



Nebraska Public Power District

Always there when you need us

BEHIND YOUR OUTLET POWERING THE GOOD LIFE IN NEBRASKA

06

10 ways Nebraska's public power utilities contribute to all that is good about our state



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Selling corn ethanol is a competitive business. It's essentially the same product no matter who makes it.

How can one company stand out from the rest? The answer: efficiency. KAAPA has invested nearly \$50 million in its Ravenna facility to improve efficiency – and the investments are paying off. Today, the company is one of the leading suppliers of ethanol for Western markets.

"In a commodity business, it makes sense to be the most efficient producer and to serve your customers well," explained Mitch Feldman, KAAPA Ethanol Ravenna plant manager. "The state of California pays a premium based on how environmentally friendly each gallon of ethanol is. KAAPA is where we are today because of the steps we have taken to improve our overall efficiency; from the electric energy used to the amount of time producers spend delivering corn to the plant."

Nebraska is the nation's second largest ethanol producer, according to the Nebraska Ethanol Board. The state's 25 ethanol plants have a total production capacity of more than two billion gallons annually.

The Nebraska Corn Board states that the amount of thermal energy required to make a gallon of ethanol has fallen 36% since 1995, and electricity use is down 38%. At the same time, producers are squeezing 12% more ethanol out of every bushel of corn.

By improving the facility's energy efficiency, KAAPA Ethanol Ravenna has increased its ethanol production since 2017 from 88 million gallons to over 130 million gallons annually without increasing its electric use.

The plant uses more than 70 million kilowatt-hours of energy annually and is the largest electric consumer for its provider, Dawson Public Power District. The annual energy used by KAAPA Ethanol Ravenna is the equivalent to more than 6,100 homes.

Working together with Dawson PPD, KAAPA Ethanol Ravenna has made several energy efficient improvements that have qualified for rebates under the EnergyWise program. The EnergyWise program is sponsored by Nebraska Public Power District in partnership with its wholesale utility customers. The goal of the program is to reduce overall energy use at the commercial, agricultural and residential levels for a cleaner energy future.

"The rebates have made the difference between a project that may get done and a project that will get done," Feldman said. "These upgrades have made us one of the most efficient ethanol plants in the nation in terms of thermal energy."

The first EnergyWise rebate occurred in 2014 with the improvement to the facility's cooling system. When making ethanol, maintaining optimal temperature is key to a high-quality product. The overhaul of the existing equipment saved an estimated 4.5 million kilowatt-hours in seven years.

The second incentive involved a new air compressor system to power tools, control systems, and machinery. Before 2020, KAAPA Ethanol Ravenna had two smaller air compressors. After one failed, the facility invested in upgrading to one large system with variable frequency drives and saved about 790,000 kilowatt-hours annually.

The most recent incentive occurred in 2021 and was one of largest energy efficient investments to date. KAAPA Ethanol Ravenna replaced its chillers with a new cooling tower. By investing in this improvement, the facility is estimated to reduce its electrical energy use by 1 million kilowatt-hours annually, the equivalent to the electrical use of 85 homes.

"We are glad to work with Dawson PPD," Feldman said. "They understand that reliable electrical power is important for our business. We don't have a big green button to push after a power outage; it's not easy to start and stop production. Dawson PPD understands that and has made improvements to our service to ensure that interruptions are kept to a minimum."

