

# Connections

August 2020

For the member-owners of Brown County REA



Volume 24, Issue 8

## Next generation of electrification charges onto the farms replacing the fossil fuels

Our nation's farmers have worked for generations in fields across the country. They have seen first-hand how farming equipment has improved over the decades to increase efficiency and to feed an ever-growing population.

A major new change for farming equipment is the trend of switching fossil fuel-powered farm equipment toward electric farm equipment. This builds on the idea of beneficial electrification, where switching to an electric technology helps save consumers money over time, benefits the environment, improves product quality or consumer quality of life, or fosters a more robust and resilient grid.

Historically, the most common form of electrification for farms has been electric irrigation pumping systems. Irrigation systems are crucial for many farmers, which makes or breaks the crop yield. Water heaters are the second most-used forms of electric technology on farms. They are used for many different purposes, like in dairy farm processing, sterilizing equipment and cleaning. Your electric cooperative will help you choose an electric water heater based on efficiency, size, recovery speed and peak temperature.

Many benefits exist to replacing diesel motors with electric motors. Highly-efficient electric motors can operate at 90 percent efficiency,



Some farmers are making the switch to electric tractors, but they currently lack the battery power that many farmers need for a long day of working in the fields. — Photo courtesy of John Deere

which helps provide cost savings over time, compared to diesel motors that operate at 30 percent to 40 percent efficiency. Farmers simply plug in the electric equipment without needing to refill a diesel tank. One of the greatest benefits of electric motors is they do not emit fumes like diesel motors. Overall, electric motors are cleaner, quieter and easier to maintain. Some farmers are switching to electric tractors as

companies like John Deere, AGCO and others perfect their own electric models. However, electric tractors lack the battery power that farmers need for a long day in the field.

Yet, the largest barrier of converting to electric technologies is the cost. Both the price of the electric technology itself and for the wiring to connect it to the entire farm can be extremely — **Continued on Page 6**

### At A Glance



**Brown County  
Rural Electrical  
Association**

#### BCREA earns safety certificate

Workplace safety is a priority at Brown County REA. Your electric co-op recently hosted observers to help make sure its linemen are being as safe as possible. Read more about the recent RESAP certification on Page 5.



## EV fast-charging network continues to spread across Minnesota and the rest of the country

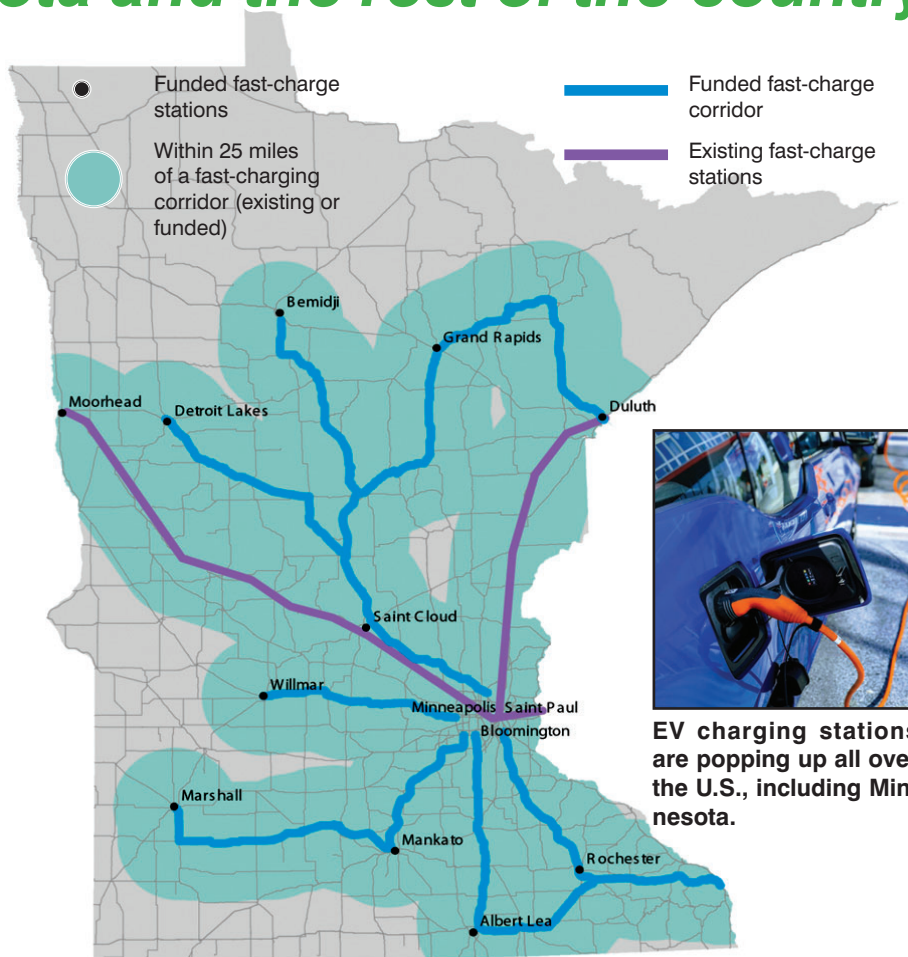
A cross-country route that allows electric vehicle (EV) drivers to travel from coast to coast using the largest open DC fast-charging network in the United States is now complete.

