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FLINT HILLS RURAL ELECTRIC COOPERATIVE NEWS

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FROM THE MANAGER

Trump Administration Offers Rule to Manage Power Plant Carbon Emissions

The Trump administration recently issued a rule to reduce power plant carbon emissions. Known as the Affordable Clean Energy (ACE) rule, the new regulation will require power plants to work with state regulators to assess steps to be taken to cut emissions through energy efficiency improvements.

America's electric cooperatives welcomed the new rule, noting it is preferable to an earlier and far costlier attempt to regulate carbon emissions that ultimately was put on hold by the Supreme Court.

"The ACE rule represents a more flexible path forward that will minimize the cost to consumers and preserve the reliability of the electric grid as electric co-ops work to promote a healthy environment and vibrant rural communities," said Jim Matheson, CEO of the National Rural Electric Cooperative Association.

"Electric cooperatives have invested billions of dollars in diverse energy sources and emission-reduction technology to meet the electricity needs of their local communities while protecting the environment," Matheson said. "The ACE rule gives electric cooperatives the ability to adopt evolving technology and respond to market and consumer demands while continuing to serve as engines of economic development for one in eight Americans."


Chuck Goeckel

Matheson stressed the ACE rule will allow electric co-ops to ensure affordable and reliable power remains available throughout our local communities.

Power plant emissions have steadily declined due to market forces and evolving consumer expectations.

Nearly 60% of the electricity supplied by electric co-ops comes from low- or no-emission energy sources. Electric cooperatives have reduced carbon emissions 9% since 2009, even while increasing electric generation by more than 12 million megawatt-hours.

Co-ops are also investing in research to develop proven carbon capture, storage and reuse technologies that can extend the operation of coal-fueled power plants.

Electric cooperatives work hard to minimize the cost of new regulations to reduce the impact on electric rates for their consumer-members. In this instance, the ACE rule is consistent with our mission to provide consumer-members with safe, reliable and affordable power, while continuing to reduce emissions and meet other important environmental goals.

MEMBER SPOTLIGHT

Restoring the Prairie

Spotlight on Bob and Lorna Harder

A prairie restoration project on their land, energy efficiency in their residence and the installation of a solar generation system are all evidence of how **BOB** and **LORNA HARDER** have made concern for the environment a priority on their farm near Hesston.

The Harders have been members of Flint Hills Rural Electric Cooperative since 1997. They met at Hesston College, have been married 35 years and have two adult children. Bob and Lorna have more than 60 years of combined teaching experience at Hesston College. Bob is a professor of aviation and computer science, and Lorna is a retired professor of biology and ecology. Their positions at Hesston College brought them to the rural Hesston area. They purchased their small farm in 1990 and built a home on the property in 1997.

Of the 111 acres that make up their property, a 30-acre pasture is dedicated to prairie restoration. When they acquired the pasture, they found it overgrazed and weedy with encroaching Eastern Red Cedar, Siberian Elm and Osage Orange trees, but surprisingly, it had never been plowed. They began its restoration by cutting trees and instituting rotational burning and haying.

"The prairie has slowly returned with prairie grasses marching in to reclaim their space," Lorna proudly reports.

They've also achieved some biodiversity with the addition of wildflower seeds and seedlings.

The environment is where we all meet; where all have a mutual interest; it is the one thing all of us share.

LADY BIRD JOHNSON

"We continue to learn about management as seasonal conditions guide us in the restoration process," says Lorna. "Walking in the prairie throughout the year, we are able to experience the shifting rhythms of a dynamic landscape."

The Harders work with a local farmer who rents about 60 acres of their land for crop production and partners with the Harders to minimize the use of pesticides, helping to protect the prairie restoration and its wildlife.

When the Harders built their home in 1997, they made energy efficiency a priority in the building process. They insulated with 40-plus R-value insulation, installed Energy-Star appliances and put ceiling fans throughout the house. While solar installation was cost-prohibitive at the time they built their home, they planned to install solar generation at a later date.

The Harders say Dr. Nelson Kilmer's physics class at Hesston College was instrumental in the design of their solar installation. The students analyzed five years of electric bills, determined the electrical requirements for all appliances, and researched the rules and regulations. With the information the class supplied, the Harders were ready to move forward.

In 2011 they were finally able to see their solar generation goal achieved with the installation of 16, American-made, 240-watt panels, with four more added shortly afterward to cover the switch to electric hot water. Because their house is oriented east-west, they installed a free-standing array facing south to optimize solar production throughout the year.

The panels combine to generate a maximum of 4.5 kilowatts of power, which is delivered to the house via an underground cable directly connected to the main breaker box. Electrical power produced

in excess of household needs is returned to the Flint Hills RECA grid, so a special meter was installed. During the day when the solar panels are overproducing, the meter runs in reverse to measure electricity sent back to Flint Hills RECA. At night or on cloudy days, the meter runs forward as it delivers power from the grid to the house.

