

**PROS AND CONS OF  
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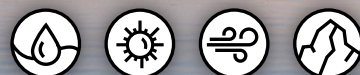
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**IS 100% CARBON-FREE  
ELECTRICITY POSSIBLE?**

*(LEARN MORE ON PAGE 4)*

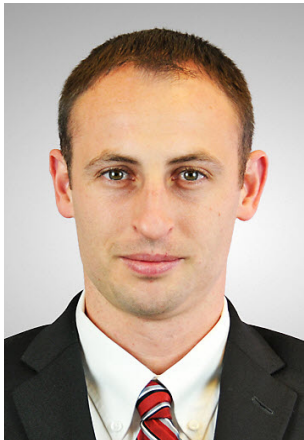
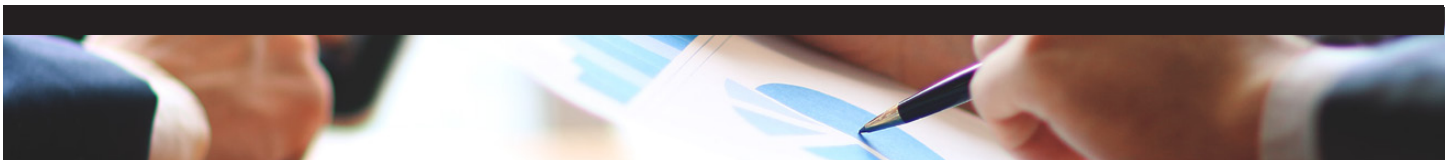
**ALL IN**



**ALL-OF-THE-ABOVE ENERGY**

**NORTH STAR ELECTRIC COOPERATIVE, INC.  
MISSION STATEMENT**

To improve the lives of our member-owners and community by responsibly providing clean, affordable, electric energy and other beneficial services while maintaining the very highest standards of performance and member satisfaction.



## NORTH STAR ELECTRIC CO-OP SELECTS NEW GENERAL MANAGER

The board of directors at North Star Electric Cooperative in Baudette, Minn., has selected Josh Compton to succeed Ann Ellis as general manager and CEO following Ellis's recent retirement. Compton brings great management skills and national cooperative experience

to his new job, having recently served as manager of regulatory affairs at the National Rural Utilities Cooperative Finance

Corporation (CFC) in Dulles, Va., and prior to that as a regulatory affairs analyst at Pepco Holdings, Inc. in Washington, D.C. In his role at CFC, Compton had the opportunity to work with a vast number of electric cooperatives across the United States to provide numerous financial and utility ratemaking consulting services. Along with his professional career, Compton has served as a county commissioner in his rural West Virginia county for a number of years and has a strong background in community relations, working with local, state and federal representatives and maintains a track record of creating positive changes. "I'm extremely honored to have been selected as the next

general manager of North Star Electric Cooperative. I'll be joining a very forward-thinking organization with top-notch employees who are absolutely dedicated to ensuring our member-owners are provided with the best possible service. We will continue putting our member-owners first and I will look for new opportunities that benefit them as we move North Star Electric Cooperative into the future," said Compton. Compton is in the process of relocating to the Baudette area in the coming months with his wife Michelle, son Zach and dog Yager.

**NATIONAL AG DAY**

**Thank you, farmers.**

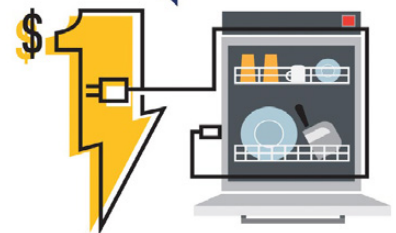
March 23 is National Ag Day, and North Star is celebrating the hardworking farmers and ranchers of the region we serve. They not only power our economy, but they also power our families with meat, dairy, produce and grains.

**Air-Source Heat Pumps**  
YOUR HOME'S LUCKY CHARM

- Convenience
- Low-maintenance
- Reliable comfort
- Efficiency
- Savings

**BIG CO-OP REBATE AVAILABLE!**

### What can you get for \$1?



**23 hours of dishwasher use**

Electricity makes your life easier, AND it's a steal! Did you know you can use your dishwasher for about 23 hours for just \$1 of power? That's kitchen cleanup for dozens of family meals – and freedom from fights over whose turn it is to wash the dishes.



