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MAY 2026

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ELECTRIC COOPERATIVE LIVING

Shine the Light
contest returns

Geothermal energy
breakthroughs

Beef burger recipes

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Iowa Electric Cooperative Living magazine (ISSN: 2770-8683) is published monthly by the Iowa Association of Electric Cooperatives, a not-for-profit organization representing Iowa's member-owned local electric cooperatives. Association address: 8525 Douglas Ave., Suite 48, Des Moines, IA 50322-2992. The phrase ***Iowa Electric Cooperative Living*** is a mark registered within the state of Iowa to the Iowa Association of Electric Cooperatives. The magazine does not accept advertising.

Editorial Office
8525 Douglas Ave., Suite 48, Des Moines, IA 50322-2992. Telephone: 515-276-5350.

Email Address
editor@ieclmagazine.com. *Iowa Electric Cooperative Living* magazine does not assume responsibility for unsolicited items.

Website
www.ieclmagazine.com

Postmaster
Send address changes to *Iowa Electric Cooperative Living* magazine, 8525 Douglas Ave., Suite 48, Des Moines, IA 50322-2992. Periodicals Postage Paid at Des Moines, Iowa, and at additional mailing offices.

Change of Address
Every local electric cooperative maintains an independent mailing list of its members, so please send your change of address directly to your local electric cooperative's office. *Iowa Electric Cooperative Living* magazine cannot make an address change for you.

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ON THE COVER

Special thanks to Alannah McKibben, a T.I.P. REC member-consumer, for supplying this month's cover image. Submit high-resolution photos for consideration to editor@ieclmagazine.com. You could receive \$100!

WE ALL KNOW A LOCAL VOLUNTEER WORTH CELEBRATING

BY ERIN CAMPBELL



This is one of my favorite times of the year. While I enjoy the lovely weather and vibrant blooms, what makes it extra special is seeing your entries come in for our annual Shine the Light contest!

Celebrating volunteers across Iowa

Now in our sixth year, the Shine the Light contest is a statewide effort where Iowa's electric cooperatives celebrate our commitment to the communities we serve. During the month of June, member-consumers, employees and retirees of Iowa electric co-ops are encouraged to nominate volunteers in their communities who are making a positive difference. If you live in Iowa and receive electricity from an electric cooperative, you are eligible to enter our contest.

After the contest closes on June 30, our panel of judges will take on the difficult task of selecting three volunteers, and each will receive a \$3,000 donation to their local charity. We also feature each winning volunteer in the September issue of this magazine so our readers can learn more about the important work they do.

Who you can nominate

We are a few weeks away from accepting nominations but start thinking now about who you would like to recognize this year. You can nominate a friend, neighbor or relative for our Shine the Light contest starting June 1; nominees do not need to be electric cooperative member-consumers. Nonwinners who were nominated in previous years are welcome to be nominated again. Minors can be nominated as long as you have permission from their parents or



Nominate a local volunteer and they could win \$3,000 for their charity!

Contest entries accepted during June at www.IowaShineTheLight.com

legal guardians. Each co-op household can make one nomination per year.

How to submit a nomination

In the contest entry, we ask for some of your basic contact information (the nominator), contact information for the person you are nominating, and a summary (in 500 words or less) of how your nominee has made a difference in the community and how their local charity/nonprofit might use the \$3,000 donation. We try to keep the nomination process

simple while still providing essential details for our judges to consider.

This program is such a success because co-op members like you take time to celebrate those who go above and beyond in your community. Thank you for supporting our Shine the Light contest and consider making a nomination during the month of June at www.IowaShineTheLight.com!

Erin Campbell is the director of communications for the Iowa Association of Electric Cooperatives.

EDITOR'S CHOICE CONTEST

WIN \$100 IN BEEF CERTIFICATES

May is Beef Month in Iowa! To celebrate, we're giving away \$100 in beef certificates to use at a grocery store. You can select your favorite cuts to purchase, and then make mouthwatering meals at home.

Visit our website and win!

Enter this month's contest by visiting www.ieclmagazine.com no later than May 31. You must be a member of one of Iowa's electric cooperatives to win. There's no obligation associated with entering, we don't share entrant information with anyone and multiple entries from the same account will be disqualified.

The winner of the pizza stone and cookbook from the March issue was **Bob Toms**, a **Chariton Valley Electric Cooperative** member-consumer.



ENTER ONLINE BY MAY 31!

DETAILS COMING INTO FOCUS FOR 2026 GUATEMALA PROJECT

In March, Iowa Association of Electric Cooperatives' Safety Director Scott Meinecke traveled to Guatemala for a project planning trip with representatives from the Oklahoma Association of Electric Cooperatives (OAEC), the Colorado Rural Electric Association (CREA) and NRECA International.

IAEC is joining forces with OAEC and CREA to form a team of lineworkers for an NRECA International project slated for September. During the planning trip, the group traveled to the job site and learned more about the work needed to bring electricity to rural Guatemalans.

"We will be working in the rural mountain villages of Montenegro and El Estocal, located near the town of Gastatoya, which is 3 hours northeast of Guatemala City. The climate and elevation are similar to what our team experienced during our 2024 project, but the terrain is much steeper this time around. The soil is sandier, so we're hopeful that rain and mud won't impact our work like it did in 2024," remarked Meinecke.

He added, "The project team will build out infrastructure to electrify approximately 100 homes in the two villages, along with powering a school and a new health clinic. We also have a community service project lined up to equip the school's kitchen with new flooring, shelving and a refrigerator."



NRECA International was established in November 1962 when the National Rural Electric Cooperative Association (NRECA) and the newly established U.S. Agency for International Development (USAID) signed an inaugural cooperative agreement. This began NRECA's overseas involvement, sharing lessons learned from the electrification of rural U.S. communities with developing countries worldwide.

The 2026 team will consist of 18 journeymen linemen, with seven coming from Iowa's electric cooperatives, seven from Oklahoma and four from Colorado. IAEC's Meinecke will serve as the Iowa team leader, and he is looking forward to another project in Guatemala. His previous experience from the 2024 trip will be invaluable as the team acclimates to the terrain, culture and equipment.

