

Cooperative Connections

A man in a grey sweater and khaki pants is plugging a charging cable into the front of a bright blue Ford Focus electric car. The car is parked in a well-lit garage with white walls and a large window showing greenery outside. On a shelf above the car, there are several green and black storage bins. The car has 'Focus' and 'Electric' badges on its side.

Joy Ride? A Look
at Electric Vehicles

Page 8

Tractor of Tomorrow?

Page 12

KEEPING THE LIGHTS ON ISN'T ENOUGH.



We're not your typical electric company, we're a local not-for-profit electric cooperative. We power our community with more than just electricity. Our employees give time and resources to help build a better community.

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Cam Wal Electric, Selby, S.D.
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Clay-Union Electric, Vermillion, S.D.
Codington-Clark Electric,
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Dakota Energy, Huron, S.D.
Douglas Electric, Armour, S.D.
East River Electric, Madison, S.D.
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H-D Electric, Clear Lake, S.D.
Kingsbury Electric, De Smet, S.D.
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Lake Region Electric, Webster, S.D.
Lyon-Lincoln Electric, Tyler, Minn.
Moreau-Grand Electric, Timber Lake, S.D.
Northern Electric, Bath, S.D.
Oahe Electric, Blunt, S.D.
Renville-Sibley Co-op Power,
Danube, Minn.
Rosebud Electric, Gregory, S.D.
Rushmore Electric, Rapid City, S.D.
Sioux Valley Energy, Colman, S.D.
Southeastern Electric, Marion, S.D.
Traverse Electric, Wheaton, Minn.
Union County Electric, Elk Point, S.D.
West Central Electric, Murdo, S.D.
West River Electric, Wall, S.D.
Whetstone Valley Electric, Milbank, S.D.
City of Elk Point, S.D.

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EDITORIAL

Democratic Member Control

Are You a Co-op Voter?

Did you vote in the 2016 elections? If so, you were one of 500,000 MORE voters in co-op territories that went to the polls. You helped turn the tide of decreasing voter turnout in rural areas like ours...and our elected officials took notice!



Ed Anderson

SDREA General Manager
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As member-owned electric cooperatives, voting is already in our DNA. It's how we maintain an electric utility which is responsive to the consumers it serves. But voting also plays a crucial part in our representative democracy. Federal, state and local elections offer an opportunity to exercise a civic responsibility – to select the best leaders for our communities.

2018 is going to be an interesting and important election year, and electric cooperatives have the opportunity to play a vital role in encouraging rural voter turnout and engaging on issues that matter in our community.

When voters miss the chance to vote, they also lose the opportunity to communicate their concern to our leaders about the issues that matter to us, where we work, live, and raise families.

Reliable electricity, rural infrastructure and access to rural broadband are just a few of the issues we all care about. These issues will only become priorities if we continue to express our concerns to our elected officials. Registering to vote and showing up to the polls on Election Day are the most effective ways to send this message.

When we go to the polls with the cooperative principle of "Concern for Community" in mind, we instantly improve our political system. It's a system designed to produce a government "of the people, by the people and for the people." People like you and me.

Electric cooperatives in South Dakota and western Minnesota have (once again) joined America's electric cooperatives in continuing the Co-ops Vote campaign to help get out the vote and insert issues important to co-ops and our communities into the public discussion. This effort will ensure that our voices are heard loud and clear every day, and especially on the next Election Day.

Here's what you can do to help. Ensure you're registered to vote right now. Then, encourage your friends and family to register too. Visit the Co-ops Vote web site, WWW.VOTE.COOP, to get information on how to register and to learn more about your elected officials. You can also learn more about the issues that matter in our communities.

Co-ops Vote is a non-partisan program developed by the National Rural Electric Cooperative Association (NRECA), the national service organization that represents the nation's more than 900 private, not-for-profit, consumer-owned electric cooperatives. You will join with 42 million members across the nation, to ensure that electric co-ops are a powerful voice on national issues that have a local impact.

If you have any questions, please visit WWW.VOTE.COOP. I hope to see you at the polls!

**Reliable electricity,
rural infrastructure
and access to rural
broadband are just
a few of the issues
we all care about.**

Electrical Safety on the Farm

Farming is among the more dangerous occupations for several reasons, including potential for encounters with electrical hazards. Before taking to the fields, the Safe Electricity program urges farm workers to be aware of overhead power lines and to keep equipment and extensions far away from them.

Safe Electricity encourages farm managers to share this information with their families and workers to keep them safe from electrical accidents.

- Start each morning by planning your day's work. Know what jobs will happen near power lines and have a plan to keep the assigned workers safe.
- Keep yourself and equipment at least 10 feet away from power lines in all directions, at all times. Use a spotter when moving tall equipment and loads.
- Use care when raising augers or the bed of a grain truck. It can be difficult to estimate distance and sometimes, a power line is closer than it looks. Use a spotter to make certain you stay far away from power lines.
- Always lower equipment extensions, portable augers or elevators to their lowest possible level, under 14 feet, before moving or transporting them. Wind, uneven ground, shifting weight or other conditions can cause you to lose control of equipment and make contact with power lines.
- Be aware of increased height when loading and transporting larger modern tractors with higher antennas.
- Never attempt to raise or move a power line to clear a path. If power lines near your property have sagged over time, call your utility to repair them.
- Don't use metal poles when breaking up bridged grain inside and around bins.
- As in any outdoor work, be careful not to raise any equipment, such as ladders, poles or rods, into power lines. Remember, non-metallic materials, such as lumber, tree limbs, tires, ropes and hay, will conduct electricity, depending on dampness and dust and dirt contamination.
- Use qualified electricians for work on drying equipment and other farm electrical systems.
- If you are on equipment that contacts a power line, do not exit the equipment. When you step off the equipment, you become the electricity's path to ground and receive a potentially fatal shock. Wait until utility workers have de-energized the line and confirmed it is safe for you to exit the vehicle. If the vehicle is on fire and you must exit, jump clear of the vehicle with both feet together. Hop as far from the vehicle as you can with your feet together. Keep your feet together to prevent current flow through your body, which could be deadly.

