

# NEBRASKA

**Magazine**

**NREA.org**

October 2023



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Telling the story of  
Rural Nebraska

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*Photographer Michael Bazant captured a Chestnut-sided Warbler with his camera at Fremont Lakes.*



Wayne Price

## How I Joined the EV Revolution

I recently purchased a Nissan LEAF and joined the world of electric vehicle (EV) owners. It is perfect for my 34-mile commute to work with a range of 146 miles on a full charge. But I must admit I still suffer from what is known as “range anxiety.” I still have a gasoline-fueled vehicle to use when I need to travel longer distances.

I’m expecting that to lessen as I make more trips around the state, and I get used to stopping at charging stations to recharge the battery. More and more communities in Nebraska are installing EV chargers. In fact, a few of our member-systems have EV charging stations at their offices, from Norris PPD in Beatrice to Northwest RPPD in Hay Springs.

There are two levels of charging available for the home. A Level 1 charging unit is the most basic. It’s usually included with the vehicle and plugs into a typical 120-volt outlet, so it is the easiest and cheapest charging solution.

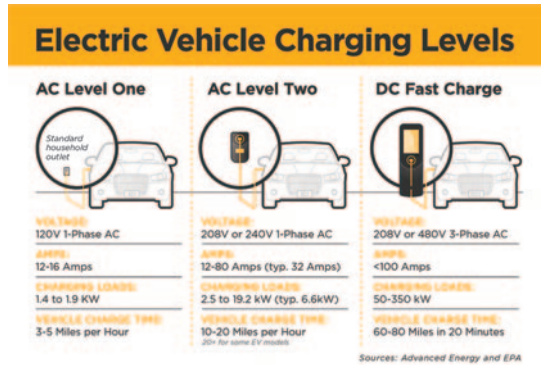
A Level 2 charging unit is more powerful and needs to be purchased separately. It plugs into a 240-volt outlet, the type used for larger appliances (like a clothes dryer), which most of us don’t have in our garages or outside our homes, so there’s an additional cost to have the outlet installed.

I installed a Level 2 charging unit in my garage. Level 2 units typically supply power levels from 6 to 12 kWh, depending on the amperage of the circuit and the power level the EV can accept. This means the Level 2 chargers will provide between 18 and 48 miles of range per hour of charging.

As a Norris PPD customer, I qualify for an EnergyWise incentive of \$500 for installing a charger. I also qualify for an incentive on the wiring for the installation of the EV charging station.

If you are interested in learning more about EVs, contact a local car dealer to schedule a test drive. Many curious drivers are impressed by the performance of EVs, especially the instant torque provided by the electric motor.

Your electric utility can also be a great resource. More and more utilities own EVs as part of their fleets and many offer “ride and drive” events. Some utilities also offer reduced electricity rates for “off-peak” EV charging, which can help you save even more money on each charge.



Visit our new website at [nebraskamagazine.org](http://nebraskamagazine.org)





Lacey  
Gulbranson

Lacey Gulbranson is the General Manager of Wheat Belt Public Power District, headquartered in Sidney, Nebraska

## Nebraska's Board Members: Keeping Customers' Interests at Heart

There are many reasons why I am blessed to call myself a Nebraskan. As you know, we like to do things a bit differently in Nebraska, from a Unicameral Legislature to Husker Nation to public power and more. As the only state to be solely served electricity by publicly owned utilities, you as customers/citizens elect the board members of the utilities. So, what are the responsibilities of the board? The three key fiduciary responsibilities of a board member are 1) Duty of Care, 2) Duty of Obedience, and 3) Duty of Loyalty. We will examine what each of these responsibilities entails and how you can participate or influence.

**The Duty of Care.** This involves acting in good faith, reasonably, and as others would in the same situation. Board members are to keep the interests of the customers/membership in mind when taking action or when intentionally not taking action. Board members have a responsibility to research and educate themselves on the topics at hand.

**The Duty of Obedience.** Meaning, being obedient to the law. This general statement includes articles of incorporation, bylaws, policies, federal laws and regulations, state laws and regulations, and city ordinances.

**The Duty of Loyalty.** Board members are to act with only the interests of the entity at hand. They are to avoid conflicts of interest and they have a duty to protect confidential information. This duty can be summarized as unselfish and undivided loyalty to the organization.

How can you participate or influence? Do your due diligence to research and learn about board member candidates before voting. Show up to vote for board members or submit your vote by absentee ballot. You can attend a board meeting to learn about how the board influences the organization. Find out when there is a public comment period at an upcoming board meeting; attend to address the board by communicating support or raising an issue. Contact your board member individually to learn more about a specific topic or to discuss an issue. If you are interested in becoming a board member, talk to your local board members, contact the utility to find out more information, or file to be on the ballot (if that is an option for your utility).

There are hundreds of board members across the state acting in the best interest of their customers/constituents on a monthly if not weekly, or daily basis. You can get involved or at least learn more about the process. And remember, tanking a river isn't the only thing that happens differently in Nebraska.

# CELEBRATING PUBLIC POWER IN NEBRASKA

Could you imagine going an entire day without the use of electricity? Have you ever tried it? In the span of about 100 years we have seen electricity evolve from a big city luxury to a nationwide necessity. It keeps us safe and comfortable, and it connects us to our friends and family.

We take electricity for granted in Nebraska and the entire United States for that matter. The folks who can remember what it was like before their family had electricity are becoming fewer every year. It is easy to forget how dependent we have become on electricity in our everyday lives. We flip the switch and automatically expect our homes and offices to be filled with light.