The travel dates for the 2026 team will be Sept. 15-Oct. 2, with the lighting ceremony on Sept. 30.

The 2026 trip will be the third NRECA International project for Iowa's electric cooperatives; four Iowa electric co-op

linemen traveled to Guatemala in October 2019 with linemen from Illinois and Wisconsin, and seven Iowa electric co-op linemen traveled to Guatemala in June 2024 to work with linemen from Minnesota.

Iowa's electric cooperatives look forward to being part of this exciting opportunity to power lives and empower communities in Guatemala once again!



Scan the QR code to learn how Iowa's electric cooperatives support international electrification.

SIGN UP FOR EMERGENCY NOTIFICATIONS IN YOUR COUNTY

It's the season for severe weather. To make sure you stay weather aware, it's a great idea to sign up to receive important weather and emergency notifications in your area. One service to consider is Alert Iowa, which is the State of Iowa's official emergency notification system.

Through Alert Iowa, state and local officials use a single, statewide notification system that provides local control of how and when to disseminate emergency and public safety messages to residents.

There are three ways to sign up for county alerts:

- 1 Create a profile through your county's website opt-in page
- 2 Download the Smart911 app and create a customized profile
- 3 Send a text message to opt-in

Scan this QR code to learn if your county is participating and sign up to receive free alerts via text message, email and/or voice message.



BIKE YOUR WAY THROUGH IOWA

With more than 1,800 miles of bike trails, the great outdoors really doesn't get any better than in Iowa. Check out some of the state's famous routes.



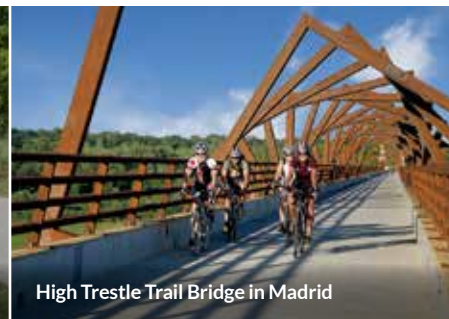
Cedar Valley Trails

Cedar Falls and Waterloo.

This 110-mile system of trail loops in the Cedar Falls/Waterloo area connects to both downtown districts, museums, hotels and restaurants.



Cedar Valley Trails in Cedar Falls



High Trestle Trail Bridge in Madrid



Fairfield Loop Trail

Fairfield. Cycle 15.9 miles

through parks and wetlands and over the Loudon Bridge.



High Trestle Trail

Ankeny, Sheldahl, Slater,

Madrid and Woodward. Art and nature collide on this beautiful 25-mile trail.

A tree canopy shades you from the sun as you cycle to the award-winning Trestle Bridge that's 13 stories tall.



Raccoon River Valley Trail

Waukee, Adel, Redfield,

Linden, Panora, Yale, Herndon,

Jamaica, Dawson, Perry, Minburn

and Dallas Center. This 89-mile trail loops through several small Iowa towns and Des Moines suburbs – so

you can start and end your ride from almost anywhere along the trail.



Sauk Rail Trail

Lake View, Carnarvon, Breda,

Maple River and Carroll. This trail takes

you 33 miles from Lake View to Carroll, with the opportunity for stops every few miles at local establishments.



Three Rivers Trail

Rolfe, Bradgate, Rutland,

Humboldt, Dakota City, Thor and

Eagle Grove. Named for the fact that it crosses three area rivers, the 33-mile Three Rivers Trail crosses or parallels the west branch of the Des Moines River, the east branch of the Des Moines River and the Boone River. The 33-mile trail is a

lovely mix of woodlands, grasslands, marshy areas and open prairie – and seeing wildlife isn't uncommon.



Trout Run Trail

Decorah. This 11-mile loop

trail runs next to the Decorah Trout Hatchery (where you can feed the fish for just a quarter) and also passes by the world-famous Decorah eagle nest.



Wabash Trace Nature Trail

Council Bluffs, Mineola, Silver

City, Malvern, Imogene, Shenandoah,

Coin and Blanchard. The 62-mile Wabash Trace Nature Trail is one of Iowa's longest and most popular rail-trails, as it travels through the unique Loess Hills and connects with the city trails in Council Bluffs.

WANTED: RURAL IOWA PHOTOS

We're always looking for stunning images for the cover of *Iowa Electric Cooperative Living* magazine. If we select your photo for a cover, we'll award you \$100.

RECEIVE \$100 FOR A PUBLISHED PHOTO

How to enter:

- 1 Snap a photo capturing rural Iowa (image must be high quality, at least 1MB large; if taken on a phone, send us the largest version – bigger is better!).
- 2 Send us the original, high-resolution image file in an email to editor@ieclmagazine.com with "Cover Submission" in the subject line.
- 3 Include your **name, service address** and the **name of your electric cooperative** in the email body to ensure you qualify for our contest. A **phone number** is also appreciated in case we need to contact you.

All eligible entries are reviewed and considered for each edition of *Iowa Electric Cooperative Living*. Keep an eye out for next month's winner!



ARE SMART APPLIANCES RIGHT FOR YOUR HOME?

BY MIRANDA BOUTELLE



Smart technology is quickly becoming part of everyday life, and home appliances are no exception. From thermostats to refrigerators, connected devices promise greater convenience, improved energy efficiency and more control at your fingertips. But are these features truly worth it for every household? Before making the switch, it's important to understand how smart appliances work and whether they align with your lifestyle.

What makes an appliance “smart”?

Let's start by defining what “smart” means. Smart appliances – such as refrigerators, washers, ovens, thermostats and water heaters – connect to the internet. Typically, through Wi-Fi or Bluetooth, these appliances can be controlled using your smartphone, tablet or voice-assistant device. They are designed to optimize energy use and add convenience. Some smart devices can even learn your habits over time.