Electrical work around the farm can also pose hazards. Often, the need for an electrical repair comes when a farmer has been working long hours and is fatigued. At such times, it's best to step back and wait until you've rested.

Source: safeelectricity.org

Primary Elections Near

Voters in South Dakota head to the polls in June for the primary election while voters in Minnesota follow suit Aug. 14.

A primary election determines which candidates will be on the ballot in the November general election.

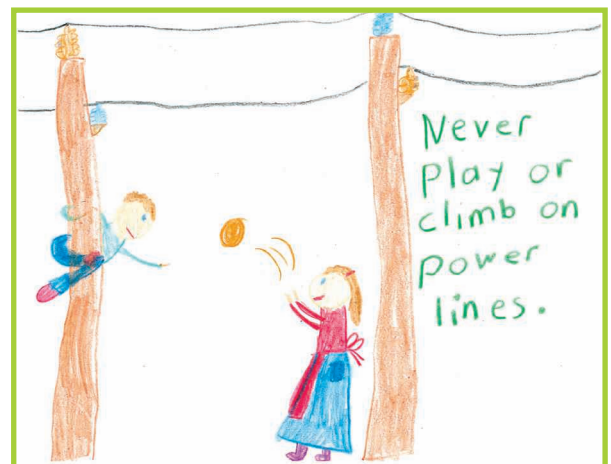
In South Dakota, there are 24 House and Senate races with primary elections that will be decided on June 5. Those wishing to vote in the primary election have until May 21 to register to vote. Absentee voting began on April 20.

Minnesota's Primary Election Day is Tuesday, Aug. 14. Minnesotans can vote by mail or in person from June 29 through Aug. 13.

As part of the election cycle, co-ops across the county are engaging in Co-ops Vote, a non-partisan program developed by the National Rural Electric Cooperative Association (NRECA), the national service organization that represents the nation's more than 900 private, not-for-profit, consumer-owned electric cooperatives. The Co-ops Vote campaign seeks to help get out the vote and insert issues important to co-ops and their communities into the public discussion.



KIDS CORNER SAFETY POSTER



"Never play or climb on power lines."

Caroline Ekberg, 9 years old

Caroline is the daughter of Lance and Doris Ekberg, Hamill, S.D. They are members of Rosebud Electric Cooperative, Gregory, S.D.

Kids, send your drawing with an electrical safety tip to your local electric cooperative (address found on Page 3). If your poster is published, you'll receive a prize. All entries must include your name, age, mailing address and the names of your parents. Colored drawings are encouraged.

Dairy Delicious

Cream Cheese Chicken Taquitos

2 boneless chicken breasts	1 (8 oz.) pkg. cream cheese
1 tsp. chili powder	1/3 cup water
1 tsp. garlic powder	1/2 cup shredded cheese
1 tsp. cumin	12 6-inch flour tortillas

Place chicken, chili powder, garlic powder, cumin, cream cheese and water in crock pot. Cover and cook on LOW for 8 hours or 4 hours on HIGH. Place 1/4 cup of the chicken mixture into each tortilla. Top with 1 to 2 T. shredded cheese. Roll tightly and place in a single layer on greased baking sheet. Bake at 400°F. for 10 minutes or until tortillas are slightly browned and cheese is melted.

Cortney Reedy, Tea, S.D.

Crunchy Ice Cream Bars

1/2 cup light corn syrup	4 cup Kellogg's Cocoa Krispies
1/2 cup peanut butter, creamy or chunky	1 pint ice cream

Mix corn syrup thoroughly with peanut butter. Pour over Cocoa Krispies and stir until well coated. Press mixture into a 9x13-inch buttered pan. Place in freezer to firm up. Cut into 12 3-inch squares. Place a slice of ice cream between 2 squares. Cut each square into 2 bars. Wrap individually in foil and keep in freezer until needed.

Cindy Reu, Luverne, Minn.

Strawberry Cheesecake Pie

2 cups sliced fresh strawberries	1 (8 oz.) pkg. cream cheese, softened
1/4 cup chopped almonds	2 cups cold milk, divided
1 T. sugar	1 (3.4 oz) pkg. instant vanilla pudding
1 9-inch graham cracker crust	

In a bowl, combine strawberries, almonds and sugar. Pour into crust. In a mixing bowl, beat cream cheese until smooth; gradually add 1/2 cup milk. Add pudding mix and remaining milk. Beat for 1 minute or until blended; pour over strawberries. Cover and refrigerate for 2 hours or until set.

Stephanie Fossum, Hudson, S.D.