# HIGHLIGHTS FROM THE BOARDROOM



These are the highlights from the Jan. 6, 2021, regular board meeting. All board members were in attendance. In addition to routine actions, the board voted to approve the early but discounted capital credit payments to estates, to approve the allocation of the 2020 margins (revenue in excess of expenses) to the cooperative members' capital credit accounts, to approve all North Star board members as delegates to the Minnkota and Square Butte annual meetings, to approve the board resolution authorizing the restatement of

the Section 125 Cafeteria Plan, to approve Director Smith as delegate and Director Sampson as alternate at the NRECA virtual annual meeting, to set a special meeting date to review costs and to approve the 2021 budget, which includes no increase to either the monthly service fee or the price per kWh.

Staff reports included the safety report, the financial report, the 2021 budget, the 2021 mileage rate, the full repayment of the Green Forest Wood Products REDLG (Rural Economic Development Loan & Grant) program loan, red and yellow zone control, ripple receiver inspections and repairs, PowerSavers rebates, the Operation Round Up® board meeting, building maintenance, MPCA generator compliance, upgrades, pole changeouts,

staking for 2021 summer work plan jobs, right-of-way clearing and outages.

Detailed minutes are available at the cooperative for member review (429-44-242-03, Donna Larsen). Regular board meetings are generally held the first Wednesday of every month. If you wish to speak with the board or have an item that you would like to have placed on the agenda, please contact the co-op at least two weeks in advance to be included on the agenda.

## CAPITAL CREDIT ALLOCATION

Your March bill will show your share of the 2020 margins (revenue in excess of expenses) and your accumulated capital credit balance. Because North Star is nonprofit and is owned by those who purchase electricity from it, all margins are returned to you and the other members. Current margins are temporarily held in your capital credit account, which is your share of the ownership of the cooperative's assets. Over time, these capital credits are repaid to the members. Payment or bill credit is typically made in September. We have returned \$13,507,293 of capital credits to our members.

## 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: [energy.gov](http://energy.gov)

## DIRECTORS

**President**  
Steve Arnesen

**Vice President**  
Michael Hanson

**Secretary-Treasurer**  
Lorraine Nygaard

**Directors**  
Shelley Spears  
Randy Bergan  
Tom Smith  
Bruce Sampson

## DIGGING SOON?

One free, easy call gets your utility lines marked and helps protect you from injury and expense. Safe digging is no accident.

**ALWAYS CALL BEFORE YOU DIG.**  
**VISIT [WWW.CALL811.COM](http://WWW.CALL811.COM) FOR MORE INFORMATION.**



## LOOKING FOR SOMETHING?

Past issues of the Enlightener are on our website at

**[www.northstarelectric.coop](http://www.northstarelectric.coop)**



# Is 100% carbon-free electricity possible?

## Major technology breakthroughs needed to reach ambitious climate goals

**T**he 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.

North Star Electric Cooperative 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 by Minnkota Power Cooperative, our wholesale power provider.

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 North Star Electric members for decades and is well-positioned for technology advancements. The Project Tundra facility is designed to have a 90% CO<sub>2</sub> capture rate – which is the equivalent of permanently taking 800,000 gasoline-fueled cars off the road. The CO<sub>2</sub> 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 North Star Electric 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%).

# ALL-OF-THE-ABOVE

All-of-the-above strategy ensures the best energy value



“Don’t put all your eggs in one basket.”

It’s a familiar saying, and believe it or not, that age-old piece of wisdom is used by electric cooperatives to make sure you receive a reliable, affordable and environmentally responsible supply of electricity. Each of the primary generation resource options across the country has both advantages and disadvantages. This is why an all-of-the-above energy strategy is so crucial. If a utility ties itself to one resource, it is exposed to all the risks associated with that resource. By diversifying, utilities are able to take advantage of the pros and limit their exposure to the cons.

Through its membership in Minnkota Power Cooperative, North Star Electric Cooperative uses a diverse mix of coal, wind and hydro to meet your 24/7 electricity needs. Future power supply decisions take into account numerous factors, including permitting; capital, operating and maintenance costs; existing generation mix; reliability and resiliency; and projected consumer demand for electricity.