It doesn't hurt to be reminded occasionally about the importance of electricity, as well as the contributions it makes to our towns, our state and the nation.

We encourage our readers to take part in celebrating Public Power Month.

Public Power Month honors the nation's more than 2,000 not-for-profit, community-owned electric utilities, like those that serve your homes, ranches and businesses.

Public power serves the interests of the community. The not-for-profit rates hold down household and business costs, and Nebraska has some of the lowest electric rates in the country. Lower electricity rates attract and keep businesses that provide jobs for our citizens. They are also good for our household budgets.

When it comes to service, you know your electric provider is just down the street or a phone call away if you have problems. And you know their track record of keeping the power on and restoring it immediately in



the case of weather-related outages, such as blizzards and tornadoes.

Nebraskans have several reasons to celebrate Public Power. Our state is the only one in the nation that is totally served by public power. Other states have investor-owned utilities that are in the business to make money. Electric utilities in Nebraska are in business to provide affordable, reliable and safe electricity.

Nebraska has its heritage to celebrate when it comes to public power. In 1936 Nebraska Senator George Norris worked to get the Rural Electrification Act passed. He believed that public power represented a way to ensure that every citizen was provided with reliable service at a reasonable price.

Nebraska's rural electric utilities are dedicated to energy efficiency, too. Public Power Month is a good time to look at your local electric utility's low- or no-cost programs designed to help reduce energy consumption and save you money. The programs help consumers gain control over their energy use.

In Nebraska we create electricity from a number of sources, including coal, nuclear, hydro-power and wind. The energy efficiency programs offered by local electric



utilities help reduce the need for additional power plants to be built in the future.

Take a minute to tell your electric utility “thank you” for working to keep rates low and the power on.

## Nebraska is

# #1

Every state in the U.S. has a public power utility, but Nebraska is the only state where 100 percent are served by a publicly-owned utility.

## REASONS TO LOVE PUBLIC POWER

### PUBLIC POWER IS A TRADITION THAT WORKS

Public power was built to bring electricity to rural Nebraskans when investor-owned utilities didn't want to lose profits serving farmers at the end of a line. The same is true today. Even with significantly fewer customers per mile, Nebraska's public power utilities meet the electric needs of consumers in rural areas and small towns.

### PUBLIC POWER IS COMMITTED TO STEWARDSHIP

Nebraska's public power electric utilities are committed to stewardship. They balance the use and conservation of natural resources so future generations of Nebraskans will enjoy the quality of life and natural beauty the state offers.

### PUBLIC POWER HELPS YOU USE LESS AND SAVE MORE

Nebraska's public power electric utilities offer energy efficiency programs and work with customers every day on how to better manage their energy usage and, as a result, save money.

### PUBLIC POWER IS NOT-FOR-PROFIT

Public power is not-for-profit, without “outside” influences like stockholders or absentee owners. Public power customers receive good value for the dollars they spend on energy, paying bills based solely on cost-of-service.

### PUBLIC POWER KEEPS LOCAL DOLLARS LOCAL

Nebraska's public power utilities pay more than \$80 million in taxes, in-lieu-of taxes, and other payments each year in the communities and counties served. This money helps support local projects and lowers everyone's tax burden.

### PUBLIC POWER IS A HOMETOWN INVESTMENT

The local utility is headquartered in town and creates jobs for customer service representatives, lineworkers, engineers, mechanics, and administrators. Kids growing up in a public power community can find great careers right in their hometown.

# Nebraska's Rural Electric Utilities **ARE STEPPING UP!**

Currently, there is a **PERFECT STORM** of rising costs, causing an increase in the price of power production...

**FOOD**

**GASOLINE**

**COAL**

**NATURAL GAS**

**CONSTRUCTION MATERIALS**

...**BUT** public power utilities in Nebraska remain committed to providing

**SAFE, AFFORDABLE & RELIABLE ELECTRIC POWER!**



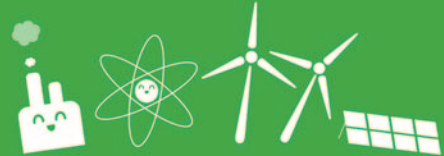
Nebraska's Public Power Utilities are Industry Leaders in **ENERGY EFFICIENT PROGRAMS & RENEWABLE RESOURCES!**



We are testing and deploying **NEW TECHNOLOGIES** like plug-in **HYBRID ELECTRIC CARS** and advanced meter reading devices.



We are helping consumers **SAVE MONEY** on their energy bills with energy efficient programs.



We will continue to meet Nebraska's need for power through a blend of **CLEAN COAL, NUCLEAR, WIND, SOLAR** and energy efficiency.

[WWW.WORKINGFORNEBRASKA.ORG](http://WWW.WORKINGFORNEBRASKA.ORG)





## A Great Gift Idea



When Mom and Dad moved to town they missed getting Nebraska Magazine so I bought them a subscription. It only cost \$10 plus tax. Call **402-475-4988** to get your subscription started today.

## Larry's Safety Lesson

# Avoid Power Line Hazards on the Farm

By **Larry Oetken**



Even if you have no power lines in your fields, you certainly have them present in equipment storage areas and grain storage areas. Be sure the paths from equipment storage areas to the fields and from the fields to the grain storage areas are safe routes. There should be ample clearance for combines, pickers, bailers, front-end loaders, or any other equipment you're moving about the farm.