Lemon Ginger Blueberry Muffins

2 cups flour	1/4 cup milk
2/3 cup sugar	1/4 cup vegetable oil
1-1/2 tsp. baking powder	1 egg, lightly beaten
1 tsp. McCormick® ground ginger	1 tsp. McCormick® pure lemon extract
1/2 tsp. baking soda	1 cup blueberries
1 cup sour cream	

Lightly grease 12 muffin cups or line with paper baking cups. Set aside. Mix flour, sugar, baking powder, ginger and baking soda in large bowl. Mix sour cream, milk, oil, egg and lemon extract in medium bowl. Add to flour mixture; stir just until dry ingredients are moistened. (Batter will be thick and slightly lumpy.) Gently stir in blueberries. Spoon batter into prepared muffin cups, filling each cup 2/3 full. Bake at 400°F. 20 to 25 minutes or until toothpick inserted in center of muffins comes out clean. Serve warm. Makes 12 (1 muffin) servings.

Nutritional Information Per Serving: Calories 213, Total Fat 9g, Sodium 122mg, Cholesterol 29mg, Carbohydrates 30g, Protein 3g, Dietary Fiber 14g

Pictured, Cooperative Connections

Cowboy Caviar

2 cans Mexicorn	1 can diced tomatoes and green chilies
2 cups shredded Cheddar cheese	6 green onions, chopped
1 cup Miracle Whip	Fritos Scoops corn chips
1 cup sour cream	

Mix together all ingredients; serve with corn chips.

Jane Ham, Rapid City, S.D.

Please send your favorite dessert, salad and garden produce recipes to your local electric cooperative (address found on Page 3). Each recipe printed will be entered into a drawing for a prize in June 2018. All entries must include your name, mailing address, telephone number and cooperative name.

Select Proper Size and Design of Window/Door Awnings for Energy Savings, Comfort, Privacy



Jim Dulley

www.jimdulley.com

Installing window awnings can reduce summertime energy usage.

Dear Jim: I have always liked the appearance of window awnings. The salesman told me installing them can also save a lot of energy. Do they really save much energy and what awning choices are best? – Kathy F.

Dear Kathy: The awning salesman was not just blowing smoke to get a sale. Installing window awnings can reduce summertime energy usage. There are also other benefits such as reduced fading of furniture, drapes and carpeting, and protection of your primary windows and doors from the sun and severe weather. The same UV rays which fade your furniture also slowly degrade window frame and door materials over time.

The reduction in air-conditioning electrical usage results from the blocking of the direct radiant heat from the sun through windows and doors. Studies by the University of Minnesota found installing window awnings can reduce cooling energy needs by 21 percent in Phoenix, 17 percent in St. Louis and 24 percent in Boston.

Another advantage of awning energy savings is it is greatest during the hottest hours of the afternoon when the sun is most intense. This reduces the peak electricity load for the utility company's electric generation, so there is less chance of brownouts and other problems associated with excessive electricity demand.

There are many window awning options available. The first decision to make is if you want fixed or adjustable awnings. They both are equally effective during the summer to reduce your peak electricity usage in midafternoon. The advantage of adjustable awnings is the level of shading can be changed throughout the day and various seasons. Fixed and adjustable ones are available in all-aluminum or fabric over an aluminum frame.

Adjustable fabric awnings offer better protection from severe weather because some can be lowered to be almost flat over the window opening. They can also be raised to nearly expose the entire window glass for winter solar heat gain. Fabric awnings using Sunbrella® fabrics provide SPF-15 cancer risk protection. Also, ones using GORE™ Tenara® thread are durable and hold up well to UV (ultraviolet) degradation.

The maximum projection from the wall for an adjustable aluminum awning is fixed by the frame and the down arm length. To open them, the aluminum awning slats roll up above the frame and the hinged arms swing upward. The advantage of aluminum is its strength and its resistance to degradation from the sun's UV rays.

Sideless awning designs, called Venetian awnings, are effective for true south-facing windows because the most intense sun's rays come from directly overhead. Actually, just a relatively short flat board over the window, such a large roof overhang, is effective at blocking the sun over these windows. If you also need to block the late afternoon sun at those south-facing windows, install hood style awnings with sides. For casement windows, hip-style awnings provide clearance for the window sash to swing open outward.

If you are also concerned about security and privacy, select an adjustable awning which can be lowered completely flat against the window. This offers privacy and some protection from break-ins and storm damage to the window glass from flying objects.

Proper sizing (projection length from the house wall) of window awnings is important both for blocking the summer sun and for allowing the winter sun to shine. This is particularly true if you install fixed awnings, instead of adjustable ones, because their shading angle cannot be changed. The orientation of the window to the sun also affects the proper awning sizing because the sun is lower in the sky during early morning and late afternoon.

If you still remember your high school geometry, you can calculate the size of awning needed for various windows and doors. The latitude angle (varies from about 29 degrees for Houston to 45 degrees for Minneapolis) for your area determines how high the sun is in the sky and its angle of incidence on your windows. You can find the sun location for various regions, seasons and times of day in most basic solar energy books.

If you are not a math whiz, just make a "test stick" awning to determine the proper size. Hold the end of a stick against the top of the window frame or wall at the time of day when you need shading. Vary the stick lengths and the angle until its shadow provides the shading you desire. The shades width should extend at least two inches on either side of the window.

Send inquiries to James Dulley, Cooperative Connections, 6906 Royalgreen Drive, Cincinnati, OH 45244 or visit www.dulley.com.



Touchstone Energy® Scholars Recognized

Touchstone Energy® Cooperatives in eastern South Dakota and western Minnesota honored some of the area's most impressive high school seniors Saturday, April 28, during the 16th annual Touchstone Energy Scholar of the Year banquet and recognition on the campus of Lake Area Technical Institute.