Decisions to build or purchase from new generation resources are carefully considered. Building any new generation resource at grid scale can cost hundreds of millions of dollars and require decades of investment and commitment. That makes it uneconomic to switch back and forth between power supply options over short periods of time.

## PROS AND CONS OF GENERATION RESOURCES

### DISPATCHABLE/BASELOAD

#### + LIGNITE COAL -

Abundant, domestic fuel source	Currently, almost impossible to permit
Can reliably run 24 hours per day	Can be difficult to ramp up and down to accommodate renewable production
Cost-competitive with other resources	Higher CO <sub>2</sub> intensity than natural gas, although CO <sub>2</sub> capture technology is advancing

#### + NATURAL GAS -

Lower CO <sub>2</sub> emission levels than coal	Fuel costs have been historically volatile
Currently, natural gas is low-priced	Pipeline infrastructure not adequate for projected demand
Can be run 24/7 or used during peak events	Potentially more expensive to install CO <sub>2</sub> capture technology
Flexible operation	

#### + HYDRO -

No fuel cost	Currently, almost impossible to permit
Low-cost energy to consumer	Affects fish and wildlife habitat
No air emissions	Alters the natural flow of rivers
Flexible operation	Virtually no resources in development (some dams being removed)

#### + NUCLEAR -

No air emissions	High capital cost and increasingly expensive fuel
Can reliably run 24 hours per day	Radioactive waste must be properly disposed of and monitored
	Nearly impossible to permit
	Cannot ramp up and down to accommodate renewable production

### INTERMITTENT

#### + WIND -

No fuel cost	Has intermittent production (produces about 45% of its potential on an annual basis)
No air emissions	Requires investment in backup generation resources
Cost-competitive with other resources	Turbines take a larger footprint to produce the same energy as other resources
	Wind farms can impact bird and wildlife populations
	Cannot operate in extreme cold or wind conditions

#### + SOLAR -

No fuel cost	Has intermittent production (produces about 15-18% of its potential on an annual basis)
No air emissions	Requires investment in backup generation resources
Costs are higher than other resources, but are trending downward	Solar panels take a larger footprint to produce the same energy as other resources
	Production affected by clouds, snow and extreme cold temperatures

#### + BATTERY TECHNOLOGY -

No air emissions	Technology is in its infancy at grid scale
Can be dispatched when needed	Costly to deploy and requires investments in other generation resources to charge the batteries
Pairs well with renewable resources	Can only dispatch for 2-4 hours at a time when energy can be needed for days
	Battery components require significant amounts of rare earth elements, which are almost exclusively produced by China





## PROBLEMS PAYING YOUR ELECTRIC BILL? ENERGY ASSISTANCE MAY BE AVAILABLE!

If you recently lost your job or had your hours cut, the following agencies may be able to help you with your electric bill. You may have never needed help before, but maybe today you do.

### LAKE OF THE WOODS COUNTY SOCIAL SERVICES

206 8th Ave SE, Suite 200  
Baudette, MN 56623-2895  
634-2642

### NORTHWEST COMMUNITY ACTION COUNCIL

PO Box 67  
Badger, MN 56714-0067  
800-568-5329

### KOOCHICHING COUNTY COMMUNITY SERVICES

1000 5th St  
International Falls, MN 56649-2243  
283-7000

### KOOTASCA COMMUNITY ACTION, INC.

Grand Rapids, MN 55744-3984  
Toll free 877-687-1163  
Direct 218-999-0800  
Fax 218-999-0220

### ARROWHEAD ECONOMIC OPPORTUNITY AGENCY

703 3rd Ave S  
Virginia, MN 55792  
800-662-5711

## STAFF REPORT – CONNECTED CO-OP COMMUNITY



**Robyn Sonstegard**  
*Finance Manager*

When we say that we live in a “connected” world, most of us think about technology, like our smartphones and other devices and gadgets. But when you’re a member of an electric co-op (that’s you!), there’s so much more to being part of our connected co-op community. We depend on you because you power our success, and when North Star does well, the community thrives because we’re all connected. As a member of North Star Electric Cooperative, you also help to power good in our local community through initiatives like Operation Round Up®, which donates funds to local charitable organizations.