If there is any question about whether equipment will clear a power line, assume that it won't and take measures to avoid possible contact.

More often than not, power lines follow property lines. You may be lulled

into a dangerous complacency when you're right in the middle of your crop field, because you know for sure no power lines are over your head. When you reach the end of your field and turn the equipment, there's a very good chance power lines will be nearby. Always be alert to power lines on your property lines. They may even be hidden by trees or brush, so you must take precautions to ensure your equipment doesn't make contact.

Grain augers and bins are often used along property lines, too, since such placement makes the best use of the land. Be sure that augers don't come into contact with power lines.

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Larry Oetken is the Job Training & Safety Coordinator for the Nebraska Rural Electric Association.



## Learn How to Protect Yourself from Scams and Fraud

As technology continues to evolve, so do the tactics of scammers trying to take advantage of unsuspecting consumers. One such scam that has been making the rounds recently is individuals pretending to be representatives of your electric utility company. These scammers will call you claiming that they are from your utility company and that you have overpaid and are due to receive a credit.

The scammer will then ask for your personal information, such as your social security number or credit card information, claiming that they need it to credit your account.

# Don't Get Duped

It is important to remember that your electric utility company will never call you to ask for personal information or demand immediate payment. If you do receive a call like this, it is likely a scam. If you are unsure if a call is legitimate, hang up and call your utility company directly to verify.

# Chasing Carbon

## What happens when forests release more carbon than they absorb?

Forests store carbon. That is a fact. However, what happens when disturbances such as wildfire, insect infestation, disease and natural disasters weaken the forest ecosystems we depend upon as one source to fight the effects of a changing climate?

The answer is that, today, forest carbon stocks in several Western states are declining in large part due to tree mortality caused by these disturbances. That is an important distinction, because live trees to function and grow, use carbon dioxide emitted into the atmosphere, often from human activities such as auto emissions and cement production.

Scientists know that without carbon dioxide, Earth's natural greenhouse effect would be too weak to keep the average global surface temperature above freezing. By adding more carbon dioxide to the atmosphere, people are supercharging the natural greenhouse effect, causing global temperatures to rise.

Live trees – the carbon pump of ecosystems – actively remove carbon from the atmosphere. When trees die, they continue to store the carbon they already collected but no longer remove additional carbon from the atmosphere.

“An important nuance is that there is carbon stored in all ecosystem components, such as tree litter on the ground, soils and trees themselves,” said Grant Domke, a scientist with the Forest Service Research and Development. “Every state has carbon stored in these different pools and the amount of carbon accumulated in forests is massive, collectively storing the equivalent of more than 30 years of fossil fuel emissions in the U.S.”

Carbon is stored in five ecosystem pools: aboveground biomass (stems, stumps, branches, bark, seeds, and foliage above the soil); belowground biomass (coarse roots); dead wood (standing dead trees, snags and downed dead wood); litter (such as branches on the forest floor), and soil. Carbon is also stored in harvested wood products in use such as lumber used in decks, homes, paper products and plywood and in solid waste landfills.



Domke is one of several authors of an annual report, *The Greenhouse Gas Emissions and Removals from Forest Land, Woodlands, Urban Trees, and Harvested Wood Products in the United States*, last published in April 2023. Over the last 30-plus years several states in the Western U.S. have incrementally emitted more carbon than they removed from the atmosphere each year. Currently, the greenhouse gas emissions report shows that Idaho, Montana, New Mexico, Utah, Arizona, Nevada, South Dakota and Wyoming are emitting more carbon into the atmosphere than they are removing. However, many other states that have long been strong net carbon sinks now show that annual gains are declining over time for many of the same reasons.

For Domke and other scientists, that is not surprising. For decades they have warned us of these scenarios and more.

“Our nation’s forests are struggling under the weight of changing climate and climate-related disturbances, such as



*What may look like a dead tree is more to a carbon scientist. The tree now serves as a carbon storage vessel that slowly releases carbon back into the air and soil over time. Photograph by Carol Underhill, USDA Forest Service*

one of two of the largest fires in 2020.

Colorado is fighting back. After that devastating fire year, the state created the Colorado Strategic Wildfire Action Program “designed to quickly move \$17.5 million state stimulus dollars to start on-the-groundwork on fuels reduction projects and increase Colorado’s capacity to conduct critical forest restoration and wildfire mitigation work.”

And the Forest Service is helping. In 2022, the Forest Service’s Rocky Mountain Region received \$18.1 million as part of the agency’s 10-year Wildfire Crisis Strategy to treat 10,000 acres across seven national forests containing the only sources of water for the Colorado Front Range. The goal is to reduce the likelihood, intensity and size of fires in those areas. On Friday, The Forest Service announced investing another \$2.04 million through the Good Neighbor Authority in projects to reduce wildfire risk and restore healthy forests.

Lara Murray is a Forest Service natural resource specialist who works on forest carbon topics.

“When a tree dies, its carbon doesn’t vaporize overnight,” Murray said. “Carbon can remain stored in dead trees, which sometimes takes 80 years or even more to decompose. Harvested wood can continue to store carbon for decades or longer if used to make durable wood products such as construction material or furniture. So, the carbon is not immediately lost, but the Forest Service’s carbon monitoring work shows we are losing the active pumps in some regions of the country.”

Curbing this decades-long trend is possible but takes time.

“There are a variety of things that can be done. The wildfire crisis is a step in the right direction with managing fire with fire that promotes regeneration and long-term ecosystem resilience,” she said. “We also need to accept that this won’t change overnight.”

