

# living with energy

IN IOWA



MARCH 2021

Grundy County REC recognizes employee anniversaries ▶ See Page 5



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Beneficial electrification  
saves money, helps  
the environment

Dig into the benefits of  
geothermal systems

Irish recipes for  
St. Patrick's Day

*Living with Energy in Iowa* magazine (ISSN: 1935-7176) 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 *Living with Energy in Iowa* 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. E-mail address: editor@livingwithenergyiniowa.com. *Living with Energy in Iowa* magazine does not assume responsibility for unsolicited items.

**Website:** www.livingwithenergyiniowa.com

**Postmaster:** Send address changes to *Living with Energy in Iowa* 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. *Living with Energy in Iowa* magazine cannot make an address change for you.

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# living with energy IN IOWA



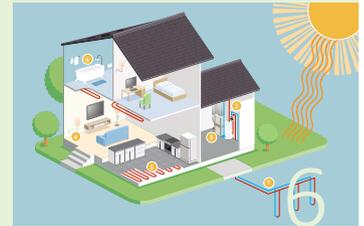
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### ON THE COVER



Congratulations to Kim Scharfenkamp, a Southwest Iowa Rural Electric Cooperative member, for providing the cover image for this month's issue! She captured this beautiful image of a rainbow in Ringgold County. To have your photo considered for a future cover, email high-quality images (in high resolution) to editor@livingwithenergyiniowa.com. If we select your photo, you'll be awarded with \$100. ⚡

# Setting realistic expectations for renewable electric generation



BY CHUCK SODERBERG

There has been a lot of talk lately about when America will transition to a 100% renewable electric grid. Some utilities, states and cities have announced plans to be fully powered by renewable sources by a specific date. Reducing carbon emissions is also a major focus of the presidential administration. As we talk about a clean energy economy, it's important to set realistic expectations about the timeline.

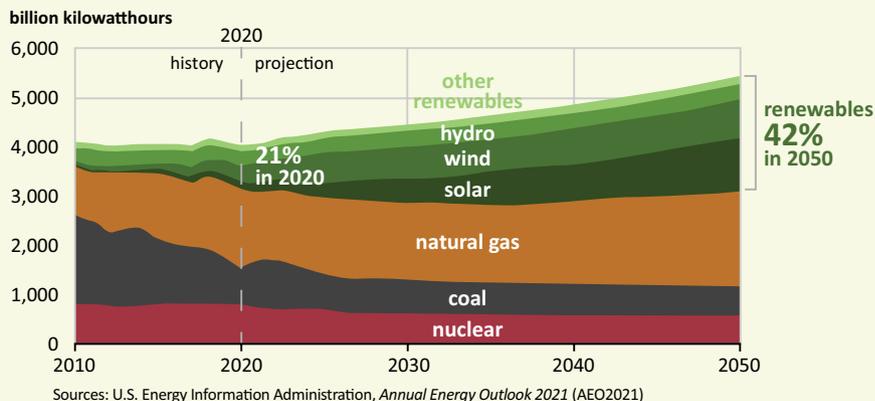
Iowa's locally owned electric cooperatives have been balancing the need for safe, reliable, affordable and environmentally responsible power for decades. Our state's electric co-ops have long promoted energy efficiency efforts with the belief that the greenest kilowatt-hour is the one you never use. From 2010-2019, Iowa's electric co-ops invested more than \$120 million in energy efficiency measures, saving at least 4.9 billion kilowatt-hours. That's enough energy to power more than 490,000 homes for a full year.

## Incorporating more renewable energy

As economic conditions allow, electric co-ops are incorporating more renewable sources of generation into the energy mix. Moving toward

## U.S. electricity generation from selected fuels

AEO2021 Reference case (2010-2050)



higher renewable percentages will take time as we are also responsible for balancing the needs of safety, reliability and affordability for the member-consumers we serve. While renewable energy continues to grow, it will take decades before that category outpaces natural gas and coal generation nationwide.

In its Annual Energy Outlook 2021, the U.S. Energy Information Administration (EIA) projects that the share of renewables in America's electricity generation mix will increase from 21% in 2020 to 42% in 2050. Wind and solar generation are responsible for most of that growth. By 2030,

renewables will collectively surpass natural gas to be the predominant source of generation in the U.S.

According to the EIA report, the share of natural gas-fired generation in the U.S. will remain relatively constant through 2050, and the contribution from the coal and nuclear fleets will drop by half. Technological advances in battery storage will make intermittent renewable sources like wind and solar more reliable and dependable, which are the top reasons why natural gas and coal have been stalwart baseload generation sources.

## Electric cooperatives are making great strides

Because electric cooperatives are owned and governed by the member-consumers we serve, it's important to keep you informed on how power supply decisions are made and why. Electric cooperatives are making great strides in reducing greenhouse gas emissions and incorporating more renewable energy sources into the generation mix. Like all things, change will take time. Be assured that we are moving in the right direction as we transition to a clean energy economy.

Chuck Soderberg is the executive vice president and general manager of the Iowa Association of Electric Cooperatives.

## EDITOR'S CHOICE CONTEST

### Win a smart home technology package

Smart home devices can add comfort and convenience to your life while helping to save energy. This smart home starter set features an all-new Echo Dot smart speaker with clock and Alexa, four smart bulbs and four smart plugs. The package is valued at \$115. Learn more about these technologies on Page 14 of this issue. ⚡



### Visit our website and win!

Enter this month's contest by visiting [www.livingwithenergyiowa.com](http://www.livingwithenergyiowa.com) no later than March 31, 2021. 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 Fitbit Charge 4 from the January issue was Mary Eller, Consumers Energy.

