

NORTHERN

L I G H T S

March 2021

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IN THIS
TOGETHER.



**Beltrami Electric
Cooperative Inc.**

® Your Touchstone Energy® Cooperative 

It's time to power a Small Business Comeback across America.

Co-op Connections is a free member benefit program brought to you by **BELTRAMI ELECTRIC COOPERATIVE**. Download the free app to find discounts from your local merchants. Now you can save money while you support your community's business owners. Find all the ways to save locally with Co-op Connections!

Visit www.SmallBusinessComeback.coop for more information.

#POWERON



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Office Hours: 8 a.m. to 4:30 p.m.
Monday – Friday

Member Service: 218-444-2540
or 1-800-955-6083

www.beltramielectric.com

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Minnesota State Electrical Inspectors

Beltrami County

Wade Koons

218-255-3011 - wade@kooninspections.com

Cass and Hubbard Counties

Anthony Kohrs

218-255-1046 - kohrsinspection@paulbunyan.net

These are the inspectors covering the area served by Beltrami Electric. They can be reached by phone Monday through Friday between 7 and 8:30 a.m. or by email as indicated.

Gopher State One Call 811
1-800-252-1166 or 811
www.gopherstateonecall.org

Anyone who plans to dig is required by law to notify the state of their intentions at least 48 hours in advance.

All digging requires the 48-hour notification so that buried telephone lines, television cables, pipelines, utility electrical lines, and municipal water and sewer lines can be located to ensure that none will be severed or damaged.

Mission of Beltrami Electric Co-op

To provide excellent value to our members through the safe delivery of reliable electric service, excellent member service and innovative energy solutions at fair and reasonable prices.

This institution is an equal opportunity provider and employer.



Beneficial Electrification

Jared Echternach, *President and CEO*

If you're like most Americans, you're interested in saving money on energy costs and doing your part to help the environment. In fact, according to our most recent membership survey, controlling cost is our members' highest priority, ahead of safety, reliability and the environment. I would argue that safety and reliability come first and second, but it is my belief that we have done so well in those areas over the years, our members see it as a given, therefore placing it as a lower priority.

One way our members can save money is through a concept called beneficial electrification. You've heard me discuss this topic at prior annual meetings. It's an industry term that means the innovations in energy technologies are creating new methods to use electricity instead of on-site fossil fuels – such as propane, natural gas and fuel oil – in a way that reduces overall emissions and energy costs. It's also a large part of your cooperative's strategic plan.

In essence, by virtue of being plugged into the grid, the environmental performance of electric devices improves over time. As Beltrami Electric and other utilities shift to more options that include renewable and carbon-free energy sources to make existing generation technologies cleaner, electricity will require less fossil fuel per kilowatt-hour of energy produced.

So, here's how this concept impacts you. It means that electric appliances such as your water heater, clothes dryer, heating and cooling systems, oven and even your lawn care equipment have the potential to become greener. When Beltrami Electric takes advantage of advances in technology and the market at the generation point (how the electricity is produced), it means those efficiencies are inherently passed along to you, the member.

Electricity is getting cleaner

Because large appliances have a typical lifespan of about 10 years or longer, it means you can benefit from the flexibility of the grid in addition to the increased efficiency of the particular appliance. In other words, the high-efficiency electric appliance or heating system you have today could be powered by renewable or carbon-free sources in the future. This would not be the case with gas appliances, with which you are essentially locked into the technology of that gas appliance for the 10-year lifespan.

As Minnkota Power Cooperative, our wholesale power provider, looks toward the future, the exploration of carbon capture technology could potentially see your

electric appliances become greener. The only way you would be able to benefit from this trend is through electrification.

Technology is advancing

For consumers and homeowners looking for more environmentally friendly options, choosing electric appliances, tools and vehicles over those powered by fossil fuels is becoming increasingly easier. Whether through electric lawn mowers, blowers, weed whackers and ice augers, or through electric water heaters and other heating and cooling equipment, beneficial electrification is a means to helping our environment, reducing total energy consumption and saving money. It can also translate into a better quality of life. For example, when you can trade the loud rumble of a gas-powered mower or blower for the quiet efficiency of electric versions, you eliminate the exhaust emissions and the unpleasant noise.