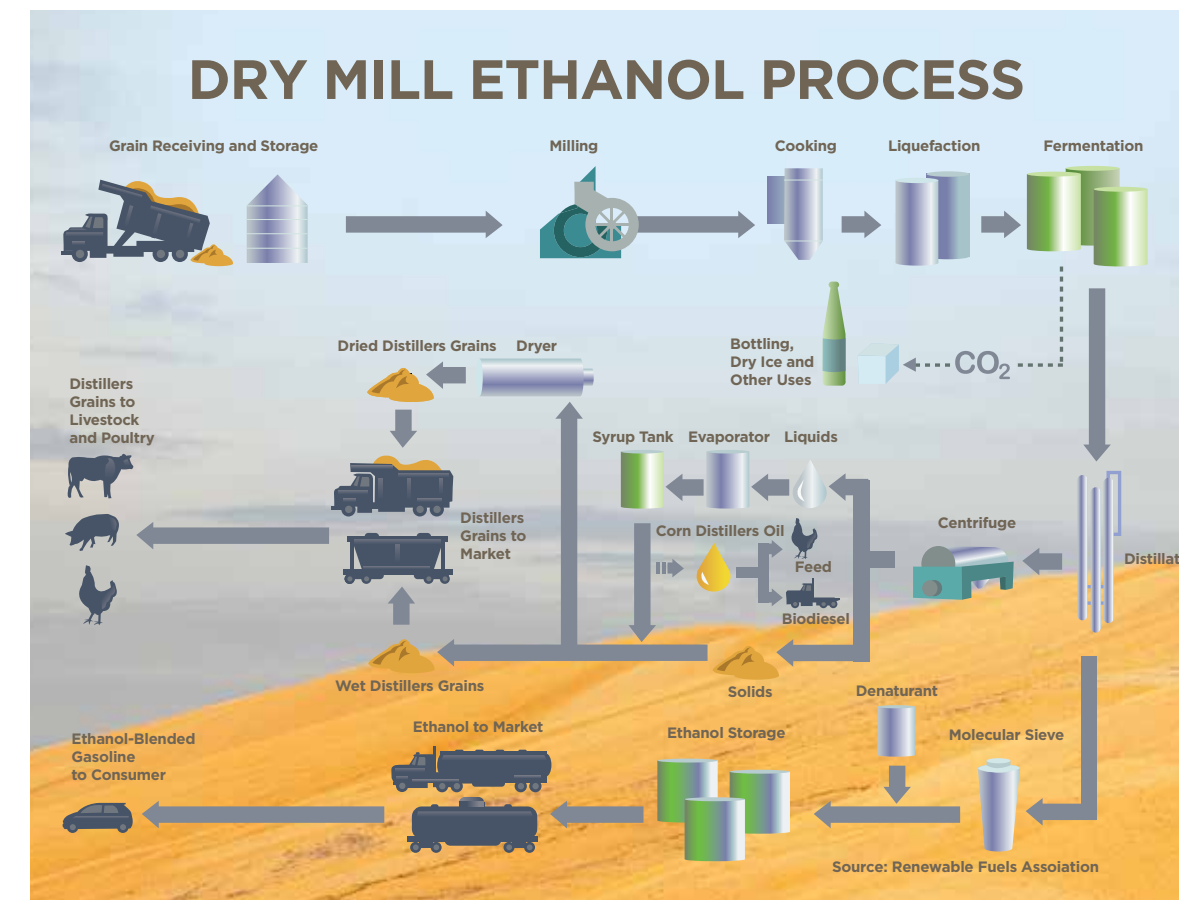
Ethanol is considered to have a positive energy balance. According to the United States Department of Agriculture, one British Thermal Unit of energy in the production of corn ethanol production results in 2.3 BTUs of usable energy in the form of ethanol. The improvements in overall technology, in addition to some strategic energy efficient upgrades, have helped KAAPA Ethanol become a leader within its industry.

"These upgrades have made us one of the most efficient ethanol plants in the nation in terms of thermal energy."

—Mitch Feldman, Plant Manager



LEFT: Mitch Feldman, KAAPA Ethanol Ravenna Plant Manager, (right) discusses the facility with Dawson PPD Lineman Jerry Folck from the top of its largest grain bin. RIGHT: KAAPA Ethanol Ravenna replaced its chillers with this new cooling tower in 2021. By making this investment, the facility is estimated to reduce its electrical energy use by 1 million kilowatt-hours annually.



DAWSON PUBLIC POWER DISTRICT
GENERAL MANAGER: GWEN KAUTZ

- One of Nebraska's largest rural electric systems
- Serves more than 23,000 electric meters
- Maintains more than 5,800 miles of power lines
- Employs 80 Nebraskans
- Headquartered in Lexington

DAWSON PUBLIC POWER
today's energy. tomorrow's vision.



Colby Dannelly, Service Manager, stands in Truck Center Companies' newly-brightened service bay.

— PUBLIC POWER —

Efficient Lighting Keeps Trucking Industry Moving

Truck Center Companies works with local public power utilities to replace inefficient lighting

Story topic submitted by
Cornhusker Public Power District

In almost any sense of the word, making a smart investment has the potential to reap future benefits. This notion isn't strictly reserved for financial circumstances, but also for other types of investments, such as those in customer service, relationships, or knowledge sharing. A recent joint project between Truck Center Companies out of Columbus, Cornhusker Public Power District (CPPD), and Nebraska Public Power District (NPPD) certainly illustrates this point.