# What is beneficial electrification?

BY MICHAEL GEERDES

If you're like most Americans, you're interested in saving money on energy costs and in doing your part to help the environment. But wouldn't it be great if you could do both? Well, you can! It's through a concept called "beneficial electrification." This utility industry term means the innovations in energy technologies are creating new ways to use electricity instead of on-site fossil fuels, such as propane, natural gas and fuel oil, in a way that reduces overall emissions and energy costs.

In essence, by virtue of being plugged into the grid, the environmental performance of electric devices improves over time. As Grundy County REC and other utilities shift to more options



that include renewable energy sources to make existing generation technologies cleaner, electricity will require less fossil fuel per kilowatt-hour of energy produced.

So, here's how this concept impacts you. It means that electric appliances, such as your water heater, clothes dryer, oven and even your heating and cooling equipment have the potential to become greener. When Grundy County REC takes advantage of advances in technology and the market at the generation point (how the electricity is produced), it means those efficiencies are inherently passed along to you, the member-consumer.

## Electricity is getting cleaner

Because large appliances have a typical lifespan of about 10 years, it means that you are able to benefit from the flexibility of the grid in addition to the increased efficiency of the particular appliance. In other words, the high efficiency electric oven you have today could be powered by renewable sources in the years ahead. This would not be the case with gas appliances where you are essentially locked into the technology of that gas appliance for the 10-year lifespan.

As Grundy County REC is able to tap into more renewable options in the future, your electric appliance has the potential to become greener and more energy efficient. The only way you would be able to benefit from this trend is through an electric appliance.

## Small steps to help the environment

For consumers and homeowners looking for more environmentally friendly options, choosing electric appliances, tools, HVAC and cars over those powered by fossil fuels is an easy solution. Whether through

geothermal, air-to-air heat pumps, mini splits or through electric water heaters and other appliances, beneficial electrification is a means to reducing greenhouse gases and helping our environment. It can also translate into a better quality of life.

## How we're doing our part to help the environment

As the overall energy sector continues to evolve, Grundy County REC is striving to take advantage of the advances in technology and the opportunities of the market as they become available. This means our cooperative can leverage the flexibility of the grid to offer a wider range of renewable power selections as we continue to bring safe, reliable and affordable power to our community.

We also promote energy efficiency by conducting energy audits, working with contractors and installers, and attending conferences to learn about new techniques used in energy efficiency. To help save you money, we also offer rebates for geothermal, air source heat pumps, appliances, insulation, lighting, among others. If you are interested in learning more or have questions regarding energy efficiency, please contact Brady Codner to discuss.

We care about our community because we live here too. I hope you'll reach out to Grundy County REC, your trusted energy partner, to discuss available renewable energy options and to learn about more ways to reduce your energy use. Because when you participate in the energy efficiency programs and incentives we offer, you're doing your part to save energy and better our environment. While each member's reduction might be small, together, they can lead to significant savings of money and emissions. And that means a brighter future for *all* of us. ⚡

Michael Geerdes is the general manager of Grundy County REC.



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CONGRATULATIONS

# Grundy County REC employees celebrate anniversaries

## Nichole Heaverlo

For those of you who have visited or called the office, you were most likely greeted by this smiling face – Nichole Heaverlo, consumer accountant. Nichole celebrated her first anniversary with Grundy County REC on Feb. 3.



When asked what surprising or interesting thing she’s learned while working here, Nichole says, “I was blind to the electric cooperative world before I started, so it’s been fascinating learning how it operates and how we impact the rural communities we serve.” Nichole also says that her favorite part about working at our cooperative is the people she works with; how we are all like family.

In her free time, she loves to garden and spend time with her son. Fun Fact: Nichole is a college and NFL football fanatic.

## Karl Nielsen

First Class Lineman Karl Nielsen has served Grundy County REC members and helped to keep the lights on with a smile on his face and a great attitude for nine years, celebrated on Feb. 6.



Karl has spent most of his lineman career with Grundy County REC, where he has learned the importance of always be willing to learn new things, have a positive attitude, and be organized and patient. His favorite part about working for Grundy County REC is serving the members and helping to keep the lights on; he also enjoys working with a great group of co-workers.

In his free time, Karl enjoys spending time with his wife and daughter (Baby No. 2 due in July), relaxing and working on the family farm. He also enjoys carpentry and woodworking. ⚡

Congratulations to Nichole and Karl on celebrating service anniversaries last month. We appreciate all the hard work and dedication you put forth!

NEW HIRE

# Brady Codner joins the Grundy County REC team

Brady Codner recently joined Grundy County REC as the member service advisor. For the last five years, Brady has worked throughout Iowa in various fields, including member relations, factory maintenance, volunteer EMT, wind industry and the cooperative world.



Originally from Allison, Iowa, Brady received his associate degree in electrical technologies from Iowa Central Community College.

In his free time, Brady likes hiking, golfing and spending time with his family, friends and his dog Mr. T. Brady is excited to have the chance to be able to move closer to home.

Please join us in welcoming Brady to Grundy County REC. ⚡

UPCOMING HOLIDAY HOURS



Grundy County REC will be closed Friday, April 2, in honor of Good Friday. As always, the phones are answered 24/7. ⚡

# DAYLIGHT SAVING TIME REMINDER

Don't forget to spring forward on March 14! Set your clocks forward by one hour.