Are smart appliances right for your home? The answer depends on your preferences and types of appliances you already have. The better question might be: Are smart appliances right for you? Do you like the newest tech and typically keep your phone within arm's reach? Do you enjoy the convenience of calling out commands to Alexa? Or do you prefer less technology or something in between? Personally, I'm somewhere in the middle.

Where smart appliances can save energy

Many smart appliances allow you to see how much energy each device consumes. That information can be helpful to better understand your energy habits and identify where energy may be going to waste.

Smart thermostats are a popular choice for managing energy use and reducing energy waste. Heating and cooling systems are typically a home's biggest sources of energy

consumption. According to ENERGY STAR®, you can save an average of 8% on heating and cooling with a smart thermostat. Savings depend on your climate, the type of system you have and how you use it.

Most energy savings from a smart thermostat come from automating temperature adjustments while you are sleeping or away from home. If you are already good at manually adjusting your thermostat, you likely won't see big savings, but you might prefer the convenience of a programmable device you can control on an app.

Smart thermostats make it much easier to program your heating and cooling schedule. Some have geofencing features that automatically adjust settings based on how far your phone is from home.

Coming in with the second-highest energy user in most homes is the water heater. I like the smart controls on my heat pump water heater. Also called a hybrid water heater, it uses

heat pump technology to move heat instead of using energy to create heat. That makes it two to three times more efficient than a conventional electric resistance water heater. You can save even more energy with smart heat pump water heaters.

I can monitor energy use, change settings if we need more hot water and check how much hot water is available before I jump in the shower after my kids have used it. The app notifies me when it's time to clean the air filter on top of the unit. I can access that information without having to go down to the basement. I can even

set it to vacation mode after I've left the house for a trip. Not all heat pump water heaters have smart technology, so be sure to check before buying.

Balancing convenience with potential drawbacks

My refrigerator is a different story. I like the ability to monitor energy use, but it can be annoying to have my phone notify me that the door is open when I'm thousands of miles away at a work conference. There are certain features that can only be controlled through the app, which I find frustrating. The next thing I know, my husband texts me to make more ice

while he's standing right next to it, and I'm on the other side of the country.

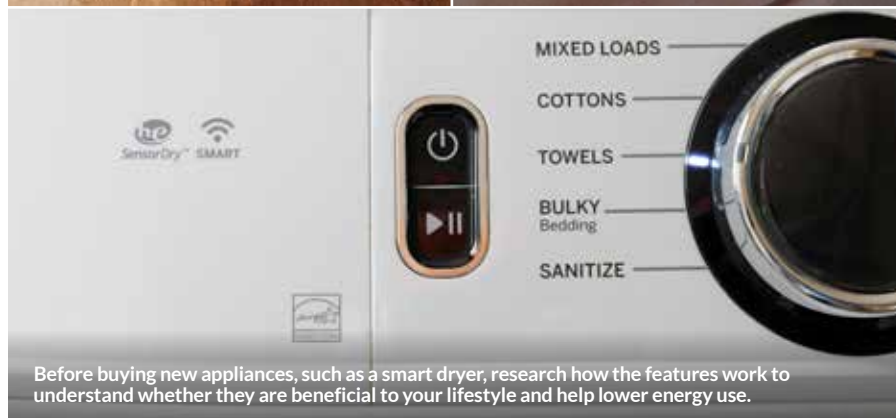
Monitoring energy use and making it easier to control your household devices are benefits of smart appliances. Before upgrading, do your research to understand how the features work and whether they benefit your lifestyle. Smart technology can help lower your energy use. But, in some cases, you're better off improving your energy habits with the appliances already in your home.

Miranda Boutelle writes on energy efficiency topics for the National Rural Electric Cooperative Association.



Smart appliance apps allow you to monitor energy use and remotely change settings and receive maintenance notifications.

You can save an average of 8% on your heating and cooling costs with a smart thermostat, according to ENERGY STAR®.



Before buying new appliances, such as a smart dryer, research how the features work to understand whether they are beneficial to your lifestyle and help lower energy use.

COOL THINGS YOU CAN DO WITH SMART APPLIANCES

- Get an alert if your refrigerator door is open.
- Look inside your refrigerator without opening the door and wasting energy each time a family member wants a snack.
- Schedule your laundry or dishwasher to operate when your electricity rates are lowest.
- Have your dryer adjust cycle time automatically with incorporated sensors to help you reduce your dryer's energy use. This feature ensures that your dryer will automatically shut off when clothes are dry.
- Turn your room air conditioner off remotely from your smartphone if you forget before you leave home.



SMASH BURGERS

- 1 cup and 3 tablespoons ketchup, divided
- 2 tablespoons mayonnaise
- 2 tablespoons dill relish
- 1 tablespoon mustard
- 1 tablespoon green onion, diced
- 1½ teaspoons pepper, divided
- 1¼ teaspoons salt, divided
- 3 pounds ground beef
- 3 tablespoons white onion, grated
- 3 tablespoons Worcestershire sauce
- oil
- 16 slices cheese
- 8 buns
- toppings: onion, lettuce, tomato

In a small bowl, stir together 1 cup ketchup, mayonnaise, dill relish, mustard, green onion, ½ teaspoon pepper and ¼ teaspoon salt. Set smash sauce aside. Combine ground beef, grated onion, Worcestershire sauce, 3 tablespoons ketchup, 1 teaspoon pepper and 1 teaspoon salt. Divide mixture into 16 balls. Brush skillet or griddle with oil. Place ground beef balls in skillet and smash with a piece of parchment paper to create burgers. Cook 2 minutes on high. Flip and top with one slice of cheese. Cook another 2 minutes, or until done and cheese is melted. Brush additional mayonnaise inside bun halves and toast for 2-3 minutes. Assemble burgers in order: bottom bun, generous amount of smash sauce, two burger patties, onion, lettuce leaf, tomato slice, more smash sauce and top bun. Burgers can also be grilled and onions for topping can be sautéed. *Yield: 8 sandwiches*

