Nebraska Energy Quarterly

NEBRASKA
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DEPT. OF ENVIRONMENT AND ENERGY

September 2021

Chargers funded through VW Trust starting to go online

New electric vehicle (EV) charging stations are going live in Nebraska.. **Continue...**

Applications open for Clean Diesel rebates Oct. 1

The Nebraska Department of Environment and Energy has rebates available for those who want to replace old diesel school buses, old diesel refuse trucks and old diesel irrigation pump engines... **Continue...**

Power Summit to take place Oct. 19

The Nebraska Department of Environment and Energy and the Nebraska Public Power District will host the annual Power Summit on Oct. 19 in Lincoln... **Continue...**

Celebrate the Weatherization Assistance Program Oct. 30

National Weatherization Day is coming up and it provides a great opportunity to learn more about the Weatherization Assistance Program... **Continue...**

Energy Statistics

Nebraska by numbers

This edition of the NEQ will focus on retail electricity costs and how Nebraska stacks up against other states... **Continue...**

Agriculture & Energy

No-till practices can save fuel costs

A producer can save at least 3.5 gallons of fuel per acre by going from conventional tillage methods to no-till... **Continue...**

Energy Tips

Be prepared in case of an emergency

September is National Preparedness Month, and everyone is encouraged to learn more about how they can be ready for disasters... **Continue...**

Chargers funded through VW Trust starting to go online

New electric vehicle (EV) charging stations are going live in Nebraska – and some are thanks to reimbursements made through the Volkswagen Environmental Mitigation Trust Fund.

The Nebraska Department of Environment and Energy (NDEE) administers the VW trust funds for our state. In January 2020, NDEE announced awards for 28 projects that will result in 36 new charging locations in 18 Nebraska counties. Of these chargers, 21 are DC fast chargers and 36 are Level 2 chargers.

Randy Smith, NDEE's air quality grants and training coordinator, said the agency originally planned to use 10% of the state's VW funds for charging stations, or $1.2 million. The agency received enough interest from applicants that it increased funding to the maximum percentage allowed by the VW Trust Agreement – 15% or $1.8 million.