# FIRST DAY OF SPRING

March 20



# Digging into the benefits of

BY ERIN CAMPBELL

Later this spring, we'll see farmers out in the fields digging into the earth to plant crops. The ground beneath us has incredible benefits. In fact, you can also harness the power of the earth to heat and cool your home renewably and efficiently.

Geothermal heating and cooling systems – also referred to as ground source heat pumps – use underground loops to take advantage of the constant temperature below ground to keep you comfortable. In the winter, the loop system removes heat from the ground and transfers it into your living space. In the summer, the loop system transfers warm energy from your home to be absorbed by the cooler ground.

## A proven technology

Geothermal technology isn't new; in fact, Iowa's electric cooperatives have been promoting geothermal systems to members since the 1980s. Jim Sayers was one of those co-op employees who worked to educate members about the many benefits of geothermal throughout his 34-year career in communications and energy services at Corn Belt Power Cooperative. Headquartered in Humboldt, Corn Belt Power Cooperative is a generation and transmission electric cooperative owned by its member systems.

Sayers retired from the co-op in 2018 and found an opportunity to continue educating others about geothermal technology's advantages as the cooperative engagement coordinator for the Geothermal Exchange Organization (GEO).

"You retire from a job, but you don't retire from your passion. And my passion includes Iowa's electric cooperatives and geothermal," says Sayers.



## Efficient, renewable energy

Geothermal systems are supremely efficient, renewable and will save homeowners substantially on heating and cooling costs, according to Sayers. The average savings of geothermal compared to an aging conventional HVAC system is around \$1,400 annually, accounting for 40%-70% savings. And while the installation cost of a geothermal system is higher than conventional HVAC systems, it is so efficient that it can pay for itself in as little as five to seven years. Rates and incentives are important in determining payback.

"The good news is that there are federal and state tax credits available to help defray the installation costs," says Sayers. "Currently, the federal tax credit for geothermal installation is 26%, and the Iowa tax credit is 20% of the federal credit, for a total tax credit of just over 31% of the geothermal installation cost in 2021."

So why is the installation of a geothermal system higher than installing a conventional HVAC

system? It comes down to the loops. An underground loop system needs to be trenched or drilled in your yard to take advantage of the earth's constant temperature. Once installed, a water-based solution circulates through the loop system to transfer the heat energy. Electricity is needed to operate the heat pump, ground loop pump and distribution fan or pump.

Because it uses the earth, a geothermal system is the most efficient heating and cooling system. In fact, it is 400% more efficient than conventional HVAC systems. Geothermal systems are also known for having low maintenance costs.

Sayers says, "With all the attention on wind and solar these days, we often forget about geothermal as a renewable option. If a homeowner is considering investing in a solar array, I would encourage them to first think about energy efficiency measures and then consider installing a geothermal heating and cooling system because it uses stored, renewable thermal energy all day, every day, year-round."

# geothermal systems



## Resources for more information

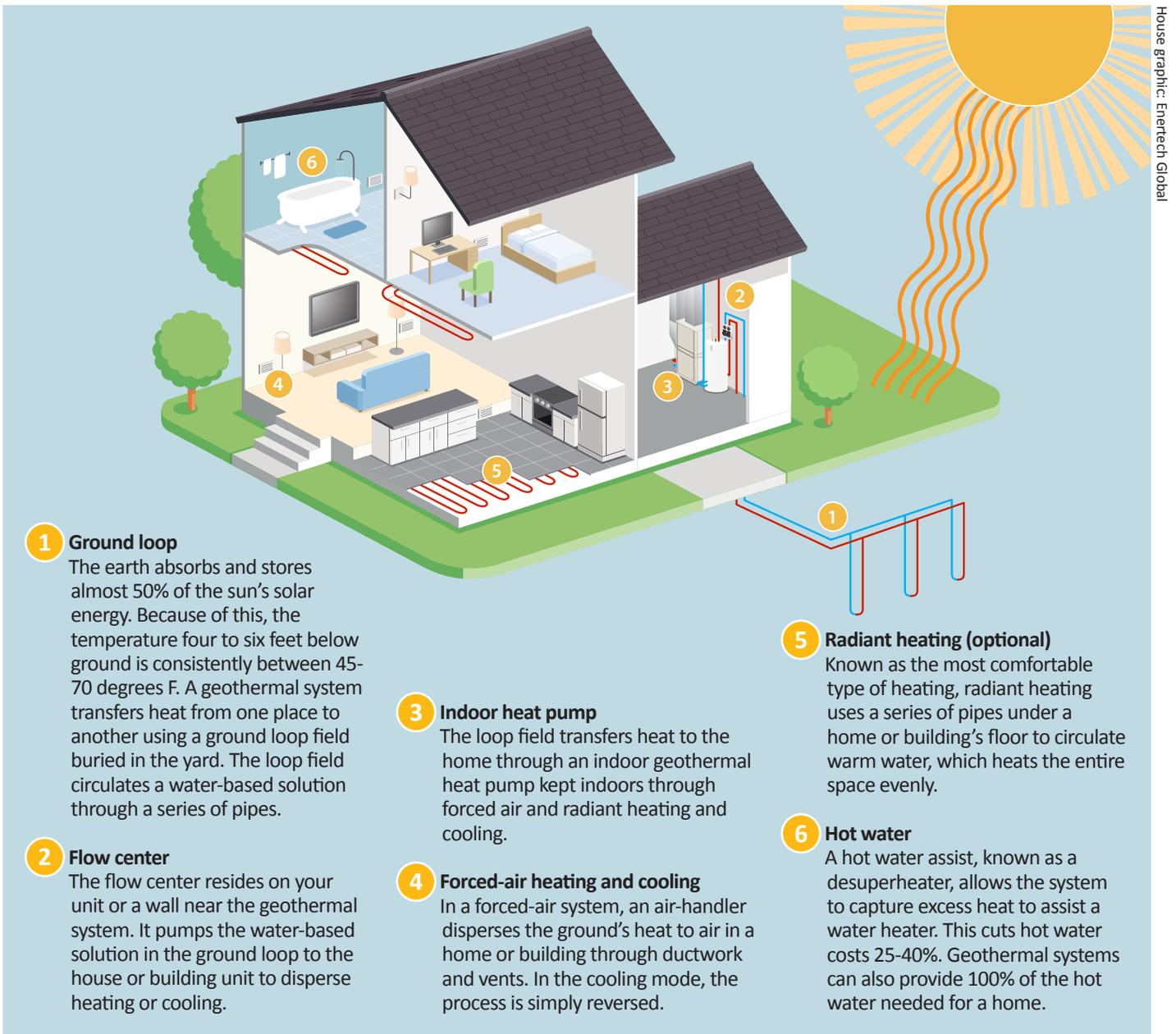
The cost of installing a geothermal system will vary by location, the size of your home, equipment installed and local incentives. GEO, a non-profit trade association that promotes the manufacture, design and installation of geothermal heating