Lauren Zollinger • Rock Rapids
Lyon Rural Electric Cooperative

BARBECUED BURGERS (SLOPPY JOES)

- 10 pounds ground beef
- 3 cups onion, finely chopped
- 9 teaspoons salt, optional
- ¾ teaspoon pepper
- 3 cups tomato juice
- 3 cups ketchup
- 1 cup brown sugar
- ¼ cup prepared mustard
- ¼ cup vinegar
- 1½ tablespoons Worcestershire sauce
- ¾ cup rolled oats, to thicken

Brown ground beef, then add remaining ingredients and simmer for 30 minutes. Or, to make ahead, mix and cook all ingredients except ground beef. Divide sauce into 10 small freezer bags and freeze. When needed, brown ground beef. Then, add one portion of sauce per one pound of ground beef and simmer for 30 minutes. The sauce is also great for tacos, taco bowls and similar meals. *Entire recipe serves 30*

Sonya Colvin • Ames
Consumers Energy

BBQ SHREDDED BEEF

- 2 pounds beef
- 1½ cups BBQ sauce, warmed
- ½ cup brown sugar
- 1 tablespoon dried onion

Cook beef and shred. Mix all ingredients together and serve. *Serves 6*

Rebecca Hancox • Plano
Chariton Valley Electric Cooperative, Inc.

BACON-WRAPPED HAMBURGERS

- ½ cup cheddar cheese, shredded
- 1 tablespoon Parmesan cheese, grated
- ½ small onion, chopped
- 1 egg
- 1 tablespoon ketchup
- ½ teaspoon salt
- ½ teaspoon pepper
- 1 pound ground beef
- 1 tablespoon Worcestershire sauce
- 6 slices bacon

In a bowl, combine all ingredients except bacon. Mix well, then shape into patties. Wrap each with a piece of bacon and secure with toothpicks. Grill patties until done. *Serves 6*

Tom DeVries • Maurice
North West Rural Electric Cooperative

GOOD OL' BURGER

- 1 egg, lightly beaten
- ¼ cup dry red wine or beef broth
- 1 tablespoon chili sauce
- ¼ teaspoon Italian seasoning
- ¼ teaspoon pepper
- 1 pound ground beef
- buns

In a large bowl, combine egg, wine or broth, chili sauce, seasoning and pepper. Add beef and mix lightly but thoroughly. Shape into four ½-inch thick patties. Cover and grill burgers over medium heat 5-7 minutes on each side, or until 160 degrees F. Grill buns cut side down over medium heat 30-60 seconds, or until toasted. Serve burgers on buns with toppings of your choice. *Yield: 4 servings*

Joel Hartter • Rock Rapids
Lyon Rural Electric Cooperative

STUFFED BURGERS

- 2 pounds hamburger
- 2 eggs
- ¼ cup rice
- 1 cup ketchup
- 1 cup zesty Italian dressing
- 1 cup Miracle Whip
- 1 tablespoon Worcestershire sauce
- mozzarella cheese
- button mushrooms, sliced

Mix hamburger, eggs and rice well. Form into large, thin patties and place in an air-tight container. Whisk together ketchup, dressing, Miracle Whip and Worcestershire sauce. Add mixture to container with patties and marinate overnight. Take one patty and top with 1 tablespoon mozzarella and mushroom slices. Top with another patty and thoroughly seal edges together. Brown each side of patties, then place in slow cooker. Cover with marinade sauce and simmer on low for 3-4 hours. The burgers can also be grilled if you prefer.

Mary Roberts • Victor
T.I.P. Rural Electric Cooperative

CROWD CRUSHER BEEF BURGERS

- 10 pounds ground beef
- ½ teaspoon salt
- ½ teaspoon pepper
- 1 cup ketchup
- ½ cup mustard
- ½ cup brown sugar
- ½ cup dried onions, chopped
- 1 cup sweet pickle juice

Brown ground beef with salt and pepper. Once cooked thoroughly, add the remaining ingredients. Keep tasting until desired flavor is obtained. Serve immediately or place in slow cooker to keep warm. *Yield: 20 4-ounce sandwiches*

Walter Mason • Hampton
Franklin Rural Electric Cooperative

MOCK FILET MIGNON

- 1½ pounds ground beef
- 1 tablespoon Worcestershire sauce
- 2 tablespoons ketchup
- 1 egg
- 1 tablespoon dry onion flakes, minced
- 1 teaspoon salt
- 1 cup cheddar cheese, shredded
- 1 small can mushroom bits and pieces
- bacon slices

Combine all ingredients except bacon and form into thick patties. Wrap each with a slice of bacon and secure with toothpicks. Broil or barbecue on a grill to desired doneness. *Serves 6*

Deb Peterson • Albia
Chariton Valley Electric Cooperative, Inc.

WANTED:

CHICKEN DINNER RECIPES

THE REWARD:

\$25 BILL CREDIT FOR EVERY ONE WE PUBLISH!

Deadline is May 31

Winner, winner chicken dinner! Grilled, fried, breaded or in a casserole, we're looking for your favorite chicken recipes. Selected submission will appear in our September issue, just in time for Family Meals Month. Please include your name, address, telephone number, co-op name, recipe category and number of servings on all submissions.

EMAIL: recipes@ieclmagazine.com

MAIL: Recipes

Iowa Electric Cooperative Living magazine
8525 Douglas Ave., Suite 48
Des Moines, IA 50322



Visit www.ieclmagazine.com and search our online archive of hundreds of recipes in various categories.



GEOHERMAL ENERGY BREAKTHROUGHS

BY JEFF GROENEWOLD

The strongest geothermal resources in the U.S. are often found in regions with active geology, such as areas near major tectonic plate boundaries. The mud pots shown here are located outside the John L. Featherstone Geothermal Plant in California.

Electric cooperatives focus on delivering safe, reliable and affordable electricity to the communities they serve – and they do that by utilizing a variety of energy generation resources, ranging from natural gas, coal, hydropower, nuclear, solar and wind. One energy source that is often overlooked is geothermal energy. Geothermal power has been used for many years and continues to improve as new technologies are developed.