Doing our part

As the overall energy sector continues to evolve, your cooperative is striving to take advantage of the advances in technology and the opportunities of the market as they become available. This means Beltrami Electric can leverage the flexibility of the grid to better utilize our power selections as we continue to bring safe, reliable and affordable power to our communities.

We also promote energy efficiency through our load management, conservation and efficiency programs. We encourage you to consider electric alternatives in heating, cooling, appliances and vehicles to increase efficiency and save on your total energy costs. In addition, through MyMeter, a free web-based tool and mobile app, we offer our members the convenience and ability to manage and monitor, track trends and take control of their energy use. To save you money, we also offer rebates on electric heating equipment connected to our off-peak program.

We care about our community because we live here, too. I hope you'll reach out to the energy experts at Beltrami Electric, your trusted energy partner, to learn about more ways to reduce your total energy costs. Because when you participate in the energy efficiency programs and incentives we offer, you're doing your part to save energy and improve the environment. While each member's reduction might be small, together, they can lead to significant savings. And that means a brighter future for all of us.

Have you heard the term Beneficial Electrification?



If you haven't, that's OK! It sounds complicated, but it's actually quite simple: The more ways we can find to electrify our lives, the more we can save money and help the environment.

Using electricity to power elements of your life that currently might be energized otherwise – like home heating, water heating and transportation – is not only beneficial to you, but also to your co-op and all of society. It's a win-win-win opportunity.



Who REALLY benefits?

You, the MEMBER

You'll save money by using low-cost, off-peak energy instead of hoping fuel prices don't become volatile and skyrocket. Plus, electricity is simply more convenient and efficient.

Your COOPERATIVE

More electricity use means utilities can better manage the electric grid, which means more resources to improve power lines, substations and other infrastructure.

The ENVIRONMENT

Electricity generation is becoming less carbon-intensive every year, so switching from fuels to electricity to heat your home or power your car means fewer emissions into the air.

How can Beltrami Electric Cooperative help me get started?

Space Heating

- An air-source heat pump (ASHP) allows the convenience of electricity without the volatility of sole reliance on fuel. An ASHP efficiently delivers warmth in the winter and comfort in the summer.
- **How you save:** You can receive up to \$650/ton in rebates by installing an ASHP on the off-peak program, which will keep you cozy at around 40% less than the standard electric rate.



Water Heating

- Installing a large-capacity electric water heater is a safe, clean and easy way to benefit from electrification. Plus, it's more efficient, as no heat is lost in a venting process.
- **How you save:** You can receive up to \$800 in rebates by installing an electric water heater on the off-peak program, providing you warm showers at about 40% less than the standard electric rate.



Transportation

- Driving an electric vehicle (EV) is the most fun way to benefit from electrification. EVs are zippy, environmentally friendly, incredibly low maintenance and much less expensive to power.
- **How you save:** You can receive up to \$500 in rebates by installing an EV charger on the off-peak program, letting you "fill the tank" for about 40% less than the standard electric rate.



There are many other ways you can reap the rewards of beneficial electrification, like installing automated smart home technology or electrifying a farm irrigation system. For more ideas about how to electrify your life, contact your energy experts at Beltrami Electric Cooperative at 218-444-2540.

CO-OP CONNECTIONS®

participating local business discounts/offers

Alpine Sleeper Fish Houses

10% off Tuesdays and Wednesdays
35241 Hwy 72 NE, Northome
(218) 647-8379 or toll-free (888) 921-5222
www.royalshooksmotel.com

A Stitch in Time

\$5 off any sewing or vacuum service
200 Paul Bunyan Dr S, Suite #2
(218) 444-7727
www.sewbemidji.com

Balsam Beach Resort & RV Park

5% off a daily pontoon rental
51155 219th Ave, Bemidji
(218) 751-5057
www.balsambeachresort.com

Beltrami County Historical Society

\$1 off adult admission, up to 4 adults, single visit only (not valid with other offers)
130 Minnesota Ave SW, Bemidji
(218) 444-3376
www.beltramihistory.org

