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On the cover: Father-daughter duo Brian and Chace Engstrom stand before one of two large vats that coat their Colorado Jack popcorn in caramel. The CoJACK Snack & Pack product is popped, flavored and packaged in their Devils Lake facility.







Minnkota Messenger is published six times a year by Minnkota Power Cooperative. Its mission is to communicate Minnkota's perspectives and concerns to its members, elected officials, employees and other business audiences. For editorial inquiries, call (701) 795-4282 or email bfladhammer@minnkota.com.

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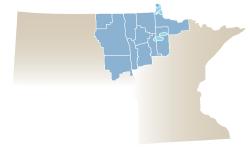
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Minnkota Power Cooperative is a generation and transmission cooperative headquartered in Grand Forks, N.D. It supplies wholesale electricity to 11 member-owner distribution cooperatives, three in eastern North Dakota and eight in northwestern Minnesota. Minnkota also serves as operating agent for the Northern Municipal Power Agency, an association of 12 municipal utilities in the same service region. Together, the Joint System serves more than 153,000 customers.



hen faced with the challenges of the COVID-19 pandemic, Minnkota's employees have responded with strength and resiliency. This group of 400 continually found creative solutions to problems and proved to be innovative in collaborating and keeping projects moving forward throughout 2020.

"We've seen many challenges over our history, but nothing that has tested our workforce quite like the COVID-19 pandemic," said CEO Mac McLennan. "Our employees have risen to the challenge every step of the way and made sure that homes, hospitals and businesses across our region have remained energized."

Significant mitigation strategies were implemented in 2020 to protect the health and well-being of the cooperative's employees as the virus spread throughout the United States. Despite distractions and obstacles, the workforce responded with an outstanding safety record during the year. Safety statistics, including overall on-the-job injuries and OSHA recordable injuries, were lower than in recent years and better than industry averages.

In the field, power delivery crews didn't let the pandemic stall progress on the many projects that are important to the membership. In fact, nearly \$41 million in power delivery projects were completed in 2020 – a total that would be impressive even in a year without a

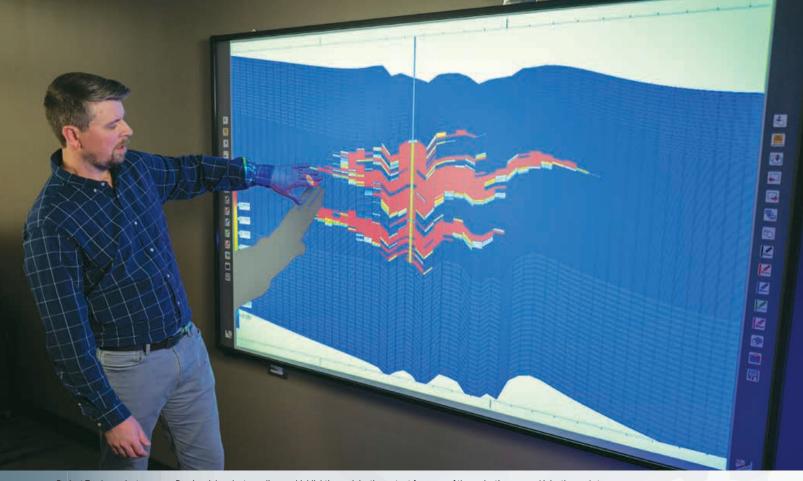
pandemic. Efforts to address aging infrastructure and improve service continued in 2020, as substations and transmission lines were rebuilt, equipment was upgraded and enhanced communication technologies were implemented. This work continues to limit outages and helps crews be more responsive to system issues.

At the Milton R. Young Station, employees kept the

units running reliably and efficiently. The highlight of the year at the coal-based facility was celebrating Unit 1's 50th year of operation. Commitment from past and present employees helped the Young Station reach one of its best years of operation in 2020 with both generating units being available more than 93% of the time.

While the pandemic continues to present challenges, Minnkota employees have provided needed stability to the region during unstable times. That will continue into 2021 and beyond.