Geothermal energy is a renewable source of power that comes from heat inside the Earth. Geothermal resources are natural or man-made pockets of hot water found at varying temperatures and depths below the ground. Wells, which can be just a few feet deep to several miles deep, are used to bring extremely hot water and steam to the surface for a variety of applications, such as heating and cooling, direct use in industrial processes and electricity generation.

The strongest geothermal resources in the U.S. are often found in regions with active geology, such as areas near major tectonic plate boundaries. These resources are not limited to one location but are spread across several western states. One well-known example is The Geysers in Northern California, the largest geothermal power complex in the country. Facilities like this use injected water to create steam from underground

heat, which spins turbines to generate reliable electricity for the power grid.

In 2023, geothermal generation accounted for approximately 17 billion kilowatt-hours, the equivalent of a year's worth of consumption for the city of Indianapolis.

The U.S. has about 3.9 gigawatts of geothermal power capacity. Most of this power is produced in California and Nevada, which together generate the majority of U.S. geothermal electricity. Smaller amounts of geothermal power are also produced in Alaska, Hawaii, Idaho, New Mexico, Oregon and Utah.

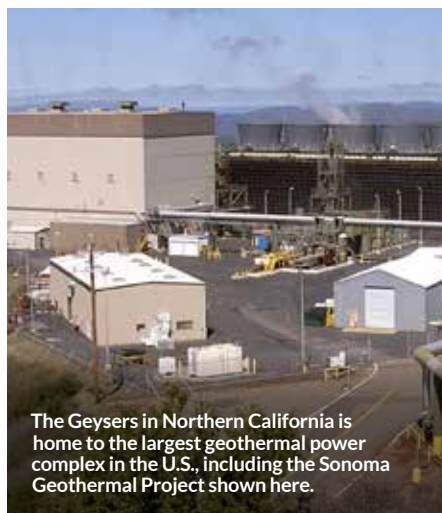
Technology advances and new projects

New ways of exploring geothermal energy, such as enhanced geothermal

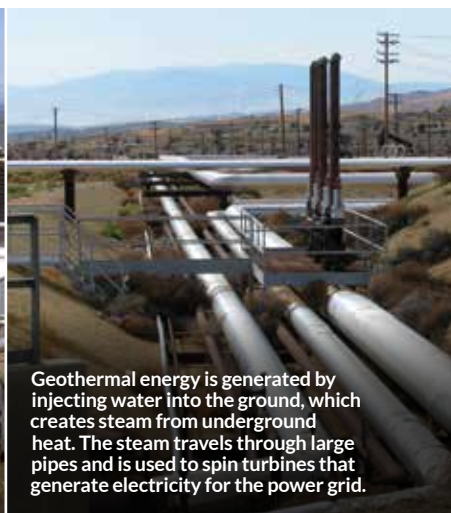
systems (EGS) and superhot rock technology, are helping developers access heat sources that were not possible to use before.

These new methods are making geothermal energy available in more places across the country.

In early 2025, investment in geothermal energy grew quickly, reaching \$1.7 billion. One example of this growth is Fervo Energy's Cape Station project in Utah. The project plans to produce 100 megawatts of power by the end of 2026 and increase to 500 megawatts by 2028. It already has approval to expand to up to 2 gigawatts. The project aims to produce electricity at a cost of \$79 per megawatt hour, even without government subsidies.



The Geysers in Northern California is home to the largest geothermal power complex in the U.S., including the Sonoma Geothermal Project shown here.



Geothermal energy is generated by injecting water into the ground, which creates steam from underground heat. The steam travels through large pipes and is used to spin turbines that generate electricity for the power grid.

Geothermal has a high capacity factor, near 90%, making it a strong source of around-the-clock power. Electric co-ops in the western U.S. can benefit from existing geothermal plants, while new technologies like EGS and hybrid designs are helping expand geothermal energy across the country. Continued federal support for tax credits, permitting and research lowers the cost and risk of new projects.

Growing investment and project development

Federal policy has helped drive recent growth in geothermal energy. The Geothermal Tax Parity Act (HR 6873), introduced in late 2025, aims to put geothermal projects on equal footing with oil and gas by extending important tax benefits, including exploration credits. Other proposed bills before the House

Natural Resources Committee focus on improving permitting, reducing exploration risk, clarifying land use and supporting lease sales.

Together, these efforts help create a stronger path for geothermal energy development in the U.S.

Jeff Groenewold writes on consumer and cooperative affairs for the National Rural Electric Cooperative Association.

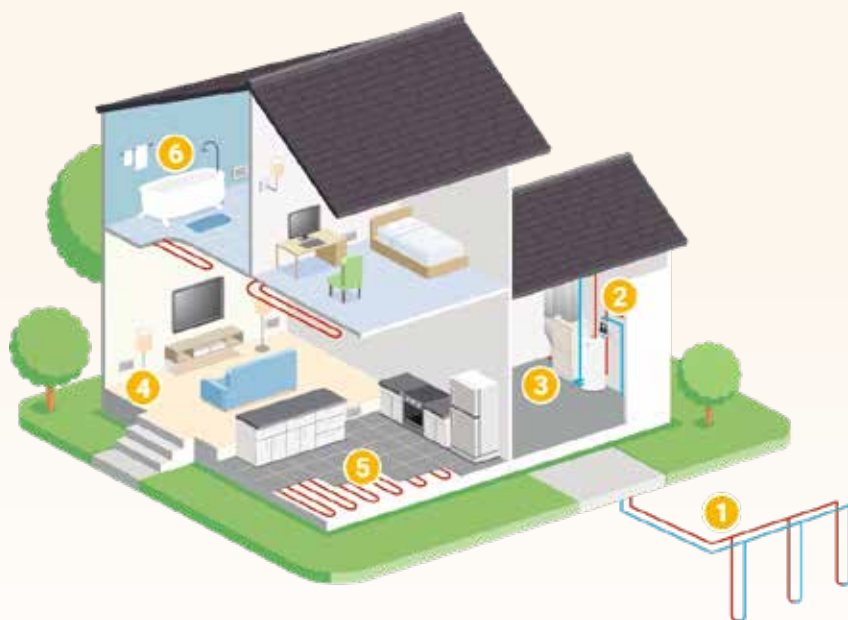
HOW GEOTHERMAL TECHNOLOGY WORKS IN HOMES

Beneath our feet, the Earth maintains a steady temperature year-round and geothermal systems use that stability to heat and cool homes efficiently. Also known as ground source heat pumps, these systems rely on a network of underground pipes, or “loops,” that circulate a water-based solution to transfer heat between your home and the ground.