The event honored the 33 high school students who were chosen each week throughout the school year as the Touchstone Energy Scholar of the Week. It's a program which recognizes students for academic achievement, co-curricular involvement and community service. The students are featured in weekly segments which air on KSFY Television and each student receives a \$100 scholarship for being chosen as the Scholar of the Week.

Nathan Hulscher, a senior at Florence High School within Codington-Clark Electric's service territory, was selected during the banquet as the Touchstone Energy Scholar of the Year. Hulscher, who plans to attend Augustana University in the fall, received a \$1,000 scholarship. Trevor Case, a senior at Webster Area High School within Lake Region Electric's service territory, and Alexander Palecek, a senior at Yankton High School within Clay-Union Electric's service territory, were both chosen to receive \$500 scholarships. The names were drawn from among the attendees.

Lake Area Technical Institute's President Michael Cartney was the keynote speaker for the Scholar of the Year banquet. KSFY News anchor Brian Allen served as the master of ceremonies.

Touchstone Energy Cooperatives in eastern South Dakota and western Minnesota provide safe and reliable electricity to more than 113,000 homes and businesses. The cooperatives have sponsored the Scholar of the Week program since 2002. In that time Touchstone Energy Cooperatives have awarded over \$80,000 in scholarships as part of the Scholar of the Week program.

Cooperatives Honored

Four cooperatives that serve in South Dakota and western Minnesota were recognized with Spotlight on Excellence Awards. The Spotlight on Excellence Award is an initiative of the Council of Rural Electric Communicators and is NRECA's highest communication honor.

The awards are presented by the cooperative recognizes a body of outstanding work produced by electric co-op communications and marketing professionals across Co-op Nation.

Winners of the 2017 Spotlight on Excellence Awards represent leading practices across all communication platforms and position them as the best in the field through their superior accomplishments that have lasting impact, demonstrate a high level of professionalism and deliver exceptional results.

Gold winners scored 90 points or more in their category and classification, while Silver winners scored at least 80 points. Awards are presented for best projects and programs for the year that embody high standards of quality and achievement.

Among the cooperatives honored:

- Basin Electric Power Cooperative, Bismarck, N.D. – Gold Award for Best Wild Card, "Pathfinders: Coal and the future of energy" and Gold Award for Best Event, "2017 Basin Electric Annual Meeting"
- Central Electric Cooperative, Inc., Mitchell, S.D. – Gold Award for Best Event, Solar Informational Workshops
- East River Electric Power Cooperative, Madison, S.D. – Silver Award (Tie) Best Total Communication Program "Powering Your Safety"
- Northern Electric Cooperative, Bath, S.D. – Gold Award for Best External News Publication, "Northern Electric Cooperative Connections"



What You Don't Know about Electric Cars Could

THRILL YOU

Electric Vehicles Aren't Just for City Driving.

Paul Wesslund

NRECA Contributing Writer

If you want a really powerful car, maybe one that can accelerate from 0 to 60 mph in less than 3 seconds, consider an electric vehicle like the NIO EP9.

You're right, that's too powerful. The NIO EP9 would also cost you more than a million dollars. But even more modest versions offer a respectable kick. The Chevy Bolt and Ford Focus, with price tags in the \$35,000 dollar range, make the jump to 60 mph in 6 to 11 seconds, which is about average for all U.S. cars.

There's a built-in reason electric cars hold their own in performance, says Brian Sloboda, a program and product manager at the National Rural Electric Cooperative Association.

"In an electric car, all of the power is going into the wheels. With a gas-powered car, a lot of power is lost inside the mechanical engine," says Sloboda. "If you sit in an electric car and the driver smashes down on the accelerator, you are going to be thrown into the back of your seat, much more so than many gasoline cars."

In March, Goodyear announced a new tire that would hold up better under the "instant torque from electric motors."

Photo Caption



But wait, there's more.

"The battery is at the bottom of the car, so you have a lower center of gravity, which means you can take the corners crisper," says Sloboda. "If you do a lot of driving in the hills or mountains, they are fun."

Electric vehicles hold a lot of other surprises compared to the

traditional view of them as a glorified golf cart. Even electric co-op in rural parts of the country are hearing interest from their members.

About 700,000 electric vehicles drive on U.S. roads today, according to an analysis by CoBank, a financier for electric co-ops. That number could jump to 3 million in the next five years, says CoBank. The U.S. Department of Energy's Energy Information Administration projects electric vehicle sales growing from about 1 percent of the market today, to 12 percent by 2050.

Car makers are pushing those trends. In October, General Motors said it would launch 20 new electric vehicles by 2023. In January, Ford announced plans to invest \$11 billion in a lineup of 40 hybrid and electric vehicles by 2022. In March, Volkswagen said it had secured \$25 billion in electric car batteries and technology and plans to scale that up to \$60 billion.

One of the most radical new notions about electric vehicles, advises Sloboda, is to think of them not as cars or trucks, but as consumer electronics.

"The internal combustion engine is a perfected technology, so those cars aren't improving at a very rapid pace," says Sloboda. "But electric vehicles are evolving at a very rapid pace, so you're really kind of comparing it to a cell phone or a computer."

What that means for consumers, says Sloboda, is that they might consider leasing an electric car rather than buying one, to make it easier to trade in the car to take advantage of the annual improvements in battery life, and other features.

Other unexpected benefits of electric vehicles that could speed their acceptance, says Sloboda, include range, maintenance and more competitive costs.

Will I run out of juice?

The electric vehicle industry has a term for the biggest roadblock to its growth—range anxiety. But Sloboda says the fear of getting stranded far from home with no way to refuel may be overblown, and getting less concerning.