Bemidji Best Auto Service

10% off labor (\$400 max)
1006 Washington Ave S, Bemidji
(218) 333-0933
www.bemidjibest.com

Bemidji Communications

20% off labor
211 Minnesota Ave NW, Bemidji
(218) 444-3389
www.bemcom.com

Bemidji Woolen Mills

10% off total purchase
301 Irvine Ave NW, Bemidji
(218) 751-5166
www.bemidjiwoolenmills.com

Big Apple Bagels

10% off regular-price menu items
1710 Paul Bunyan Dr NW, Bemidji
(218) 444-7840
www.bigapplebagels.com/bemidjimn

Cass Metal Craft, Inc.

Free consultations on all stair & railing projects;
10% off on all welding repairs
6511 160th St N, Cass Lake
(218) 335-2336
www.cassmetalcraft.com

Compass Rose

10% off regular-price items (not valid with other discounts)
108 3rd St NW, Bemidji
(218) 556-4183
www.compass-rose.com

Country Kitchen of Bemidji

10% off ticket
728 Paul Bunyan Dr NW, Bemidji
(218) 444-8963
www.countrykitchenrestaurants.com

Culligan of Bemidji

First 30 days: FREE cooler rental and 4 FREE bottles of water with signed 6-month delivery agreement
1400 Neilson Ave SE, Bemidji
(218) 751-2651
www.culliganwater.com

Darrell's Auto Glass

10% off windshield replacement
2035 Adams Ave NW, Bemidji
(218) 759-8810
www.darrellsautoglass.com

Dunn Bros Coffee

10% off all beverage purchases
501 Paul Bunyan Dr S, Bemidji
(218) 444-5252
www.dunnbros.com

Frizzell Furniture Gallery

FREE set of Malouf microfiber sheets with the purchase of a mattress set
123 Beltrami Ave NW, Bemidji
(218) 444-5000
www.frizzellfurniture.com

Gallery North

\$5 off \$25 purchase
310 4th St NW, Bemidji
(218) 444-9813
www.gallerynorthbemidji.com

Gifts O' the Wild

10% off total purchase (not valid with any other offer or coupon)
7 miles south of Bemidji on US 71
(218) 751-4914

Headwaters Science Center

Receive 1 free child admission with the purchase of 1 adult admission
413 Beltrami Ave NW, Bemidji
(218) 444-4472
www.hscbemidji.org

Image Photography and Framing

5% off in-studio portraits, 5% off framing, 5% off picture custom frames
1305 Bemidji Ave, Bemidji
(218) 751-8308
www.imagebj.com

Keith's Pizza, Inc.

\$2 off any large or extra large pizza (not valid with other discounts, offers or unbaked pizzas)
South: 110 Paul Bunyan Dr S, Bemidji
(218) 444-7940
North: 1425 Paul Bunyan Dr NW, Bemidji
(218) 444-7941
www.keithspizza.com

Ken K. Thompson Jewelry

20% discount on all regular-price jewelry & gifts (not valid on repairs or prior layaways)
1080 Paul Bunyan Dr NW, Bemidji
(218) 751-1433
www.kenkthompsonjewelry.com

Lakes Area Powersports

Additional 10% off in-stock parts, access. & clothing
8322 State 371 NW, Walker
(218) 547-1558
www.lakesareapowersports.com

Midnight Sun Pools 'n' Spa

10% off chemicals
3411 Hannah Ave NW, Bemidji
(218) 759-8518
www.mnspas.com

MJB Home Center

Free hoses or cords with any new washer, dryer or range purchase
418 Beltrami Ave, Bemidji
(218) 751-2420
www.mjhomecenter.com

Northern Event Rentals

10% discount on any table or chair rental
3859 Cornflower Ct SE, Bemidji
(218) 209-6160
www.northerneventrentals.com

Northwest Tire

\$5 off oil change, \$20 off brake service, \$25 off 4-tire purchase
402 Paul Bunyan Dr SE, Bemidji
(218) 444-8696
www.nwtire.com