In the fall of 2020, General Manager of Truck Center Companies Rocky Wray was on the hunt. A colleague at another location had informed him of incentives tied to lighting upgrades, and he was intrigued by the idea. Was it truly possible to replace outdated lights and have a rebate cover a significant portion of the cost? It seemed like a win-win, but first, more information had to be gathered. That's where his local public power utilities stepped in.

"After finding out there is assistance out there, I reached out to CPPD," Wray said. "Karen was a great help from the beginning."

CPPD Marketing Director Karen Schlautman was on the other end of Wray's call. Once she was able to understand his desired results, she called upon NPPD, CPPD's Wholesale power supplier, to perform a formal energy assessment.

"Our main objectives were to increase our lumen output, making our shop safer to work in, as well as saving on our energy bill. Getting our shop brighter was a must for our techs measuring to the ten-thousandths of an inch. The fine detail and quick repair times are vital to keeping our trucking industry moving," Wray explained.

An official lighting overview was completed in October by NPPD Energy Efficiency Program Manager Cory Fuehrer and fellow public power teammates. Fuehrer was able to calculate the annual energy expenses of Truck Center Companies' current setup, costs and rebates associated with an LED upgrade, and potential savings that could be realized with a lighting improvement. The numbers were enough to prove to Wray's supervisors that they should move forward.

"We were then able to offer Rocky and Truck Center Companies the criteria and application assistance needed to earn a prescriptive lighting incentive through the EnergyWise program," Schlautman said. "This incentive makes the payback for such projects even more attractive."

By June of 2021, Truck Center Companies had replaced 27 of their high bay fixtures and 27 occupancy sensors, as well as had their EnergyWise incentive check in-hand.

"The amount customers receive by incentive check will vary depending on the different requirements, wattage and quantities they meet," Fuehrer said. "In this instance, Truck Center Companies should also see well over \$2,000 in annual savings on their power bills."

"Getting our shop brighter was a must for our techs measuring to the ten-thousandths of an inch."

— Rocky Wray, General Manager

Even better, the changes were a contributing factor to the facility's productivity, employee morale and overall working conditions.

"I would definitely recommend this to any company working under aged lights. You haven't seen bright until you've seen LED bright. It is an electrifying difference!" Wray said.

Wray is so confident in this multi-faceted investment that his location is now looking to repeat the process with its exterior lighting.

CORNHUSKER PUBLIC POWER DISTRICT

GENERAL MANAGER: CLAY GIBBS

- Serves more than 10,000 meters
- Service territory includes rural portions of Platte, Colfax, Boone, Nance, Greeley and Wheeler counties
- Employs 48 Nebraskans
- Headquartered in Columbus, with service centers in Albion and Fullerton



Let us help you get ENERGYWISESM

Nebraska's public power utilities offer many EnergyWiseSM incentives, rebates, tips, and tools designed to help you **USE LESS. SPEND LESS. DO MORE.**



Visit EnergyWiseNebraska.com, or contact your local utility.

Contact your local public power utility about available ELECTRIC VEHICLE INCENTIVES

New Vehicle Purchase | Home Charger | Commercial Charger
Residential Wiring and Pre-Wiring | Commercial Pre-Wiring



Made possible by a grant from the Nebraska Environmental Trust and a partnership with the Nebraska Community Energy Alliance



Visit EnergyWiseNebraska.com



SERVING NEBRASKANS

Public Power exists to serve you and our neighbors, not a stockholder in some big city far away. On top of that, someone in Omaha doesn't make decisions for the rural customers in Custer County. Those decisions — about the price of your electricity or the energy efficiency and utility programs offered — are made by local representatives, city council members or someone you may have voted for in a public election.



BOLSTERING THE STATE'S ECONOMY

Approximately 4,000 public power employees are dedicated to delivering your electricity. When combined with other energy-related businesses, public power add tens of thousands of jobs to the state's economy. And, every dollar spent by a public power employee circulates through the local economy more than four times. That's keeping local dollars local.



PROTECTING NATURAL RESOURCES

Public power utilities constantly monitor the air, soil and water around power plants to ensure state and national regulatory standards are met. Utilities are conservative in using the state's waterways, sending 99% of the water used in power generation downstream. They are also protective of the land by planting trees, practicing soil conservation, and restoring the land to its original condition, if construction activities disrupt.