"The range on the electric cars you can buy today is perfectly sufficient to cover almost everyone's daily commute," he says. Sloboda says that while electric cars won't work for someone regularly commuting 100 miles a day, "For most people, even in rural areas, that number is under 40 miles a day. Most electric cars on the market today have between a 120 mile range and some of them are getting close to a 200 miles."

The Federal Highway Administration reports the average American drives 37 miles a day.

Less hassle

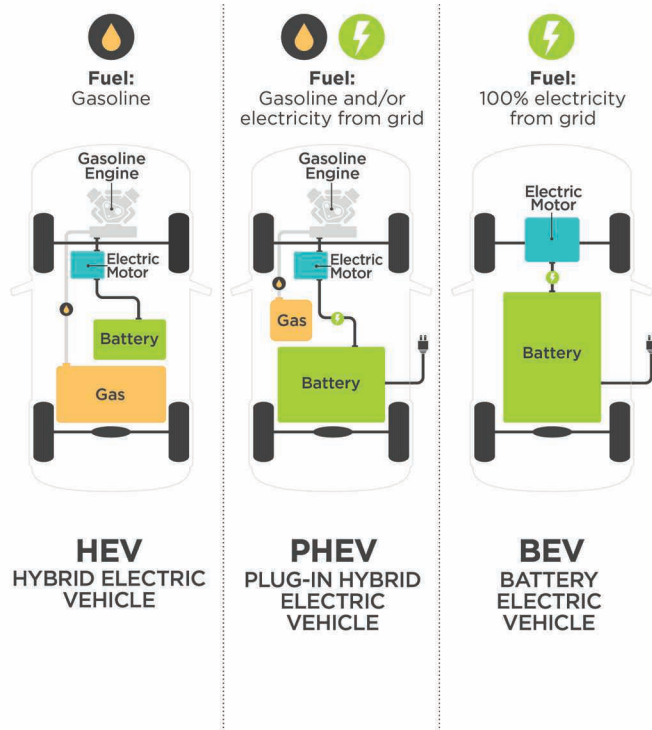
Electric car acceptance doesn't need to wait for a network or charging stations to appear around the country, says Sloboda. He sees refueling more like this: you plug your car into an outlet in your garage at the end of each day, and by morning it's fully charged.

"No more having to stop and fill your tank up once or twice a week," he says. "You can charge it at home while you're sleeping and wake up to a full tank every single day."

Electric cars can also save on maintenance, says Sloboda.

Types of Electric Vehicles

If you're looking to purchase an electric vehicle, use this cheat sheet to help determine the various options. Drivers can choose between three types of electric vehicles (EVs). EVs are classed by the amount of electricity that is used as their energy source.



Source: Electric Power Research Institute

"With an electric vehicle, you don't have oil changes, and you don't really have transmission fluid changes," he says.

And regenerative braking in electric cars uses the electric motor to slow the car rather than relying only on brake pad friction. Sloboda says, "A lot of electric vehicle owners are saying they've never replaced their brakes because you just don't have the physical wear and tear on the brake pad."

Costs are coming down.

Sloboda says electric car costs today make them a luxury car, but that's changing. As electric car research, development and production increases, costs will be coming down. Tax breaks for electric cars at the federal level and in some states can reduce costs by several thousand dollars. And Sloboda notes that electric costs less per mile than gasoline.

But one of the main reasons drivers buy electric cars is for environmental reasons.

Sloboda says an electric car "is cleaner than a gas-powered car, no doubt about it."

Another advantage of an electric car, he adds, is that "you're powering it with electricity from your local electric co-op."

Paul Wesslund writes on cooperative issues for the National Rural Electric Cooperative Association, the Arlington, Va.-based service arm of the nation's 900-plus consumer-owned, not-for-profit electric cooperatives.



A portion of the South Dakota co-op leaders attending the 2018 NRECA Legislative Conference pause for a photo by the Capitol on their way to meetings with Sens. John Thune and Mike Rounds.

CO-OP LEADERS

Take Message to Washington, D.C.

Cathy Cash

NRECA Staff Writer

Electric cooperative leaders at the 2018 Legislative Conference April 9-10 heard firsthand how key lawmakers on Capitol Hill respect the pivotal role of co-ops in rural economies across the nation.

Senate Agriculture Committee Chairman Pat Roberts, R-Kan., told the audience of 2,000 that lawmakers continue to work on a Farm Bill. Roberts expects the bill to include essential provisions for the success of rural America, including funding for the Rural Utilities Service and the Rural Economic Development Loan and Grant Program. On REDLG, he noted the “important role this program plays in no-cost financing” for rural projects in the current environment of tight budgets.

Roberts did not indicate a timeline for releasing the Senate’s draft of the Farm Bill but indicated he’s pursuing a bipartisan approach to ensure the legislation can get more than 60 votes



Rushmore Electric Power Cooperative General Manager Vic Simmons, left, addresses a co-op legislative topic with Sen. Mike Rounds.

to clear the Senate.

Roberts also emphasized the need to achieve “a common sense approach to regulation.”

Murkowski Highlights Co-op Innovation

Senate Energy and Natural Resources Committee Chairman Lisa Murkowski, R-Alaska, extolled the electric co-ops across her state for delivering reliable, affordable and cleaner energy to their members.

“Alaska is becoming a proving ground for innovation and success” in rural energy development, she said.

Murkowski highlighted the work at Cordova Electric Cooperative in energy efficiency, renewables and storage as well as its participation in a Department of Energy Radiance project with several labs and universities. Her committee met with Alaska co-ops, including Clay

Sioux Valley Energy's Carrie Law, right, explains one of the co-op's legislative topics to Sen. John Thune.