Northwoods Habitat for Humanity ReStore

5% off total sale (not valid with other discounts)
1357 Industrial Park Dr SE, Bemidji
(218) 444-6398
www.habitatbemidji.org

Orton's Station Stores:

Bemidji Cenex, Cass Lake Cenex, Walker Cenex, Y-Mart Cenex
5¢ off per gallon of gasoline
(218) 547-1719
www.ortonoilco.com

Papa Murphy's

\$3 off any pizza, any size – no limit (not valid with other offers)
512 Paul Bunyan Dr NW, Bemidji
(218) 444-7025
www.papamurphysbemidji.com

Per Mar Security Services

\$100 off a new monitored home or commercial security system with a 2-year agreement
3501 Laurel Dr NW, Bemidji
(218) 444-3902
www.permarsecurity.com

Pete's Place South

5¢ off per gallon of gasoline
179 Convenience Lane SW, Bemidji
(218) 751-9255

Petro Serve USA

5¢ off per gallon of gasoline
2470 Paul Bunyan Dr NW, Bemidji
(218) 751-8518
www.petroserveusa.com

Royal Shooks Motel

10% discount Tuesdays and Wednesdays
35241 Hwy 72 NE, Northome
(218) 647-8379 or toll free 888-921-5222
www.royalshooksmotel.com

Sara Anderson Insurance Agency

Free insurance review for new residents to area and retirees who may be leaving a group plan
65 Summit Avenue E, Blackduck
(218) 835-7711

SND Appliances

2% off purchase
3481 Laurel Dr NW, Bemidji
(218) 444-6577 or (218) 556-1979
www.bemidjisnd.com

Stittsworth Meats

5% off total order
722 Paul Bunyan Dr NW, Bemidji
(218) 751-1320
www.stittsworthmeats.com

Timberline Sports 'n' Convenience

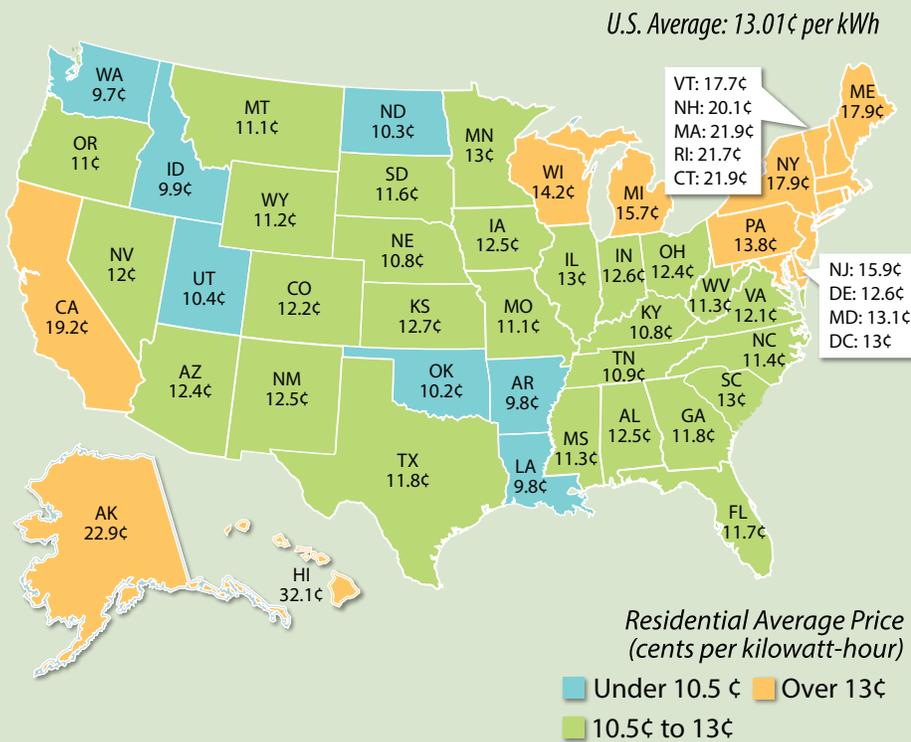
Save 10% on select gun accessories with purchase of firearm
209 Summit Ave W, Blackduck
(218) 835-4636

Wilkening Fireplace Company

20% off installation or service
9608 State 371 NW, Walker
(218) 547-3393 or (800) 367-7976
www.wilkeningfireplace.biz

Average Prices for Residential Electricity

2019 figures, in cents per kWh



Source: U.S. Energy Information Administration
Numbers rounded to nearest tenth of a cent



Need help paying your electric bill?