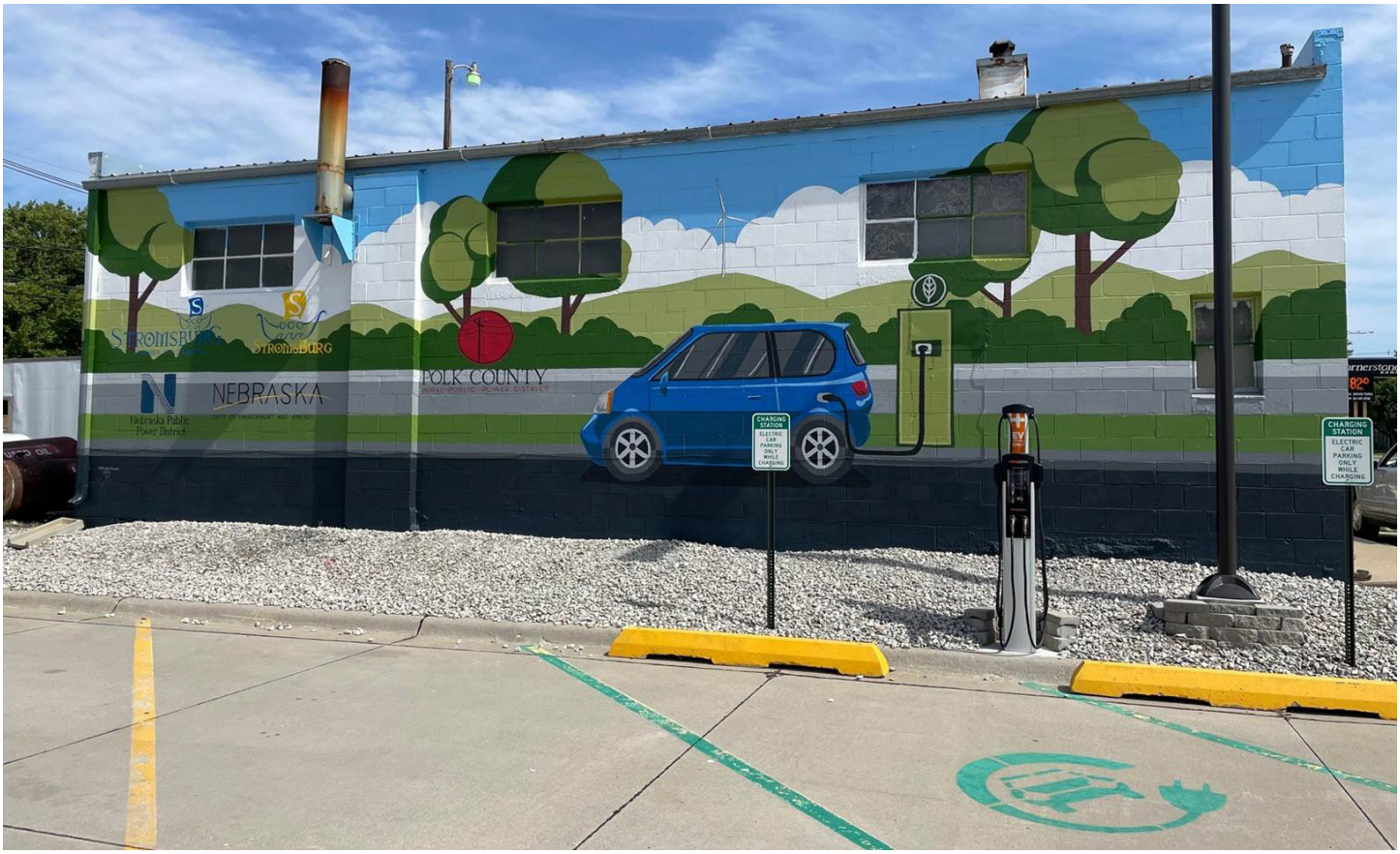
The agency prioritized highway sites, community locations and workplaces, Smith said. Its goal was to ensure these chargers serve large populations and high-traffic areas, which will help Nebraskans and out-of-state travelers rest easy knowing they'll be able to charge their vehicles when needed.

"As electric vehicles become more common, it's important that infrastructure keeps up with the demand," Smith said. "One way to address range anxiety is to make sure there are plenty of chargers available to help drivers get back on the road."

Photo by Amanda Woita, NDEE

Nebraska Public Power District held a ribbon cutting at the Good2Go gas station in York July 30 to celebrate one of its charging stations going live. NDEE provided $91,430 in rebates for two DC fast chargers and one Level 2 charger. Pictured are, from left: Dan Mazankowski, NPPD; Kara Valentine, NDEE; Christine Gaedeke, NPPD; Randy Smith, NDEE; Tim Lichti, Good2Go; Craig Vincent, NPPD; Traci Bossert, NPPD; Anne McCollister, Nebraska Community Energy Alliance; Dave Rich, NPPD; Ron Rose, NPPD; and Matt Gilliland, NPPD.

Back to page 1



Courtesy photo

The Polk County Rural Public Power District uses a mural to highlight its Level 2 EV charging station. NDEE provided $6,866 in rebates for the charger through the Volkswagen EV Charging program.

Communities are also finding ways to celebrate these new charging stations. Polk County Rural Public Power District added a mural to highlight its charging station in Stromsburg. And the Nebraska Public Power District held a ribbon cutting in York to announce its new chargers going live.

DC fast chargers that were funded by the EV program are already operational in:

- Aurora
- York
- Norfolk
- South Sioux City
- Lincoln

Level 2 chargers are operational in:

- Cambridge
- Scottsbluff
- Stromsburg
- All six Lincoln Public high schools

Additional DC fast chargers are expected in:

- Blair
- North Bend
- Columbus
- Grand Island
- Hastings
- Hebron
- Lincoln
- Omaha
- Syracuse
- Nebraska City
- Potter

Back to page 1

Applications open for Clean Diesel rebates Oct. 1

The Nebraska Department of Environment and Energy has rebates available for those who want to replace old diesel school buses, old diesel refuse trucks and old diesel irrigation pump engines with alternatives that produce fewer emissions.