In the winter, the system pulls heat from the Earth and brings it indoors. In the summer, the process reverses: excess heat from your home is transferred into the cooler ground. Because the Earth’s temperature remains relatively constant compared to outdoor air, geothermal systems operate far more efficiently than traditional heating and cooling systems.

Though the technology may sound cutting-edge, it’s been used by electric cooperatives for decades.

One of the biggest advantages is efficiency. Geothermal systems can be up to 400% efficient and typically reduce heating and cooling costs by 40% to 70%, saving homeowners around \$1,400 annually compared to older HVAC systems. While installation costs are higher – mainly due to the need for underground loop installation – many systems pay for themselves within five to seven years. Federal and state tax credits can also significantly offset upfront costs.



1 Ground loop. The Earth absorbs and stores almost 50% of the sun’s solar energy. Because of this, the temperature 4 to 6 feet below ground is consistently between 45-70 degrees F. A geothermal system transfers heat from one place to another using a ground loop field buried in the yard. The loop field circulates a water-based solution through a series of pipes.

2 Flow center. The flow center resides on your unit or a wall near the geothermal system. It pumps the water-based solution in the ground loop to the house or building unit to disperse heating or cooling.

3 Indoor heat pump. The loop field transfers heat to the home through an indoor geothermal heat pump kept indoors through forced air and radiant heating and cooling.

4 Forced-air heating and cooling. In a forced-air system, an air-handler disperses the ground’s heat to air in a home or building through ductwork and vents. In the cooling mode, the process is simply reversed.

5 Radiant heating (optional). Known as the most comfortable type of heating, radiant heating uses a series of pipes under a home or building’s floor to circulate warm water, which heats the entire space evenly.

6 Hot water. A hot water assist, known as a desuperheater, allows the system to capture excess heat to assist a water heater. This cuts hot water costs 25-40%. Geothermal systems can also provide 100% of the hot water needed for a home.

Beyond savings, geothermal systems offer durability and low maintenance, making them a long-term investment in both comfort and sustainability.

Unlike solar or wind, geothermal energy is available 24/7, using stored thermal energy from the Earth regardless of weather conditions.

ELECTRIC CO-OPS ARE BOLSTERING POWER TRANSMISSION

BY CATHY CASH

The electric grid needs our help. Be it from new industrial complexes, data centers to serve all things AI, more gaming and electrification at home from smart appliances to electric vehicles, today's intense energy demand requires more power 24/7 than ever before.

Each year, thousands of power lines and poles are destroyed by more extreme weather, from derechos to icy blizzards, that hit outside typical "storm season" timeframes and locales.

To keep up, new transmission equipment must be built, and existing transmission lines must be upgraded with the latest technology to move larger amounts of electricity, improve reliability and withstand Mother Nature. Transmission equipment and lines are essential for moving large amounts of electricity from where it is produced to electric substations, where it is then distributed across communities to consumers.

Building a stronger, more resilient grid

The good news is that electric co-ops are already completing transmission builds and breaking ground on new ones.

Generation and transmission co-ops that deliver wholesale power to your local electric cooperative are doing their part to reinforce regional transmission backbones with stronger poles and power lines. They are also developing projects to reach even the most remote wind, solar, hydro and other low-cost energy resources to power the grid and send electricity where and when consumers need it.

But building new transmission takes a lot of time. Many years, in fact. And that's not because of the construction itself, but the painstaking

process for gaining approvals from state and federal agencies.

"Yet," said Mary Ann Ralls, senior director and regulatory counsel for the National Rural Electric Cooperative Association (NRECA), "Electric co-ops are successfully demonstrating that their proposed facilities are necessary to relieve regional congestion and enhance system reliability."

The public and owners of property where power lines will be hoisted to serve consumers also have a big say when it comes to siting transmission and allowing projects to go forward.

That's where electric co-ops' member relations really shine.

It's not unusual for co-ops to go well beyond the prescribed number of public hearings on a proposed transmission project and to meet concerned members literally where they are. That includes Rotary Clubs or even one-on-one visits.

Electric co-ops exist to serve their members with safe, affordable and reliable electricity. Their ability to build strong ties with the communities within their service territory can go a long way when critical infrastructure, such as transmission, is needed.

Benefits for members and communities

With members in mind, co-ops seek the most efficient ways to build transmission lines. For example, they upgrade lines in existing property rights-of-way and use the most durable technologies and equipment to keep costs in check and sustain reliability well into the future.

Increased power line capacity will reduce costs associated with transmission congestion, which makes moving energy across the grid



To keep pace with rising energy demand, new transmission equipment must be built, and existing equipment must be upgraded with the latest technology.



Transmission equipment is essential for moving large amounts of electricity from where it is produced to electric substations, where it is then distributed across communities to consumers.

particularly expensive. This, in turn, will help keep your monthly bill lower.

When co-ops are able to beef up power lines, economic benefits can be felt in the community, too.

Rural areas with modern, high-voltage transmission are attractive to large job-creating businesses. Local employment and small businesses also experience upticks.

For co-ops, taking on these complex projects comes down to serving their members.

"Electric cooperatives have a long history of serving their members, and that same commitment is driving their work to develop new transmission capacity to meet the nation's rising electricity demand," said Patti Metro, NRECA's senior grid operations and reliability director.

Cathy Cash writes on consumer and cooperative affairs for the National Rural Electric Cooperative Association.