SUPPORTING COMMUNITIES

Public power utilities promote the growth and sustainability of communities and rural areas through economic development partnerships. Utilities also pay more than \$85 million in taxes or in-lieu-of taxes in the communities served each year. This money helps support local projects and lowers everyone's tax burden.



PROVIDING VALUE

Think about how much electricity you use in 24 hours, yet an entire day's worth of electricity for a homeowner in Nebraska is about \$3.50, on average. A fancy latte costs more than that. So does a drive-through meal and a dozen donuts. As costs seem to rise on almost everything these days, electricity remains a great value in this state.



PARTNERING IN EDUCATION

Public power utilities are involved with Nebraska's Community College System's trade programs, the University of Nebraska's research and engineering programs, and support higher education among the state's youth and their employees at these and other post-secondary institutions. The state's electric utility industry hires some of the brightest talent that is most often from Nebraska.



SAVING YOU MONEY

Public power utilities offer incentives for energy-efficient upgrades made to your home, business, or ag operation. They also control their operating costs so that your electric rates remain among the lowest in the nation. Nebraska's public power utilities want you to have more money in your pocket. What other business encourages you — or even pays you — to use less of its product?



GENERATING RESPONSIBLE ENERGY

Delivering reliable, affordable, and environmentally responsible electricity is important to the state's public power utilities and to you, our customers. In 2019-2020, 65% of the energy delivered to Nebraska outlets was generated using carbon-free resources — a rate that's among the best in the region. And, Nebraska's public power utilities continue to be more sustainable in their efforts to generate and deliver electricity.



KEEPING THE LIGHTS ON

Unless Mother Nature has anything to do with it, Nebraska's utilities work hard to make sure electricity is available to you 24 hours a day, 365 days of the year. To be reliable and resilient, Nebraska's utilities don't put their eggs in one basket. In other words, they use wind, solar and water — when available — in combination with more constant fuel sources like nuclear, coal and gas, which can generate around the clock in large quantities.



PROVIDING LIFE'S NECESSITY

Nearly everything around you relies upon electricity. The light above as you read this. Your phone charger, computer, and coffee maker. The stoplight at the street corner and the emergency sign at the hospital. Electricity will help reheat Thanksgiving leftovers as you watch your favorite show on TV. Your local public power utility is proud to deliver the electricity we've all come to depend on.

10 ways public power helps power the Good Life!



— PUBLIC POWER —

Proudly Serving Today's Needs with Tomorrow in Mind

NPPD is continuously looking for ways to best
balance the competing societal, economic
and environmental needs of Nebraskans

At Nebraska Public Power District, we understand those who get electricity from us have different priorities and needs. For example, some industrial customers recognize reliability as their number one "care-about." Some residential customers may say that keeping electricity affordable is most important to them. All the while, demand for clean energy among all customer segments continues to grow.

As the state's largest electric generating utility, it's our job to help balance these competing interests. This is not always an easy task. It takes two-way conversations and plenty of open ears. But that's what makes public power strong: public input.

In the 1930s, U.S. Sen. George Norris initiated dialog about the benefits of a state utilizing not-for-profit utilities. He led a national effort to bring power to remote, lightly populated areas. Sen. Norris was influential in Nebraska's decision to be the nation's only state served electrically by 100% public power. He believed electricity was a right to be shared by all people, and he understood it could be less

expensive, more reliable, and better managed by utilities owned by the people they serve, not by companies focused on making a profit.

Since NPPD's formation in 1970, Nebraskans have more than tripled the energy they consume annually. To maintain reliability, we must continually balance costs with customer needs. This, while also being mindful of calls for decarbonization, not only by the nation's regulatory or legislative agencies but by our communities, customers, and neighbors, as well.

Our current generation mix of nuclear, coal, natural gas, hydropower, wind, and solar provides customers with many benefits, including keeping electricity affordable, reliable, and resilient, while reducing our carbon footprint.

As the energy industry evolves, we remain committed to working alongside our public power partners, customers, and others to determine how best to generate and deliver low-cost, reliable, and sustainable energy. It's a promise based on the very hallmark of public power brought forth by Sen. Norris — a tradition that works.