and cooling systems, maintains a list of geothermal system professionals you can contact at [www.geoexchange.org/directory/](http://www.geoexchange.org/directory/).

Learn more about geothermal at GEO's consumer education website at [www.geothermalforall.com](http://www.geothermalforall.com). In addition to the tax credits, many of Iowa's electric cooperatives offer

special geothermal electric rates and incentives to make the system even more affordable. Contact the member services staff at your co-op to learn more. ⚡

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



# IRISH

## RECIPES



### Sausage Coddle

- 1 pound beer-flavored brats or pork sausages, cut into bite-sized slices**
- ½ pound smoked bacon, cubed**
- 2 onions, thinly sliced**
- 3 carrots, chopped**
- 4 large potatoes, peeled and sliced**
- salt and pepper to taste**
- 1 teaspoon parsley, dried**
- 1 cup beef stock**
- 1½ cups Guinness beer**
- ½ cup heavy cream**

Cook the sausages and bacon in a large skillet on medium heat for 10 minutes until browned on both sides. Spray or butter a 9x13-inch baking dish. Place ½ of the onions, carrots, potatoes and the meats in the baking dish, sprinkle with salt and pepper, if desired, and ½ of the parsley. Repeat layers two more times. Warm the beef stock in a medium saucepan over medium heat, add beer and cream. Do not boil. Once warm, pour over the casserole. Bake at 325 degrees F for 1½ hours until the vegetables are tender. *Serves 6*

**Christine Mimick Keller • Norfolk  
North West Rural Electric Cooperative**

### Champ

- 3 pounds potatoes, about 12**
- 8 scallions**
- 6 tablespoons butter**
- salt and pepper to taste**
- 6 tablespoons milk**

Cut potatoes in chunks, boil in large pot with salted water to cover. Cook until tender, about 25 minutes, drain. Slice scallions, including some of the green tops. Melt butter in the pot used to cook the potatoes. Add the scallions, cook on low heat about 10 minutes. Peel potatoes and mash with salt, pepper and milk. Stir into scallions and heat through.

*Serves 8*

**Francene Holstein • Persia  
Harrison County Rural Electric Cooperative**

### Corned Beef Casserole

- 1 large onion, sliced**
- 1 medium/large head cabbage, shredded**
- 2 cans corned beef hash**
- 2 cans cream of mushroom soup**
- salt and pepper to taste**

Spray a deep sided baking dish (can use cast iron Dutch oven) with non-stick spray. Layer all ingredients evenly starting with the onions, then cabbage, corned beef hash, mushroom soup, salt and pepper. This usually makes 2 or 3 layers depending on size of baking dish. Bake covered at 350 degrees F for 45 minutes, uncover and bake another 15 minutes or until cabbage is tender. *Serves 8*

**Robin J. Koob • Alexander  
Franklin Rural Electric Cooperative**

### 2-Cup Stew

- 2 cups stew meat**
- 2 cups onion, chopped**
- 2 cups potatoes, diced in 1-inch pieces**
- 2 cups carrots, sliced in 1-inch pieces**
- 2 cups celery, sliced in ½-inch pieces**
- 1½ teaspoons salt**
- 2 cups frozen peas**
- 2 cups frozen whole kernel corn, optional**

Bring meat to a boil, lower heat and simmer for 5 minutes. Strain broth; return to pan bringing meat and broth to a simmer. Add onions, potatoes, carrots, celery and salt. Cook until tender. Add peas and corn the last 5 minutes.

**Vickie Johnson • Osceola  
Clarke Electric Cooperative, Inc.**

**POTATO FAMINE**  
Potatoes transformed the Irish diet when they were introduced from the New World in the late 16th century. Ireland's cheap and plentiful food source was later decimated when potato harvests were hit by blight in the 19th century.