Solar generation has affected the Harder's electric bill most months by producing enough energy to offset their use and allowing them to pay just the monthly service charge. The current net meter billing through Flint Hills RECA gives generating customers one-for-one credit for each kilowatt-hour sent back to the grid to offset usage, to the extent that the net usage is zero. The Harders report in the colder months of December and January and when air conditioning is in use during the summer, occasionally they have a small electrical bill.

"Over the past 7 ½ years, our system has generated almost 60-megawatt-hours of power and returned 12-megawatt-hours of excess power back to the grid, benefiting both Flint Hills Rural Electric and its customers," the Harders say.

The total cost for their solar panel installation was about $20,000, but with tax credits, the final cost was about $14,000. They expect that the system will pay for itself through lower energy costs within 15 years. They note newer panels are more efficient and generate more power at 300-plus watts vs. their 240-watt system, and prices have decreased. The national average as of 2019 is $12,516 after tax credits for a 6-kilowatt system. Maintenance is minimal as there are no moving parts, and the Harder's system came with a 25-year warranty. They have had one-inch hail at the farm with no damage to the panels and rain keeps them clean.

The Harders have found solar generation to be rewarding. "Most important to us is the knowledge that we are not contributing to additional greenhouse gas emissions. We are reducing our carbon footprint, and any excess electrical power we produce further reduces the need for burning coal."

As for the future, they would like to add battery storage and perhaps an electric car for local travel.

Flint Hills RECA has seen increased interest in solar generation from consumer-members and currently has 19 members with solar power systems.

"Solar is a great investment for a greener, cooler future," according to the Harders.

Above: Initial 16 panel Harder solar installation. Later, four more panels were added.

Left: Brad Guhr, education coordinator (left) and Lorna Harder harvest grass seed from the Harder prairie for prairie reconstruction at the Dyck Arboretum of the Plains in Hesston.

Below: The 2019 Kansas Wildflower of the Year, Blue Vervain (verbena hastata) hiding under the tall grasses in the Harder prairie.

COMMUNITY | LEADERSHIP | MEMORIES

COOPERATIVE YOUTH LEADERSHIP CAMP

STEAMBOAT SPRINGS, COLORADO

Hinkson, Stout & Nguyen Attend Cooperative Youth Leadership Camp

LANDRY HINKSON and **CALEB STOUT** were selected to attend the 43rd annual Cooperative Leadership Camp in Steamboat Springs, Colorado, from July 12-18. Joining their peers from across Colorado, Kansas, Oklahoma and Wyoming, approximately 100 youth learned about the cooperative principles at the weeklong educational retreat. **BRANDON NGUYEN** joined them this year as a camp ambassador. He was selected from last year's attendees as one of the 2019 Ambassadors.

"Flint Hills RECA is proud to be a participating sponsor of the Cooperative Youth Leadership Camp and send our local youth to develop essential leadership and teamwork skills," said Bill Wessel. "Through this trip, we hope these local students will learn how electric cooperatives work and how co-ops and their employees support the communities they serve."

The Kansas and Oklahoma participants met as they boarded the bus along its route to Colorado. When the bus arrived in Denver, the group was treated to an indoor skydiving experience and STEM educational lab at iFLY. When the group arrived at Glen Eden Resort, nestled in the Rocky Mountains, the campers immediately began daily membership meetings where a general manager, board of directors and committees were selected. The weeklong experience also gave participants an authentic camp feel with a hike to Fish Creek Falls, river rafting, volleyball tournament, swimming, a dance and a talent show.

Several demonstrations and presentations enhanced students' knowledge on the cooperative model and on operations at their electric cooperative. Campers competed to build a model transmission line out of craft supplies, toured Trapper Mine, Craig Power Plant and watched a high-voltage safety demonstration. The campers also raised $293.13 to donate to the National Rural Electric Cooperative Association (NRECA) International Foundation. The money will be used to purchase backpacks and school supplies for students who attend school in Sillab, Guatemala.

When asked, what memory will you always have with you from this trip? Hinkson said, "I had no idea that it was possible to make such strong connections and care so deeply for people I have barely known for a week. Many of those people I never imagined I would become friends with on the first day. It really taught me that sometimes being a leader starts with being a friend."

When asked what affected them the most, Stout said "I learned that even when it seems difficult or uncomfortable, that is a part of being a leader. Sometimes you just have to step up and take care of others."

Overall, the campers said they left CYLC with a new sense of leadership and a basic understanding of how their local electric cooperatives operate and how they contribute to improve the communities they serve.

"This trip has allowed me to step up as a leader and show the campers how to be themselves," Nguyen said.

Right: (from left) Brandon Nguyen, Landry Hinkson and Caleb Stout represent Flint Hills at camp.

Far right: Nearly 100 campers from four states attend CYLC.