Koplin, the co-op CEO and mayor of the city, in Cordova last year.

Murkowski also commended Meera Kohler, CEO of Alaska Village Electric Cooperative and NRECA Alaska

director. She noted how Alaska co-ops are displacing diesel generation with hydro, wind, solar and “improving lives and protecting the environment.”

“Your willingness to travel here to engage with Congress is truly, truly appreciated,” she said.

The Senate Energy panel will explore rural energy in an April 19 hearing, she told the conference. Doug Hardy, general manager of Central Montana Electric Power Cooperative, and Matt Greek, senior vice president of research, development and technology at Basin Electric Power Cooperative, will testify.

Klobuchar: Co-ops Are ‘Good for This Country’

“The whole idea of a co-op is good for this country and for energy,” said Sen. Amy Klobuchar, D-Minn., who serves on the Agriculture, Nutrition and Forestry Committee and Commerce, Science and Transportation Committee.

Klobuchar recalled her visits with electric co-ops in her home state and some of their energy efficiency programs, including Steele-Waseca Electric Cooperative's free large-capacity water heater with the purchase of a solar panel. The “battery in the basement” saves energy in rural areas.

“When we do policy, we need to acknowledge it's not one-size-fits all,” she said.

The senator also helped form a rural broadband caucus among colleagues. “In rural America, we want kids who grow up there to be able to live there,” she said. “They believe they are not going to be able to compete without broadband.”

Legislative Topics

During visits with Sen. John Thune, Sen. Mike Rounds and Rep. Kristi Noem, South Dakota electric cooperative leaders focused on five key topics championed by the National Rural Electric Cooperative Association:

Help Keep Not-For-Profit Electric Cooperatives' Rates Reasonable when Disaster Strikes

– Electric cooperatives recognize the growing fiscal pressures on FEMA programs and support developing ways to streamline disaster recovery programs while maintaining our commitment to efficient disaster recovery. Turning the lights back on as efficiently and safely as possible is job No. 1 for co-ops after a disaster strikes.

Address “New Source Review” Barriers to Power Plant Improvements – NRECA supports passage of H.R. 3127 and H.R. 3128 to provide regulatory certainty for power plants that are seeking to make improvements to increase efficiency and reduce emissions.

Protect the Power Marketing Administrations (PMAs) and the Federal Power Program –

America's electric cooperatives oppose selling the PMAs and TVA, or any assets owned by those entities, to raise revenue for the federal government. NRECA urges Congress to reject the budget proposals to sell the transmission assets or switch to “market-based rates” and abandon the historic “cost-based” rate structure. Raising electricity prices on rural Americans to raise revenue for the government is an unwise idea that has been rejected several times in previous decades of debate over this issue.

PURPA Reform: Help Reduce Regulatory and Financial Burdens on Not-For-Profit Electric Cooperatives – PURPA reform is necessary to ensure this 40-year-old statute more accurately reflects the current electricity market and helps rural electric cooperatives continue to provide affordable, reliable electricity. America's electric cooperatives urge Congress to pass H.R. 4476 to provide reforms to the four-decade old law that address today's electricity market needs.

Support Strong Rural Development and Rural Broadband Programs in the 2018 Farm Bill Reauthorization – The upcoming Farm Bill must include six critical priorities – broadband, Rural Electrification Act, Rural Economic Development Loan and Grant (REDLG) Program, Guaranteed Underwriter Program, innovation and rural development. Congress should ensure that rural development programs are strengthened in the upcoming reauthorization of Farm Bill programs.

Meet the Electric John Deere

Battery-run Tractor Showcased in Paris

Kaley Lockwood

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In order for the SESAM to take off, the battery capacity will need to expand to support the sun-up to sun-down longevity of farm work.

Green and yellow are arguably the second-most American set of colors, behind red, white and blue of course. This rings true particularly for those who operate John Deere machinery on a daily basis, as the growth of our nation is supremely dependent on the country's agriculture industry, including the good folks who support it.

Technology in recent years has been the catalyst for the boom and bust of many industries. In the past decade or so, advancements in farming technology have primarily been focused on automation and precision, but with the automobile industry moving towards electric vehicles, the ag-industry is following suit.

John Deere showcased the first, fully battery-powered tractor in 2017 at SIMA, an international agribusiness tradeshow in Paris. This technological innovation was given a 'special mention' as it truly the first of its kind. Nicknamed SESAM, for Sustainable Energy Supply for Agricultural Machinery, this all-electric tractor is modeled after John Deere's 6R series tractors.



A peak under the hood of John Deere's first, fully battery-powered tractor. The all-electric tractor is modeled after John Deere's 6R series tractors.

In a press release by John Deere, SESAM is said to have all of the same "features and functionality of a 'conventional' tractor while offering the benefits of electric power." This emissions-free tractor runs at a lower noise level than other traditional tractors and is operated using two independent electric motors. The electrification of this tractor simplifies the moving parts and thus, greatly reduces the need for maintenance.

These two motors power an adapted DirectDrive transmission, producing 130 kilowatts of continuous power with a peak output of 400 horsepower, according to Farm-Equipment.com. The website also affirms that the tractor takes three hours to fully charge and can run up to four hours in the field with speeds ranging from 2 mph to 30 mph. As a comparison, the Tesla model 3 may have a capacity of up to 75 kilowatt hours of battery storage (kWh), providing a range of about 310 miles. The SESAM has a capacity of 130 kWh with a range of about 34 miles, which

means that this tractor uses a lot more electricity in a shorter period of time.