Serving Customers Powers Us

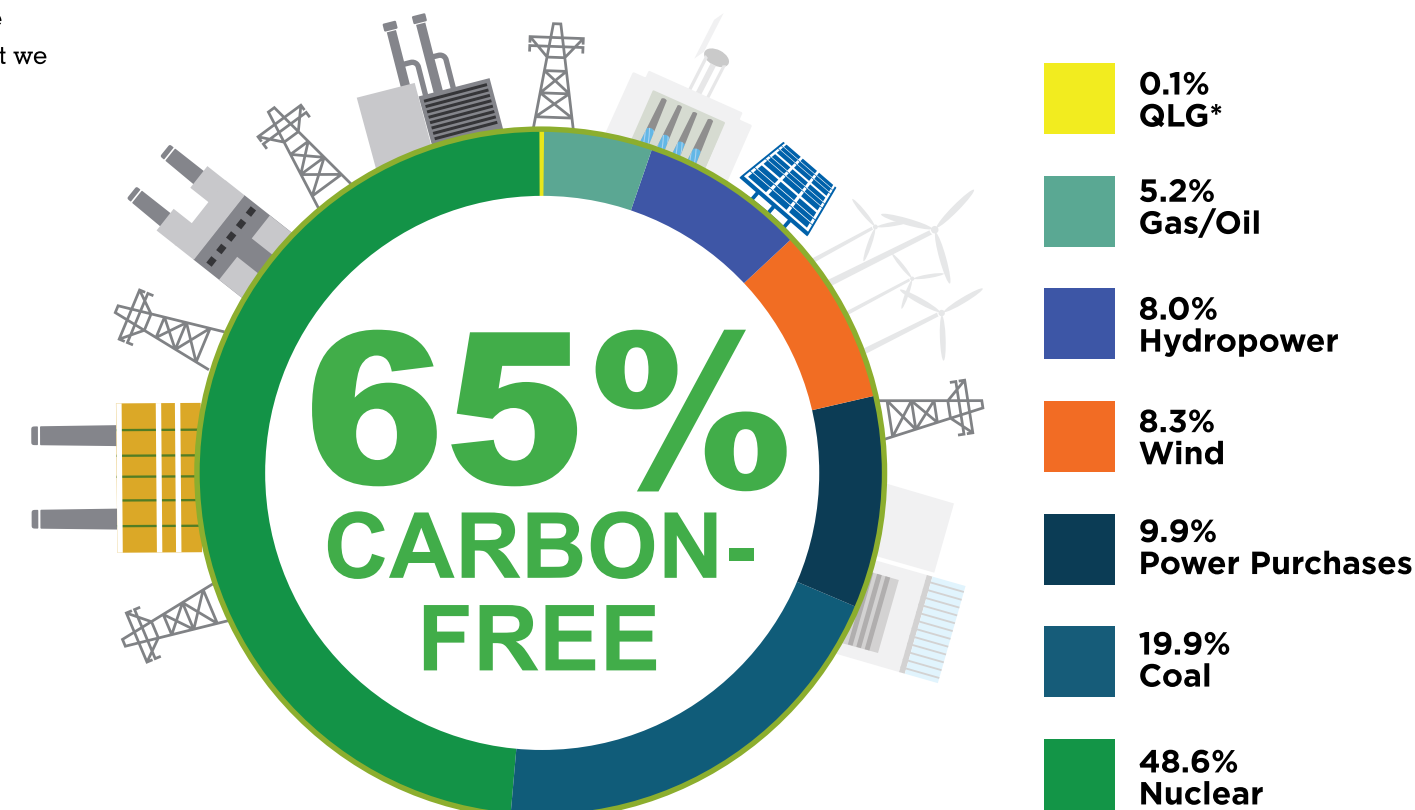
From Scottsbluff to Auburn and Ainsworth to McCook, NPPD and our wholesale partners exist to serve the energy needs of customers in the greater portion of Nebraska. **We are respectful of the rich public power history** in the state, yet we are mindful that the state's energy future is defined by what we do as an industry each and every day.

