

October 2020 Share Package

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CUT YOUR UTILITY BILLS

A Guide to Seal Air Leaks

Q: What can I do to reduce drafts in my older home that won't cost an arm and a leg?

A: This is a common problem, particularly in older homes. In many homes, about half of the conditioned air leaks to the outside every hour.

The good news—especially if you don't want to spend a lot of money or you're hesitant to invite contractors into your home right now—is that you can seal air leaks on your own with a little time and effort.

Here are three steps to get you started. There's more to learn about sealing your home than we can cover in this article, so consider researching trusted websites for additional tips and tutorials.

Step 1: Find the Leaks

The first step is a thorough visual search of the home's interior and exterior. Look for gaps and holes in exterior walls, flooring and the ceiling. These often occur where different building materials meet, such as the top of cement foundation walls or around windows and doors. Another common source of air leaks is where pipes or wiring penetrate a wall, floor or ceiling. Ductwork in unheated crawl spaces or attics can also contain air leaks.

This column was co-written by Pat Keegan and Brad Thiessen of Collaborative Efficiency. For more energy tips, go to www.collaborativeefficiency.com/energytips.



Use caulk to seal gaps around non-moving parts of doors and windows. PHOTO BY SCOTT VAN OSDOL

Exterior doors and windows that open deserve your attention. Open each door or window and place a dollar bill between the door or window sash and the frame. If you can pull the bill out easily when the door or window is closed again, the seal is not tight enough. Also, a window that rattles when it's closed or when it's windy probably isn't sealed sufficiently.

The best way to find all air leaks is to hire an energy auditor to do a blower door test. The blower door is a large fan mounted in a doorway to depressurize the house. The auditor can find the leaks and may be able to recommend ways to seal them.

It's also possible to conduct your own whole-home pressure

test. The Department of Energy provides detailed instructions at www.energy.gov/energysaver/weatherize/air-sealing-your-home/detecting-air-leaks.

Step 2: Gather Supplies

Here's a quick list of materials to get you started:

- **Caulk.** You will need a caulk gun and caulk, about \$4 and \$10, respectively. We recommend indoor/outdoor waterproof silicone or latex caulk that is water-soluble until it cures and paintable when dry.
- **Expanding spray foam.** One can typically costs \$4 to \$6. This is an effective way to plug leaks, but it's a messy job.
- **Weatherstripping.** Prices vary depending on type and length of materials, but there's a variety of weatherstripping options made of vinyl, metal and felt, or open-cell foam that works for most situations.
- **Pre-cut foam socket sealers.** A pack of 24 sealers

typically costs about \$3.

- **Chimney plug balloon.** Prices range from \$50 to \$90. You may need a chimney plug balloon if your chimney flue doesn't seal well. Buy a square or round one to match the shape of your chimney flue.
- **Adhesive plastic window insulation sheets.** Prices range from \$2 to \$14 depending on size. You may need insulation sheets later in the year for windows that can't be sealed and don't have storm windows.

Step 3: Do It!

If you are unfamiliar with how to apply any of these materials, we recommend watching online tutorial videos.

Sealing air leaks is one of the best ways to boost your home's energy efficiency. Whether you're a do-it-yourself pro or novice, with a few simple steps and low-cost materials, you will be well on your way to a sealed, more efficient home. ■

CUT YOUR UTILITY BILLS

Breathe Easy About Home Air Quality

Q: How can I be sure I have healthy air as I seal air leaks in my home?

A: Sealing air leaks is one of the best ways to make your home more energy efficient. There are steps you can take to ensure your home has an adequate amount of healthy, fresh air.

The average home loses about half of its air volume every hour, so it can be sealed considerably—often at a low cost—and still have more than enough healthy air.

Pollutants are the main cause of poor indoor air quality, and the most dangerous pollutant is carbon monoxide. It can come from furnaces, water heaters or stoves that burn natural gas, propane or wood. The problem usually occurs in devices that are old, in need of repair, or installed or operated in a manner that prevents clear, unobstructed supply and exhaust of combustion air.

Excessive moisture in the air can also be considered an indoor pollutant because mold and dust mites thrive when relative humidity is above 60%. One sign your home is sealed too tight is window condensation, which can happen if moist air doesn't exit the home at an adequate rate.

This column was co-written by Pat Keegan and Brad Thiessen of Collaborative Efficiency. For more energy tips, go to collaborativeefficiency.com/energytips.



An HVAC professional can inspect and test a furnace to make sure it operates safely and efficiently.

PHOTO BY NAVFAC HAWAII HVAC SPECIALISTS

Pollutants can cause physical reactions such as coughing or sneezing, but carbon monoxide causes more severe reactions, such as headaches, dizziness, nausea, shortness of breath, confusion, blurred vision or loss of consciousness.

What can you do to ensure healthy indoor air as you increase your home's energy efficiency?

The first strategy, according to the Environmental Protection Agency, is to eliminate or reduce the source of pollution. Eliminate carbon monoxide first. If you have a combustion furnace, it should be inspected and serviced regularly by a professional. If you have any combustion appliances, it is critical CO detectors are installed and replaced every

five to seven years.

If you live in an area with radon, keep it out of your home. It is the second-leading cause of lung cancer. Radon tests are not expensive. Your local health authority can provide more information. If radon levels are too high, you will need to hire a professional to install a system to divert radon gas to the outside of your home.

Here are a few additional pollutant reduction measures to consider:

- Never smoke tobacco inside.
- Run bathroom and kitchen exhaust fans after use.
- Store toxic cleaning and painting products outside.
- Never idle a vehicle in an attached garage.

The second strategy is ventilation. Your home probably has more than enough natural ventilation from outside air leaking into the home. The best way to know for sure is to hire an energy auditor to do a

blower door test.

Many experts recommend sealing the home as tight as possible and using mechanical ventilation to ensure a consistent and adequate supply of outside air. The most energy-efficient ventilation system is a heat recovery ventilator, which pulls in fresh air from outside and captures the heat from indoor air before it is exhausted to the outside.

The third and final strategy is to clean the air. The easiest step is to simply change your furnace filter at least once every three months, and keep your furnace supply and return air registers free of obstructions. If any rooms do not have an air return, keep the doors open.

There are several home air-cleaning systems available. Some are effective, and some are not. The EPA offers a handy online guide: epa.gov/indoor-air-quality-iaq/air-cleaners-and-air-filters-home. ■



Line crews from Klickitat PUD and Northern Wasco County PUD worked together to restore service after fires damaged the area.

PHOTOS COURTESY OF NORTHERN WASCO COUNTY PUD

The Rewards of Cooperation

For public power providers and electricity cooperatives, working together helps everyone

By David Herder

Northern Wasco County PUD and Klickitat PUD look at the same water from different directions. While Klickitat PUD provides power in Washington, and Northern Wasco does the same in Oregon, the two utilities' service territories meet along the banks of the Columbia River.

For most companies, jostling up against the territory of another business providing the exact same product means competition. For public power providers, it means opportunity.

"There are benefits to partnering with other similar organizations that aren't profit driven," says Roger Kline, Northern Wasco County PUD general manager. "That we're all just trying to do the best thing for our customer owners, that's a good joining of the energy."

Public power providers have outlined service territories, and largely do not compete for customers. Instead, it is often in their best interests to cooperate. Costs of the facilities that

generate electricity and the miles of line that deliver it—the fixed infrastructure costs—are far greater than the cost of producing additional energy to serve more customers. Rather than creating huge costs by building competing dams or having neighboring lanes of power lines going to the same places, power can be provided at lower costs when utilities work together.

Cooperation Among Cooperatives is one of the Seven Cooperative Principles guiding electric cooperatives. Whether PUDs, municipals or cooperatives, working together can benefit all members. Examples include the member utilities of Utah Associated Municipal Power Systems that are partnering to generate electricity from a small modular nuclear reactor, and the Association of Louisiana Electric Cooperatives donating to the Nebraska Farm Bureau Association in 2019 after a bomb cyclone damaged crops.

In the 1990s, Northern Wasco looked to build the McNary Fishway Hydro Project, which would put a 10-megawatt generator in one of the fish ladders at McNary Dam. Building the plant would cost nearly \$30 million, which could burden a single rural power provider with debt. But joining forces with a friendly neighbor spread the expense and benefits.

"Northern Wasco turned to their neighbor to the north, Klickitat, and said, 'You're also a growing utility that has the same



Klickitat PUD and Northern Wasco County PUD opened the McNary Dam Fishway Hydro Project together in the 1990s.

value system that we do,'” Roger says. “Klickitat came in and brought funds to the table, and we essentially split the project.”