The route is part of Electrify America's \$2 billion investment into charging infrastructure, education and access. It travels along Interstates 15 and 70, spanning 11 states and more than 2,700 miles to take drivers from Los Angeles to Washington, D.C. High-powered chargers can be found, on average, about 70 miles apart in metro areas and near highway routes located near shopping and restaurants.

"Electrify America's primary goal has always been to advance electric vehicle adoption in the U.S. and that starts by instilling feelings of confidence and freedom in consumers when it comes to EV ownership," said Anthony Lambkin, director of operations at Electrify America. "The completion of our first cross-country route is a significant step toward that goal. By making long-distance travel in an EV a reality we hope to encourage more consumers to make the switch to electric."

Minnesota, which now has about 30 DC fast chargers, has set its sights on building out more EV infrastructure with some of the Volkswagen settlement funds. The state will spend the maximum amount allowed from the settlement (15 percent) on zero-emission vehicle infrastructure.

As part of Phase One project, the Minnesota Pollution Control Agency (MPCA) awarded ZEF Energy \$1.7 million to install 22 DC fast-charging stations and several level 2 chargers at sites along major highways outside



EV charging stations are popping up all over the U.S., including Minnesota.

of the Twin Cities metro area. The fast-charging stations will be installed over the next two years in cities such as Bemidji, Grand Rapids, Detroit Lakes, St. Cloud, Willmar, Marshall, Rochester, Mankato and Albert Lea.

For Phase II, which is underway now through 2023, the state allocated \$3.525 million to go toward charging infrastructure. The MPCA plans to award a grant to build out 43 additional DC fast chargers that will significantly increase the number of highways' routes with access to fast charging.

A fast-charger highway corridor from the Twin Cities to the North Shore is already in place for EV drivers.

Electrify America has more than 435 operational charging stations with over 1,900 DC fast chargers and another 100-plus sites in development. By the end of 2021 Electrify America plans to install or have under development approximately 800 total charging stations with about 3,500 DC fast chargers.

To locate a charger near you or map out a trip visit [plugshare.com](http://plugshare.com).

# AGCO battery-powered tractor available

The AGCO/Fendt e100 Vario is a practical, battery-powered tractor that can be used in normal operation for a full working day without the need to recharge.

The AGCO/Fendt has a 50-kW power output, which can operate for up to five hours under actual operating conditions. The energy source is a 650-volt, high-capacity lithium-ion battery with a capacity around 100 kWh. The battery is charged either with 400-volt and up to 22-kW via a standard CEE outdoor socket or by a supercharging option with direct voltage. With a standard CCS type 2 plug the battery can be recharged up to 80 percent in just 40 minutes. In addition, energy can be recovered thanks to the use of an electric motor.

The Fendt e100 Vario allows the use of conventional, as well as electrified implements. The electric tractor is fitted with two AEF-compliant power interfaces for electrical equipment. A short-term boost up to 150 kW for the implements can be provided by the battery.