The Energy Assistance Program (EAP) helps pay for home heating costs and furnace repairs for income-qualified households. We urge you to contact them immediately to avoid disconnection if you feel you are eligible for aid. (Eligibility is based on energy costs, household size and the three most recent months of income.)

Are you a senior living on a fixed income or suffering from a temporary financial shortfall? Then the following agencies may be able to assist you with your electric bill.

Bi-CAP in Bemidji

6603 Bemidji Ave N, Bemidji, MN 56601
218-751-4631

Bi-CAP in Walker

8245 Industrial Park Rd NW,
Walker, MN 56484
218-547-3438

KOOTASCA

201 4th St. NW, Suite 130,
Grand Rapids, MN 55744
218-999-0824

Leech Lake

115 6th St. NW, Cass Lake, MN 56633
218-335-3783

MAHUBE-OTWA

120 North Central Ave,
Park Rapids, MN 56470
218-732-7204

Red Lake

15525 Mendota Ave, Redby, MN 56670
218-679-3350

EAP services may include: payment of energy bills, help with utility disconnections or fuel deliveries, repair or replacement of homeowner's broken heating systems, energy efficiency and more.

2021 Maximum EAP Income Guidelines

Household Size	3-month Maximum	Household Size	3-month Maximum
1	\$7,066	5	\$15,763
2	\$9,240	6	\$17,937
3	\$11,415	7	\$18,345
4	\$13,589	8	\$18,753

Visit <https://mn.gov/commerce/consumers/consumer-assistance/energy-assistance/> for more EAP income guidelines and program information.

NOTICE TO COGENERATORS

In compliance with Beltrami Electric Cooperative adopted rules relating to cogeneration and small power production, Beltrami Electric Cooperative is obligated to interconnect with and purchase electricity from cogenerators and small power producers who satisfy the conditions as a qualifying facility.



Beltrami Electric Cooperative is obligated to provide information free of charge to all interested members upon request regarding rate and interconnection requirements. All interconnections require an application and approval to become a qualifying facility.

Any dispute over interconnections, sales and

purchases are subject to resolution by the Beltrami Electric Cooperative Board. Interested members should contact Beltrami Electric Cooperative, 4111 Technology Dr. NW, P.O. Box 488, Bemidji, MN 56601, or call 218-444-2540.

CLASSIFIEDS

Classified ads rules

- Ads are due by the first of the month prior to publication of the next issue. Example:
 - Ads submitted between February 1 and March 1 – will be published in the April issue.
 - Ads submitted between March 2 and April 1 – will be published in the May issue.
- Ads may be submitted via our website at www.beltramielectric.com (preferred).
- No real estate, rental, personal or commercial ads will be accepted.
- All ads must be 50 words or less and typed or printed clearly.
- Editor reserves the right to edit or reject any ad.
- Members may only submit one for sale and one wanted or free ad per issue.
- Ads are published at no charge as space permits on a first-received, first-printed basis, **with no guarantee your ad will appear.**
- Ads are only allowed to be repeated for **three consecutive months** and must be resubmitted each month.
- Include name and Beltrami Electric account number on all submissions.
- All telephone numbers are presumed to have a 218 area code unless otherwise noted. You may need to dial the 2-1-8 prefix, depending on where you live.

For Sale:

Two electric mini boilers for sale. WH Model EMB-9, 240V, 9 kW, 37.5 Amp. \$200 each or \$350 for both. 760-5097.

Once fired Winchester 5.56 rifle brass. I have 1,700 rounds and they are being sold in 100-round bags for \$25 each. All matching

headstamp and ready to reload. 25 caliber Nosler Ballistic Tip bullets. I have multiple bullet weights, \$30/box of 50. Tenstrike, 970-420-8466.