NPPD ENERGY GENERATION RESOURCES FOR NEBRASKA CUSTOMERS

2019-2020 Rolling Two-Year Average

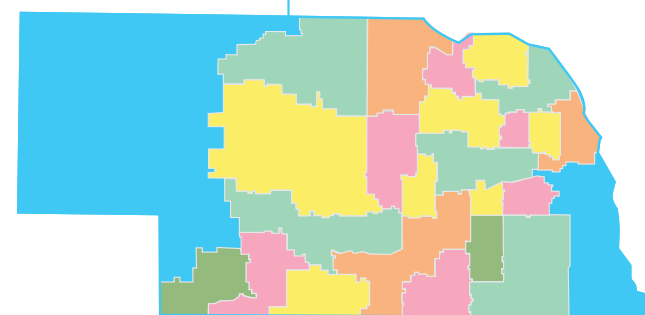
NPPD generates power for

403
of Nebraska's
530
communities
either directly or indirectly



*Qualifying Local Generation (QLG) includes renewable energy facilities installed by our wholesale customers and in NPPD retail communities.

Our Customers



**24 RURAL PUBLIC POWER
DISTRICTS & COOPERATIVES**
purchase electricity from NPPD
at wholesale costs

Customers pay their electric bill directly to the rural power district or cooperative that serves them.



46 MUNICIPALITIES
purchase electricity from NPPD
at wholesale costs

Customers pay their electric bill directly to the municipality that serves them.



80 COMMUNITIES
are served directly by NPPD

Customers pay their electric bill directly to NPPD.



An outreach opportunity that came to fruition just four short years ago continues to provide academic and career opportunities for students across Custer Public Power District’s (CPPD) service territory in central Nebraska.

What began as a conversation between teammates from CPPD, Nebraska Public Power District and Becton Dickinson (BD) in early 2017 quickly became organized later that year thanks to a grant received from the Developing Youth Talent Initiative. Once grant dollars were secured, the three entities partnered to construct the educational STEM trailer that now delivers extensive learning opportunities to 13 schools served electrically by CPPD.

“STEM is a great program geared toward elementary and jr. high-aged students giving them a glimpse at careers available within the electric utility industry and manufacturing in and around our communities. This provides our rural students options in careers that do not require a four-year degree, opening opportunities for them,” said Rick Nelson, general manager of CPPD.



The STEM trailer was fast-tracked thanks to grant dollars which were awarded in the first quarter of 2017. By year-end, the mobile STEM trailer was organized and began exposing teachers and students to a world of exploration and learning.

The portable trailer travels on a rotating basis across the CPPD’s service territory, spending two-and-a-half weeks at each school, ensuring each location has sufficient time to utilize this resource. Once inside, teachers and students come together to delve into science, technology, engineering, and mathematics in a “Makerspace” education-approached atmosphere. The hands-on projects include a 3D printer, CNC mill, virtual reality, manufacturing, robotics, and sensory labs, as well as a 2D vinyl cutting machine.

Not only does the trailer encourage students to widen their look at career possibilities right here within Nebraska’s good life, it ultimately helps guide them on how to accomplish their goals! For CPPD and BD, it offers a chance to educate students on careers in public power and manufacturing.

BD, a worldwide company, and the largest maker of injection devices globally, is proud to house four plants in Nebraska — two in Columbus, one in Holdrege, and one in Broken Bow. Producing millions of syringes and needles each year and employing roughly 2,500 workers in Nebraska alone. “The trailer sheds light on career opportunities in our state and is a win-win for BD as it is an important tool used for the recruitment of young students within Nebraska,” said BD HR Manager Mindie Druery. “For some students, this is their first exposure to different careers and helps them realize they can reach their dreams and, at the same time, stay close to home and family.”

CUSTER PUBLIC POWER DISTRICT
GENERAL MANAGER: RICK NELSON





- Geographically Nebraska’s largest rural public power district
- Serves all or part of 13 counties
- Maintains more than 4,600 miles of power lines
- Employs 45 Nebraskans
- Headquartered in Broken Bow



POLK COUNTY PUBLIC POWER DISTRICT
GENERAL MANAGER: PHIL BURKE

- Serves more than 4,700 customers
- Serves customers in Polk and parts of Merrick, York, Nance, and Butler Counties
- Maintains about 1,100 miles of power lines
- Employs 22 Nebraskans
- Headquartered in Stromsburg



— PUBLIC POWER —

Leading the EV-olution

The city of Stromsburg is home to several different industries, a wonderful school district, great healthcare options, senior housing and services, restaurants, stores, enjoyable recreational facilities, and the weekend-long Swedish Festival held every summer. And now the quaint community can add another impressive item to its list ... its own electric vehicle (EV) charging station.