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## Safety


# Make generators a safe source of power

Generators are great for maintaining power during storm outages, but numerous potential dangers are associated with them. Learn how to use generators safely with the following tips:

- Generators produce carbon monoxide (CO). CO is an odorless, colorless and tasteless poisonous gas that is called the “silent killer” because it is virtually undetectable without the use of technology, like CO alarms. Between 1992 and 2012 nearly 80 percent of the 931 CO deaths were associated with generators. Install battery-operated CO alarms to minimize this danger. Generators should also be positioned at least 20 feet from doors, windows and vents to prevent CO from entering the home.
- Storms account for many of the fatalities associated with generator use with ice/snow storms accounting for 46 percent of them.
  - 67 percent of accidents occurred when a generator was placed inside a home. 26 percent occurred when a generator was used inside an attached garage or shed. Never operate a generator inside your home or in other enclosed or partially-enclosed spaces.
  - A generator is a temporary power source and should never be used as a permanent solution.
  - Never connect generators directly to household wiring without first installing a transfer switch. This prevents backfeeding, which could electrocute utility workers making repairs.
  - Make sure your generator is properly grounded and used with a Ground Fault Circuit Interrupter (GFCI).



**Transfer switches isolate utility power and generator power to prevent backfeeding, which can be deadly. Backfeed can follow wires and harm those nearby, including utility workers making repairs. Transfer switches also protect the home from electrical fires caused by short circuits and improper connections. Transfer switches should only be installed by a qualified electrician.**

- Use only extension cords that have a three-pronged plug and are rated for the intended load.
- Your home generator should be installed by a qualified electrician and bear the mark of a nationally recognized testing laboratory, such as UL.
- Do not overload the generator. 

— Information courtesy of [esfi.org](http://esfi.org)

# Brown County Briefs

## Memory Advisory Council

Due to the current COVID-19 restrictions, the new Member Advisory Council will not be gathering in 2020. Members who have agreed to serve on the council will be notified of the first meeting in 2021 once it has been scheduled.

## Operation Round Up



The next meeting of the Round Up Trust Board is set for August 18.

Organizations wishing to apply for funding should submit the application found on the REA website [www.browncountyrea.coop](http://www.browncountyrea.coop).

## Friend us on Facebook



Stay current with what is happening at your electric co-op by visiting our Facebook page at [www.facebook.com/Brown-County-REA](https://www.facebook.com/Brown-County-REA).

## Energy efficiency tip

Installing a smart power strip is a quick and easy way to start saving money while making your home more energy efficient. Smart power strips can actually cut power off to save energy since they are able to detect when a device is in standby mode.

## BCREA office remains closed



Our office remains closed to the public at this time. Members who need to conduct business that cannot be done remotely may call 800-658-2368. If you have an appointment, you must wear a mask to enter the building.

We ask members to continue making electric bill payments via the drop box next to the flag pole outside the office, through the online portal, mobile app and other payment options. ☎️

# Update your contact info



If you have changed your cell phone number or eliminated your land line, please contact Brown County REA to update your contact information. This will help us and help you by:

- Allowing us to contact you quickly and easily in case of a planned outage.
- Help us keep you updated about work being done in your area, which may affect your electric service.
- Keep the lines of communication open between you and your co-op in case there's an account issue.

Please check your billing statement and if the phone number listed is no longer valid, or you'd like to add a cell phone to your contact information, please call the office at 800-658-2368 or 507-794-3331. Otherwise, update using the online payment portal on our website [www.browncountyrea.coop](http://www.browncountyrea.coop). ☎️

## Adding electrical load this fall?



Are you planning to install, modify or replace electric equipment this fall at your home, business or farm? If so, please contact Brown County REA with the details of your project as soon as possible.

By contacting the cooperative we can ensure:

- Our equipment is sufficiently sized to handle your new project.
- You and your neighbors will not experience power quality issues as a result of the additional load.
- The work to be completed is efficiently scheduled to eliminate delays.
- Your project costs are kept to a minimum.