"We take our role as an electricity provider in the region very seriously," McLennan said. "Our employees continue to go beyond the call of duty to serve our members. We've proven over the course of 2020 that no challenge – whether it is storms, system malfunctions or even a pandemic – is going to stop us from delivering reliable energy when the region needs it most."



Project Tundra project manager Dan Laudal evaluates a diagram highlighting an injection output from one of the project's proposed injection and storage zones.



Finding injection perfection

SHOW PROMISING PROPERTIES
FOR CO2 INJECTION AND STORAGE



an Laudal and Shannon Mikula are skeptical people. But it's not their fault.

The roles of these members of the Minnkota Project Tundra team force them to find the potential flaws in every aspect of the ambitious carbon capture and storage initiative – Laudal as the project's manager, and Mikula as geological storage lead and project legal counsel.

But the geologic testing results they have received lately are making it hard to be cynical.

"We've looked at each other and gone, 'This is almost too good to be true," Mikula said. "You have to take a step back and say, we have put so much data into these models – they can't get much more robust than what they are. We've done everything. The last step is we just need to do it."



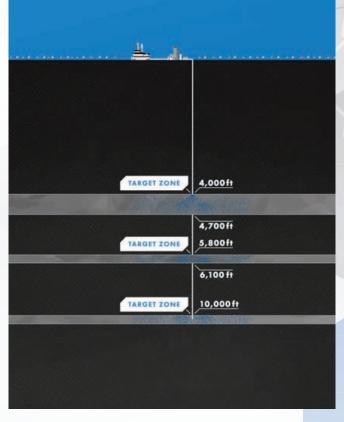
"You have to take a step back and say, we have put so much data into these models – they can't get much more robust than what they are. We've done everything. The last step is we just need to do it."

- Shannon Mikula, project legal counsel

The models Mikula refers to are a set of 3D data that describe the properties of the deep subsurface beneath Minnkota's Young Station, built on years of in-depth data collection, from core samples to seismic geophysical surveys. These geologic models have already revealed the Young Station sits upon suitable geology for carbon dioxide (CO₂) injection, but digital simulations the project team has recently initiated have exposed just how suitable that geology is. When coupled with the geologic models, the simulations predict how CO₂ captured from the Young Station would behave when injected into geologic formations deep within the subsurface around the coal-based plant.

Late in 2020, a crew ran a physical field test at one of Minnkota's two test well injection sites, just south of Center, N.D. The test injected salt water into 10-foot sections of porous rock layers to determine the response at a range of injection rates and pressures. The formations accepted fluid at very high rates and at pressures that didn't cause the rocks to break – a great sign for potential CO₂ injection.

Using what they already knew about the targeted formations and the new injection tests, reservoir engineers at the Energy &



Safe CO₂ injection and storage capabilities are being evaluated in several geologic zones, all thousands of feet into the subsurface below the Milton R. Young Station.

Environmental Research Center (EERC) ran digital simulations of how CO₂ injections in the 10-foot test areas would translate to the much larger planned storage scenarios.

"What we saw was much more promising than what we expected," Mikula said.



Energy & Environmental Research Center geologist Wes Peck displays two North Dakota rock types that will play key roles in accepting CO₂ and locking it in place.

She added that the rate and volume at which the formation could accept CO₂ was beyond what was needed to safely inject and store the 4 million metric tons per year expected with Project Tundra, which indicated additional wells wouldn't be needed. In fact, there is even potential to use fewer wells. "That is extremely good news, because that means we don't have to reconfigure everything."

"This is really a tool to optimize the project," Laudal explained. "The simulation injects CO₂ at a certain rate over a certain period of time in a certain location, and we figure out what happens. From there, we

can make tweaks to it to bring costs down and safely get the most CO_2 into the smallest footprint we can."

EERC researchers will continue to run several simulations to find efficiencies in the injection and storage plan. Wes Peck, EERC geologist and assistant director for subsurface strategies, likens the process to determining the best way to file fans into a large football stadium.