Both utilities now draw power from the fishway as 50% owners. The two cooperate on other projects, too. Northern Wasco and Klickitat PUD host joint wildfire prevention trainings, even inviting other surrounding utilities and splitting costs. The utilities share specialized equipment, because it would be inefficient for each utility to invest in their own.

“It would be cost prohibitive to do some of these things on our own,” Roger says. “I may have a specific piece of rolling stock or tool, like a wire trailer, or a longer bucket truck. Well, it wouldn’t behoove each organization to have one of those. If the neighbor has one, you can borrow it.”

Cooperatives around the country partner to benefit their members. Organizations such as the Northwest Public Power Association formalize these partnerships to help all members. NWPPA focuses its efforts on training and education, communication, and public policy and government relations. Just like a co-op can help members who would have a tough time generating their own power, trade associations such as NWPPA combine the strength of its members for the benefit of all.

“They’re all behind the same mission of providing safe, reliable, at-cost power,” says Scott Corwin, NWPPA executive director. “I think to the extent we can help get people together, help them network together to share best practices, help them stay on the same page to fulfill that mission, that’s a good role we can play.”

Associations such as NWPPA can also elevate the voices of

its members to great effect. This year, NWPPA helped connect utilities and legislators to ensure rural electric cooperatives qualified for Paycheck Protection Programs loans as part of America’s response to the coronavirus pandemic.

The Alaska Power Association provides many of the same functions to its region. Executive Director Crystal Enkvist says APA member utilities are eager to cooperate with each other.

“It’s been disappointing not being able to have our annual meeting this year, because so many of our members have likened the APA annual meeting to a family reunion,” Crystal says.

Much like relatives swap stories and share updates on life events at family reunions, APA members treat meetings as the chance to listen to each other and get up to speed. Now many meetings happen electronically, with ideas shared over videoconferences.

“When you’re at a small rural utility, you can feel like you’re in a vacuum sometimes,” Crystal says. “When you’re there on the phone with a CEO of a large utility in Anchorage, and the CEO of a utility on Kodiak Island, you realize that you’re not alone, and you can all share each other’s experiences.”

Along the Columbia River, utilities are quick to collaborate. Roger says that a few years ago, in the midst of a rough fire season, Northern Wasco County PUD spent more time rebuilding neighboring utilities’ equipment than its own. In a time of need, public power providers turn to cooperation and helping others.

“We know that eventually it might be us who needs the help,” Roger says. “Pay it forward, or do a good turn daily, however you look at it.” ■

Celebrating National Cooperative Month and Public Power Week

Electric co-ops join credit unions, food co-ops and other member-owned businesses each October to celebrate National Cooperative Month. Public power utilities across the U.S. celebrate Public Power Week the first full week of October.

By understanding what makes your member- or community-owned utility special, you can better benefit from its offerings.

- ▶ There are 834 distribution electric co-ops and 2,006 publicly owned utilities nationwide.
- ▶ PUDs have an average of 48 customers per mile of line, while co-ops average 7.4 customers per mile.
- ▶ Co-ops and public power providers provide power to a combined 91 million customers, with public power serving 49 million, and co-ops serving 42 million.

Evolution In Electricity

Battery advancements may change the game for electric utilities and make integrating renewable technologies easier

By Paul Wesslund



AES Distributed Energy worked with Kaua'i Island Utility Cooperative on the world's largest operational solar-plus-storage system. The 28-megawatt solar plant in Lawai is connected to a 100-megawatt-hour battery energy storage system, providing cheap, clean energy when it is most valuable, instead of just when the sun shines. PHOTO COURTESY OF AES

Business is betting big on batteries in a way that could streamline the electricity service in your home.

Battery production capacity has grown eightfold during the past eight years, mostly to meet demand for the rapidly expanding electric vehicle market. Companies believe expansion will continue, so they plan to build new manufacturing plants in the United States, Europe and Asia that will increase production to five times the current capacity in the next eight years.

As with other technologies, more production means improved performance and lower prices, says Jan Ahlen, director of energy solutions for the National Rural Electric Cooperative Association.

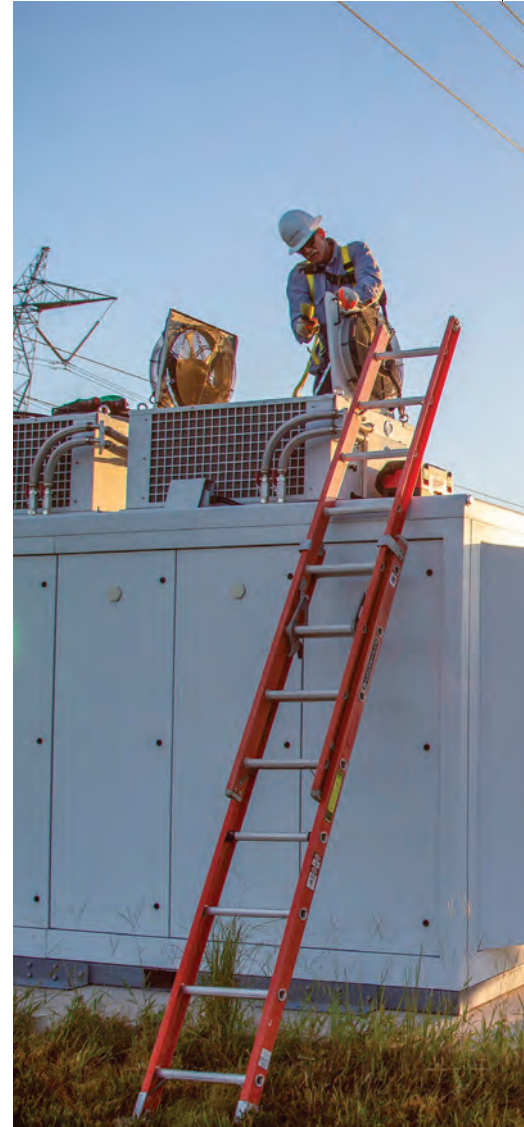
"Batteries are becoming better, faster and cheaper," Jan says. "As more and more of these new manufacturing plants get built, there are economies of scale that are bringing down the prices."

Batteries developed to make electric vehicles run better are being connected to one another to make utility-scale batteries to store energy.

A New Tool for Electric Utilities

The U.S. Department of Energy's Energy Information Administration reports utility battery storage capacity has quadrupled in the past five years. During the next three years, the EIA predicts utility battery capacity will triple, and could supply enough electricity for 2.5 million homes.

Although that is a small share of the electricity market, the effects of



utility battery use can be huge.

Jan calls these batteries "the Swiss Army knife" of the utility industry because they can be used for different applications and reasons.

- **Timing for the best price.**

The cost of the electricity to a utility varies throughout the year and even the day as demand for electricity changes depending on things such as the need for heating or air conditioning. If a utility could buy electricity when it is the least expensive and store it in a battery, then draw from the battery when market prices for electricity are highest, it would result in cost savings that could be passed on to the consumer.

- **Helping renewable energy.**

One factor preventing greater use of renewable energy is a lack of solar power at night or wind energy in calm weather. Batteries could store electricity during peak production, making renewables more useful.



A worker with Green Power EMC works on a battery energy storage system that backs up a solar site. The company provides renewable energy to 38 Georgia electric membership corporations. PHOTO BY DENNIS GRAINER

Future of Energy Storage

By Maria Kanevsky

Energy storage technology is extremely versatile. It is small enough to fit in your phone or large enough to power your entire home.

Many people are familiar with small-scale batteries for handheld devices, but utility-scale batteries take energy storage to a new level. The ability to store energy helps ensure energy demand meets supply at any given time, making electricity available when you need it.

The most widespread form of energy storage in the U.S. is through pumped hydropower—a form of mechanical energy storage. Pumped hydropower energy storage has been used for several decades, and makes up about 95% of the country's utility-scale energy storage.

Energy is stored by pumping water uphill from a lower elevation reservoir for storage in an upper water basin. When energy is needed, the water is allowed to flow through an electric turbine to generate energy, the same way it flows through a hydroelectric dam.

This is the cheapest way to store large amounts of energy, but is largely dependent on the surrounding geography and ecosystem.

Batteries are quickly gaining attention as another form of energy storage. In 2018, the power capacity from battery storage systems in the U.S. more than doubled from 2010.

The most common type of battery chemistry is lithium-ion, which has a high-cycle efficiency and fast response time. Ninety percent of large-scale battery system capacity in the U.S. uses lithium-ion chemistry.

Less-common battery types for utility storage include lead-acid batteries, nickel-based batteries and sodium-based batteries. However, each chemistry has varying limitations.

Beyond pumped hydropower and batteries, there are a few other forms of energy storage used at a utility scale: thermal, hydrogen and compressed air.