By working together, we can help your project go as smoothly as possible. If you have questions regarding your electrical installation or modification, please call Brown County REA at 794-3331 or 800-658-2368. ☎️

# Brown County REA is committed to job safety



RESAP observers conducted an onsite review of underground construction work as part of the safety review (left). A BCREA crew is observed unloading used poles and other equipment as part of the RESAP visit (right).

Brown County REA demonstrated its ongoing commitment to a safe work environment to earn a certificate of safety achievement through the Rural Electric Safety Achievement Program (RESAP).

BCREA hosted observers from the Minnesota Rural Electric Association (MREA) and one volunteer each from Nobles Cooperative Electric, Traverse and Redwood electric cooperatives for a day-long review of its work environment. The observers, using identified safety criteria, completed an onsite observation of the co-op's facilities, trucks and other equipment, as well as line crew observations.

The co-op received satisfactory ratings in all areas and suggestions were given for a few areas to improve upon. Key activities of RESAP, a service of the National Rural Electric Cooperative Association (NRECA), include performance measures of Occupational Safety and Health Administration (OSHA) data and a cooperative-prepared safety improvement plan and its status submitted to NRECA annually. In addition, every three years, the cooperative must illustrate its leadership commitment to safety, a safety health check, verification of documents and onsite observation by MREA and the onsite observation team. (5)

## BCREA line crew construction season



Crew Foreman Mike Suess (far left), Journeymen Linemen Zach Gulden and Brady Kerkhoff and summer helper Kyle Goblirsch (far right) work to upgrade overhead line to underground line in Leavenworth Township. (5)

# Energy audit first step for efficiency

Agricultural producers are the focus of an energy audit program that is available to members of your electric co-op.

Qualified participants will receive one-on-one assistance in identifying and prioritizing energy-efficiency opportunities to ultimately come away from the experience with an energy management plan to implement.

“We understand that each operation is unique and requires personalized assistance,” said Jill Eide, program manager at Great River Energy. “This program will take the guesswork out of where you should spend your time, money and efforts when it comes to energy management.”

Audit outcomes will provide information ranging from simple, no-cost operational changes that can save you money to an analysis of your energy use, which equipment is using the most energy and what can be done to decrease your energy costs.

Your electric cooperative offers this opportunity through its wholesale power provider, Great River Energy (GRE). GRE received a \$100,000 grant from the United States Department of Agriculture’s Rural Energy for America Program (USDA-REAP) to conduct these audits. Program participants only need to pay 25 percent of the cost of their agricultural audit with the other



**Drying fans could be one area of improvement discovered by a farm energy management audit. Such an audit will identify areas where better energy efficiency can be achieved. The audit will then lay out an implementation plan.**

75 percent covered through grant funding. Average cost to producers are approximately \$625, but can vary based on the operation’s size.

The United States Department of Agriculture has additional financial resources available for both energy audits and energy-efficiency projects through the Environmental Quality Incentives Program (EQIP). EQIP audit funding can be applied for through your local Natural Resources Conservation Service (NRSC) office.

Have an energy-efficiency project

for this year and don’t want to wait for EQIP audit funding? Use the cooperative’s agricultural audit program to cover 75 percent of an AgEMP audit cost and immediately qualify for cooperative rebates and EQIP funding for implementation.

Are you not sure where to start with the agricultural audit or USDA-EQIP programs? For more information call 1-800-441-8525 to verify audit eligibility and cost. Otherwise, check out the co-op’s rebates on its website or call the co-op’s energy expert. ☎

## Electric farm technology will continue to develop

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costly. Even with savings on fuel costs over time, farmers will be reluctant to replace their farming equipment due to high initial costs. However, federal and local government programs can help lessen the upfront costs for farmers. Electric cooperatives can also help their farmer-members with energy audits to identify energy efficiency opportunities (see above story), or with applying for funding from federal programs such as the Rural Energy Savings Program (RESP)

or the Rural Business Development Grants (RBDG).