HOW CO-OPS ARE KEEPING THE GRID SECURE

BY MICHAEL LEITMAN

The electric grid is the backbone of modern life. It powers homes, businesses and institutions, including hospitals and other critical infrastructure. As the grid becomes more interconnected and digitized, it also faces growing threats ranging from cyberattacks to extreme weather events and wildfires.

Keeping the grid reliable and resilient is essential, and electric cooperatives are actively involved in national efforts to secure the electric grid.

Electric cooperatives, other utilities and grid operators follow standards set by organizations like the North American Electric Reliability Corporation (NERC), which mandate protections for critical infrastructure, including:

- **Cybersecurity measures:** Firewalls, encryption and multi-factor authentication help prevent unauthorized access to control systems. Regular software updates and vulnerability scans reduce the risk of exploitation.
- **Physical security:** Electric substations and control centers are protected with fencing, surveillance and restricted access. Physical breaches or attacks can be just as damaging as cyberattacks.
- **Redundancy and resilience:** Backup systems and redundant lines ensure power can be rerouted during outages caused by natural events or deliberate attacks. This minimizes disruption and speeds recovery.

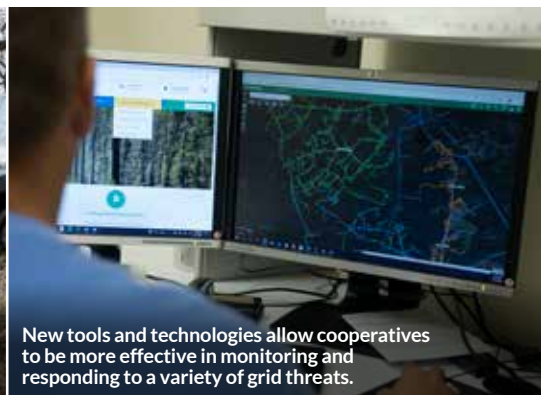
Each of these standards creates layers of defense, making it harder for any single failure to compromise the entire grid.

Advancing grid resilience through technology

As threats evolve, so do the tools to combat them. New tools, including drones, remote sensors and advanced controls, allow cooperatives to be



Electric co-ops are creating plans and conducting training to practice their responses to cyber and physical attacks and natural hazards.



New tools and technologies allow cooperatives to be more effective in monitoring and responding to a variety of grid threats.

more effective in monitoring and responding to a variety of grid threats.

Automated sensors and controls allow real-time visibility across the grid and enable rapid response to emergency conditions, either by a human operator or automated settings. AI can be a powerful technology to enhance these other tools, especially in sifting through large amounts of data or imagery to detect irregularities or patterns. But to be effective, AI tools must be well designed, properly trained and incorporated into cybersecurity protections.

Electric co-ops are also making investments to harden their local systems against the growing threat of wildfires, extreme weather events and other natural hazards. These investments include identifying vulnerable parts of the grid, replacing wooden poles with metal or cement poles, burying lines underground or adding enhanced technologies that allow greater visibility and control to anticipate and respond to emergency conditions.

Planning for the unexpected is critical

Utilities and government agencies conduct large-scale exercises to test their readiness for emergencies. One example is GridEx, a biennial event organized by NERC that simulates cyber and physical attacks on the electric grid. Thousands of participants, from

utilities to law enforcement, work together to identify weaknesses and improve coordination.

These drills serve two purposes. They expose vulnerabilities before real crises occur, and they build relationships among key stakeholders. In an actual emergency, rapid communication and collaboration can make the difference between a minor disruption and a widespread outage.

Beyond planning exercises like GridEx, electric co-ops also create plans and conduct training to practice their responses to cyber and physical attacks and natural hazards. For example, as wildfires have become more intense and more common over a larger portion of the U.S., many co-ops are adopting wildfire mitigation plans in conjunction with grid hardening efforts.

So, why does all this matter? A secure electric grid isn't just about keeping the lights on; it's about protecting national security, public health and economic stability in the co-op communities we serve.

By combining robust industry standards, rigorous training and cutting-edge technology, electric co-ops are helping to build a grid that is not only reliable but resilient today and in the future.

Michael Leitman writes on consumer and cooperative affairs for the National Rural Electric Cooperative Association.

HOME SAFE HOME: SPRING INTO ELECTRICAL SAFETY

BY ANN FOSTER THELEN

Spring is a season of fresh starts. As the weather warms across Iowa, “For Sale” signs pop up, moving trucks roll through neighborhoods and many families begin a new chapter in a new home. It’s also a time when home projects and outdoor activities ramp up – making it the perfect moment to think about safety.

That timing lines up with two important reminders: May is National Electrical Safety Month and June is National Homeownership Month. Together, they offer a simple but powerful message for Iowa’s electric cooperative member-consumers: whether you’re settling into a new house or simply refreshing your current one, taking a few minutes to check your home’s electrical safety can protect your family, your property and your peace of mind.



Get to know your electrical panel

Knowing your breaker box means understanding its parts, like the main breaker for the whole house, individual switches for circuit breakers and their functions.

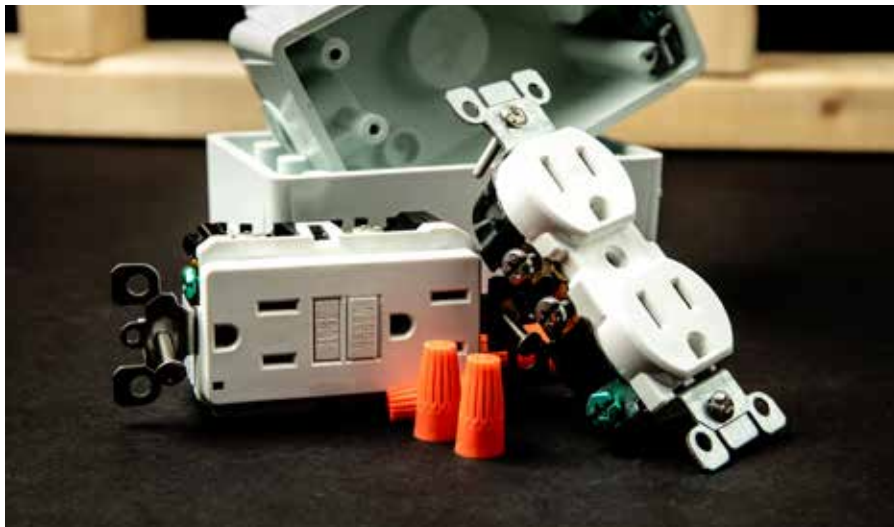
- Familiarize yourself with your electrical panel and label each breaker and panel by appliance or room.
- Test how to reset a tripped breaker.
- Find the main shut-off switch in case of an emergency.