*Source: USDA Forest Service*

wildfires, drought and extreme weather events,” Domke said. “In a state like Colorado, there is a relatively large amount of carbon stored in forest ecosystems. But, unfortunately, due to increases in the frequency and severity of disturbances among other factors, forests capacity to sequester and store new carbon is becoming more limited and carbon stocks are declining.”

According to Colorado State University, Colorado’s 66 million acres includes nearly 24.5 million acres of the most complex forested landscape in the Intermountain West. That forestland has been the target of those very disturbances that weakens forests. Between 1996 and 2013 more than 3.4 million acres were killed due to mountain pine beetle, the most aggressive, persistent, and destructive bark beetle in the western U.S. and Canada. Between 2011 and 2020, the state faced an average 5,618 wildfires each year that burned more than 237,000 acres annually, with the Cameron Peak Fire that burned nearly four months and affected 208,913 acres,

# 5 WAYS TO STAY CYBER SAFE & SECURE

October is Cybersecurity Awareness Month, the perfect time to improve our cyber practices. Technology breaches have become more commonplace, ushering in a new reality of increased security measures and constant monitoring of organizational and personal data to ensure our identities, credit card numbers or bank accounts have not been compromised.

Here are five simple ways you can stay cyber safe, at home or at the office.

## 1 USE STRONG PASSWORDS

Did you know the most common password of 2023 is 123456? Using simple, predictable passwords like this is never a good idea. The strongest passwords meet the following criteria: 12-15 characters, including numbers, special characters and lowercase and uppercase letters. If you struggle with remembering passwords, try using a password manager or password phrases that are easy to remember.

## 2 ENABLE MULTIFACTOR AUTHENTICATION

Enable multifactor authentication across all accounts and devices. Multifactor authentication decreases the likelihood of a breach by adding an additional form of authentication. So, if your password is hacked or stolen, the bad actor still has a hurdle to overcome to access your data.

## 3 RECOGNIZE AND REPORT PHISHING

You've likely received an email with urgent language and a myriad of typos and grammatical errors saying you need to "update your payment information" or "make a payment immediately." Emails like this are typically phishing scams. Legitimate businesses will not email or text with a link to update your payment information.

If something seems off, trust your instinct. Don't click on links or attached files in emails or text messages from senders you don't know. Even if you do know the sender, hover over the link before you click as they may have been hacked or someone could be spoofing them!

## 4 UPDATE SECURITY SOFTWARE

Stay protected while connected. Whatever the network device, the best defense against viruses and malware is to update to the latest security software, web browser and operating systems. Sign up for automatic updates if possible and protect your devices with anti-virus software. Another way to stay safe while connected to outside networks is to use a virtual private network, or VPN.

## 5 SECURE YOUR NETWORK

Secure your network against cyber threats. Computers, smartphones, TVs, thermostats, doorbells—the list of internet-connected devices is ever-growing! Securing your modem, router and Wi-Fi can keep your home network safe from cyber threats.

Practicing good cyber hygiene is essential to keeping data secure.

# Don't Let Your Energy Bills Haunt You This Winter: Common Home Energy Efficiency Mistakes to Avoid

By Cory Fuehrer, NPPD Energy Efficiency Program Manager

The United States Department of Energy (DOE) has designated October as Energy Awareness Month. This recognition comes at the perfect time because, as winter approaches, it's easy to overlook many different areas in our homes and businesses where energy will be lost or consumed without bringing benefit. As the old Greek proverb implies, "Out of sight, out of mind." Only when a high utility bill arrives, do most people become "aware" of the energy waste.

To heighten energy awareness, consider these often ignored home energy efficiency errors:

**Lights left on.** Especially as the days grow shorter, lighting is needed for longer periods. But when occupants leave a room or area, the simple act of switching the light "off" is frequently forgotten. If this becomes a chronic problem, installing an occupancy sensor switch to automate the process is a simple solution. If exterior lighting regularly operates into the next day, a photosensor switch can deactivate the electrical circuit as dawn arrives.

**Windows not tightly closed.** Respite from the summer heat is often found after the sun goes down and a cool breeze can be drawn through the house by opening all the windows. While most are shut before the heat of the following day, some may not be closed all the way and locked. Others may be missed in spare rooms, basements, or other areas not frequently occupied. With differences between indoor and outdoor temperatures often doubling in the winter when compared to summer periods, the undesired air infiltration can significantly impact home heating costs.

**Furnace filters unchanged.** Dirty furnace filters add

resistance to air flow through HVAC systems causing them to operate longer to keep the indoor climate comfortable. While the life of a furnace filter will vary due to a number of factors, it's a good idea to examine filters at least every 60 days until a replacement schedule is established. Placing a bi-monthly reminder on a calendar helps assure it does not get overlooked.

**Attic access unsealed.** The most common type of attic access style is the attic ladder and hatch system. Others include a simple hatch in the ceiling or a door into the unconditioned attic space. Regardless of type, all should be insulated and sealed with weatherstripping to reduce energy loss. See the related article on Page 18.

**Fireplace flues left open.** Who doesn't like a cozy fire on a chilly evening? Obviously, proper exhausting of smoke and fumes is necessary until the embers have completely burnt out. This usually means leaving the flue open until the next day. But the next day's affairs regularly take priority and the open flue may be forgotten. This allows interior heated air to literally go right up the chimney! Placing reminder notes where they will be seen first thing the next morning can be great for correcting this oversight.