Energy storage plays a crucial role in incorporating renewable energy into our electric grid. Solar and wind energy are weather-dependent, so when energy demand is low but energy supply is high from the sun or wind, storing the excess energy makes it possible to use it later when electricity demand is higher.

As renewable energy becomes more prevalent, energy storage will help create a more resilient grid.

Although battery prices have decreased steadily the past several years, energy storage can be expensive to attain. Currently, there are 25 gigawatts of electrical energy storage capacity in the U.S. Experts expect capacity to grow.

As technologies improve, equipment costs decrease and more renewable energy is generated, utility-scale energy storage has the potential to continue expanding in the coming decades. ■

- **Construction management.**

Batteries could defer the need to upgrade or replace existing utility infrastructure, such as substations, allowing a utility to save money on expensive upgrades.

- **Utility outage management.**

Microgrids designate high-priority parts of the larger electric grid—such as hospitals—to help a community manage during a power outage. Those areas might have extra wiring or power sources, such as small generators or utility-scale batteries.

Consumers at the Forefront

Government policies drive the use and development of utility-scale batteries. Several states are directing utilities to consider batteries as part of power restoration plans, or to meet renewable energy goals.

For decades, one of the fundamental truths of the electric power industry has been that electricity can't be

stored. Electricity had to be delivered immediately to homes and businesses through a precise network of wires, transformers and other equipment.

Even just a few strategically placed batteries could change that structure.

In addition to creating options for utility operations, it gives consumers more choices.

High-end electric vehicle maker Tesla took one of its vehicle batteries and redesigned it to hang on the wall of a consumer's living room. Called the Powerwall, Tesla promotes it as backup power in case of an outage, or to store energy from rooftop solar panels for evening use.

"Batteries are opening up many new opportunities for utilities to help provide more affordable and reliable power for their consumers," Jan says. "The other implication is it's part of a larger trend of putting the consumer at the forefront now more than ever and giving them more choices." ■



Fall is an ideal time to shop for and plant trees. ADOBE STOCK PHOTO BY PASKO MAKSIM

Welcome Fall With Fiery Foliage

When trees get dressed in fall colors, it's time to go shopping.

"If you're specifically interested in fall color, it will soon be the time to start looking," says Neil Bell, a horticulturist with Oregon State University's Extension Service. "There are already some trees starting to display color."

First, though, Neil recommends doing some research. Walk around neighborhoods, parks and public gardens to get ideas. If you can't identify the trees you like, snap good photos, pick up several leaves or ask the owner for a cutting. Take them to a nursery or local extension office for identification. You can also cut out pictures from magazines and flip through gardening books to find possibilities.

After filtering down your favorites, be absolutely sure about size, soil and sun requirements. You don't want to be stuck with a 60-foot tree where a 30-foot tree should be.

"The biggest problem people have," Neil says, "is that a tree gets too large, and then they are forced to prune just to reduce the size of the tree, which can look horrible."

Topping—or cutting off the tips of trees—is especially undesirable. The practice increases the possibility of disease and gives pests more access. Topping also encourages weaker growth and alters the shape.

Before buying, find out if the tree needs sun or some shade, and if it requires irrigation in summer.

Fall is an ideal time for planting. Soil is warmer than in spring, so roots get a good head start. The weather is cool so trees are under less stress. Rains will start soon and reduce the need for watering.

"All in all, fall is the perfect time to select and plant a tree," Neil says. "Wait for the leaves to start changing color and go for it." ■

What to Plant

Here are several of horticulturist Neil Bell's recommendations for trees with excellent fall color:

▶ **Red maple (*Acer rubrum*).** Not much beats the vibrant scarlet color this maple displays in autumn. Make sure you have room for it, though; red maples grow quickly and eventually reach 60 feet tall and 25 to 35 feet wide. Hardy to Zone 4.

▶ **Vine maple (*Acer circinatum*).** Native to the Northwest, vine maple really comes into its own in fall when the foliage lights up in lively shades of red and orange. It is a useful small tree up to 15 feet that often grows with multiple trunks. It is not suitable for full sun. Hardy to Zone 6.

▶ **Paperbark maple (*Acer griseum*).** Unmistakable cinnamon-colored peeling bark and glowing orange-red fall color make this slow-growing, small tree (25 feet eventually) a much-loved specimen in any size garden. Prefers a partially shady exposure. Hardy to Zone 4.

▶ **Katsura (*Cercidiphyllum japonicum*).** The unmistakable heart-shaped leaves emerge purple in spring and seem to turn buttery yellow overnight in autumn. Falling leaves smell wonderfully like burnt sugar. The form is tall—up to 60 feet—and rounded. Hardy to Zone 4.

▶ **Sourwood (*Oxydendrum arboreum*).** A little-known but deserving tree that has the unusual feature of sending out long streamers of fragrant, white flowers in fall just as the foliage turns to heady shades of red, orange and purple. At 25 to 30 feet tall, sourwood fits nicely into a small garden. Hardy to Zone 5.

▶ **'Eddie's White Wonder' dogwood (*Cornus kousa*).** A spectacular cultivar of Korean dogwood that is blanketed in large, white star-shaped flowers in spring and strawberry red color in fall. Its 20-foot stature makes it ideal for small spaces. Hardy to Zone 5.

▶ **'Wild Fire' black gum (*Nyssa sylvatica*).** Glossy green leaves emerge a deep red in spring and end the season with a spectacular show of orange, yellow, scarlet and purple. Has a nice pyramidal shape and grows up to 20 feet. Hardy to Zone 6.



Kym Pokorny

is a communications specialist for Oregon State University's Extension Service. Previously, Kym worked for The Oregonian, most notably covering gardening and horticulture.



Brighten the holidays with a Christmas cactus. ADOBE STOCK PHOTO BY BOZHENA_MELNYK

Give Winter-Blooming Plants as Holiday Gifts

Winter-blooming indoor plants are a welcome way to take the edge off the chill and gloom of winter. Many are ready to give as holiday gifts.

The choices go beyond traditional poinsettias and amaryllis. Colorful African violets, gloxinia, cyclamen, orchids, ornamental peppers and Christmas cactus are blooming and readily available. Dress them up with bows and cellophane, or combine a few in a basket with store-bought or garden-harvested moss and some decorations. Present them as party gifts or to a plant lover on your list.

Before you buy, consider some key care tips, including how to get them home, says Brooke Edmunds, a horticulturist with Oregon State University Extension Service. She advises taking a cardboard box with you to the store. Cover the plants after getting them into the car.

“You want to keep them protected from drafts and mimic the conditions of being in a warm situation,” Brooke says.

“Use something that won’t crush the plant but protects it against cold shock. Avoid putting them in the trunk, where it gets colder.”

Once you get the plants home, check to see if they are badly rootbound and need to be repotted in a larger container. If so, use a well-draining potting soil with perlite or peat moss in the mix. If the plant comes wrapped in foil or cellophane, cut holes in the bottom so water drains through. Most plants will rot if left sitting in water.

Potted plants are well fertilized before being shipped to stores, so let the recipient know they don’t have to worry about feeding them for several weeks. When it’s time, use a houseplant fertilizer high in phosphorous—the middle number on the label. The element helps plants bloom.

“When it comes to watering, more people overwater than underwater,” Brooke says. “Check to see if the plant needs water by sticking your finger 2 inches into the soil. If it’s dry, go ahead and water.”



In the right conditions, cyclamen will bloom for several months. ADOBE STOCK PHOTO BY ULCHIK74

The foliage of some plants, such as African violets, can be damaged if water gets on the leaves. They also get root rot easily. Avoid damage by watering from below. If you water from above, let the plant drain, then empty the saucer the plant sits in. Steer clear of misting, which can promote foliar disease.

Keep plants in bright light and in temperatures of 70 F or higher during the day and 55 F or higher at night. Avoid drafts.

Don’t be concerned if gloxinia or cyclamen die down after blooming. That is normal. You can either discard the plant and buy a new one next year or let it go dormant for a few months until foliage reappears. Then grow it like you would any houseplant.

To extend bloom, look for plants—particularly orchids and Christmas cactus—that have some tight buds as well as open flowers. Orchids can be difficult to rebloom unless you have a greenhouse or can mimic warm, moist conditions.

Colorful ornamental peppers may look delicious but are often extremely hot. Keep them off your taste buds and away from kids and pets. ■



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Safety Lessons From Christmas Cinema

By Brenden Delzer

Around the holidays, one of my favorite traditions is to watch as many Christmas movies as time allows. From classics like “A Christmas Story” to modern hits like “Elf,” nothing beats cozying up on the couch with a warm mug of hot cocoa to enjoy a feel-good story. “National Lampoon’s Christmas Vacation” is a comedy classic about the Griswolds and their quest for a “fun old-fashioned family Christmas.” Written by John Hughes, the film follows the hilarious—albeit dangerous—antics of bumbling father Clark Griswold, whose dedication to having a good family holiday blurs common sense. Here are lessons on safety and efficiency we can glean from Clark’s mistakes.