Besides electric irrigation systems and water heaters, the availability of other electric farming technologies is much less common, such as electric grain dryers, thermal electric storage systems and heat pumps. Many of these electric technologies are still in the early stages of commercialization and have not fully entered the agricultural market. The accessibility of these technologies will depend on a variety of factors, like the type

of farm, electricity prices versus fossil fuel prices and any incentives to decrease upfront costs for buying new equipment. Despite these challenges, opportunities exist for expansion, especially for electric tractors and other electric farm vehicles. Visit with your cooperative about rebates for electric forklifts, electric hog farrowing mats and other custom rebates. With more time and investment electric farming equipment will likely become even more widespread in the coming years. ☎

## Keep the house cool — turn down heat with no-bake sweet treats

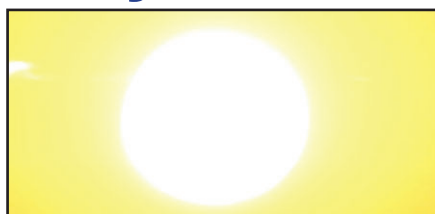
Who wants to run the oven in August? It is already hot enough! Keep the temperature down with no-bake recipes for cookies, cheese cakes, bars and more. Share those cool no-bake treat recipes with all! Send to: Editor, Federated Rural Electric, PO Box 69, Jackson MN 56143-0069 or e-mail to christoffer@federatedrea.coop by August 26. Add your name and phone number. Thanks for sharing with us! ☺

# Heat and humidity affects CTV channels

A UHF signal, like CTV broadcasts, is subject to weather interference. Heat and humidity seem to cause the most trouble — especially during the dog days of summer.

On a clear day, your TV may pick up signals from not only the CTV towers, but also other TV towers in different locations, as UHF signals travel farther than normal.

This co-channeling interference involves two channel frequencies in different locations invading one another's territory. As a result, your antenna may be unable to pick up a clear signal on certain channels with all of the commotion.



Clear, sunny days with higher dewpoints are prime conditions for this to happen, as are drastic temperature changes in the mornings and evenings. If you receive a channel some of the time and not at other times, the cause is most likely weather. Cable, satellite and cell phones see similar issues.

If you are ALWAYS without reception on all or most of your channels, then

the culprit is usually a problem within your antenna system. If equipment fails at a tower, normally channels will be back within a few hours or less.

Because there isn't any real fix to co-channeling interference, it is suggested you try to avoid doing a channel re-scan while experiencing missing channels. When people re-scan during troubled times (high heat & humidity), they risk losing other channels too. Please call if you are experiencing other problems with your CTV signal. CTV is glad to help any way we can. Be patient... cloudy, colder weather will return soon, which usually causes reception to get better. ☺

## Electric tractor eliminates oil changes & diesel fuel, plus uses a heat pump for air conditioning

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A standard PTO connection is also available, as well as the normal hydraulic supply to implements. Therefore, the Fendt e100 Vario can be used with existing equipment with no additional caveats, but is also equipped to reap the benefits of using electrical implements.

Precise and dynamic control is enabled thanks to the electrical drive. The maximum torque for the ground drive and PTO drive is supplied from a standing start. Safety is guaranteed by an insulated design and continuous, electronic system monitoring.

The efficiency of the battery-powered tractor is increased by a completely new, energy-efficient type of thermal management. A regulated, electrical heat pump performs the task of air conditioning the cab, as well as the battery and electronics. Energy management, including the tractor's battery information, can be monitored via smartphone. In addition, comfort functions, such as pre-heating in winter or air conditioning in summer, can be easily controlled in advance when connected to the main's supply.

The battery-powered tractor can significantly reduce carbon dioxide emissions. If renewable energy generated on the farm is used, the machine can be operated with a net zero carbon footprint and is very cost-efficient. Maintenance work and costs are reduced for filters and oil, as many components involved in conventional technology are no longer needed. Consumables, such as engine oil, AdBlue or diesel, are a thing of the past. At the same time the high-capacity battery can store excess power and feed it back into the grid. ☺

**Pick up the phone  
before the shovel;  
call before digging!**

**1-800-252-1166**



Call Gopher State One Call before doing any digging more than 12" deep — 48 hours before digging for foundations, trees, tiling and more. You can also register at [www.gopherstateonecall.org](http://www.gopherstateonecall.org) or call 811. Call a licensed electrician to locate the underground lines on your side of the meter. ☺