**Water heater set too high.** Even though many water heaters are set at 140 degrees Fahrenheit by default, the DOE recommends 120°F for energy efficiency. For every 10 degrees the thermostat is lowered, energy costs for water heating can be reduced by 3 to 5%.

**Plug loads drawing energy.** Many home electronics, battery chargers and appliances use standby power even when they appear to be off. Any device that uses a remote control, has an external power supply or a continuous display are still consuming power. Connecting multiple electronics to a power strip makes it easier to switch off unused devices all at once to ensure unnecessary energy use does not occur.

With space and water heating accounting for about half of annual energy use in the average Nebraska home, these often-overlooked energy losses can add up. Recognizing these losses is the first step to improving energy efficiency. Your local rural electric utility, in partnership with Nebraska Public Power District, can help identify other ways to gain the most value from your energy costs.

# Smart Breaker Boxes



By **Jannah Denney**

Every home has an electrical panel, otherwise known as a breaker box. The design hasn't changed much over the years, but through recent innovation, the smart technology-enabled electrical panel is changing that. Smart breaker boxes, which can operate on their own or in conjunction with a standard electrical panel, make them an excellent alternative for households looking to save energy.

Many consumers are upgrading to smart breaker boxes to make their home electrical systems safer and more reliable. It's recommended to hire a qualified electrician to install the smart panel, which can be done using a home's existing electrical wiring and infrastructure.

Many smart breaker boxes are designed to easily connect to other smart devices in your home. With the capacity to remotely monitor and adjust energy consumption, these devices provide several advantages that make them a worthwhile investment for anyone looking to consume less energy.

One advantage smart breaker boxes provide is convenience for homeowners to monitor and control how much energy they use. With smart circuit breakers, you can receive real-time data that allows you to pinpoint appliances or devices that consume excessive energy. This real-time tracking allows consumers to adjust their energy use where needed, which ultimately saves money on monthly energy bills, reduces energy waste and is good for the electric grid.

Smart breaker boxes are all about managing your electrical load. While the technology to track how much energy a home uses has been available for years, the ability to control how that energy is used is new. A smart breaker box can reveal how much power each circuit is using and turn each one on or off. Some smart breaker boxes allow you to establish schedules based on importance, such as refrigeration and heat to be on 24/7, but less important loads like Wi-Fi or the television to turn off during scheduled times, when no one is home.



*With smart breaker boxes, like the SPAN Panel shown here, you can control and monitor every circuit in your home from a smartphone or tablet. Photograph provided by SPAN*

Smart breaker boxes offer additional benefits for those with home solar systems. Smart breaker boxes help solar energy systems run more efficiently by determining how much energy is being used and how it can be stored. Through intelligent load management, they can provide longer battery backup life for those with energy storage. Additionally, integration with other smart home devices, like thermostats and virtual assistants, further enhances the connected-home ecosystem.

Safety in electrical devices is highly important to consumers, and smart breaker boxes provide enhanced safety features that consumers appreciate. Smart breaker boxes can identify abnormalities and other potential electrical problems, then quickly shut off power supply if a circuit shorts or becomes overloaded, avoiding electrical fires and other dangers. Many smart breaker boxes include surge protection to help protect against power spikes and other issues.

Smart breaker boxes aren't just for consumers—electric

utilities are using them too.

For public power districts and electric cooperatives, smart breaker boxes also offer a range of benefits. A primary advantage of these devices is that they allow for more efficient and reliable energy distribution. With the ability to remotely monitor energy use and detect faults within the system, electric cooperatives can quickly respond to issues and minimize outage times for consumers—ultimately managing the grid more efficiently.

There's no denying that smart home technologies have changed how we use our homes, and smart breaker boxes are no exception. Smart breaker boxes help both customers and electric utilities in multiple ways. With advanced safety features, real-time energy tracking and control, and the ability to use energy more efficiently, these devices are a smart investment for anyone who wants to make their home's system more reliable, safer and cost-effective.

Electric utility crews, highway repairmen, and many others who work along roadways are in danger when motorists are unfazed by the orange traffic barrels, flashing arrows, and other signals that try to slow traffic. When traffic warning devices don't work, someone can be injured or killed.

Cars or trucks that speed through a work zone not only endanger workers on the ground. Driving too fast or too close to a work truck can also put an elevated worker in danger by causing their raised bucket to move or sway.

Streets and highways are lined with power poles and electrical equipment, and narrow roadways often require crews like ours to place their equipment in or near traffic lanes. Be alert to utility and other work zone crews for their safety and yours. Besides our crews, you might encounter road workers, other utility crews, tree trimmers or first responders working in or on the side of the road.

According to the National Work Zone Safety Information Clearinghouse, 774 fatal crashes and 857 deaths occurred in work zone crashes in 2020 (at the writing of this article, data was not available for 2021). Many other work zone crashes result in injuries. In 2020, 102,000 work zone crashes occurred.

To help keep roadside crews safe:

- Keep a safe distance between your vehicle and traffic



barriers, trucks, construction equipment and workers.

- Be patient. Traffic delays are sometimes unavoidable, so allow time for unexpected setbacks.
  - Obey all signs and road crew flag instructions.
  - Merge early and be courteous to other drivers.
  - Use your headlights at dusk and during inclement weather.
  - Minimize distractions. Avoid activities such as texting, operating a radio, applying makeup or eating.
- Remember, slow down when approaching a work zone and move over for first responders and work crews. Do your part to help everyone return home safely at the end of the day.