Last fall, Polk County Rural Public Power District (RPPD) added a 2020 Tesla Model 3 to its fleet due in part to grants from the Nebraska Environmental Trust and Nebraska Community Energy Alliance.

Added shortly before the Tesla was a charging station located in the power district’s parking lot. Maintained by the ChargePoint network, the station is a level 2 station and has two ports. The time it takes to charge an EV can be as little as 30 minutes or more than 12 hours, depending on the vehicle model, the size of the battery and the speed of the charging station.

“This installation helps put the rural community at the front line of charging infrastructure,” stated Polk County RPPD Customer Service and IT Manager Wade Rahn.

And the best news about the charging station is an exciting proposal initiated by Polk County RPPD and brought into existence by the city of Stromsburg and the Stromsburg Chamber of Commerce. “The Chamber’s monetary donation towards the project along with the city stepping up to cover the cost of charging for five years is a very attractive benefit for those who use the charger” said Rahn. “It’s a win-win situation for all as the charging station allows travelers a chance to experience the friendliness of small-town Stromsburg through a cup of coffee and a quick walk-through of its beautiful shops - all while their EV is being charged for free. This station can also help reduce the range anxiety fear that people have when considering purchasing an EV.” The ability to charge electric vehicles at no cost will run through November 2025.

Low Electric Rates — The Value of Public Power

2020 State Rankings - Average Residential Retail Price Per Kilowatt Hour *

1. Louisiana	\$0.0966	6. Utah	\$0.1043
2. Washington	\$0.0987	7. North Dakota	\$0.1043
3. Idaho	\$0.0994	8. Tennessee	\$0.1075
4. Oklahoma	\$0.1011	9. Nebraska	\$0.1079
5. Arkansas	\$0.1040	10. Kentucky	\$0.1086

U.S. Average \$0.1315

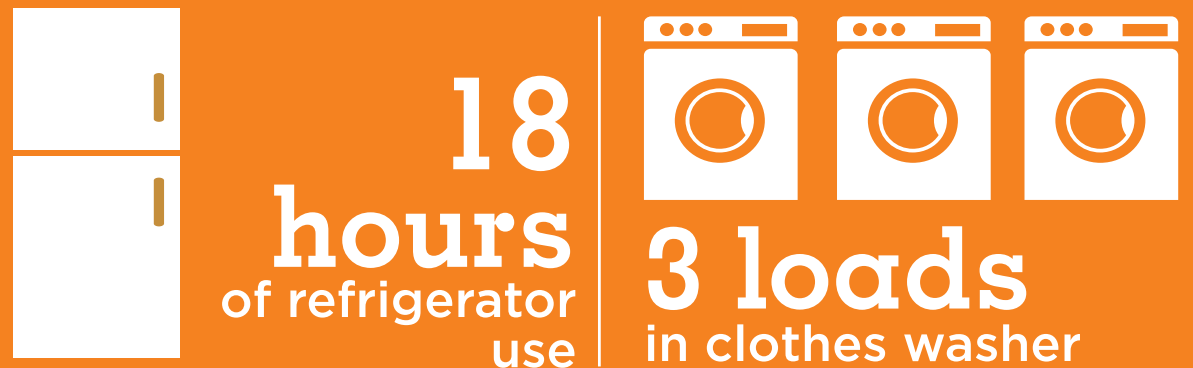
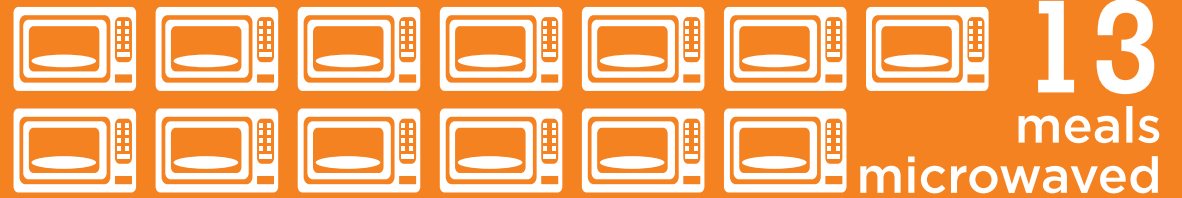
Nebraska Public Power District Residential Rate \$0.1034

Nebraska Public Power District

HAS HELD RATES STABLE FOR...



A quick guide to what 1 kWh or about 11¢ of electricity will do:



* Energy Information Administration, energy.gov

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