**FUN FACTS**

## Irish Muffins

- 3 cups flour
- 1 cup raisins
- ½ cup plus 2 tablespoons sugar
- 1 tablespoon caraway seeds
- 1 tablespoon baking powder
- 1 teaspoon salt
- ¼ teaspoon baking soda
- 1 egg
- 1¾ cups buttermilk
- ¼ cup butter, melted

Mix flour, raisins, sugar, caraway seeds, baking powder, salt and baking soda in large bowl. Beat egg and buttermilk together in a small bowl. Stir into flour mixture. Fold butter in batter. Spoon batter in a muffin tin (with paper liners). Bake at 400 degrees F for 20-30 minutes, until toothpick comes out clean.

Annalee Buffington • Marshalltown  
Consumers Energy

## Reuben Bake

- 2 tubes crescent rolls
- 1 pound Swiss cheese, sliced
- 1½ pounds deli corned beef
- 8 ounces sauerkraut
- ¾ cup Thousand Island salad dressing
- 1 egg white, lightly beaten
- 3 teaspoons caraway seeds, optional

Unroll one tube of dough, press into greased 9x13-inch pan and bake at 375 degrees F for 8-10 minutes. Layer half of the cheese and all the corned beef. Combine sauerkraut and dressing, spread over corned beef. Top with remaining cheese. Put the second crescent roll over cheese. Brush with egg white. Top with caraway seeds if desired. Bake at 375 degrees F for 12-16 minutes. Serves 4-6

Melissa Schultes • Dedham  
Raccoon Valley Electric Cooperative

## Irish Stew

- 1 cup carrots
- 1 cup potatoes
- 1 cup cabbage
- 1 cup onions
- salt and pepper to taste
- 1 tablespoon sugar
- 2-inch thick brisket
- 1 cup water

In a large bowl, peel and cut carrots, potatoes, cabbage and onions. Add salt, pepper and sugar. Set aside. In a deep-dish, oven-durable pan place cut brisket, water, salt and pepper (can use cast iron pan). Bake brisket at 400 degrees F for 1 hour making sure water level stays 1 inch or more deep. Add veggies and bake covered at 350 degrees F for another hour. Check liquid level and keep at 1 inch or more at all times or veggies will burn. Can be cooked in a large oval slow cooker, adjusting heat as needed.

Betty Sorden • Webster • T.I.P. Rural Electric Cooperative

## Blarney Bundt Cake

- 1 yellow cake box mix
- 1 package pistachio instant pudding
- 4 eggs
- 1 cup water
- ½ cup vegetable oil
- ½ teaspoon almond flavoring
- ¼ cup chocolate syrup
- powdered sugar

Beat cake mix, pudding, eggs, water, oil and almond flavoring together for 2 minutes at medium speed. Pour ⅔ of the batter into a greased and floured Bundt pan. Add chocolate syrup to the remaining batter. Pour this into the pan and swirl a bit with a knife. Bake at 350 degrees F for 50 minutes, test for doneness. Glaze with a thin frosting or dust with powdered sugar.

Carol DeJong • Sibley • Osceola Electric Cooperative, Inc.

### TRADITIONAL STEW

Soups and stews are popular Irish dishes. A traditional Irish stew is very hearty and filling, with ingredients like potatoes, onions, carrots, diced lamb chops and Canadian bacon.

FUN FACTS

### BILLIONS OF POUNDS

More than 41.5 billion pounds of beef is produced each year for St. Patrick's Day. About 2.5 billion pounds of cabbage is also produced for the same event.

FUN FACTS

### SODA IS A BREAD

Soda bread is a classic Irish bread, often served with soup. This brown bread is made with whole wheat flour and buttermilk.

FUN FACTS

## Wanted: Sweet Corn Favorites! The Reward: \$25 for every one we publish!

Iowa-grown sweet corn is a summertime favorite! Share your delicious recipes that use sweet corn as an ingredient. If we run yours in the magazine, we'll send a \$25 credit for your electric co-op to apply to your power bill. Recipes submitted also may be archived on our website at [www.livingwithenergyiowa.com](http://www.livingwithenergyiowa.com).

The deadline is March 31, 2021. Please include your name, address, telephone number, co-op name and the recipe category on all submissions. **SERVINGS:** Please also provide the number of servings per recipe.

**EMAIL:**  
[recipes@livingwithenergyiowa.com](mailto:recipes@livingwithenergyiowa.com)  
(Attach your recipe as a Word document or PDF to your email message.)

**MAIL:**  
**Recipes**  
*Living with Energy in Iowa*  
8525 Douglas Ave., Suite 48  
Des Moines, IA 50322-2992



### INVENTED IN AMERICA

Like St. Patrick's Day, corned beef and cabbage is strictly an American invention. In Ireland, cabbage is often paired with bacon or with lamb.

FUN FACTS

# Electric bus fleets: Saving fuel and helping the

BY MARIA KANEVSKY

Millions of Americans and thousands of Iowans depend on public bus transportation every day. Whether you're an adult on your way to work or a child going to school, you can rely on a bus to take you where you need to go.

But most buses in America are diesel-powered, which produce harmful exhaust fumes when breathed in and greenhouse gas emissions that contribute to climate change.

Electric buses are an emerging technology that can help address some of the issues caused by diesel-powered buses while still providing the same quality of transportation to many Americans.