Lighting up the holidays is one thing. Lighting up yourself is another, as Clark Griswold shows in “National Lampoon’s Christmas Vacation.”
WARNER BROS. AND HUGHES ENTERTAINMENT

Decorating Outdoors

Clark’s mission to dazzle—and antagonize—the neighborhood with an incredible display of “25,000 imported Italian twinkle lights” is admirable, but rife with dangers.

When putting up lights that have been in storage, make sure cords aren’t frayed or damaged. Strings of lights bundled up in storage year after year may need to be retired. If they do need replacing, opt for energy-efficient options such as LED bulbs.

If you’re using a ladder to put up lights, keep safety in mind. Make sure a friend or family member spots you. Never decorate alone when using a ladder. Never replicate Clark’s blunder of “hopping” while still on a ladder to relocate positions. After you finish stringing up a section of lights, climb down the ladder and safely move it to the next location.

Never use a stapler, nails or screws to hang electrical wires. Use insulated hooks and clips to prevent injury and keep your home safe.

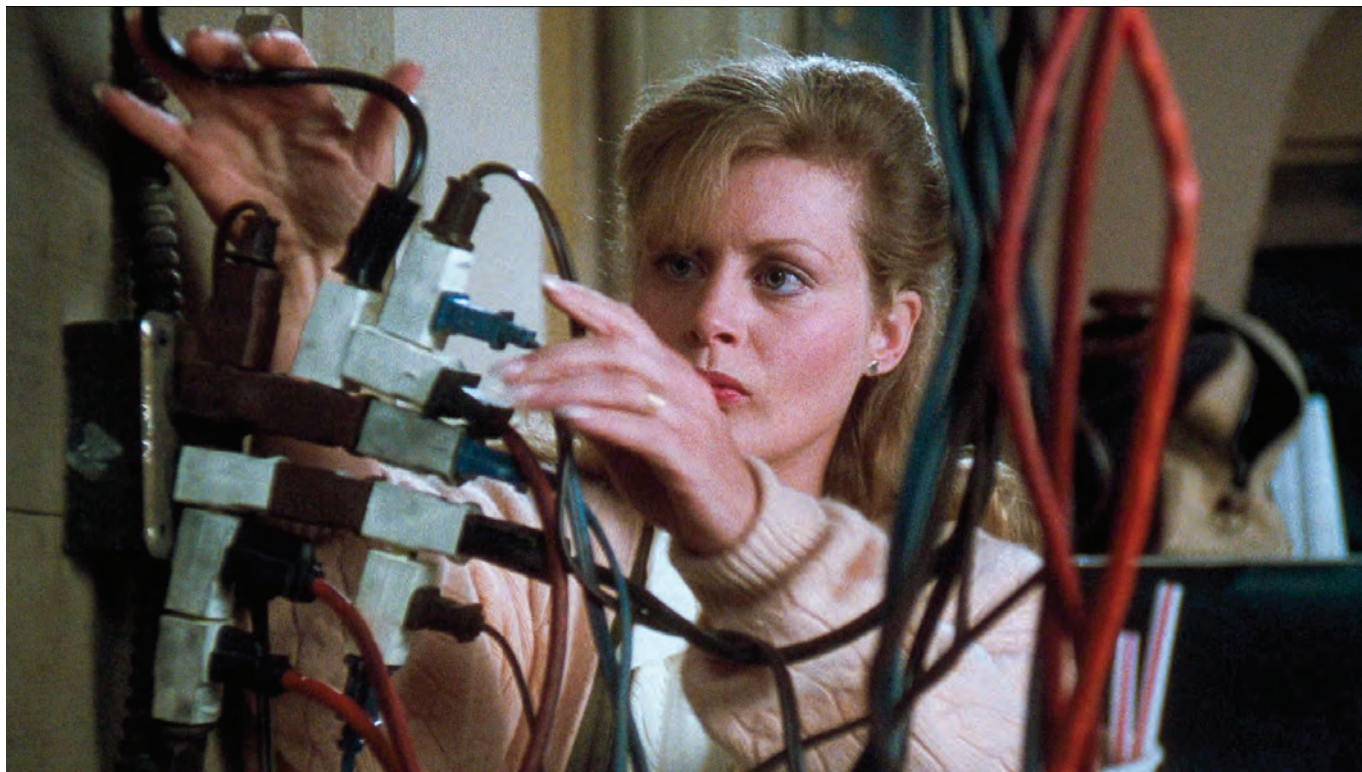
Electrical Safety

One of the film’s most recognizable scenes is when Clark’s wife, Ellen, searches through a treacherous mound of extenders and cords to find and fix a loose plug.

Avoid Clark’s mistake. Use only the available number of plugs on an outlet, extension cord or power strip. Never plug extenders into other extenders or power strips because it can overload them. Overloaded strips generate heat and pose a huge fire hazard.

Outdoor lights can run hotter than indoor lights, so make sure to use the proper string of lights for each location. Plug cords into a ground-fault circuit interrupter so power is quickly shut off in the event of a problem, preventing an electrical shock.

Don’t be like Clark and let your awesome Christmas light display annoy your neighbors all night. Use timers on lights to save money and prevent energy waste while you dream of sugar plums.



Indoor Decorating

Clark's heart is in the right place. A well-decorated Christmas tree lends the ideal backdrop for holiday memories.

In the beginning of the film, the Griswolds head to a tree farm for the perfect centerpiece for their family Christmas. Live trees require a lot of water to prevent them from drying out and becoming a fire hazard. As we discover later in the film, dried-out live trees ignite easily. Keep all flames and heat sources far from indoor trees and decorations.

The flash-fire in the Griswolds' living room might have been a funny gag for film, but there's real risk off camera. Fires that start with Christmas trees can lead to death, serious injury and property damage.

A general rule for decorating with strings of lights is to limit the strand to three per outlet. Connecting more than three strings can lead to blown fuses and a fire hazard.

Don't let your furry friend end up like the Griswolds' poor cat, Fluffy, who unfortunately combusted under a couch after chewing on wires. Low-hanging strands are dangerously within nibbling distance, and pets can also get tangled in lights. Keep strands of lights away from the bottom branches of your tree and out of reach of pets.

Other Lessons

Near the start of the movie, Cousin Eddie drains his RV waste right into the storm sewage. His mistake ultimately comes to a head after a cigar is lit outside during a bizarre and hysterical finale, but dangerous gases are a serious real-life hazard.

In addition to smoke detectors, carbon monoxide detectors can protect you and your family. Replace batteries in all detectors twice a year and test them regularly.

During the movie, Clark often finds respite from the holiday



ABOVE: In this clip from the movie, Clark is thrilled with his outdoor light display. **TOP:** Ellen subjects herself to danger by touching a mountain of plugs. WARNER BROS. AND HUGHES ENTERTAINMENT

madness in the attic. Even though he is wearing pajamas, Clark finds the attic cold when stashing away Christmas gifts. Sealing air leaks and installing proper insulation can prevent heat loss through the attic. Keep your home warm and save money on your winter electric bills.

"And Now I Know What it Means to Me."

After the series of hilarious, but dangerous, events faced by the Griswolds, Clark comes to the heartwarming conclusion Christmas isn't about "bonuses or gifts or turkeys or trees." Spending time with family and loved ones—even if they inadvertently spark an explosion that causes a Santa decoration on the front lawn to blast into space while Aunt Bethany sings "The Star-Spangled-Banner" from the porch—is what matters most during the holidays.

Hopefully, lessons learned from this classic holiday film keep your family and home safe for Christmas movie-viewing. ■

Beacon Broadband

Coos-Curry Electric investigates bringing broadband service to South Coast

By Paul Recanzone

In March 2020, the routines and sense of normalcy for many of us changed. No one is sure what the new “normal” will be.

Today, kids complete schoolwork at the kitchen table through online classroom sessions, while parents manage their office from a remote connection.

Living through the COVID-19 pandemic has demonstrated the need for internet connectivity and its importance in our everyday lives.

Office buildings sit empty, and working from home over a remote internet connection has become the standard.

Doctor consultations are taking place via video conferences. Much shopping has moved from brick-and-mortar stores to online. Technology has taken over our homes as we ask Alexa to change the music station and adjust the house temperature from a smartphone app.

Perhaps nowhere has the impact of pandemic safety precautions confirmed the importance of the internet more than in our schools.