Char-Broil 3-burner gas grill. Two years old, great shape. \$50. 751-5038.

AKC Registered Labrador Retriever puppies. These puppies come with lifetime inherited diseases guarantee and 26-month hip and elbow guarantee, making fabulous hunting and family companions. We have a variety of color phases to choose from. Text or call us at 218-244-7605 for more information.

2009 Ford Taurus, leather, sunroof, 6 CD player, very clean, new serpentine belt, front w/d. Sold as-is. 159K miles, cash only. \$4,900. 280-4050.

36" round solid oak table with two 12" leaves. Asking \$150/obo. 760-8266.

Cannon printer/copier/scanner in great shape. I upgraded to Wi-Fi. \$20. 2-wheel folding walker w/seal, never used. \$30. 444-1662.

Pine dresser, 4-drawer, \$60; pine nightstand, 2-drawer, \$30; recliner chair, like new, \$50; antique oak finish 4-drawer dresser with tip out mirror, \$150; hide-a-bed sofa, like new, \$100; office chair, \$30; assorted lamps, \$10. 224-2483.

Browning 243 model 81 BLR. Includes sling mounts, scope mounts and hammer extension. Great for youth hunter or lady. \$695. Call 766-7811.

Three-piece entertainment center/bookcase center 46"W x 80"H, 32"W x 76"H corner, 16" x 16" x 75"H adj. shelves, bottom doors, have pictures, \$875. From HOM Furniture. Moose antler w/bear carving inlay now sells for \$2,450, asking \$1,300. Arctic Cat jackets: Men's 2XLT, women's XL both are red/black zip out reversible linings/jackets \$55/\$50. 547-1744.

Bee keeping equipment of all kinds. Mostly boxes and frames. Let's talk. Please call Rick at either 224-3419 or 766-5243.

Books: "These Old Boots from Farm to Forest" by James Lowmaster; "Growing up on a Farm in the Great Depression"; "WWII Radio News of hat Time"; "What a Forester Really Does"; "His Hitch in the U.S. Marine Corps". If interested, please call 586-2492.

Homemade quilts: 4-5-6-inch Block, Crazy, Star, Twin, \$35; Full, \$40; Queen, \$55; King, \$60. Sewing machines, \$15 each. 243-2702.

Glass top table, 80x44x29H, antique brass base, 1/2-in beveled edges, Mfg: LaBarge, suggested retail \$3,150, asking \$1,000/obo. Call 586-2875 after 11 a.m. Cash only.

Set of world book encyclopedias. Includes 10 world books, 5 science books and dictionary. Comes with a wood stand. Will take first reasonable offer! 766-3167.

Large kettles for cooking down maple sap to syrup, \$25 each. 586-2884.

Massy Ferguson 246 tractor loader. Fits 285 MF, 255, 265, 275 bucket or Bobcat quick tach. \$3,000. 835-6449.

Wanted:

Will take care of pets while away. 766-6510.

Used traps all types. Please call or text 766-6238.

Adult Peking ducks, call 766-2853.

DVD recorder/VCR 2-way dubbing transfer unit/machine. Used to transfer VHS tapes to DVDs. 766-9363.

We need to have party who purchased our fireplace contact us. Dan Olson, 444-2893, as soon as possible.

4-stroke 60 hp Honda or 70 hp Mercury outboard motor. 766-8410.

Topper for a 1987 Dodge pickup, short box, size 79 1/2" x 71 1/2". 760-2306, after 6 p.m.



Grant Application Deadline March 26, 2021

To be considered at the April 2021 meeting, grant applications must be received by Friday, March 26, 2021. Community organizations and nonprofit groups may apply for an Operation Round Up grant by completing and returning an application form. Grant applications and requirements are available at the BEC office or by visiting our website at www.beltramielectric.com.

BOARD MEETING HIGHLIGHTS

Beltrami Electric's board of directors conducted its regular monthly meeting Wednesday, Jan. 27, 2021. A quorum of directors was in attendance.