"For the first test, we opened all the stadium doors and had people all run in as fast as they could. But that's not what's going to happen," he said. "Number one, we won't have that many people – or that much CO_2 – so we don't need to open all the doors. And every time we open a door, it costs millions. If we can get everybody – all the CO_2 – in there in a reasonable amount of time by only opening a few doors, then that's what we're trying to do."

Over the past few years, Peck has overseen a variety of research experts focused on carbon capture and storage connected to Project Tundra – geologists analyzing core samples, geophysicists using seismic data to expand the information derived from cores, and geomechanical and dynamic simulation modelers who bring all of that information together.

Mikula says that in addition to the EERC (experts on North Dakota's geologic formations), Minnkota has built out a prestigious partnership network that will ensure a solid case for the project.

"We have Schlumberger, who ran the field test and analyzed that data, which is a global force to be reckoned with when it comes to CO₂ injection. And we have Oxy Low Carbon Ventures, arguably the biggest commercial operator using CO₂ in the world," she said. "So we have three powerhouses who are at the top of their fields, telling us this is good news – you kind of want



to pop a bottle of champagne and celebrate."

However, there won't be time to slow down and revel in the latest findings. Mikula and Laudal are now using all of the data they've gained to draft a permit application for Class VI storage. Once submitted, the application will face a lengthy review period. Minnkota hopes to have the permit by the end of 2021. In the meantime, the Project Tundra team will be speaking with investors who have much to gain with the project's 45Q carbon capture tax credit.

There are many challenges yet to come, even before a decision is made to break ground on Project Tundra. However, the dozens of policy, technology, geology and engineering pros with Minnkota and the

EERC – whose jobs are to question everything – are finally letting optimism overtake some of their natural skepticism.

Some of it.

"We're doing our homework and crosschecking some of these situations with a critical eye, so that when we go forward, everyone is playing it a little bit cautious. If it turns out to be as good as it suggests, then there's no problem - we don't lose anything," Peck said.

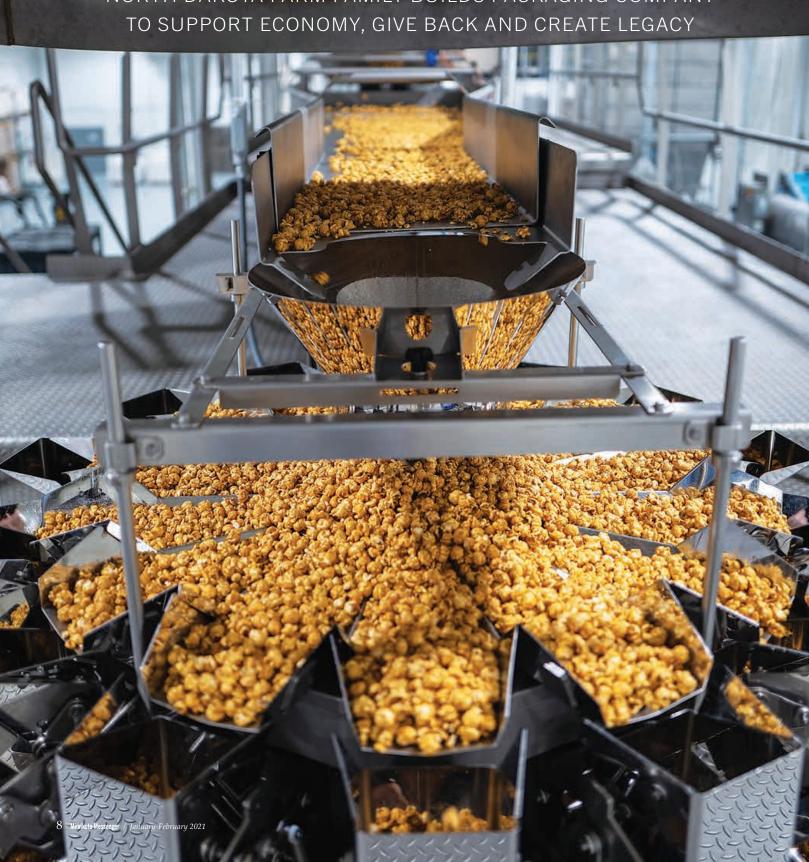
"It felt good to get to deliver this news to the team," Mikula said, "to say that this piece is dropping into place as we thought it would."