In more ways than most of us can imagine, the shutdowns and social-distancing requirements have forced teachers to rethink the way they teach. Meeting software and conference calls substitute for the classroom experience; the web stands in for textbooks; parent-teacher meetings are via email more often than in person.

Unfortunately, in rural America many households have limited access to reasonably fast and affordable internet.

School districts in Coos and Curry counties recognize many students cannot get the internet at home. To help students and their families, the districts have retrofitted school buses to serve as roaming Wi-Fi hot spots. This makes it possible for kids to get online, but adds even more difficulty to a strange new education environment that is already foreign and complex.

Coos-Curry Electric Cooperative recognizes the need for broadband access for all members living on the South Coast. The cooperative has been studying the possibility of deploying

high-speed fiber for more than two years. That study shows about 20% of CCEC members are severely underserved and have no or limited access to high-speed broadband, except through satellite service or a cellular data plan, which doesn't meet the needs in today's technology-driven world.

CCEC's proposed fiber-to-the-home project is intended to solve this problem and close the urban/rural digital divide by bringing the high-speed fiber experience where no one else will go—just as we did when we saw a need for electricity to light our communities in 1939.

Although the broadband need is pressing, the proposed project involves risks. First, it is an expensive proposition. CCEC wants to be sure there is a good chance for success before committing to a project of this size. Also, there are reasonably good broadband providers in many CCEC areas. Competition in already-served areas can affect the success of this project.

While the final decision to build fiber to every CCEC member has not yet

been made, we are taking preliminary steps. CCEC has applied for federal grant funding to help offset some of the financial risk. Optimistic we will secure the grants, CCEC formed a subsidiary company called Beacon Broadband Inc.

As the process moves forward, you can learn more about the proposed project and Beacon Broadband's progress building fiber internet to your neighborhood at www.ccec.coop/beacon-broadband.

If you are interested in preregistering for Beacon Broadband service or receiving communications, visit the website and click on the pre-registration tab. ■

Visit www.ccec.coop/beacon-broadband for more information about Beacon Broadband's fiber-optic network project to deploy high-speed fiber to the Southern Oregon Coast.



ADOBESTOCK PHOTO BY ROMAN PYSHCHYK

2020

October Food Drive

Donate to
others in need!

CCEC is seeking canned &
non-perishable food items

Drop off at all CCEC office locations
Together we CAN make a difference!



COOS-CURRY ELECTRIC COOPERATIVE



Douglas squirrels tend to live in coniferous forests. They are recognized by the distinctive orange coloring on their chest and belly and their high-pitched, chirping vocalizations.

Our Friend, the Douglas Squirrel

Native to the Northwest, this boisterous and vocal resident is an active neighbor

Story and photos by Scott Laird

West Oregon Electric Cooperative territory, tucked between the Coast Range and the Cascades, is surrounded by dense Northwest forests, a multitude of streams and rivers, and an abundance of wildlife.

It's not uncommon to see a family of deer wandering neighborhoods streets, in search of fallen apples or other treats, or to view a herd of elk in a field on the way to work. Those who travel off the beaten path a bit might see the work of the nocturnal and elusive engineers known as beavers.

Other residents of this area that rarely are seen include bobcats and black bears. In late summer, when the creeks dry out in the hills, cougar sightings start to trickle in as the animals head down into the valleys in search of water.

In the fall, when the rains return, it's always a thrill

to see a few determined salmon working their way up a nearby stream or river.

Another charismatic resident of the region is the Douglas squirrel, with its boisterous chatter and colorful appearance.

The Douglas squirrel calls the Pacific Coast states west of the Cascade Range home. Southwest British Columbia to the Sierra Nevadas in Northern California is the only place in the world they are found. They tend to live in coniferous forests where Douglas fir trees are abundant, which is the reason for their name.

The squirrels' coloring is a sort of greenish brown on their backs, with a distinctive orange on the chest and belly. They're a bit smaller—about 10 to 14 inches long, including their reddish-brown tail—than the Western gray squirrel, who also calls this area home.

They make up for their diminutive size with their

Welcome, Critters

If you would like to encourage Douglas squirrels to take up residence on your property, the Oregon Department of Fish and Wildlife offers the following tips:

- ▶ Keep the habitat natural and healthy.
- ▶ Plant native trees and shrubs that provide a variety of natural foods at different times of the year.
- ▶ Provide large trees and dead and dying trees (snags, in safe areas) to provide nesting sites and a food storage site.
- ▶ When pruning trees and/or shrubs, leave pruned material on the ground for squirrels to gnaw on during the winter.
- ▶ Do not feed the squirrels.

large and vocal bark: a high-pitched, repetitive chirp they use to sound an alarm when predators intrude, call out to their mate or warn off other Douglas squirrels who might be encroaching on their territory.

The Douglas squirrel is a rodent, and there is not much written information about them or their habits. One person who had a lot to say about it was naturalist John Muir—founder of Sierra Club—who wrote about these feisty forest dwellers in his book “The Mountains of California.”

“No one who makes the acquaintance of our forester will fail to admire him; but he is far too self-reliant and warlike ever to be taken for a darling,” John wrote about the squirrels.

Douglas squirrels are territorial and will claim an area of about 10,000 square meters, although a mating pair will defend an area together. Mating occurs in late winter or early spring and results in up to six kits in a litter.

Douglas squirrels tend to feed on the cones of Douglas fir trees, separating the seeds for their meal and allowing the scales to fall into piles at the base of the tree. Those piles of fir cone scales are called a “midden,” and are a sure sign Douglas squirrels are sharing your space. The squirrels seem to like dropping the green cones from trees, which thunk to the ground or roof in rapid succession when they’re working.

During summer, Douglas squirrels have been observed plucking ripe cherries and bouncing on the branches while consuming their snack. In the fall, they gather nuts—they are especially partial to hazelnuts—dangling upside down from the limbs, and stretching to reach every last nut before the Steller’s jays harvest them.



Douglas squirrels are considered a tree squirrel—as opposed to a ground squirrel—and spend their days jumping from branch to branch. They will scuttle across the ground as long as the coast is clear.

“One never tires of this bright chip of nature—this brave little voice crying in the wilderness—of observing his many works and ways and listening to his curious language,” John wrote of the Douglas squirrel’s unique vocabulary. “He is the mockingbird of squirrels, pouring forth mixed chatter and song like a perennial fountain; barking like a dog, screaming like a hawk, chirping like a blackbird or a sparrow.” ■

ABOVE: Douglas squirrels feed on the cones of Douglas fir trees and leave behind a pile of cone scales called a midden.

TOP: Douglas fir tree cones.

RIGHT: A historic photo shows how linemen used to climb poles to install new equipment. FAR RIGHT: Now, bucket trucks and additional safety equipment keep crews safer while keeping the power flowing.



Lineworker Safety Has Improved

As we look at the past 85 years, much has changed at Northern Lights Inc. to improve the safety and efficiency of tools, vehicles, personal protection equipment and processes.

Linemen performing work on energized lines wear special flame-resistant clothing. FR clothing is made from fabrics that do not ignite. FR clothing helps reduce the amount and severity of burn injuries and increases survival if there is an incident involving flames.

Although different iterations of FR clothing have been around for decades, it has only been since 2000 that the Occupational Safety and Health Administration required linemen to wear FR clothing when performing energized work.

Bucket trucks have become a standard vehicle in the

NLI fleet. In the earlier days, bucket trucks were not something all utilities had. Linemen climbed poles and performed work from the pole. NLI linemen typically use a bucket truck if a pole is accessible. However, linemen do still climb poles as needed in certain situations.

Additional pole-climbing safety measures have been put in place through the years, including the requirement of wearing a climbing harness. In the early days of electric utilities, it was not uncommon for linemen to wear their climbing hooks and no or limited fall protection.

One of the major things that has changed is the training required and provided to linemen. In the past, little—if any training was required to be a lineman.

Today, those wanting to be a lineman need to attend an apprenticeship program. NLI's three-year program requires apprentices to attend school on many weekends and work alongside journeyman linemen doing progressive work. Linemen attend monthly safety meetings and receive regular training on everything from grounding electrical equipment and operating a forklift to first aid.

With October being National Cooperative Month, it is worth mentioning the ongoing training NLI participates in with other utilities in the region. One of the Seven Cooperative Principles is Cooperation Among Cooperatives. This principle brings together cooperatives to share resources for training and share ideas

with each other. NLI participates in the Idaho and Montana statewide cooperative organizations and uses their training and networking.

Linework safety has improved through the years, but linemen still have a dangerous, difficult job to perform around the clock in all weather conditions.

NLI continues to ensure our linemen can work safely to provide our members reliable and affordable electric service. ■



Northern Lights Engineering & Operations Manager Kristin Mettke is an electrical engineer and has worked in the electric utility industry most of her career.

