intensity rate by 2030 (compared to 2005 levels).

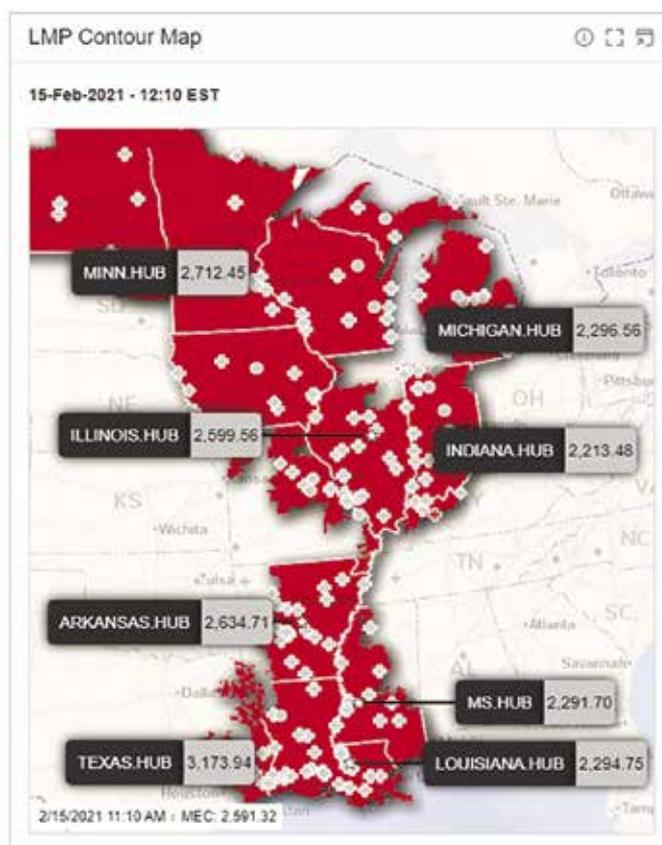
This year, Dairyland's Genoa Station #3 (G-3) coal-fired power plant will close. It is expected that, by 2025, only three coal-fired power plants will be in operation in Wisconsin.



The G-3 closure, while bringing us closer to achieving our carbon intensity reduction goals, must be balanced with prudent long-term planning to ensure we maintain a stable and affordable energy supply for members.

We look to the future while facing our current reality: The sun doesn't shine, nor the wind blow 24 hours a day. During February's cold snap, the regional grid operator—MISO—consistently showed coal-fired power plants and natural gas plants were providing more than 70 percent of electricity, especially as evening temps dropped and solar production ended. MISO's real-time displays are available

on their website at www.misoenergy.org under Markets and Operations → Real-Time and Market Data → Real-Time Displays.



This snapshot of the MISO footprint during the cold snap shows wholesale market pricing well over \$2 per kWh, and in one case near the Texas border, over \$3 per kWh.

In fact, Dairyland's John P. Madgett Station (Alma, Wis.) set a new gross daily generation record (24-hour period) on one of the coldest days this winter (Feb. 8), reliably keeping the lights and heat on for our members.

A bridge resource toward a low-carbon future is natural gas. Natural gas is a fossil fuel, but it creates fewer emissions than a coal-fired power plant. A natural gas plant can run 24 hours a day to ramp up and down, on demand, in response to the amount of renewable energy available.

On the horizon is the concept of a distributed energy resource management system (DERMS). DERMS can help manage energy from renewable resources by charging

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GIVING OLD THINGS *New Life*

By Leah Call

Collyn Bjornstad isn't afraid to take on a big project. A welder by trade, she's built a cabin and a barn for her horses. The latest mega project undertaken by this Vernon Electric Cooperative member is a conversion of a 100-year-old grain bin into usable living space on her property four miles south of Viroqua.

Using nearly 100% repurposed and recycled materials, Bjornstad tackled this project with grit, gusto, and unstoppable creative energy.

"I've always been drawn to recycling, and old barns—I just don't want that lifestyle to disappear," said Bjornstad. "It makes me sad to see these old buildings get torn down."

Originally from Colorado, Bjornstad has lived in Vernon County for 23 years, seven years at her country home in Viroqua. Her first intent for the bin-turned-living-space was to accommodate visits from her two grown sons, 26 and 28 years old. "Now it is just a space we go to sit and read a book or have a glass of tea," she added, pointing out the fire pit near the structure, where she and husband, Kent, enjoy evenings outside under the stars.

Inside, the grain bin has heat and electricity, with a charming décor thoughtfully crafted by Bjornstad. "I ran all the wiring for the electrical myself," noted Bjornstad. "Inside is a ceiling fan and dimming lights."



Collyn Bjornstad stands on the deck in front of her converted grain bin.