By Kaylee Cusack / Photography Michael Hoeft



Small water injection tests were performed this winter at a test well site south of Center, N.D. The results showed the local formations would safely accept CO2 at the rate and volume needed for Project Tundra. (Submitted photo)

Popping into business NORTH DAKOTA FARM FAMILY BUILDS PACKAGING COMPANY TO SUPPORT ECONOMY, GIVE BACK AND CREATE LEGACY





CoJACK Snack & Pack founder Brian Engstrom (right) and daughter Chace oversee the production, marketing and sales of Colorado Jack popcorn just one element of the CoJACK enterprise.

f a visitor steps into CoJACK Snack & Pack on just the right day, they're hit first with the smell of freshly air-popped popcorn, and then enveloped in the sweet, buttery bliss of warm caramel. On one of those recent "just right" days, the packaging portion of the Devils Lake, N.D., facility was popping, flavoring and bagging thousands of pounds of caramel corn to be shipped out to distributors around the region.

"Our caramel is not the easiest to make. It took a while to get it right, but we figured it out," said CoJACK founder and owner Brian Engstrom. "I do believe that we have the best popcorn. You can taste all of our other flavors, and I would say the same thing about them as the caramel - that they are the best."

If this is the Wonka Chocolate Factory of popcorn, Brian is the Willy Wonka of the enterprise. But popcorn is just one piece of the multifaceted undertaking that is CoJACK Snack & Pack. The family business is one part Colorado Jack popcorn plant and one part bean processing and packaging.

Essentially, CoJACK takes raw product from local farmers, cleans it, packages it and ships it out on their behalf. The process cre-

ates a value-added ag ecosystem right in the heart of the nation's top state for dry edible beans.

"Almost 100% of the pinto beans are from local farmers," Brian explained as he walked through a warehouse stacked high and far with raw black beans, peas, lentils and more. "Some things are coming from western North Dakota and Montana. But within a couple hundred miles of here - that's where nearly all of our product comes from."

Bean there, done that

More than 20 years ago, Brian – an area farmer himself - started Engstrom Bean in Leeds, N.D. The company was and continues to be successful, but Brian had a bigger vision. His wife and CoJACK co-owner Kim Engstrom remembers sitting with Brian as the early plans for CoJACK formed.

At Engstrom Bean, they would ship processed beans to other facilities (often out of state) where they would be packaged. "He said, 'You know, they're making all the profit, and we're getting the littlest bit of the



CoJACK's automated production lines process, package, brand and distribute beans and other dry edible goods for the farmers of the region.



Served by **Nodak Electric** Cooperative

Grand Forks, N.D.

- Incorporated Jan. 17, 1940
- Year energized 1939
- Board members 9
- General manager Mylo Einarson
- Members: 14,961
- Miles of line 8,082

whole pie," Kim recalled. "We had the ability to just do it all ourselves."

The Engstroms partnered with Jack's Bean in Colorado to get started in the world of bean packaging, which also pulled them into the world of popcorn processing (hence, the eventual CoJACK/ Colorado Jack brand). But the distance created too many hurdles. By 2018, they were looking for a building to make the plan

> local. The leader of the Devils Lake Economic Development board showed them a hulking 120,000-square-foot facility.

> "Kim and I did the tour on an October day, and I think it was the first of December that I ended up buying popcorn popping equipment at an auction," Brian said with a laugh. "So then I was all in."

They bought the building in March 2019 and CoJACK Snack & Pack began to fall into place. Brian called on Nodak Electric Cooperative to help him get transformer capacity back to the operation days of the past, when the building was used as a pasta factory. With much of the three automated processing and packaging lines, heat lamps and even forklifts powered with electricity, CoJACK's co-op had a role to play in getting this venture rolling.