A Different Look for PSREC's Annual Member Meeting



Due to the COVID-19 pandemic, Plumas-Sierra Rural Electric Cooperative's 83rd annual meeting of members looked a lot different this year. Held Thursday, September 3, this year's meeting was different in almost every way. Held virtually and broadcast on PSREC's YouTube channel, the event had to shift from an in-person gathering to a virtual business meeting.

Members mailed in their ballots and were invited to submit questions in advance of the meeting. If you would like to view the annual meeting broadcast, please visit [youtube.com/channel/UC9iCiDNhSRYgXps0YEIFg](https://www.youtube.com/channel/UC9iCiDNhSRYgXps0YEIFg).

Typically, many days are spent by the Member Services Department preparing and planning for an evening for members and board members to socialize. Last year, we served more than 400 meals at the annual meeting. Local sports teams help us prepare the venue and ice down drinks for members.

Because of COVID-19, unfortunately none of that happened.

Corby Erwin, member services manager, got things started with announcement of the winners of Washington Youth Tour and PSREC/PST citizen scholar scholarships. Next, Corby announced winners of PSREC's Annual Meeting Photo Contest and presented the photos for members watching.

Jason Harston, engineering and operations manager, discussed the impacts of the recent fires to our communities and PSREC's infrastructure. The North Fire was the first to impact PSREC in August,

resulting in a three-hour outage for our members, resulting in a three-hour outage for our members in the community of Red Rock.

The second fire to impact Plumas-Sierra was the Loyalton Fire, which destroyed 10 to 14 structures, including two members' homes.

The third fire was the Sheep Fire outside Goldrun and then into Elysian Valley that started August 18. PSREC had to replace seven distribution poles to date due to this fire. Crews stayed on-scene for several days fighting the fire and protecting infrastructure.

The fourth fire to hit PSREC territory was the Claremont Fire that started August 17. The fire burned through both distribution and transmission lines.

Representatives from PSREC's power suppliers, Northern California Power Agency and Western Area Power Administration, delivered updates on the power market. Sonja Anderson, Senior Vice President and Regional Manager of the Sierra Nevada Region, updated members on current hydropower conditions. Randy Howard, NCPA's general manager, spoke of the effects of COVID-19 on public power utilities, including PSREC, and how fires have impacted geothermal resources.

Plumas-Sierra Telecommunications Chief Operations Officer Aaron Whitfield gave an update from the telecommunications side. PSREC crews and contractors have installed half a million feet of fiber optic cable in the last nine months. Aaron also detailed progress in

the areas for for which PST has received grants from the California Advanced Services Fund.

PST lost about 1,000 feet of fiber optic cable during the Sheep Fire. Crews have been working to replace that as quickly as possible.

Following the PST presentation, Director Fred Nelson called the business meeting to order and gave an update on the cooperative. Director David Hansen gave the Treasurer's Report and spoke of PSREC's Community Shared Solar Program, which he participates in. If you have questions about the program, please call at 530-832-4621.

General Manager Bob Marshall told members about the proposed bylaw amendment to include electronic voting for members in hopes it increases member participation in elections. He later answered questions from members during the Q&A session.

Mike Vergara, PSREC's legal counsel, directed the business meeting. Members reelected directors Tom Hammon, District 6, and Nancy Miller, District 7. The bylaw amendment passed, allowing for electronic voting in future board elections.

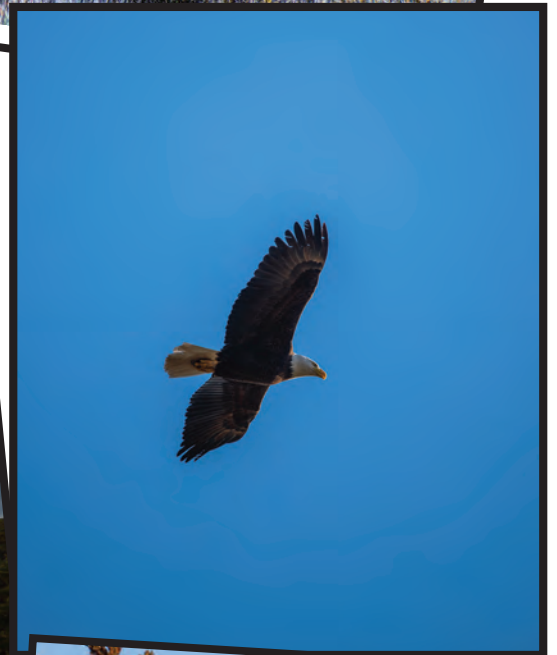
We appreciate everyone's patience with changes to the annual meeting this year. PSREC knows its members are busy. We thank all of you who participated. We hope to see you for an in-person meeting next year! ■

PLUMAS-SIERRA REC

We asked professionals from the staff at Ruralite magazine to again judge PSREC's 2020 Cover Photo Contest, and award the top photo entries. We received many stunning entries this year, making judging no easy task.

...and the winners are...

Clockwise from top left: "Colorful Sunset over Penman Peak" by Bob Marshak; "Honey Lake from Dakin Wildlife Unit" by Dave Bricker; "Majesty," by Janet Kempton; "Mountain Bluebird," by Lynn Goddard; "Sunburst," by Janet Kempton; "Winter in the Sierra Valley," by Jim Maul.



Thank you to all our participants, and congratulations to this year's winners.



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Feeding a Local Need

Local gardeners team up with a rural senior center to support the community

Heroes Among Us, Page 10

A Rare Lunar Treat

This year's celestial view comes once in a blue moon

Spotlight, Page 12

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Utility Pages: 3-8, 25, 28-29, 30, 32

Tighten Up Your Emergency Plan

By Joseph Hathaway

Thousands of people were forced to evacuate in September as historic and deadly wildfires across Oregon scorched more than a million acres of land.

In many instances, there was little time between the Level 1 “Get ready” notification and Level 3 “Go now.”

Fires forced many people to make split-second decisions about what to take, what to leave and where to go.

Deciding what to do in an active evacuation scenario is difficult, even in Eastern Oregon, where the threat of wildfires is present every year.

As we enter fall and prepare for winter storm weather, the following tips from the Federal Emergency Management Agency, Ready.gov and other organizations will help you prepare for natural disasters that may come your way.

Prepare Now

- Build a “ready-to-go” kit with emergency supplies such as food, water, first-aid kit and other items to last for several days. You should also include N95-rated respirator masks. These masks filter out particles in the air you breathe. Keep in mind special needs of those in your household. Don’t forget about pets.

- Sign up for your community’s emergency notification system.

Baker County: public.alertsense.com/signup/?regionid=1357

Grant County: grantcountyoregon.net/198/Alertsense

Harney County: flashalertbend.net/?alert=1

Union County: union-county.org/



Scenes of devastation, such as this one in Detroit, are tragically common across the state as historic wildfires burn. PHOTO COURTESY OF OREGON TRAIL ELECTRIC COOPERATIVE

union-county-emergency-notification-system

- Stay tuned to national organizations such as the Emergency Alert System and National Oceanic and Atmospheric Administration Weather Radio for emergency alerts.

- Scout out several ways to leave your town or area. Drive the routes and become familiar with shelter locations. Have a plan for pets and livestock.

- Keep important documents in a fireproof safe.

- Review your insurance coverage to make sure it is adequate.

- Research and implement defense zones or defensible space to protect your home. Zone 1 is a 30-foot circle around your home that is free from leaves, debris and flammable materials.

- Trim branches that overhang the house, porch and deck. Prune branches of large trees at least 6 feet from the ground.

- Use fire-resistant materials when building, repairing or renovating your home.

- If you see trees or limbs touching power lines in any situation, stay away and report them to Oregon Trail Electric Cooperative immediately.

During a Wildfire

- If authorities say to evacuate, leave

immediately.

- If trapped, call 911 and give your location.

- Listen to alerts for emergency information and instructions.

After a Fire

- Do not return home until authorities say it is safe to do so.

- Use caution when entering a home or building. Avoid all standing water, which may have an electrical charge.

- Check all utilities and electrical components. If you see damage outside your home—such as downed power lines or damaged power or gas lines, vacate the area and call 911 to have OTEC crews dispatched.

- If you detect electrical damage inside your home, hire a qualified electrician to make repairs.

- Check roofs and attics for hot spots or sparks, and extinguish them immediately. Continue to check for at least 24 hours.

- Fire near power lines creates additional hazards. If you see downed power lines, no matter the situation, always assume they are live and dangerous. Stay back and notify OTEC immediately. ■

OTEC has created an innovative virtual reality video on downed power line safety. Watch it at otec.coop-safety.