Avoid electrical hazards

Identifying potential hazards can ensure your family’s safety, prevent fires and reduce costly repairs.

- Have only one heat-producing appliance, such as a coffee maker, microwave or space heater, plugged into an outlet at a time.



- Major appliances (refrigerators, dryers, washers, stoves) should be plugged directly into a wall receptacle outlet. Extensions cords and outlet strips should not be used.
- Inspect cords for signs of fraying or damage and replace or repair them immediately.
- Only use extension cords temporarily. Don’t run cords under rugs, carpets, doorways or windows. Have a qualified electrician add more outlets if needed.
- Use surge protectors to safeguard devices such as computers, televisions and appliances from sudden power spikes.
- Always keep electrical devices away from water sources such as sinks, tubs and pools.
- Reduce risk of shock by using ground fault circuit interrupters (GFCIs) around water sources such as kitchens, bathrooms, garages, basements and outdoors.
- Use outlet covers to prevent children (and pets) from inserting objects into unused outlets.
- Use light bulbs with the correct wattage – lamps and fixtures have a sticker to indicate the maximum wattage.

- Have a working smoke and carbon monoxide detector on every floor of your home and ensure there are units installed near your sleeping area.
- Keep outdoor ladders away from overhead power lines, including the electrical service into your home.



Call a professional if you notice these signs of an electrical problem

- Frequently blown fuses, tripped circuit breakers and unexplained power outages.
- A tingling feeling when touching an appliance.
- Discolored or warm outlets or switch plates.
- A burning or rubbery smell, or a buzzing or sizzling sound.
- Flickering or dimming lights.
- Sparks from an outlet.

As you enjoy Iowa’s warm weather, always keep electrical safety on your home checklist. Pair these habits with energy-saving steps, and you’ll reduce risk while lowering your utility bill. The little choices you make every day add up to a safer, more efficient household.

Ann Foster Thelen is the editor of Iowa Electric Cooperative Living magazine.

IT'S A GOOD THING THAT IT HURTS

BY DARCY DOUGHERTY MAULSBY

His family described him as the calm in a storm. He had an endless curiosity about the world. He made the most of every opportunity to learn a new skill.

He was also good to his family's cat, Autumn.

Such simple details about Sgt. Declan Coady, 20, and yet they resonate with me, a cat lover with an insatiable curiosity.

I never knew Sgt. Coady, but I heard a lot about him after the West Des Moines native was killed in a March 1 airstrike in Kuwait. As soon as I heard the name Coady, my thoughts turned to my friend Becky Coady, whom I met in our 2017-2018 Leadership Iowa class.

Becky and her family are a military family. I hoped this loss wasn't someone they knew. But Sgt. Coady was a relative. My heart broke.

Sgt. Coady enlisted in the Army Reserve in 2023. He received the Army Service Ribbon, National Defense Service Ribbon and the Overseas Service Ribbon. He served his country with honor, courage and dedication, embodying the best of what it means to wear the uniform.

He died during in early-morning U.S. and Israeli strikes on Iran. He and fellow Army reservists, including Maj. Jeffrey O'Brien of Indianola, were killed when a drone struck a port in Kuwait. These men and women were supporting Operation Epic Fury, a mission focused on destroying Iran's missile capabilities.

About a week after the deadly drone strike, family and friends gathered at Drake University to remember Sgt. Coady. "It's a good thing that it hurts," said Marty Martin, Drake's president, who is also a U.S. Air Force veteran and Air Force Reserve veteran. "Whether we knew Declan as a friend, as a member of our family, as a fellow student or one of our



students, we respected him and held him in esteem. And losing him hurts."

Honoring service and sacrifice

Too often in our hectic, fast-paced world, it's easy for losses like this to make news headlines and then quickly fade away. It's different, though, for the families, friends and communities closest to those who died.

Those memories can last a lifetime – and beyond. I'm reminded of this each Memorial Day when my family and I place flowers on the graves of our ancestors, including those who served in the U.S. Army more than a century ago.

Originally called Decoration Day, Memorial Day was first widely observed on May 30, 1868, to commemorate the sacrifices of Civil War soldiers. I'm grateful this tradition lives on.

Protecting our freedom

Sacrifice is almost a foreign concept in our world today. Yet it's ingrained in our service members like Sgt. Coady and their families. Some pay the ultimate price.

I'm thankful we still have people who are willing to serve and protect our freedom, including soldiers like Sgt. Coady. Perhaps nothing reflects this spirit better than the Soldier's Creed from the U.S. Army.



SOLDIER'S CREED

I am an American soldier.

I am a warrior and a member of a team.

I serve the people of the United States and live the Army values.

I will always place the mission first.

I will never accept defeat.

I will never quit.

I will never leave a fallen comrade.

I am disciplined, physically and mentally tough, trained and proficient in my warrior tasks and drills.

I always maintain my arms, my equipment and myself.

I am an expert, and I am a professional.

I stand ready to deploy, engage, and destroy, the enemies of the United States of America in close combat.

I am a guardian of freedom and the American way of life.

I am an American soldier.

Darcy Dougherty Maulsby lives near her family's Century Farm northwest of Lake City. Visit her at www.darcymaulsby.com.

Visit our website at www.ieclmagazine.com



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