And so it Began It all began one morning in February 2020 when Bjornstad, laid off due to COVID, spotted the grain bin in the background of an online ad for tree saplings. Having seen a grain bin conversion on Pinterest, she quickly



contacted the advertiser in Lansing, Iowa. “I asked if they would be interested in selling it. He said, ‘if you can get it out of there, I’ll sell it.’”

“It took a full year to dismantle, get it here, and reassemble it to where it is today,” added Bjornstad.

Dismantling the grain bin, measuring 14 feet in diameter and standing 12 feet high, was no easy task. Unable to haul it in one piece over the Lansing Bridge without a pricey permit, Bjornstad opted to haul it piece-by-piece in her truck in a total of 12 trips.

“It took quite a while. I took the roof off and took the rings off and worked my way down,” noted Bjornstad. “There are 260 bolts in each ring, and there are three rings.”

Once the pieces were back on her property, the real work began. “I feel like putting it back together was even harder than taking it apart,” said Bjornstad, who dug the foundation by hand with a shovel. “I had someone pour the cement for the base; then I could start rebuilding it on that base.”

A Passion for Repurposing The result of Bjornstad’s hard work is stunning. Nestled between a grove of lilac bushes and cottonwood trees, the bin is nearly hidden from view in the summertime. The repurposed structure is a testament to Bjornstad’s commitment to giving old things new life.

Excluding the blown-in foam insulation and a few 2x4s, everything used to renovate and furnish the structure is recycled. “Everything in it is repurposed...everything from the floorboards, to the boards on the walls, to the sink, to the bed,” said Bjornstad.

The bed is an old-style Murphy bed, hidden inside an antique wooden cabinet. Lights made of old gas cans, canning jars, and a used wash bin hang from the ceiling and walls. She even recycled all the screws used in the project. Many of the furnishings age back to the early 1900s. “I got the old refrigerator for \$20 and painted it to match the old porcelain

stove. The doors and the windows are all recycled. There’s nothing new in there.”

The part of the project Bjornstad is most pleasantly pleased with is the floor, made of pine boards which she ran through a planer. “Then I took a big, huge blow torch and I burned the boards and it just drew out the grains in the pine. Those boards that were once dirty in a pile of junk now look just magnificent.”

Though she needed some muscle assistance from husband, Kent, to cut the metal for the windows, Bjornstad completed the entire project herself. “I’m just like that. I love to build.”

The next project? An outhouse that will sit in the wooded area behind the bin.

While the Bjornstads are enjoying the repurposed round retreat themselves for now, they are considering offering it to guests in the future. Meanwhile, Bjornstad loves to show off her project, which really is a work of art.

On the wall inside the bin, a sign—painted on repurposed wood, of course—reads, *What if I fall? Oh, my darling, what if you fly?* That perfectly sums up the process and the results of this big project by a woman unafraid to take on anything.





Reliability

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batteries with excess electricity so the batteries can supply power during times when the price of electricity is high. Currently, there are multiple DERMS installations being tested by electric cooperatives in the United States, but only on a small scale as the price of battery storage is still extremely high.

Our wholesale power supplier, Dairyland Power, ourselves, and others in the energy sector will continue to develop renewable options and pursue new technologies. But absent new large-scale alternatives and advances in energy storage, the stalwarts of today’s energy fleet—coal and nuclear energy facilities—must continue to operate in many regions. In some, they remain the most cost-effective options for producing electricity.

We’ll see more heat waves and frigid cold snaps before we find a viable large-scale storage option. In the meantime, Vernon Electric will continue to work with Dairyland to meet our lower carbon intensity goals while keeping safe, reliable, and affordable electricity for members as our top priority.

WE TAKE TRANSPARENCY SERIOUSLY

Members have always had access to Vernon Electric’s board minutes and co-op policies by receiving printed versions. You can now access board minutes and policies easier and more conveniently through SmartHub. New users to SmartHub can sign up at www.vernonelectric.org or find the SmartHub app available in your app store on your smart phone or tablet.



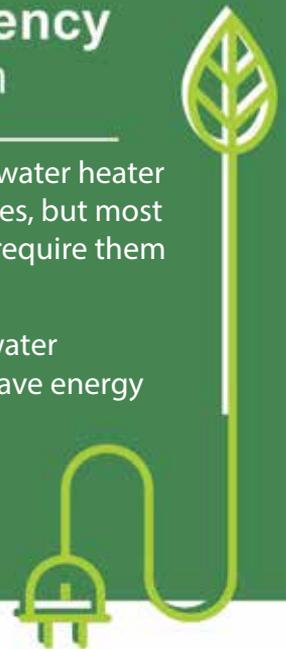
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Energy Efficiency Tip of the Month

Some manufacturers set water heater thermostats at 140 degrees, but most households usually only require them to be set at 120 degrees.

Consider lowering your water heater’s temperature to save energy and slow mineral buildup in the heater and pipes.

Source: www.energy.gov



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