## Murphy





# From Waste to (Energy) Wealth

Biomass energy, which converts animal, human and plant waste into energy, is gaining popularity as a renewable energy source. Biomass energy reduces waste and greenhouse gas emissions, generates electricity and provides additional advantages.

Creating energy from biomass requires several phases. First, the collection and transfer of waste to a processing plant where animal, human and plant waste are sorted. After sorting, the waste can be converted to energy through a variety of processes:

- Anaerobic digestion—breaking down organic waste without oxygen—is a frequent approach. Biogas can be burned to generate power or heat from this method.
- Incinerating biomass also generates energy. This involves a controlled burning of organic waste to generate power or heat.
- Pyrolysis is a third biomass-to-energy technique. Bio-oil, a liquid fuel used to generate power or heat, is produced by heating biological waste without oxygen.

## Advantages of Biomass Energy

Since waste is constantly being produced, biomass energy is considered a renewable source. Farms and other agricultural enterprises produce animal waste every day, and crop harvesting generates plant waste. Human waste also provides energy-generating organic material. Electricity generated from waste is environmentally sustainable and reduces landfill waste and greenhouse gas emissions.

Cost savings is another significant advantage of biomass energy. Additionally, biomass energy can be produced locally, which reduces reliance on foreign energy sources, stabilizes energy prices and economic risks, and creates employment opportunities in waste management and energy.

## Disadvantages of Biomass Energy

Even though there are major advantages to biomass energy, there are a few drawbacks. Not all organic waste can be converted to energy, and certain waste materials are contaminated, therefore unsuited for biomass energy production.

Biomass energy production can also be costly when waste must be transported long distances to a

## ELECTRICITY FROM BIOMASS

Biomass is renewable organic material that comes from plants and animals. It can be burned directly for heat or converted to renewable liquid and gaseous fuels through various processes.

### Types of Biomass Used for Energy



Crops and Agriculture Residues



Wood



Vegetable Oils and Animal Fats



Animal Manure



Sewage



Trash/Garbage

### How do electric utilities use biomass?

The electric power sector uses wood and biomass-derived waste to generate electricity. Most electricity generated from biomass is produced by direct combustion.

1. Biomass is burned in a boiler to produce high-pressure steam.
2. Steam flows over turbine blades, causing them to rotate.
3. The turbine rotation drives a generator, producing electricity.

**One Advantage of Biomass:** Electricity generated from biomass waste is environmentally sustainable and reduces landfill waste and greenhouse gas emissions.

**One Disadvantage of Biomass:** Biomass energy production can be costly, particularly when waste must be transported long distances to a processing facility.

Source: Dept. of Energy

processing facility. To address these issues, the cost and efficiency of biomass energy production are being improved, and new technologies are being developed to enhance anaerobic digestion and other biomass energy production methods.

Despite these challenges, biomass energy has the potential to become an important renewable energy source.

You can eliminate drafts and reduce energy waste by properly sealing and insulating your attic hatch.

Attic hatches are often overlooked, even if the rest of the attic is properly insulated. It should be noted if your attic access is located in an area you are not paying to heat or cool, such as your home's exterior or garage, there's no need to insulate it.

For attic access points inside the home, it's important to seal them properly with durability and functionality in mind. Attic hatches should be insulated close to the same R-value as the rest of the attic. (R-value is the insulation's capacity to resist heat flow.)

Attic access types vary, but here are a few tips on how to insulate standard and ladder attic hatches.

## Standard Attic Hatches

A standard attic hatch is typically a covered rectangular hole cut into the ceiling. If your hatch is drywall, I recommend replacing it because it is difficult to properly insulate and seal a drywall hatch. They often crumble and crack around the edges, leading to more air leaks.

Ready-made insulated hatches are available online or at home improvement stores, or you can insulate and seal your existing attic hatch. Either way, measure carefully to ensure you create an effective seal.

To improve your existing hatch, replace drywall attic hatches with  $\frac{3}{4}$ -inch plywood cut to fit. If you have loose-fill insulation in your attic—as opposed to fiberglass batts—install a dam or barrier that extends 2 inches above the level of insulation to prevent it from spilling into the house when you open the hatch. Use unfaced fiberglass batt insulation or plywood to hold back the loose fill insulation.

To insulate the hatch, use rigid foam insulation cut slightly smaller than the plywood attic hatch. Use screws



*This standard attic hatch has been insulated and weather stripped to reduce energy waste. Photograph provided by EnergySmart Academy*

and fender washers to secure the first layer of rigid foam to the hatch. Add layers of rigid foam by taping the edges together one at a time using foil tape. Always wear gloves when using foil tape to prevent cuts. Keep layering the rigid foam until you reach the desired R-value.

Remember to seal any gaps between the drywall and trim, using caulk for smaller gaps and foam sealant for larger ones. Finish the job by

applying adhesive weatherstripping around the hatch perimeter. Install the weatherstripping on the hatch itself or on the trim supporting the hatch.

## Ladder Attic Hatches

For attic hatches with dropdown ladders, you'll follow the same instructions: Install a dam, air seal and insulate. Be sure to account for the space of the folding ladder.

To insulate, build a box to sit in the attic around the hatch. I suggest using wood for the sides tall enough to accommodate the folded ladder. The top of the box will be rigid foam you can remove to get into the attic. Cut the first piece of foam to fit inside the box and the next layer to fit on top of the box. Keep layering until you reach the desired R-value.