"Because we are in a very large agricultural-based area, I think it's always great when our members can take a product from the farm to the shelf," said Nodak engineering manager Steve Breidenbach. "The entrepreneurial efforts of the family are spectacular."

Since its first package rolled off the line late in 2019, CoJACK has grown from 12 to 28 local employees, now sending out 10-20 truckloads of product to sites around the country. It has thrived even through the CO-VID-19 pandemic, which raised nationwide demand for edible beans. Looking forward, the company plans to modernize and target its marketing, ramp up its production lines and expand to even more distributors.

"Our goal is to be a company that has big gross sales every year," Brian said. "We need to grow, and we need to have the sales to support this whole business."

Community giveback

Companies like CoJACK are a growing necessity for North Dakota communities like Devils Lake. Not only is the business supplying great jobs, but it's diversifying the local economy and bringing in money from outside of the state. On top of that, the Engstroms have multigenerational roots in the area – they won't be taking their business elsewhere.

Last year, CoJACK was given the Governor's Choice Award for Economic Development. "The whole project embodies rural economic development. So many times it's out-of-state projects coming to North Dakota, taking our local economic development dollars, failing and then two years later, they're gone," said Brad Barth, executive director of Forward Devils Lake Corporation. "Here you have local owners that risked significant dollars, found other partners, and in less than a year have nearly 30 employees in a highly automated packaging facility – that's a pretty cool thing."



Colorado Jack Popcorn

Flavors

- Sea Salt & Butter
- White Cheddar
- Caramel
- White Cheddar & Jalapeño
- Colorado Mix

Notable Retailers

- Simonson Station Stores
- Hornbacher's
- Dollar Tree
- Albertsons
- Save a Lot

coloradojackpopcorn.com cojacksnacks.com

It's not just the local community benefiting from CoJACK. The company is using its Colorado Jack popcorn as the center of a program to help organizations fundraise, from school groups to sports teams. The popcorn for those small-batch fundraiser orders are manually popped, flavored, packaged and shipped at Valley City's Open Door Center, which provides residential and vocational services for those with disabilities.

The Engstroms' son Cullen, who has autism, is employed at the Open Door Center, creating a perfect partnership opportunity.

"Not only are we helping organizations fundraise, but we are also able to employ individuals and give them a sense of purpose and pride, so we're able to give back in that way, too," said Chace Engstrom, Cullen's sister and head of marketing and sales for CoJACK. "Cullen gets to be a part of that. He gets to help us make our product and be a part of the family business."

As they sat together in the CoJACK office, Brian, Kim and Chace personified something as warm and sweet as their caramel recipe - a family energized by innovation, but connected by caring.

"It's great to have the next generation sitting here, and so passionate about it," Brian said as he glanced at Chace. "As a whole, it all goes back to family, the organization, building some legacy that our family can build on."





CoJACK's 60,000-square-foot storage warehouse holds rows and rows of both raw and packaged products, waiting to be processed or shipped to distributors nationwide.



Sales of Colorado Jack popcorn continue to increase, and owner Brian Engstrom anticipates adding another automated popcorn production line soon.

North Star's guiding light

AFTER A 43-YEAR COOPERATIVE CAREER, NORTH STAR ELECTRIC'S ANN ELLIS SETS A NEW COURSE - RETIREMENT

he view out of Ann Ellis' office window at North Star Electric Cooperative is a portrait of a northern Minnesota winter – a row of tall evergreen trees coated in a dusting of snow.

But looking back more than four decades to her first month at North Star, the co-op's general manager recalls a not-so-serene scene.

"We had the worst storm of my career," Ellis said, evoking the deerhunting-opener blizzard. "Instead of walking the nine blocks to work in the morning, I remember rolling over the snowbanks in the road, trying to get to the office. We had some people out of power in the Swift area for three days. That's the worst outage in my 43-year history."