In order for the SESAM to take off, the battery capacity will need to expand to support the sun-up to sun-down longevity of farm work. In fact, the President and CEO of Autonomous Tractor Corporation, Kraig Schulz, purported that a 200 horsepower electric tractor would hypothetically need about 1,500 kWh of batteries to complete a full day's work. As energy storage technology continues to advance, it's only a matter of time before John Deere manufactures a tractor that can meet this need.

Although SESAM's battery technology may not yet be practical for a full day of farming, the all-electric tractor is a very exciting development for the agriculture industry. This is one of many future steps in the direction of electrifying agricultural machinery and integrating this equipment with renewables. As the press release

stated, "The SESAM tractor is a major part of John Deere's vision of the energy-independent farm of the future."

This push towards electrification of farm machinery in lieu of using fossil fuels directly supports the beneficial electrification movement. This concept, known fully as "environmentally beneficial electrification," is gaining traction among a growing number of groups in the U.S. including local electric cooperatives. Frequently promoted as a means to reducing greenhouse gases and helping the environment, beneficial electrification also helps consumers by providing products that are cleaner, quieter and easier to maintain. John Deere's SESAM tractor does just that.

Kaley Lockwood writes on cooperative issues for the National Rural Electric Cooperative Association, the Arlington, Va.-based service arm of the nation's 900-plus consumer-owned, not-for-profit electric cooperatives.

The tractor takes three hours to fully charge and can run up to four hours in the field with speeds ranging from 2 mph to 30 mph.

In 2017, John Deere showcased the first, fully battery-powered tractor. This technological innovation is truly the first of its kind. Nicknamed SESAM, for Sustainable Energy Supply for Agricultural Machinery, this all-electric tractor is modeled after John Deere's 6R series tractors.





Matt Greek, Basin Electric senior vice president of Research, Development, and Technology (second from left); and Doug Hardy, general manager of Basin Electric Class A member Central Montana Electric Power Cooperative (third from left), were among witnesses testifying before the U.S. Senate Committee on Energy and Natural Resources April 19 in Washington, D.C.

Basin Electric, Member Co-op Staff Testify on **CAPITOL HILL**

Basin Electric Power Cooperative

April 24, 2018

Matt Greek, Basin Electric senior vice president of Research, Development, and Technology; and Doug Hardy, general manager of Basin Electric Class A member Central Montana Electric Power Cooperative, testified before the U.S. Senate Committee on Energy and Natural Resources April 19 in Washington, D.C.

The purpose of the hearing was to examine energy-related challenges and opportunities in remote and rural areas of the United States.

“We have rural and remote communities all over the United States,” said U.S. Sen. Lisa Murkowski (R-AK), committee chairman. “We’re here today to focus on their energy challenges and opportunities, in hopes of moving the ball forward on more affordable, more reliable, and increasingly clean energy for all of them.”

Greek shared the challenges Basin Electric and its members are facing in order to continue providing reliable and affordable energy in a carbon-constrained future.

“Basin Electric has a fiduciary responsibility to its members to provide electric generation at the least cost,” Greek said. “The cooperative has worked to achieve this goal by diversifying its portfolio with wind and market purchases.”

According to Greek, Basin Electric is also investing in the development of carbon capture solutions to help “crack the code” with respect to cost-effective technologies that capture, utilize, and sequester carbon dioxide, such as the Integrated Test Center and Allam Cycle.



Matt Greek, Basin Electric senior vice president of Research, Development, and Technology, shares about Basin Electric’s efforts to reliably and economically serve its members-consumers in a carbon-constrained environment. Dale Niezwaag, Basin Electric vice president of government relations, is pictured back left.

Hardy discussed challenges of serving the rural areas in Montana, as well as the importance of federal power marketing administrations, and the cooperative’s hydropower purchased from Western Area Power Administration.

“The challenges of serving these rural areas are great,” Hardy said. “These challenges include high, fixed costs of the power lines and the associated power system infrastructure, across vast distances, with fewer customers per mile of line to pay those costs.”

Find video of the full committee hearing and transcripts of Greek’s and Hardy’s testimony on the Committee on Energy and Natural Resources webpage at <https://www.energy.senate.gov>.

UREA Production Facility Reaches Milestone

The first unit train carrying urea fertilizer pulled away from Dakota Gasification Company's Great Plains Synfuels Plant at about 10 p.m. April 5, marking another significant milestone regarding the new urea production facility.

Urea is one of 12 products and one of three fertilizers produced at the Synfuels Plant. The 65-railcar unit train carried 6,523 tons of urea, or about 100 tons per railcar.

Spencer Wagner, Dakota Gas fertilizer production executive sales account manager, said unit trains will generally move throughout the year to the large terminals around the state.

"Our heaviest unit train traffic is expected to be in the winter and spring when our customers will need to get product in place for farmers," he said. "There are several unit-train capable facilities in North Dakota that will be potential locations where we will sell urea unit trains."

Wagner said the current advantage of moving urea by train includes lower freight costs.

"It is a cost-effective way to move a lot of product fast," he said. "It is a quick way to fill up storage facilities across the region, allowing farmers quick access to product when they are ready to apply it."

Another milestone was accomplished in early April when the first batch of diesel exhaust fluid was produced. Commissioning also continues on the carbon dioxide liquefaction unit, with startup planned for late April.