These rebates are available through NDEE's Clean Diesel Rebate Program, which distributes funding from the U.S. Environmental Protection Agency. The program's goal is to reduce diesel emissions by providing rebates to replace old diesel vehicles and engines and remove them from use.

The 2021 Clean Diesel Rebate Program application period begins Oct. 1, 2021, and closes Jan. 13, 2022.

Bart Ruth, a corn and soybean farmer in Polk County, was awarded a Diesel Irrigation Engine Replacement rebate in 2019. He said he contacted the Polk County Rural Public Power District to see what programs were available after he decided to replace an old diesel irrigation engine with an electric motor.

"I had a diesel unit that was 20 years old and showing its age," Ruth said. "It made sense to switch it out."

While he would have replaced the engine anyway, Ruth said the rebate program made the decision easier and saved him money. However, the rebates aren't just for electric motors; they can also be used for connecting a submersible pump directly to the electric grid.

Photo by Randy Smith, NDEE

NDEE's Clean Diesel Rebate Program will open for applications Oct. 1, 2021, to Jan. 13, 2022. This program aims to replace old diesel engines from refuse trucks, school buses and irrigation pumps with newer alternatives that reduce diesel emissions. This photo shows an electric motor that was installed through the irrigation pump engine replacement program.

Ruth said he thought the application and reimbursement processes were straightforward and reasonable. Applications can be viewed on the school bus, refuse truck, and irrigation pump engine replacement programs' webpages.

The Irrigation Engine Rebate Application asks applicants to provide their contact information, information on the current diesel engine, quotes for the new electrical equipment, and the cost of extending the electric utility service line. Applicants also need to provide documentation that shows the irrigation pump engine had operated for 250 annual hours for the last two years.

Once an applicant is selected and installs the new engine, the applicant must submit a Request for Reimbursement. That form includes information on the new motor, electric wiring, utility costs, and total project costs. To be reimbursed, the applicant must also destroy the old engine by cutting, drilling, or punching a 3x3-inch hole in the wall of the engine block – something Ruth said was not a problem.

Now that his electric irrigation motor is up and running, Ruth said running it is more convenient than using the old diesel engine. He can push a button to start and stop it, it doesn't require oil changes and Ruth doesn't have to worry about the fuel tank. Overall, he said he would recommend this program to others.

"I've already told several friends and neighbors about the program," Ruth said.

Back to page 1

Power Summit to take place Oct. 19

The Nebraska Department of Environment and Energy and the Nebraska Public Power District will host the annual Power Summit on Oct. 19 in Lincoln.

The Power Summit provides those in the power generating industry and those responsible for implementing associated environmental regulations the opportunity to exchange information related to power production, environmental policies, programs and issues in Nebraska. A primary objective of the Summit is to enhance the dialogue that has been established between the power industry and regulatory agencies.

“This Summit is a great opportunity for NDEE and power industry representatives to come together for a productive dialogue about power generation and the environment,” NDEE Director Jim Macy said. “I look forward to another informative summit.”

The first Power Summit was held on Nov. 4, 2004. For almost 20 years, experts in electrical engineering, chemical engineering, manufacturing process management and policy from both the industry and regulatory agencies have shared ideas and resources and worked together to address energy and environmental issues.

While this year’s event has no more open registration spots, NDEE will post presentations on its website following the Summit. Presentations will address changes at NDEE and how they affect regulated parties; industry perspectives on regulations; how the February 2021 Polar Vortex was managed; decarbonization efforts by the Omaha Public Power District, Lincoln Electric System, and the Nebraska Public Power District; Nebraska’s electric vehicle fast charger effort; NPPD’s work with Central Valley Ag on farm field carbon sequestration and changes in the Coal Combustion Residual rule.