Ellis had just been hired as an office assistant, learning the ropes of the energy industry, finance and member service. Now, she's retiring from the co-op's top post, leaving the knowledge she has gained in the hands of her North Star colleagues.

"Those first days set the stage for showing me how the co-op invests in its employees. The co-op is so good about giving employees opportunities to grow, do their jobs better and advance," she said.

Growing in the co-op

Ellis was eventually promoted to billing coordinator, and in 1986, a new

opportunity arose while she was pregnant with her daughter, Lisa. It was an opening for North Star's finance manager.

"The member services manager told me, 'Ann, you need to apply,'" she said. "His confidence in me helped me move forward in that position. That taught me to help others and give them confidence to move forward as well." Ellis was ultimately offered the finance manager position in the hospital, having just delivered Lisa.

As she grew within the co-op, she made sure the co-op was growing with her. Ellis points to several moments of pride in helping North Star evolve in terms of technology and member engagement.



Although she was knee-knocking nervous for her first annual meeting presentation, she soon turned the traditionally low-energy finance reports into interactive experiences. One year, she taped \$5 bills to paper planes and flew them into the audience - but members could only keep the cash if they answered a multiple-choice question.

She also recalls when personal computers became a core co-op tool, after using equipment like keypunch machines to create single-use input data to feed into a neighboring business's mainframe computer. Ellis and her co-worker Betty enrolled in an MREA-sponsored "Intro to PCs" course and quickly realized they had a lot to learn.



"It's what you have to remember when you're making decisions about what to do on a project or how to treat a member in the field – everything we do is about the members. And relationships just flow from that."

> - Ann Ellis, retired general manager North Star Electric Cooperative

"The instructor, with his ponytail, gets up front and says, 'We're going to start, so go ahead and turn on your personal computers.' I looked at Betty and said, 'How do you do that?" she said, laughing. "On our way home, we were talking about all of the things we could do." The duo ended up developing a finance spreadsheet that is still used today.

But Ellis' proudest moment was less colorful than cash and computers. It was when she successfully convinced the board of directors that the co-op should raise the basic service fee (the fixed charge) and lower the kilowatt-hour (kWh) charge on members' bills, something she had advocated for two years.

"I have had to prove things," she said. "I think everyone should have to prove their point of view."

Servant leader

Ellis served as finance manager until 2015, when the North Star board gave her the nod to become the next general manager. As

captain of the ship for the past five years, she has followed one guiding star – the members. She ensures every new employee sets their compass that way as well.

"It's what you have to remember when you're making decisions about what to do on a project or how to treat a member in the field - everything we do is about the members. And relationships just flow from that," she said.

As a servant leader, Ellis earned the respect and friendship of those within the building and throughout the Minnkota system of cooperatives. She says she's proud of North Star's employees and board directors, adding that their hearts are in the right place and they will continue to serve the region well once she leaves.

"Ann has always been so helpful, supportive and encouraging," said North Star finance manager Robyn Sonstegard, who has worked with Ellis for 13 years. "She has been a great leader for the co-op, always putting the goal of providing safe,

reliable and affordable power at the forefront for our members."

In her retirement, Ellis won't lose her view of the northern Minnesota trees - she will surround herself with them. She and her husband of 40 years, Steve, will build a new home on a 40-acre parcel that her family bought and filled with forestry when she was young. "I helped my dad plant some of those trees when I was around 12," she said. "So you can just imagine how beautiful those maples and Norway pines are now."

The Ellises' daughters, Lisa and Laura, have already put down roots on the tree farm with their families,

having both built homes on the property. Once the third, newest house is raised next door, Ellis (7), JoJo (4) and Ivy (2) will have easy access to Nana and Papa.

"I'm look-

ing forward to



In retirement. Ann Ellis will now have more time to spend with her grandkids - Ivy, Ellis and JoJo.

just looking out the window and watching the grandkids running down the driveway," Ellis said, with no attempt to hide her delight.