We greatly value our connection to you, the members we serve. And we’d like to help you maximize the value you can get from North Star through a variety of programs and services that we offer our members. For example, we can help you save money on your energy bill through rebates on LED lighting or electric heating equipment and water heaters (556-26-008-01, Allan Baumgartner). When you use our SmartHub® website, or download our SmartHub app, you can monitor and manage your home energy use, pay your bill online, sign up for usage notifications and access a menu of additional options. When you follow North Star on social media, you’ll learn about power restoration efforts, co-op events, safety tips, giveaways and more. You’ll also see photos of our community involvement – and who doesn’t enjoy seeing good things happening in our community!

By connecting with us, you can get real-time updates from your co-op. That’s why we want to make sure we have your most current contact information on hand. If we can’t connect with you on these platforms or in person, you could miss out on important information. North Star relies on data for nearly every aspect of our operations, and up-to-date contact information from our members helps ensure that we can provide the highest level of service that you expect and deserve.

We hope you will connect with us whenever and wherever you can – whether that means attending our annual meeting or open house, calling or visiting with our employees, or simply downloading our app. North Star exists to serve our members, and when we’re better connected to you and our local community, we’re better prepared to answer the call. To learn more about co-op products and services that can help you save, visit [northstarelectric.coop](http://northstarelectric.coop), call our Baudette office at **218-634-2202**, our Littlefork office at **218-278-6658** or stop by either office location. We look forward to connecting with you!

## PARENTS OF HIGH SCHOOL SENIORS



If you are a current member and a parent or guardian of a high school senior, remember that along with encouraging your student to enjoy their last moments of high school, also encourage them to participate in our Cooperative Knowledge Scholarship competition this spring. This scholarship competition is funded with unclaimed capital credits and is a great way for North Star to support the youth throughout our service area (716-05-012-06, Dennis Swanson). North Star will award one \$1,000 scholarship and four \$400 scholarships to the students who score highest on the test. Students scoring 60% or better on the test will be entered into a drawing for eight \$100 cash prizes. Last year only 23 students competed. The odds are good.

# NORTH STAR ELECTRIC POLITICAL LEADERS

## FEDERAL LEGISLATORS

President Joe Biden  
The White House  
1600 Pennsylvania Ave. NW  
Washington, D.C. 20500  
[www.whitehouse.gov](http://www.whitehouse.gov)  
202-456-1111

Senator Tina Smith  
720 Hart Senate Office Bldg.  
Washington, D.C. 20510  
[www.smith.senate.gov](http://www.smith.senate.gov)  
202-224-5641

Senator Amy Klobuchar  
425 Dirksen Senate Bldg.  
Washington, D.C. 20510  
[www.klobuchar.senate.gov](http://www.klobuchar.senate.gov)  
202-224-3244  
1-888-224-9043 (Minnesota office)  
Fax: 202-228-2186

Congressman Pete Stauber  
126 Cannon House Office Bldg.  
Washington, D.C. 20515  
[www.stauber.house.gov](http://www.stauber.house.gov)  
202-225-6211

Congresswoman Michelle Fischbach  
1237 Longworth House Office Bldg.

Washington, D.C. 20515  
[www.fischbach.house.gov](http://www.fischbach.house.gov)  
202-225-2165  
Fax: 202-225-1593

## STATE OF MINNESOTA LEGISLATORS

Governor Tim Walz  
Capitol Bldg., Room 130  
75 Rev. Dr. Martin Luther King Jr. Blvd.  
St. Paul, MN 55155  
800-657-3717  
[www.mn.gov/governor](http://www.mn.gov/governor)

Senator Tom Bakk  
75 Rev. Dr. Martin Luther King Jr. Blvd.; Capitol, Room 328  
St. Paul, MN 55155  
651-296-8881  
[www.senate.mn/members](http://www.senate.mn/members)