To get a good air seal, you may need to remove the existing trim to seal the gap between the drywall and hatch frame. Add weatherstripping to the hatch or the underside of the frame to form a tight seal when closed.

There are several commercially available options for insulating ladder hatches. Remember to check the product's R-value and measure carefully.

If purchasing the required materials to seal and insulate your attic hatch is not in your budget, I recommend weatherstripping the hatch perimeter. While it won't provide the same level of insulation, it's a simple, low-cost option for blocking air drafts.

# Avoid Electrical Hazards on Halloween

The decorative lights, fog machines, black lights, and animatronics of Halloween make for adventurous, entertaining times for children and adults. With these decorations, though, the risk of fire or electrocution could be lurking around the corner. It is important to check for electrical hazards before accidents happen. Use the following tips to keep electrical hazards from haunting you this Halloween:

- Inspect electrical decorations. Look for cracked or frayed sockets, loose or bare wires, and loose connections.
- Read manufacturer's instructions regarding installation and maintenance. Check the instructions

to see how many light strings can be connected together.

- Always unplug light strings before replacing any bulbs.
- Fasten outdoor lights securely to trees, walls or other firm supports. Do not use nails or tacks that could puncture light strings or electrical/extension cords.
- Provide well-lit walkways and porch lighting for trick-or-treaters. Make sure the walkways are clear for trick-or-treaters.
- Don't overload extension cords or place them near, or in, snow or water.
- Do not overload your circuit breakers or fuses.
- Plug lights and decorations into circuits protected by ground fault

circuit interrupters (GFCIs). Portable outdoor GFCIs can be purchased where electrical supplies are sold.

- Make sure decorative lighting is well-ventilated, protected from weather and a safe distance from anything flammable like dry leaves and shrubs. Do not coil power cords or extension cords while in use or tuck under rugs or drapes.
- Turn off all lights and decorations before leaving or going to bed. Always have at least one fire extinguisher available and know how to use it.

Sources: Home Safety Council, Electrical Safety Foundation International




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# Make Time For Tasty Meals and Snacks

Between morning routines, days spent in the classroom, extracurriculars and homework, it may seem like there's never enough time in the day during the school year. However, making time for tasty meals and snacks doesn't have to be another burden on jam-packed schedules.

These quick recipes for a flavorful twist on a breakfast favorite, easy-to-make sliders featuring kid-friendly flavors and delightful treats to enjoy at the end of the day can help keep little learners (and older family members, too) fueled up and ready to tackle all the school year throws their way.

For those busy school nights when time is at a premium and you need to get a meal on the table quickly, these simple yet savory Pepperoni Pizza Sliders can be a perfect solution. A modified take on a kid favorite – pizza – they're easy to make after work and extracurricular activities to steal a few moments of family time enjoying the cheesy pepperoni goodness before completing homework and beginning preparations for a new day.

Find more recipes to get you through busy back-to-school season at [Culinary.net](http://Culinary.net).



## Pepperoni Pizza Sliders

- 1 package slider rolls**
- 1/2 cup pizza sauce**
- 1/2 cup mini pepperoni**
- 1 1/2 cups shredded, low-moisture, part-skim mozzarella cheese**
- 1/4 cup butter, melted**
- 1 teaspoon parsley flakes**
- 1/2 teaspoon dried oregano**
- 1/2 teaspoon garlic powder**
- 1/2 cup shredded Parmesan cheese**
- nonstick cooking spray**

Heat oven to 350 F.

Keeping rolls connected, cut sheet of rolls horizontally, separating tops from bottoms. Place bottom halves of rolls in baking dish.

Spread pizza sauce evenly over bottom halves. Sprinkle pepperoni over sauce. Sprinkle mozzarella over pepperoni and cover with top halves of rolls.

Mix melted butter with parsley flakes, dried oregano, garlic powder and shredded Parmesan cheese. Spoon evenly over sliders.

Cover baking dish with aluminum foil sprayed with nonstick cooking spray to keep cheese from sticking.

Bake 20 minutes.

Remove foil and bake additional 5-10 minutes, or until Parmesan is melted and golden brown.

Cut sliders and serve immediately.



### Sausage French Toast Roll-Ups

- 12 sausage links
- 2 eggs
- 2/3 cup milk
- 3 teaspoons almond extract
- 1/2 teaspoon ground cinnamon
- 6 bread slices, crust removed, cut in half
- 3 tablespoons butter syrup

In skillet, cook sausage links according to package directions. Set aside.

In medium bowl, whisk eggs, milk, almond extract and cinnamon.

Dip bread slice in egg mixture. Wrap bread slice around cooked sausage link, pressing seam to keep from unrolling. Repeat with remaining bread slices and sausage links.

In large skillet over medium-high heat, melt butter. Place roll-ups in skillet, seam-sides down, and cook until all sides are browned, approximately 10 minutes.

Drizzle with syrup.

#### Correction:

The Hash Brown Pizza recipe that appeared in the September issue was submitted by Diane Cerny. We apologize for the error.

### Butternut Squash Casserole

#### Filling:

- 4 cups baked butternut squash, mashed
- 1/2 cup butter, softened
- 1 cup sugar
- 4 eggs
- 1 cup evaporated milk
- 2 teaspoons vanilla

#### Topping:

- 3/4 cup crisp rice cereal squares, crushed
- 1/3 cup brown sugar
- 1/3 cup chopped pecans
- 3 tablespoons melted butter

Filling: In large mixing bowl, cream butter and sugar. Mix in eggs and milk, then squash and vanilla. Pour into greased 13 x 9 pan. Bake at 350 degrees for 45 minutes.