By Kaylee Cusack / Submitted photos

Minnkota, Square Butte to host annual meetings virtually

Minnkota Power Cooperative and Square Butte Electric Cooperative will host their annual meetings on March 26 both virtually and with limited in-person attendance at Minnkota's headquarters in Grand Forks. Meeting times, online invitation links and instructions will be provided to attendees closer to the date.

While Minnkota hosts its 81st annual meeting, Square Butte will host its 47th annual meeting. At the meetings, reports on operations and year-end results will be presented, along with planned generation and transmission projects. Other business will include the election of directors and adoption of policy



resolutions on issues of importance to Minnkota and Square Butte.

The two meetings will be presided by Minnkota Chair Les Windjue, Devils Lake, N.D., and Square Butte President Paul Aakre, Angus, Minn.

Minnkota's 11 member distribu-

tion cooperatives supply electricity to more than 140,000 consumers in a 35,000-square-mile area. Square Butte owns Unit 2 at the Milton R. Young Station and is governed by the cooperatives associated with Minnkota.



Minnkota testifies against 100% carbon-free proposal in MN

Minnkota testified against a proposal in the Minnesota legislature that would require electric utilities in the state to use only carbon-free resources by 2040.

The complexity and difficulty in achieving a carbon-free electric grid cannot be understated. Extreme decarbonization policies present significant challenges and completely eliminating generation options is costly to member-consumers. To keep electricity safe, reliable and

affordable for the region, a decarbonization path must be sustainable, optimize efficiency and maintain system reliability. Furthermore, the bill does not include carbon capture technology or acknowledge the vital role that this technology must play in the future of decarbonizing.

Minnkota 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 efforts are being pursued to decarbonize even further through pursuit of Project Tundra – a proposed carbon capture facility at the Milton R. Young Station.

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.

Energy Secretary nominee excited about Project Tundra

nergy Secretary nominee Jennifer Granholm expressed support for Project Tundra during her confirmation hearing Jan. 27 before the Senate Energy and Natural Resources Committee.

When questioned by Sen. John Hoeven (R-ND) about her support for carbon capture technology and research, Granholm said, "I'm excited about Project Tundra! I'm excited about using your state as an example of the regulatory regime to facilitate CCUS (carbon capture utilization and storage). I look forward to working with you on it, and yes, you have my support."

Project Tundra is an effort being evaluated by Minnkota to install carbon capture technology at the coal-based Milton R. Young Station near Center, N.D. Grant funding from the U.S. Department of Energy has been critical to completing project research and the advanced engineering design.

Sen. Hoeven then invited Granholm to visit North Dakota to learn

more about the state's energy industry.

"I'm coming to see you!" Granholm replied.

A former Michigan governor, Granholm is



Jennifer Granholm Energy Secretary nominee

expected to refocus the Department of Energy on climate change if she's confirmed.



Employee Jeans Day Fund gives big on Giving Hearts Day



innkota's employee Jeans Day Fund took advantage of the generous giving match of Giving Hearts Day by donating to four organizations that support mental health and the region's youth.

The committee chose the following causes to receive \$250 each, which will be matched to \$500 by Giving Hearts Day sponsors:

- REACH (Rural Enrichment and Counseling Headquarters) – a multi-agency human service center serving primarily individuals and families in rural Clay, Becker and Norman counties in Minnesota.
- Grand Forks Foundation for Education – currently raising funds to create "The Giving Tree," a

- pantry for school social workers to access at any time for critically needed items.
- Youthworks of North Dakota based in Bismarck and Fargo, the organization helps homeless, runaway, trafficked and struggling youth in North Dakota.
- Prairie Harvest Mental Health a Grand Forks-based organization that promotes independence and an enhanced quality of life for adults with serious mental illness.

Minnkota employees donate toward the Jeans Day Fund for the privilege of wearing jeans on Fridays and during other times throughout the year. More than \$62,000 has been raised through the program in the last decade for nonprofits and others in need.

Giving Hearts Day is an annual 24-hour giving event that supports charities in North Dakota and northwest Minnesota. Last year alone, Giving Hearts Day raised more than \$19 million in donations for the regional causes involved.



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