Prepaid Program Empowers Members

Pay your electric bill on your own schedule and with no security deposit

By Joseph Hathaway

Have you ever wondered if there was a good way to stay on top of your electric bills? Have you ever wanted to pay ahead instead of waiting for your electric bill to come in? Want to take the stress out of due dates and late fees?

Now you can take charge of your bills.

Oregon Trail Electric Cooperative's Prepaid Program gives members the option to pay as they go for their electricity and choose when to make payments. With the ability to pay ahead, it gives members more flexibility to manage their finances.

OTEC Director of Member Services Eric Wirfs says members turn to this method of payment because they want to be in control.

"It puts you in the driver's seat for purchasing electricity," Eric says. "It's like filling your car or truck with gasoline. You monitor the fuel level and decide when you should refill. Adding money to your account allows you to 'refuel.' You simply pay for your electricity before it is used."

With OTEC's Prepaid Program, there is no specific monthly due date.

"You decide when and how much to pay," Eric says. "There are no hidden or unexpected fees, and your electricity rate is

the same as it would be for a traditional pay account."

Under the Prepaid Program, members avoid paying a deposit, he notes.

OTEC members can access their account information by logging into their account on their computer or the MyOTEC mobile app.

"You receive low-balance notifications when your balance falls below \$10 or a dollar amount of your choosing," says Nini Valerio, member services supervisor for OTEC's Northern Division. "You can receive this notification by email, text or both."

Members can change their dollar notifications as they please, including to a higher dollar amount when cold weather arrives and winter fluctuations affect energy use.

Payments can be made via phone, mail, through the MyOTEC App or online at otec.coop.

"Our free mobile app is a quick, easy and secure way for people to make payments," Nini says. "We recommend all our members download it if they're able, not just those who are signed up for prepayment service."

In addition to allowing members to track their electricity use, the MyOTEC app allows members to easily report outages and manage several accounts at once.



Sign up for OTEC's Prepaid Program online or by calling one of OTEC's member service representatives. PHOTO BY OTEC

"We work hard to make sure our members, who are also our owners, have access to the most convenient tools to do business with OTEC—especially given the uncertainty of the ongoing COVID-19 pandemic," Eric says. "Our prepayment program and mobile app are innovative components to make sure our members remain satisfied and to continue improving their experience with us." ■

The MyOTEC app is free to download on the Google Play or Apple App store. To start using the app, create a user ID on the homepage of OTEC's website, www.otec.coop.

Ready to Enroll?

Qualifications for the Prepaid Program are as follows:

- ▶ Only residential services.
- ▶ A valid email address or phone number for texting must be supplied.
- ▶ No minimum contract/time associated.
- ▶ Beginning balance of \$25 must be established to start.
- ▶ Any current deposits on the account will be applied to the existing balance.
- ▶ A minimum \$25 credit balance is required to reactivate a meter after disconnection.

OREGON TRAIL ELECTRIC COOPERATIVE



Attention, All Photographers!



Your Touchstone Energy® Cooperative

We want your best photos for Oregon Trail Electric Cooperative's Ruralite cover photo contest. Email up to three of your best high-resolution shots to communications@otecc.com for a chance to win \$100 and be featured on one of our 2021 Ruralite covers.

The contest is open only to OTEC member-owners. The submission deadline is Friday, December 18.

Happy shooting! ■

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f. Total Distribution (Sum of 15c and 15e)		339,440	343,293
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h. Total (Sum of 15f and g)		340,540	344,443
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ADOBESTOCK PHOTO BY KAWEE

We Can Help

Utility bill assistance is available for those who qualify

LMUD is committed to helping its customers who need help when it comes to paying their utility bill. Our goal is to make sure no one goes without the power they need, and the Winter Energy Assistance Rate helps income-qualified customers with that goal.

WEAR helps with energy used October through April, when bills can be higher than average. Customers with electric heat (Level 1) receive a 50% discount on the first 1,500 kilowatt-hours used per month. Customers with nonelectric heat receive a 50% discount on the first 1,000 kWh.

The application for WEAR can be completed in just a few

minutes. Applications are accepted beginning October 1.

If you or someone you know qualifies for WEAR, please contact the LMUD office at 530-257-4174. Applications are available at the LMUD office, Lassen Economic Development Corporation in Westwood or can be downloaded from lmud.org.

Once a completed application is received by LMUD staff, the information is reviewed and the application is either accepted and given priority status, or denied and sent back to the applicant. If the application is rejected due to missing or incomplete information, it may be resubmitted after corrections are made. ■

A Word About Water

Sorting Through Laundry Options

Wash clothes efficiently without getting caught in the information spin cycle

Washing machines perform a fairly simple function, which is cleaning dirty clothes. But prospective buyers can be overwhelmed by the different models and bells and whistles available: top-loading, front-loading, high-efficiency, water saver, steaming and wrinkle removing, to name a few.



Energy-efficient machines—identified by the Energy Star logo—should be a priority for

cost-conscious consumers.

An estimated 93% of American households have a clothes washer, adding up to 102 million across America.

Consumers buy about 9 million washing machines each year. Efficient models account for about one-third of sales.



Front-load washing machines use less energy than top-loaders by reducing the amount of hot water needed to clean clothes.

Energy Star-rated washing machines cost \$400 to \$1,500 more than their less-efficient counterparts, depending on features selected. To determine how much electricity a particular unit will use, read the yellow EnergyGuide before buying.

An energy-efficient washing machine can save the typical homeowner about \$50 a year, or \$540 to \$600 during the life of the appliance. Efficient machines also save more than 5,000 gallons of water a year.

The energy and water efficiencies of clothes washers are measured according to their modified energy factor and water factor. These criteria generally limit Energy Star qualifiers to front-loading and advanced top-loading models.

Front-loading clothes washers use a horizontal or tumble-axis basket to lift and drop clothing into the water, instead

of rubbing clothes around a central agitator in a full tub. These units use less energy than conventional clothes washers by reducing the amount of hot water needed to clean clothes.

Front-loaders also squeeze more water out of clothes by using spin speeds two to three times faster than conventional washers, reducing drying time and energy use.

Energy Star-qualified top-loaders typically use spray valves to rinse clothes, rather than a new tub of water. This not only reduces the energy required for heating water, but typically saves an average of 15 gallons of water per wash compared with conventional clothes washers.

Qualified top-loaders also boast sensors to monitor and adjust incoming water temperature. This keeps water hot enough to dissolve detergent



and provide high-performance cleaning, but cool enough to save energy and minimize hot water damage to fabrics. One limitation of efficient top-loading washers is many models do not offer a high-temperature standard wash option.

Look for the Energy Star logo and shop at a store with knowledgeable staff to find a washing machine that will, over time, pay for itself. ■



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Online Conveniences

Part of FKEC's steadfast commitment to quality service lays in constantly evolving the consumer conveniences we provide. Our goal is to make your interactions with FKEC as easy, secure, and informative as possible. We don't just want to keep the lights on, we also want to help you use energy wisely, monitor your account, and pay your bill easily as well as provide services that better our community.

With COVID-19 continuing to impact our members, there has never been a better time to use our health-safe online services. Almost anything you can do at an FKEC office you can do from the convenience of your smart device or computer. *As of press time, FKEC lobbies remain closed to the public.*

If you're not already taking advantage of our online amenities, here are a few you may find make your life easier.

Green Power

www.FKEC.com/green-power/

- **Solar Loan**
Access the program's manual and application
- **Solar Net Metering**
Download applications, Tier Agreements, learn how to read your Net Meter bill.
- **Procedures for Solar Contractors**
Follow the steps to ensure final approval from FKEC for interconnection to our grid

Account Management

www.FKEC.com/access-your-account/

- **Pay Your Bill online or via mobile app**
With and without registering your account online
- **Track Your Power Usage**
- **View Account History**
- **Update Your Contact Info**
- **Access FKEC Billing Info & Fees**

Services

www.FKEC.com/services/

- **Tree Trim Request**
- **Surge Protection**
Learn more about meter-mounted surge protection offered by FKEC
- **Request an Outdoor Lighting Repair**
- **New Construction or Remodel**
The steps, requirements and forms to obtain temporary and permanent electric service
- **Residential Rebate Program**
- **GenSafe Device**

Job Openings

www.vs4.vscyberhosting.com/FKEC/

Resources

www.FKEC.com/resources/

- **Energy Saving Tips**
- **Electric Safety**
- **FAQs**

Connect/Disconnect

www.FKEC.com/connect-disconnect-electric-service/

- **Connect Electric Service**
Complete the online membership application and an FKEC customer service representative will review your application and contact you by email or phone to complete the process.
- **Transfer Electric Service**
- **Disconnect Electric Service**

News & Info

www.FKEC.com/news-and-info/

- **Board Meeting**
Access the minutes, agendas, and schedule of board meetings past and future.
- **Media Releases**
- **Florida Currents Newsletters.**
- **Consumer Guide**

2021 GEC Board of Trustees Elections

Glades Electric Cooperative is a member-owned electric distribution cooperative. As part-owner of the co-op, each spring at our Annual Meeting you have the opportunity to vote for Trustees serving on our nine-member Board of Trustees. Each year, three Trustee seats are up for reelection. Trustees serve three-year terms. Each Trustee represents a district serving a particular area. Current Trustees, districts and areas served are listed on the back page of every issue of Florida Currents.