## Applications and technologies for electric buses

There are two main applications for electric bus fleets: school buses and public transit. For each application, there are three types of electric bus technologies that can be used: hybrid electric buses, fuel cell electric buses and battery electric buses.

A hybrid electric bus uses both an electric motor and a gasoline engine to power the bus. Electricity is generated through regenerative braking to charge a battery connected to the electric motor, which lessens the need for gasoline.

Fuel cell electric buses contain hydrogen fuel cells, which need to be refueled with hydrogen to charge the battery that powers the bus.

A battery electric bus is plugged directly into the grid to charge the battery that fully powers the bus.

## Pros and cons with each technology

Each of these technologies has pros and cons. Hybrid electric buses are the easiest transition since they are closest to traditional diesel-powered



buses. However, hybrid electric buses are heavier than traditional buses since they carry both an electric motor and a gasoline engine, which can reduce passenger vehicle capacity. Fuel cell electric buses have no tailpipe emissions and hydrogen is a renewable resource, but the cost is higher than any other electric bus technology type. Battery electric buses have no tailpipe emissions, are the most energy efficient and have low operating costs; however, they have a more limited driving range than other electric bus technology types.

Generally, electric bus fleets provide many benefits, such as fuel cost savings, maintenance cost savings and emissions reductions. Since there are fewer fuel costs and maintenance costs, school districts and transit agencies can save money over time by switching to electric buses. Electric bus fleets have fewer diesel emissions, or none at all, which improves overall public health by making the air cleaner for the surrounding community or school.

That said, there are still several

barriers to overcome before making the full transition to electric bus fleets. For any electric bus technology, the main barrier is cost. For example,



# environment



battery electric school buses can cost up to \$200,000 more than a comparably sized diesel school bus. If a school district or transit agency doesn't receive any outside financial support, the purchase can be difficult to justify. Additionally, new charging infrastructure will be necessary to support the electric buses, which will add to the overall cost.

## Expanding use of electric bus fleets

Several areas of the country, like Seattle and Los Angeles, are making commitments to electrify their bus transit fleets in the next 20 years or so. Even smaller cities are moving toward electrification of buses. Iowa's first electric buses, a zero-emissions alternative to the current diesel-powered fleet, debuted in the Des Moines metro in October 2020.

Electric school bus programs are in progress in a few states, such as Virginia, Maryland and Minnesota. Still, California leads the transition with a goal of replacing all of the state's school buses with electric buses by 2040 – a total of 30,000 buses.

Many electrified fleet pilot projects show that electric buses can provide cost-effective and clean transportation to Americans, although there will be challenges along the way. While electrified fleets aren't mainstream yet, one thing is clear: partnerships between utilities, transit agencies and school districts will be crucial for success.

The shift toward electric buses will take time, but as progress is made, we can all expect to benefit from cleaner air and a more environmentally friendly future. ⚡

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Maria Kanevsky is a program analyst for the National Rural Electric Cooperative Association, the national trade association representing more than 900 local electric cooperatives.

## Iowa: Expanding the use of alternative fuels

The Clean Cities program coordinated at Iowa Economic Development Authority is a designated member of the U.S. Department of Energy's Clean Cities program. Public and private stakeholders work together to increase adoption of alternative fuels, advanced vehicle technologies and energy-efficient transportation strategies.

Iowa Clean Cities Coalition stakeholders include local governments, metropolitan planning organizations, private fleets, non-profits, associations, industry representatives, colleges and universities, and businesses committed to sustainable practices. Collaborative efforts include educating fleets, developing infrastructure to support alternative fuel vehicles, disseminating technical information, and raising awareness through meetings, workshops and webinars.

To learn more, visit [www.iowaeda.com/iowa-energy-office/clean-cities](http://www.iowaeda.com/iowa-energy-office/clean-cities).

-  Fuel economy
-  Idle reduction
-  Biodiesel
-  Natural gas
-  Hydrogen
-  Propane
-  Electricity
-  Ethanol



# Prepare and make a plan

BY ANN THELEN AND DERRILL HOLLY

The spring season will soon usher in changing weather. In Iowa, March 22-26 is Severe Weather Awareness Week.

The week is designed to refresh, remind and educate everyone about the seasonal threats from severe weather and how to avoid them. It's also a great time to make and practice your emergency plan and build or update your emergency preparedness kit.

As many Iowans have experienced firsthand, families always need to be prepared for emergencies, and ongoing concerns triggered by the COVID-19 pandemic have prompted several new recommendations for evacuation planning, emergency supply kits and community shelter operations.

## Updated CDC guidance

"We did a lot of work in 2020 to update our guidance for natural disasters to include COVID-19 guidance," says Capt. Renee Funk, DVM, of the Centers for Disease Control and Prevention (CDC). Funk received her Doctorate of Veterinary Medicine from Iowa State University and her Masters of Public Health and Tropical Medicine from Tulane University.

Many of the precautions and revisions implemented as part of the pandemic response are expected to be among the CDC's recommendations in place for 2021. Some are likely to remain in place permanently.

Funk, who serves as the CDC's associate director of emergency management, says personal protective gear, hygiene items and cleaning products are among the most prominent additions to every family's emergency supply preparation lists.

"We recommended a hand sanitizer that's at least 60% alcohol, disinfectant wipes and two masks for each person," Funk says. "Those things should be considered permanently added to your go kit, and you need to



check for expiration dates for these products regularly."