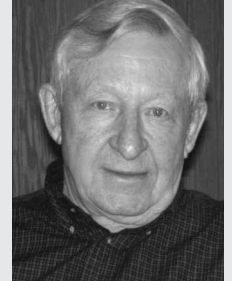


BNSF Railway Conductor Dan Bitner, left, and Bruce Banks, Dakota Gas fertilizer shift supervisor, shake hands at the exchange of the first unit train carrying urea fertilizer from the urea production facility.

Last Remaining Original Incorporator Says Basin Electric Today Is

'Beyond His Wildest Imagination'

Leroy Schecher was just 29 years old, and a newly hired manager for Grand Electric Cooperative in Bison, South Dakota, when he signed his name on May 5, 1961, to incorporate Basin Electric, a cooperative that today serves a 550,000 square mile territory in nine states and provides electricity to 3 million consumers.



Leroy Schecher
Original
Incorporator,
Basin Electric
Power Cooperative

Schecher says he remembers that day well. He and four board members drove to Bismarck, N.D., because something needed to be done about power supply. Shortly before that, Fred Aandahl, assistant secretary of Interior during the Eisenhower administration, had been telling cooperatives that all the power that could be generated from the Missouri River dams had been allocated, so it was up to them to find a way to generate their own power.

"There were a lot of people there, but not a soul present on incorporation day would have ever dreamed Basin Electric would become what it is today," Schecher says. "Forming it was just something we felt we needed to do to provide for ourselves."

Schecher says he remembers many milestones throughout the years, including when it was just Jim Grahl, Basin Electric's first general manager, and the day the co-op bought Dakota Gasification Company for \$85 million.

Today, 57 years after signing those papers that brought Basin Electric into being, Schecher is the last remaining original incorporator. And while he has been retired from his nearly five decades of service to the electric co-op industry for 22 years, he still is genuinely interested in what is going on with the co-op he helped form, still receiving every year's annual report, reading every issue of "Basin Today" magazine, and even attending special events, such as Basin Electric's 50th anniversary celebration.

"It feels funny," he says. "When you do something, you don't typically look ahead and think about what consequences that action is going to have in 50 or 60 years. What Basin Electric is today was beyond my wildest imagination."

May 19-20, May 26-27
Northeast Area Pari-Mutuel
Horse Racing, Aberdeen, SD,
605-715-9580

May 25-September 30
Legends in Light® Laser
Light Show at Crazy Horse
Memorial, Crazy Horse, SD,
605-673-4681

May 25-27
South Dakota Kayak
Challenge, Yankton, SD,
605-864-9011

May 26-27
Annual SDRA Foothills Rodeo,
Wessington Springs, SD,
605-770-4370

June 1-2
South Dakota BBQ
Championships, Huron, SD,
605-353-7354

June 1-3
Fort Sisseton Historical
Festival, Lake City, SD,
605-448-5474

June 1-3
Annual Black Hills Quilt
Show & Sale, Rapid City, SD,
605-394-4115

June 1-3
Wheel Jam, Huron, SD,
605-353-7340

June 1-3
Fish Days, Lake Andes, SD,
605-487-7694

June 2
Annual Casey Tibbs Match of
Champions, Fort Pierre, SD,
605-494-1094

June 2
Dairy Fest, Brookings, SD,
605-692-7539



June 15-16: Czech Days, Tabor, SD, www.taborczechdays.com, taborczechdays@yahoo.com

June 2-3
Spring Volksmarch at Crazy
Horse Memorial, Crazy Horse,
SD, 605-673-4681

**June 2, 16, July 7, 21,
Aug. 25, Sept. 8, 22**
Lawn Mower Races, Pukwana,
SD, 605-680-1718 or
605-682-9781

June 7-9
Senior Games, Sioux Falls, SD,
Contact Nick at 605-978-6924

June 7-10
South Dakota Shakespeare
Festival, Vermillion, SD,
605-622-0423

June 8-9
Senior Games, Spearfish, SD,
Contact Brett Rauterhaus at
605-772-1430

June 9-10
Siouxland Renaissance
Festival, Sioux Falls, SD,
866-489-9241

June 14-17
Jamboree Days, Hartford, SD,
605-359-4929

June 15-16
Wild Bill Days, Deadwood, SD,
605-578-1876

June 15-17
Black Hills Fat Tire Festival,
Rapid City, SD, 605-394-5223

June 16
Vinegar Festival, Roslyn, SD,
605-486-0075

June 16-17
South Dakota Peach Festival,
Sioux Falls, SD, 605-789-4098

June 21-23
Crystal Springs Rodeo, Clear
Lake, SD, 605-874-2996

June 21-23
Senior Games, Mitchell, SD,
Contact Howard Bich at
605-491-0635

June 22-23
Oahe Days Arts & Music
Festival, Pierre, SD,
oahedaysinfo@gmail.com

June 22-24
Annual Main Street Arts and
Crafts Festival, Hot Springs,
SD, 605-440-2738

June 29
Naja Shrine Circus, Wall, SD,
605-342-3402

June 30
Naja Shrine Circus,
Deadwood, SD, 605-342-3402

July 1
Naja Shrine Circus, Lemmon,
SD, 605-342-3402

July 10-15
4th Annual 3 Wheeler Rally,
Deadwood, SD, 605-717-7174,
www.d3wr.com

**To have your event
listed on this page, send
complete information,
including date, event,
place and contact to your
local electric cooperative.
Include your name,
address and daytime
telephone number.
Information must be
submitted at least eight
weeks prior to your
event. Please call ahead
to confirm date, time and
location of event.**