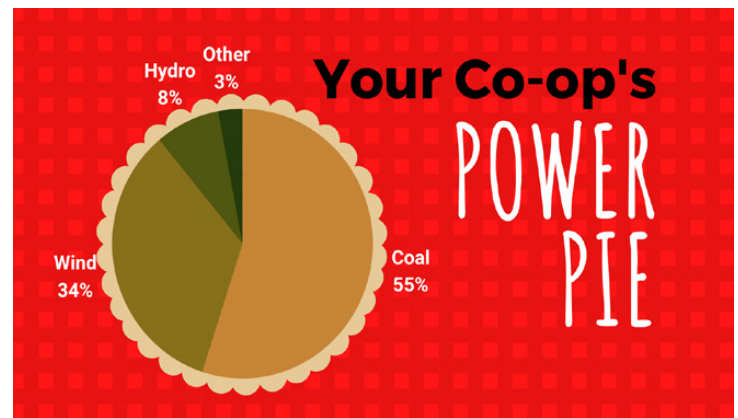
Senator Paul Utke  
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Senator Mark Johnson  
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651-296-5782  
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[www.senate.mn/members](http://www.senate.mn/members)

Representative Matt Grossell  
227 State Office Bldg.  
St. Paul, MN 55155  
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[rep.matt.grossell@house.mn](mailto:rep.matt.grossell@house.mn)  
[www.house.leg.state.mn.us/members](http://www.house.leg.state.mn.us/members)

Representative John Burkel  
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[www.house.leg.state.mn.us/members](http://www.house.leg.state.mn.us/members)

Representative Rob Ecklund  
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St. Paul, MN 55155  
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[www.house.leg.state.mn.us/members](http://www.house.leg.state.mn.us/members)



## HOME COOKING

### PEPPER STEAK WITH SAVORY SAUCE

An easy and colorful recipe cooked in a savory sauce that tastes better than takeout. Serve over rice, and add your favorite vegetables such as pea pods or a side salad.

Prep Time	Cook Time	Total Time	Servings
10 mins	45 mins	55 mins	4 servings

#### INGREDIENTS

- 1 lb steak (round, sirloin, whatever you have on hand) sliced into thin strips
- 1 green bell pepper seeded and sliced into rings
- 1 large onion sliced into thin rings

#### SAUCE

- 1 cup ketchup

- 1 cup water
- 12 Tbsp. soy sauce (we prefer LaChoy brand)
- 4 Tbsp. flour

#### INSTRUCTIONS

1. Brown steak in electric or stovetop fry pan.
2. Add the onions, green peppers and sauce mix.
3. Simmer for 45 minutes,

stirring occasionally to prevent sticking.

**HINT:** Slice meat when partially frozen – it's much easier to get thinner slices.

\* I have used venison and no one knew the difference between beef and venison. The venison version got honorable mention in a Duluth News Tribune contest a few years back.

*From the kitchen of Martha Karsnia.*



Receive a \$20 energy credit if you submit a recipe and it is selected to run in a future issue of the Enlightener newsletter.

## COMMITMENT TO COMMUNITY

*North Star Electric Co-op donates unclaimed capital credits to local charitable organizations*



Marty Mollberg, North Star manager of operations (*left*), and Patsy Olson, North Star billing coordinator (*right*), present an unclaimed capital credit check to Dani Koschak, representing the Lake of the Woods School Backpack Program.



Rachel Krohn, North Star billing clerk/administrative assistant (*left*), and Tessa Strohl, North Star accountant (*right*), present an unclaimed capital credit check to Carrie Davidson, representing the LakeWood Regional Healthcare Foundation.

## UPCOMING DATES/EVENTS

24  
MAR.

North Star will hold its next monthly board meeting on Wednesday, March 24, if you wish to speak to the board.

02  
APR.

North Star's offices will be closed on Friday, April 2, in observance of Good Friday.

### OFFICE HOURS | 7:30 A.M. - 4 P.M. | MONDAY - FRIDAY

**Baudette** 218-634-2202 or 888-634-2202 | **Littlefork** 218-278-6658 or 888-258-2008  
**For credit card payment** 855-874-5354 | **Online billing** info available via SmartHub app  
**Electrical after-hours emergencies** 1-888-6OUTAGE (1-888-668-8243)  
**Email us at** [nsec@wiktel.com](mailto:nsec@wiktel.com) | **Visit our website at** [northstarelectric.coop](http://northstarelectric.coop)

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Like your cooperative for outage updates during the spring season and other useful information.

[f /northstarelectric](https://www.facebook.com/northstarelectric)

*This institution is an equal opportunity provider and employer.*