Past discussion topics have included:

- Wind forecasting
- Printable solar cells
- Changing Generation mix
- Affordable Clean Energy Rule
- Electric Vehicles
- State of the Industry
- New Source Review
- Revisions to National Ambient Air Quality Standards
- Climate change
- Mercury
- Cross State Air Pollution rule
- Carbon sequestration
- Carbon Capture Demonstration Project
- Clean Water Act, parts 316 (a) & (b)
- Regulatory developments/updates
- Economic development and associated environmental assessments

Back to page 1

Celebrate the Weatherization Assistance Program Oct. 30

National Weatherization Day is coming up and it provides a great opportunity to learn more about the Weatherization Assistance Program.

Photo by Erik Mclean on Unsplash

Weatherization Day is set for Oct. 30. It highlights the benefits of Weatherization Assistance Programs across the country, which provide weatherization improvements in homes for those with low incomes. These improvements reduce energy bills and improve the health and safety of the residence. Adding insulation is one common weatherization improvement.

Each year, Weatherization Day falls on Oct. 30 to highlight Weatherization Assistance Programs across the U.S. and the impact they have for individuals and families with low incomes. In Nebraska, funding for the Weatherization program comes from the U.S. Department of Energy ($3 million in 2020) and the Low-Income Home Energy Assistance Program ($2.6 million in 2020).

The Nebraska Department of Environment and Energy distributes those funds to seven Community Action Partnerships and one non-profit organization across the state. These area providers use the funds to weatherize homes for those with low incomes, which improves a home's safety and helps residents save money on their energy bills.

Between 1977 and June 2020, Nebraska's Weatherization program has helped make improvements to more than 70,000 homes with a total of $218 million invested. Common improvements include:

- Adding insulation
- Replacing and repairing furnaces
- Reducing air leakage
- Installing high efficiency lighting
- Insulating water heater tanks and pipes
- Repairing cracked windows.

Mobile homes are also eligible for weatherization services, including underbelly insulation, window sealing and sealing air leaks.

The National Association for State Community Service Programs provides resources for Weatherization Day every year. Its website states Weatherization programs support 8,500 jobs nationwide, which not only improves homes, but also supports local communities.

The NASCSP says Weatherization Day focuses on educating elected officials about the program and the importance of continuing its funding. It also promotes training and technical assistance to Community Action Partnerships and program managers that work with the program.

Back to page 1

Nebraska by Numbers

One of NDEE's duties is to maintain a collection of energy data to assess trends in the availability, consumption, and development of all forms of energy. This information can be found on NDEE's statistics page.

This edition's Nebraska by Numbers will focus on retail electricity costs and how Nebraska stacks up against other states and Washington, D.C. This information and more can also be found on the Energy Information Administration's website.

Electricity Retail Price by State 2019

(cents/kilowatt hour)

10.54 cents/kWh—U.S. average electricity retail price

In 2019, the average retail price for electricity in the U.S. was 10.54 cents/kilowatt hour. Louisiana had the lowest price at 7.71 cents/kWh, and Hawaii had the highest price at 28.72.

9.08 cents/kWh—Nebraska's average electricity retail price

Nebraska's average retail price for electricity was 9.08 cents/kWh in 2019, making the state tied with Iowa for the 16th lowest price in the U.S.

Back to page 1

No-till practices can save fuel costs

Information from the USDA
Natural Resource Conservation Service

A producer can save at least 3.5 gallons of fuel per acre by going from conventional tillage methods to no-till. Nebraska's average diesel price in 2017 was $2.51/gallon, which amounts to $8.79 per acre in production cost savings. On a farm with 1,000 acres of cropland, these savings add up to 3,500 gallons of diesel fuel valued at $8,785.

Photo by Taylor Siebert on Unsplash

In addition to environmental benefits, no-till farming practices can also save farmers money because they are not using as much fuel to run equipment in their fields.

In 2017, Nebraska logged 10,256,995 no-till acres, according to The Soil Health Institute's report titled "Adoption of Soil Health Systems Based on Data from the 2017 U.S. Census of Agriculture." With those acres in mind, Nebraska farmers saved more than $90 million in diesel fuel costs through no-till practices.