The following reports were given:

- Jill Parson, librarian of St. Mary's Mission School, thanked the board for its donation in memory of Sue Nord to purchase books for the school.
- President and CEO Echernach made his monthly report, including a review of the year-end financials, the Collective Bargaining Agreement between BEC and the IBEW 1426, recent visits with legislators and legislative issues affecting the cooperative. Recognition was given to Bob Wallner on achieving the Certified Cooperative Director Certificate and to John Lund and Sue Krigen on achieving the Director Gold Certificate.
- Arlene Hogquist gave the financial report for November and December.
- Sam Mason reviewed the annual cogeneration report and associated filings.
- Chair Lund appointed all directors as delegates to Minnkota Power and Square Butte annual meetings.
- Chair Lund appointed Sue Krigen as the NRTC voting delegate and Craig Gaasvig as the alternate.
- Directors and president and CEO Echernach shared highlights of meetings attended on behalf of the cooperative.

The following actions were taken:

- Approved the consent agenda.
- Approved the Collective Bargaining Agreement between BEC and the IBEW 1426.
- Approved the annual cogeneration report and associated filings.

The next board meeting will be Wednesday, Mar. 31, 2021.

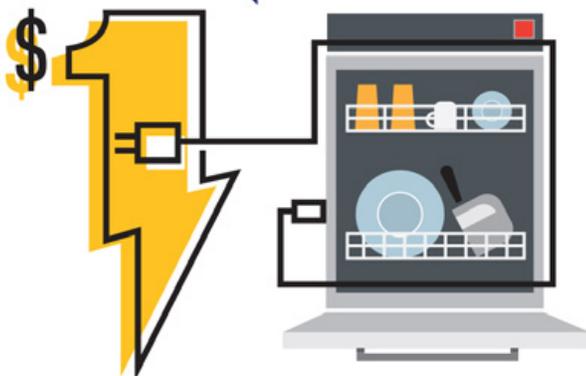
ITEM FOR SALE BY BID

Item is available for viewing at Beltrami Electric, on the east side of the building, in front of BEC's garage area from March 9-12, between 8 a.m. and 4 p.m. Bids will be accepted during this time as well. Item sold "as-is." Cash only. Successful bidder is responsible for all taxes, license and transfer fees.



1997 Dodge Ram 3500, V-10, with hydraulic dump box, 132,772 miles. Minimum bid: \$3,500.

What can you get for \$1?



23 hours of dishwasher use



Is 100% carbon-free electricity possible?

Major technology breakthroughs needed to reach ambitious climate goals

The year 2050 may seem far away, but for electric utilities it feels like tomorrow.

Many political leaders, large corporations and environmental groups are calling for the electricity sector to be 100% carbon-free by midcentury or sooner. While this goal is virtually impossible to meet in 2021, can we reach it in the coming decades without sacrificing electric reliability or affordability? One thing is certain: It will take every ounce of innovation the world has to offer.

The complexity and difficulty in achieving a carbon-free electric grid cannot be understated. No single technology, power source or approach will be sufficient on its own. It will take an all-of-the-above strategy and many technological breakthroughs occurring rapidly in the coming years.

Minnkota Power Cooperative, our wholesale power provider, has made great strides toward reducing the carbon footprint of its generation portfolio. About 42% of the generation capacity provided is already derived from carbon-free resources, and methods to decarbonize even further are being pursued.

Minnkota is thoroughly evaluating Project Tundra – an effort to install carbon capture technology at the coal-based Milton R. Young Station near Bismarck, N.D. This power plant has reliably delivered electricity to Beltrami Electric Cooperative members for decades and is well-positioned for technology advancements. The Project Tundra facility is designed to have a 90% CO₂ capture rate – which is the equivalent of permanently taking 800,000 gasoline-fueled cars off the road. The CO₂ would be safely stored more than one mile underground

near the Young Station site. If the project moves forward, a substantial amount of the energy provided to you through Beltrami Electric Cooperative would be carbon-free.

As the energy transition continues, it is vitally important that electric utilities remain part of the conversation and that decisions are based on technological capabilities, reliability and affordability. Here are five things to consider during discussions on a carbon-free energy future.