Topping: Combining the four ingredients. Spread over baked squash and bake for 8-10 minutes more.

**Karen Keller, Valentine, Nebraska**

### Snowy Glazed Apple Squares

- |  |                          |
|--|--------------------------|
| 2 1/2 cups flour                                       | 1 cup sugar              |
| 1/2 teaspoon salt                                      | 1 1/2 teaspoon cinnamon  |
| 1 cup shortening                                       |                          |
| 2 eggs, separated                                      |                          |
| Milk   | <b>Glaze:</b>            |
| 1 1/2 cups cornflakes, crushed                         | 1 1/4 cup powdered sugar |
| 8 medium tart apples, peeled and sliced (about 5 cups) | 3 Tablespoons water      |
|  | 1/2 teaspoon vanilla     |

Combine flour and salt in bowl. Cut shortening. In a measuring cup, beat egg yolks with enough milk to make 2/3 cup. Add to mixture and toss lightly. Divide dough about in half. Roll larger portion to fit a 9" X 15" jelly roll pan. Sprinkle with corn flakes, then spread apples over flakes. Combine sugar and cinnamon, sprinkle over apples. Roll out remaining dough. Place on top and seal edges. Beat egg whites with fork until foamy. Spread on top crust. Bake at 350 degrees for 1 hour or until golden brown. Combine glaze ingredients and stir well. Spread over warm apple squares. Can use 3 Tablespoons lemon juice in place of water if you want.

**Myrl Kneeland, Ravenna, Nebraska**

### Taverns

- |                    |                     |
|--------------------|---------------------|
| 5 lbs. ground beef | 2 cans tomato soup  |
| 2 large onions     | 1/2 cup brown sugar |
| 5 teaspoons salt   | 1/2 cup ketchup     |
| Pepper to taste    |                     |

Cook ground beef, onion, salt and pepper. Drain off excess grease. Add soup, brown sugar and ketchup. Simmer until it becomes a thicker mixture. Serves 10 buns per pound of meat.

**Maureen Wesseln, Norfolk, Nebraska**

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# DON'T OVERLOAD YOUR HOME!



According to the National Fire Protection Association, 47,700 home fires in the U.S. are caused by electrical failure or malfunction each year. These fires result in 418 deaths, 1,570 injuries, and \$1.4 billion in property damage. Overloaded electrical circuits are a major cause of residential fires. Help lower your risk of electrical fires by not overloading your electrical system.



## OVERLOADED CIRCUIT WARNING SIGNS



Flickering, blinking, or dimming lights



Warm or discolored wall plates



Burning odor coming from receptacles or wall switches



Frequently tripped circuit breakers or blown fuses



Cracking, sizzling, or buzzing from receptacles



Mild shock or tingle from appliances, receptacles, or switches



## HOW TO PREVENT ELECTRICAL OVERLOADS

Never use extension cords or multi-outlet converters for appliances.



All major appliances should be plugged directly into a wall receptacle outlet. Only plug one heat-producing appliance into a receptacle outlet at a time.



A heavy reliance on extension cords is an indication that you have too few outlets to address your needs. Have a qualified electrician inspect your home and add new outlets.



Power strips only add additional outlets; they do not change the amount of power being received from the outlet.



# 50%

The CPSC estimates more than 50% of electrical fires that occur every year can be prevented by Arc Fault Circuit Interrupters (AFCIs).

To learn more about AFCIs, visit [ESFI.org](http://ESFI.org).



Only use the appropriate watt bulb for any lighting fixture. Using a larger watt light bulb may cause a fire.



# ENERGY EFFICIENCY FOR BETTER BUILDINGS

Whether your home or business, the buildings you enter daily consist of several layers that create one building envelope, or shell. The envelope begins with the foundation in the ground and ends with the roof, and includes everything in between such as walls, windows and doors. To save energy and maintain comfort, an envelope should limit the transfer of heat in or out of the building. Improve your building envelope by applying weatherization best practices.

## + AIR SEAL CRACKS AND HOLES

Caulking and weatherstripping are cost-efficient air-sealing techniques that help maintain a comfortable temperature in your space. Air-seal gaps around windows, doors, electrical outlets, and other wall or ceiling penetrations to reduce drafts. Weatherstripping around the interior of door frames and window sashes will also limit drafts in these areas and improve the energy efficiency of your home.

## + ENSURE ADEQUATE INSULATION

One of the best ways to reduce your energy bills and increase the comfort of your home is by ensuring adequate and effective insulation in your home. The Department of Energy recommends that a home have 12 to 16 inches of attic insulation. However, not all insulation has the same effectiveness for energy efficiency, and as insulation ages that effectiveness declines. There are also several methods for insulation depending on where you live and the part of your home you are insulating (walls, crawlspace, attic, etc.) so it's best to contact a local certified contractor. Check your local building codes for requirements.

## + RESEARCH INCOME-QUALIFIED PROGRAMS

Some income-qualified programs provide air sealing and insulation, along with making sure your home is safe, if you have combustion appliances like a gas furnace or water heater.

Certain programs even cover up to 80% of the median area income and provide these improvements at no cost to the homeowner and in many cases renters as well.

To learn more about income-qualified programs, rebates, and incentives for energy-efficient upgrades, contact your local co-op or public power district.

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