Funk recommends that those items be included in personal go kits and the family's cache of emergency supplies. She also suggests that when you review the expiration dates of perishables, like canned goods, other foods and medications, you replace any cleaning items or protective gear that might also be out-of-date.

## Importance of early preparation

The CDC is stressing the importance of early preparation. Checking and updating supplies before they are needed can prevent the need for shopping trips during the run-up to threatening storms or other emergencies. If shopping excursions are needed, officials recommend that a limited number – one or two people, considered low risk be designated to make all necessary shopping runs.

In the event of any emergency or natural disaster, you'll want to be prepared to shelter in place for several days if necessary. FEMA recommends having an emergency kit stocked with all essential supplies in one or two containers that are easy to access. Visit [ready.gov/kit](https://www.ready.gov/kit) for a full checklist of disaster kit items and additional recommendations.

Spring and summer often bring severe storms, so now is the time to make a kit, make a plan and stay informed. That's the best way to care for yourself in your family. ⚡

Ann Thelen is the editor of *Living with Energy in Iowa*. Derrill Holly writes on consumer and cooperative affairs for the National Rural Electric Cooperative Association.

## 12 WAYS TO PREPARE

<input type="checkbox"/>  <b>Sign up for Alerts and Warnings</b>	<input type="checkbox"/>  <b>Make a Plan</b>	<input type="checkbox"/>  <b>Save for a Rainy Day</b>	<input type="checkbox"/>  <b>Practice Emergency Drills</b>	<input type="checkbox"/>  <b>Test Family Communication Plan</b>	<input type="checkbox"/>  <b>Safeguard Documents</b>
<input type="checkbox"/>  <b>Plan with Neighbors</b>	<input type="checkbox"/>  <b>Make Your Home Safer</b>	<input type="checkbox"/>  <b>Know Evacuation Routes</b>	<input type="checkbox"/>  <b>Assemble or Update Supplies</b>	<input type="checkbox"/>  <b>Get Involved in Your Community</b>	<input type="checkbox"/>  <b>Document and Insure Property</b>

# Extreme weather leads to unprecedented measures to protect electric grid

BY ERIN CAMPBELL

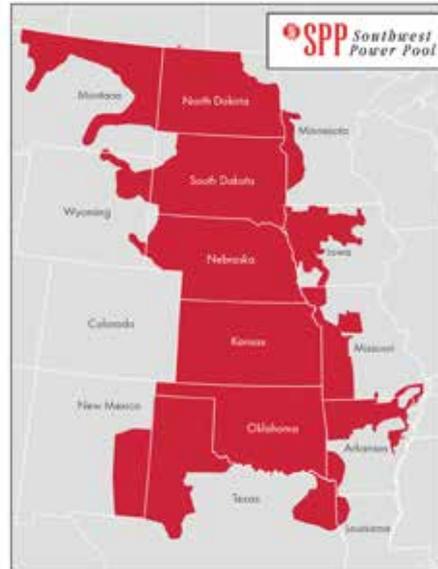
The word “unprecedented” has been used often over the past 12 months, but there really is no other way to describe what happened in the electric industry last month.

On Feb. 15 and 16, utilities across the Midwest, including several local electric cooperatives in western and north-central Iowa, implemented load control measures and temporary power disruptions to reduce electric demand on the grid. These highly unusual control measures were needed to prevent a catastrophic system-wide blackout. Electric demand reached historic highs due to electric heat use during record-breaking arctic weather that lingered over a large portion of the country. To put it simply, there was not enough available generation/supply to meet this exceptionally high electric use.

## The grid’s “air-traffic controllers”

Many electric utilities across the country are members of regional transmission organizations (RTOs) and independent system operators (ISOs), also referred to as power pools. These federally regulated entities work on a regional scale to coordinate, control and monitor supply and demand on the electric grid. RTOs do not own the power grid, but they do work as “air-traffic controllers” of the grid to ensure reliable supplies of power, adequate transmission infrastructure and competitive wholesale electricity prices on behalf of their member utilities. Most Iowa electric utilities are members of one of two RTOs: Southwest Power Pool (SPP) or Midcontinent Independent System Operator (MISO).

SPP issued unprecedented Energy Emergency Alert (EEA) Level 2 and Level 3 orders to its member utilities across several states on Feb. 15 and 16, calling for high levels of electric demand reduction/curtailment to match available supply.



## Impacted electric co-ops in Iowa

Utilities that are members of SPP, including several Iowa electric distribution cooperatives served by Corn Belt Power Cooperative, L&O Power Cooperative and Northwest Iowa Power Cooperative (NIPCO), needed to shed specific amounts of electric load at particular times to maintain a safe and functional electric grid under the EEA Level 2 and Level 3 orders. The SPP-related outages that affected some Iowans were part of a larger electric demand management effort that impacted

several states in the Midwest.

SPP issued the EEA orders to prevent a damaging regional blackout which could have taken days to restore. EEA Level 3 orders are extremely rare and are only implemented when absolutely necessary. In fact, these are the first Level 2 and Level 3 orders issued in the power pool’s 80-year history.

To comply with the Level 3 orders, some local electric cooperative substations were taken offline for about an hour at a time on average. Unfortunately, these outages occurred with almost no advanced warning as SPP manages electric supply and demand minute-by-minute in real time. Local electric distribution cooperatives had just minutes to initiate substation outages and they worked to avoid interrupting service to critical facilities.