The Soil Health Institute's report also states that the U.S. had more than 104 million no-till acres in 2017, which saved nearly 365 million gallons of fuel. At that time, the average cost of diesel in the U.S. was $2.44/gallon, which means no-till farmers saved more than $890 million in fuel

No-till is a conservation practice that leaves the crop residue undisturbed from harvest through planting except for narrow strips that cause minimal soil disturbance. Crop residues are materials left in an agricultural field after the crop has been harvested. These residues include stalks and stubble (stems), leaves and seed pods. Good management of field residues can increase efficiency of irrigation and control of erosion. No-till can be used for almost any crop in almost any soil and can save producers labor costs and fuel. It's a sound investment for the environment and the farm.

In addition to energy efficiencies and cost savings, no-till has several environmental benefits. No-till increases the organic matter in the soil, making it more stable and helping prevent soil erosion. No-till reduces greenhouse gases because it requires less fuel and sequesters (stores) carbon in the soil. Other benefits of using no-till as part of a resource management system include:

- Increased earthworm populations that improve soil quality—an average of 540,000 earthworms per acre versus 285,000 in conventional tillage;
- Increased water infiltration—cutting evaporation and runoff by at least 70%;
- Reduced tilling time per acre—by as much as two-thirds; and
- Improved wildlife habitat.

Back to page 1

Be prepared in case of an emergency

Information from FEMA's The Ready Campaign

September is National Preparedness Month, and everyone is encouraged to learn more about how they can be ready for disasters.

Power outages are one thing that can go wrong during an emergency. The Ready Campaign, an awareness campaign led by the Federal Emergency Management Agency, has tips on what to do if a residence loses power.

According to the Ready Campaign, power outages may:

- Disrupt communications, water and transportation
- Close retail businesses, grocery stores, gas stations, ATMs, banks and other services
- Cause food spoilage and water contamination
- Prevent use of medical devices.

By planning ahead, households can mitigate the effects power outages have on their basic needs.

Photo by Brecht Denil on Unsplash

A number of incidents can knock power offline, including inclement weather events. While losing power can be a disruption to daily life, being prepared can mitigate the impact of a power outage.

Plan ahead

The first step is to be prepared. Ready.gov suggests taking an inventory of needed items that rely on electricity and plan for batteries or other alternative power sources in case power goes out, such as a portable charger or power bank. Have flashlights on hand for every household member.

Know your medical needs

It's also important to plan ahead for medical needs. This is especially true when a household member has refrigerated medicines or uses a medical device powered by electricity. Talk to a medical provider about a power outage plan, find out how long medication can be stored at higher temperatures and get guidance for medications that are critical for life.

If power is out for more than a day, discard any medication that should be refrigerated unless the drug's label says otherwise. Consult your doctor or pharmacist immediately for a new supply.

Back to page 1

Know food safety tips
Be sure to keep freezers and refrigerators closed during a power outage to keep the cool air in. A refrigerator will keep food cold for about four hours, and a full freezer will keep its temperature for about 48 hours. Thermometers can be used in freezers and refrigerators to monitor temperatures once power returns. Be sure to have enough nonperishable food and water on hand and use a cooler with ice, if necessary.

After power is restored, check food items. Throw away any food that has been exposed to temperatures of 40 degrees or higher for two hours or more, or food that has an unusual odor, color or texture.

Appliances and power outages
If a power outage occurs during cold weather, there can be risks with using certain appliances for heat. Install carbon monoxide detectors with a battery backup in central locations on every level of your home. To avoid carbon monoxide poisoning, only use generators, camp stoves or charcoal grills outside and at least 20 feet away from windows. Never use a gas stovetop or oven to heat your home. Be sure to turn off or disconnect appliances, equipment and electronics because power may return with momentary surges or spikes that can cause damage.

The U.S. Department of Energy's Using Portable/Emergency Generators Safely guide has more tips on how to safely use a backup generator during a power outage.

Seek shelter
If you lose power during extreme heat or cold, go to a community location with power for safety. Because of the COVID-19 pandemic, have items on hand to protect yourself and others from virus trasmission, such as two facemasks per person age two or older in the household, hand sanitizer that contains at least 60% alcohol and cleaning materials.

The Nebraska Energy Quarterly is funded, in part, by the U.S. Department of Energy through the State Energy Program.

Back to page 1