Need for carbon capture technology

To maintain the reliability and stability of the electric grid, dispatchable resources, like coal and natural gas, will need to continue operation for the foreseeable future. That means that carbon capture technology will need to be rapidly developed and deployed across the country and the world. In fact, the United Nations' Intergovernmental Panel on Climate Change (IPCC) – the gold standard in international climate change modeling – has determined that without carbon capture technology, it is virtually impossible to meet ambitious climate goals.

Limitations of renewables and batteries

While wind and solar resources provide zero-emissions energy, they are also limited by the fact that they cannot operate on a frequent-enough basis to stabilize the grid by themselves. Backup resources are still needed for when the wind doesn't blow and the sun doesn't shine. While many are optimistic about the future of battery technology, it is still in its infancy at grid scale. Large battery banks can currently only dispatch energy into the grid for a few hours at a time, when multiple days of backup power can be needed.

Electric grid transformation

As more non-dispatchable, intermittent energy comes onto the grid, power system operators will be challenged to meet real-time operational demands. The nation's electric grid will undoubtedly need to be expanded and upgraded to ensure 24/7 stability. This will require a tremendous amount of investment, planning and coordination across multiple states. A recent study by the CapX2050 group anticipates the investment level to be in the billions in the Upper Midwest alone.

Role of beneficial electrification

As the electric grid continues to see lower emissions levels, electrifying everything – from transportation to heating and water heating – provides long-term economic and environmental benefits. Known as “beneficial electrification,” this concept highlights the opportunities to reduce emissions through increased use of electricity to power devices that would otherwise burn fuels like gasoline, diesel, fuel oil or propane. This will be an essential strategy in decarbonizing other sectors.

Addressing other sectors

Reaching climate goals requires a global strategy that extends well beyond electricity generation. According to the U.S. Environmental Protection Agency (EPA), the electricity sector only contributes about 25% of all global greenhouse-gas emissions. If the goal is to reach net-zero greenhouse-gas emissions, significant reductions must also be found from agriculture (24%), manufacturing (21%), transportation (14%), buildings (6%) and other miscellaneous sources (10%).

Courtesy of Minnkota Power Cooperative.



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Air-Source Heat Pumps

YOUR HOME'S LUCKY CHARM



March means two things: the celebration of St. Patrick's Day and the knowledge that hot afternoons are just weeks away. Don't leave the success of your cooling system to the luck of your **four-leaf clover** – get your warmth and your chill in one convenient **pot o' gold** with a super-efficient air-source heat pump (ASHP).

An ASHP delivers electric climate control for most of the year, with the option of a backup fuel source for your cooperative's demand response program – an opportunity that cuts your costs and keeps the electric grid strong. Whether your goal is **saving green** or **going green**, the benefits of an ASHP are hard to ignore!

If you have plans to build a new home or replace your aging furnace or AC unit, an air-source heat pump may be the perfect heating/cooling solution for you. Contact the energy pros at Beltrami Electric Cooperative to learn how you can find the right fit and save the most money.



Convenience

An ASHP uses just one system year-round to both heat and cool your home, so there's no need for an AC unit. The system removes and expels hot air from your house in the summer, but offers the versatility of the reverse process to heat your home in the winter.



Easy installation, low maintenance

You can find an ASHP to fit nearly any size of home, and your contractor will have no problem with the easy installation. The electric power source makes maintenance a breeze, and you don't have to worry as often about keeping a fuel tank full.



Reliable comfort

ASHPs deliver the same level of comfort as other heating and cooling technologies with less of a carbon footprint. Models are becoming more powerful every year, offering fully electric heat through well-below-zero temperatures.



Efficiency

The unit moves both cooled and heated air throughout the home instead of generating it. This makes ASHPs much more efficient and cost-effective than fuel-only heat technology, delivering up to **THREE TIMES** more energy than the electricity they use.



Savings

Beltrami Electric Cooperative offers a rebate of up to \$650 per ton for the installation of a new ASHP on the off-peak program, which gives you the benefit of a highly reduced electric rate. Plus, you'll enjoy sustained savings through the energy efficiency you gain.