These load control measures were unprecedented in our region, stemming from historically frigid weather impacting a vast portion of the country over a prolonged period. While extremely rare, this is another example of how your local electric co-op works to protect the electric grid. ⚡

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



# Smart home tech for your budget

BY MARIA KANEVSKY

Smart home devices can add comfort and convenience to your life, but the price tag for some of these devices can be another story. Since many smart home technologies are new and cutting-edge, the cost of owning these devices can sometimes be a major barrier. Luckily, there are several inexpensive options for smart home devices that won't break the bank while still offering nearly all the same benefits.

**1 Smart home speakers.** Smart home speakers provide a wide range of features, such as playing music, calling friends or family, or even locating a misplaced smartphone. One of the most useful aspects of smart home speakers is that they act as a smart home hub for your other smart devices. Each smart speaker comes with a voice assistant, like Amazon Alexa or Google Assistant, which can be used to control additional smart devices in your home.

When choosing a smart home speaker, make sure your other smart devices are compatible with the system. For example,



Smart home speakers, like the Amazon Echo Dot shown here, offer a wide range of features that provide consumers convenient control of smart home devices.

Photo Source: Abby Berry, NRECA

Google Assistant works best with other Google products, rather than Amazon or Apple products. Several smart home speakers, especially smaller, entry-level types like the Amazon Echo Dot and Google Home Mini, can cost as little as \$30 or less. This makes them more affordable than the larger versions, like Amazon Echo and Google Home, while still offering nearly all the same features.

**2 Smart plugs.** This technology works by directly inserting the smart plug into an outlet, then plugging your device into the smart plug. This can make any device “smart” by connecting it to your Wi-Fi through the smart plug. They can also be used with smart home speakers. One of the best features of a smart plug is that it can help you reduce your monthly energy use. This can be done by programming automatic shut-off times to prevent devices from drawing energy when they're not in use. There are plenty of inexpensive and well-performing smart plugs available under \$20.

**3 Smart light bulbs.** Smart light bulbs can be controlled through your phone or by voice if connected to your smart home speaker. Some features include the ability to choose different lighting colors and shades, dimness levels and the ability to turn them on or off entirely. There is an extensive market for smart LED bulbs, but some of the less expensive options are the Wyze Bulb, the Lixf Mini and the Ikea Tradfri, with prices ranging from about \$8 to \$20 per bulb. For multi-bulb fixtures, an alternative to buying several smart bulbs is to buy a smart light switch to control the entire fixture.

If you're looking to buy more than one smart home device, make sure the devices are compatible with your smart home hub (Google Home Mini with Google products, or Amazon Echo Dot with Amazon products) to ensure the best performance of all devices. As with any smart home device, access to a secure and stable Wi-Fi connection will be crucial to properly use the technology. ⚡

Maria Kanevsky writes on consumer and cooperative affairs for the National Rural Electric Cooperative Association.



Smart plugs can make any device “smart” by connecting it to your Wi-Fi. Smart plugs can be controlled through a smartphone app and can also be used with smart home speakers.

# Tiny huts on the farm

BY VALERIE VAN KOOTEN

A while back on Facebook, an acquaintance posted a picture of a field with little, peaked buildings dotting its surface. “What are these tiny huts?” she asked. “Are they some kind of tiny houses?”

Those of us who had grown up on farms chimed in immediately – they were A-frames, built for “free range” hogs but used more and more infrequently in the present when most porcine entities are now gathered in large confinement sheds.

A-frames were a huge part of my growing up on a hog farm, where we raised thousands of hogs annually. Each hut held a mama sow and her piglets, which made for strong, healthy pigs growing up in fresh air and able to move where they wanted. However, this also made the care of these hogs much more labor-intensive, as they would escape through the smallest of cracks in fences and gates and needed to have their houses replenished with straw in cold and wet weather.



## Early morning chores

Many was the rainy early morning that my sister and I huddled under the blankets, savoring the last few minutes of warmth, fully expecting at any moment my father to yell up the steps: “Get up, girls. We need to bed A-frames.”

Depending on the direction that the rain or snow was coming from, bedding up A-frames was a necessity to keep the animals dry and was a process that entailed riding on a cart or wagon behind the tractor with several straw bales on board. At each A-frame, my dad would stop the tractor, and Amber and I would throw a few “paragraphs” of straw into the hut, knowing that the sow would trample it down into a nest for her young.

Bedding A-frames was cold and

wet but relatively safe and easy. Vaccinating the piglets was another story. Dad would spread ground corn out several hundred yards from the A-frames and the sows would, understandably congregate there. As fast as we could, we’d zip from one A-frame to another, catch the piglets by the back leg and hand them to my dad, who would jab them with the syringe and then drop them into a bushel basket so we’d know which had been inoculated.

## Protective mothers

The mothers may have been otherwise occupied, but they were Tamworths and Durocs – strong, hearty stock but also fierce mothers. One squeal from a piglet and they were headed our way with

a “woof” that was intimidating and a bite that could maim. We were equipped with a fence panel to hold up, if needed, to divert the angry assault. For a couple of tweenagers, though, the panel might as well have been a hula hoop. We didn’t have the strength to hold it against a raging sow and knowing that made the entire process an exercise in speed and anxiety. We were, in effect, the weakest link.

The age of A-frames may be finished, and though I may wax nostalgic for them, I’ll pass on fending off enraged sows, thank you. ⚡

Valerie Van Kooten is a writer from Pella who loves living in the country and telling its stories. She and her husband Kent have three married sons and two incredibly adorable grandsons.

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