Trustee Terms Expiring in 2021



District 2
HENDRY COUNTY
Barney Goodman



District 6
HIGHLANDS PARK
Lee Henderson



District 8
LAKE JOSEPHINE
John "Jack" Coxe

Election Process Timeline

October 24, 2020
to
January 12, 2021



Nominating Committee is appointed and Trustee nominees are selected. The Board of Trustees appoints five to 11 members who meet and prepare a list of nominations for Trustee. The list is posted at headquarters at least 45 days before the meeting.

January 12, 2021



Nominations by petition are accepted. Any 15 or more members may make additional nominations in writing not less than 60 days prior to the annual meeting.

January 27, 2021



Nominations are posted at headquarters.

March 8, 2021



Names and addresses of nominees are published in Florida Currents.

March 13, 2021



Annual meeting is held to elect trustees of the three districts up for election.

A Changing Energy Landscape

The top priority at Gulf Coast Electric is delivering reliable electricity to the people who count on the cooperative to power their homes and businesses around the clock.

Electricity is an essential part of daily life, so it is important electric rates are affordable.

More than 67% of your electric bill covers the cost of generating power. To help keep the cost of energy affordable, GCEC partners with other electric cooperatives and municipal electric systems through its wholesale power provider, PowerSouth Energy Cooperative.

This allows GCEC to pool resources to maintain an economical and reliable mix of energy 24/7/365.



The McIntosh natural gas-fired plant is a cornerstone of PowerSouth's energy supply.
PHOTO BY POWERSOUTH ENERGY COOPERATIVE

Today's Energy Mix

Gulf Coast Electric's responsibility to members and the community is to safely provide electricity at a price members can afford and with minimal effect on the environment.

In keeping with these commitments, GCEC uses a diverse mix of generating resources: fossil fuels, renewables and, soon, nuclear. Having multiple generating resources protects members from unpredictable changes in the cost of fuels used to operate power plants.

Today, the energy mix provided by PowerSouth consists of natural gas (77.2%), coal (18.9%), hydroelectricity (3.6%) and other renewables (0.3%).

Most of PowerSouth's electricity is generated by fossil fuels such as natural gas and coal because they provide large amounts of energy at an economical cost around the clock.

Natural gas is a reliable, clean-burning and cost-effective fuel source. PowerSouth operates state-of-the-art gas-fired power plants in Gantt and McIntosh, Alabama.

Coal-fired generation has long been a cornerstone of the energy mix and will continue to serve a portion of members' energy needs in the future. Like natural gas, it offers a steady supply of energy at a low cost.

When it comes to PowerSouth's renewable energy sources, hydroelectric generation and landfill gas-to-energy comprise a small percentage of today's energy mix.

Hydroelectricity was PowerSouth's first generation resource. For 70 years, it has proven to be a reliable portion

of the generating fleet.

Gas from the Springhill Regional Landfill near Campbellton, Florida, provides enough green energy to power approximately 4,000 homes.

Planning for the Future

As PowerSouth looks toward the next generation of energy resources, it is taking steps to ensure a safe, reliable, affordable energy supply for the future.

The long-term power supply plan includes implementing cutting-edge technology, building a new natural gas plant and utility-scale solar project, and adding nuclear energy.

By 2026, PowerSouth projects its energy mix will consist of natural gas (77.0%), nuclear (10.7%), coal (6.4%), and renewables such as hydro, landfill gas and solar (5.9%).

Construction of the Lowman Energy Center is underway. When complete, the state-of-the-art natural gas combined-cycle power plant will be among the most technologically advanced, efficient and environmentally sound generating plants in the country.

Scheduled for completion in 2023, the Lowman Energy Center will be able to serve the around-the-clock energy needs of more than 300,000 homes per year.

Adding nuclear energy to the power supply mix will underscore PowerSouth's ability to supply uninterrupted power to members at an affordable cost. Nuclear is a safe, reliable, "always-on" power source that promotes diversity of PowerSouth's energy portfolio.

Nuclear energy will be

added to the energy mix through a purchased power agreement with the Municipal Electric Authority of Georgia.

Energy will be generated at Vogtle Nuclear Power Plant's two new units under construction. The first unit is expected to be operational in late 2021.

PowerSouth will not own the plant, but will buy a portion of the energy it produces.

Construction will begin soon on a utility-scale solar project in Wing, Alabama, scheduled to go online in 2022. This will add enough solar-generated energy to PowerSouth's mix to power a portion of the energy needs of more than 13,200 homes.

While solar is a welcome addition, it's important to remember it has limitations, only producing electricity when the sun shines. Adding solar generation promotes diversity of the energy mix, but also presents challenges because of its intermittent nature.

PowerSouth will continue to rely on traditional generating sources such as natural gas to ensure a reliable energy supply 24/7/365.

A Commitment to You

While the energy landscape is shifting, GCEC's commitment to deliver reliable and affordable power to its members remains unchanged.

Decisions made now will affect future generations.

Along with its partners—such as PowerSouth Energy Cooperative—GCEC strives to make choices that ensure it provides reliable, affordable electricity for years to come. ■

3 Factors to Consider Before Going Solar

Evaluate the suitability of your home and financing options before deciding to invest in rooftop panels

By Maria Kanevsky

You see them on open fields, on top of people's homes and even on backpacks.

Solar panels are becoming cheaper and more prevalent in the United States and across the world. More homeowners are considering installing solar panels on their own rooftops.

Whether you are interested in saving money or helping the environment, there are many benefits of installing rooftop solar panels. However, there are several things to think about before making the jump.

Here are three key factors to consider before installing solar panels on your own home.

Location

Does the town or state you live in typically get a lot of sunlight? Is your location prone to natural disasters?

The best areas for rooftop solar panels are those that generally receive a lot of sunlight throughout the year and are less likely to have natural disasters that could damage solar equipment.

Even if you don't live in the sunniest state, this doesn't mean solar panels won't work

for you. While lesser-lit areas may not be as efficient, they can still receive a substantial amount of solar energy.

Areas prone to natural disasters can take advantage of unique ways to prevent damage, such as different mounting procedures to protect against hurricanes.

The federal government offers a solar tax credit of 26% in 2020 for installing rooftop residential solar panel systems. Many states have additional incentives and rebates, although Florida does not.

Being aware of state-specific incentives can help you make your decision before installing a residential solar panel system.

Roof Condition

The direction and angle of your roof slant affect solar panel efficiency. South-facing roofs receive the most sunlight throughout the day. Roof angles between 30 and 45 degrees work well in most cases.

Even if your home does not have a south-facing roof, you can have an economically-viable solar panel system.

The material of your roof is also crucial to the cost. Some roof types better accommodate

solar panels than others.

Solar panels can be installed on practically any type of roof material, although more complicated roof materials—such as tar and gravel roofs—may be more expensive and require additional expertise.

A roof in good condition ensures your panels are situated as safely as possible.

Financing Options

When considering how to pay for rooftop solar panels, explore the options.

One of the simplest is a solar loan, which allows you to buy and own your entire system.

A solar lease is another option. A third party installs solar panels on your home and charges you an electricity rate below the market rate. That party owns and maintains the panels. At the end of the lease, you may buy the panels or the owner will remove them.

Another option is a power purchase agreement. It is similar to a solar lease, except you pay a pre-determined monthly amount based on the actual energy produced, rather than a flat monthly fee, as with a solar lease.

Under the solar lease and

power purchase agreement options, you are not eligible for rebates or incentives, since a third party owns the system.

Before you decide on a financing option, talk with your local electric cooperative to determine if solar installation is right for you—and if there are other measures you can take to save energy and money at home.

Turn to PRECO for Help

These three considerations provide a great starting point for learning how to go solar, but they are just a first step.

Other considerations are solar panel type, potential battery installation and how long you plan to remain at your home.

Remember: Peace River Electric Cooperative is a great resource to discuss the benefits and considerations of rooftop solar—especially before making agreements with solar vendors.

Choosing the right professionals and companies to install your solar panels is an important choice. Working with your electric co-op can help you to make the best decision possible. ■

Before installing solar panels, consider location, roof condition and financing options. PHOTO BY ASTROPOWER