**Brown County  
Rural Electrical  
Association**

Brown County Rural Electrical Assn.  
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Sleepy Eye MN 56085

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Website: [www.browncountyrea.coop](http://www.browncountyrea.coop)  
Phone: 507-794-3331 or 800-658-2368

Office hours: 8 a.m. to 4:30 p.m. Monday-Friday

Mike Heidemann, Chief Executive Officer

**Board of Directors**

James Mickelson, President — 794-6298  
William Berg, Vice President — 766-1497  
James D. Hanson, Sec.-Treasurer — 829-6756  
Brad Sprenger — 317-5576  
Allen Hanson — 276-0691  
Thomas Hayes — 228-8954  
David Wendinger — 276-3166  
Greg Mages — 794-3540  
Joel Christensen — 828-4550  
The Board of Directors meets the last Thursday of each month.



**Mike Heidemann  
Chief Executive  
Officer**

# Staff Notes

## Electricity brings everyday value

Even though I work in the energy industry, like most people, I still don't think much about the electricity I use. I expect the lights to turn on when I flip the switch and the coffeemaker to work each morning. Because electricity is so abundant, we don't think much about it. Since many of us have spent more time at home over the past few months, we have likely been using more energy. Yet, we still expect an endless supply of power with

uninterrupted service 24/7. The only time we really think about electricity is when the power goes out or, perhaps, when the monthly bill arrives.

Given how electricity powers our modern lifestyle every day, it's a great value, especially when compared to other common services and expenses. For example, think back to the cost of a gallon of gasoline 20 years ago. Consider the cost of groceries or a cup of your favorite specialty coffee from a few years back. In comparison, the cost of electricity has remained largely flat, unlike most other consumer goods.

Like many of you, I have a cell phone to stay connected. I subscribe to cable channels so I can enjoy more viewing options. Many of us consider these necessities for modern day life. We can see what we're getting for our money; we pay the price for those services. In contrast, when we use electricity, we don't necessarily "see" all that we're getting for our money.

But considering what electricity does for us, it's a tremendous value for our quality of life, as well as our budgets. For comparison, consider that the average rent increase was nearly 4 percent (from 2014-2019), according to the Bureau of Labor Statistics Consumer Price Index (CPI). The cost of medical care has increased 3 percent during this time. Education was not too far behind at 2.6 percent. So, where did electricity rank? According to the CPI, electricity increased by less than half a percentage point — 0.4 percent.

The bottom line: electricity brings everyday value. In fact, Brown County REA members experienced an average of 120 minutes of outage time last year. Considering that electricity is something that we all use around the clock, I'm very proud of our track record. At the same time, we are striving to increase our service reliability, reduce those brief interruptions and reduce costs. We are continually working to improve our operations to ensure a smarter grid and exploring more renewable energy options where possible.

Brown County REA provides the reliable service you expect and deserve as valued members of the co-op. And as your trusted energy advisor, we want to help you save you energy and money.

We recognize that the past few months have been challenging for many of our members and we're here to help. If you have questions about your account or are looking for ways to save energy at home, please give us a call. Brown County REA is your electric co-op and our sole purpose is to serve you and the needs of our community. That's everyday value. Ⓢ

# Board meeting highlights

The BCREA Board of Directors held its monthly meeting July 30 at the headquarters in Sleepy Eye. Discussion and/or action was taken on the following agenda items:

- Reviewed and approved the June 2020 board meeting minutes, member cancellations, assignment of transfers and payments to estates.
- Reviewed and approved the new construction work plan for the Rural Utilities Service (RUS) loan application.
- Approved Thursday, April 8, for BCREA's 2021 Annual Meeting, with April 29 as an alternative date if there is inclement weather.
- Updated on the co-op's Rural Electric Safety Achievement Program (RESAP) visit.
- Approved postponing the Member Advisory Council gatherings for 2020 due to COVID-19 restrictions. Tentative plans are to convene the new council in 2021.
- Reviewed recent line crew safety training.
- Updated on construction activities including the Leavenworth underground work plan project, work on County Road 12 near Courtland, service rebuilds and pole replacements.

The next meeting is set for August 27 at the BCREA headquarters in Sleepy Eye. Ⓢ