

December 2019 Share Package Utility Contacts

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Common Energy-Saving Claims



Burning wood produces radiant heat, which feels great if you're near the fire. But it can also send large amounts of room air up the chimney.

Photo by Stephane Juban



Washing dishes by hand typically uses more energy than the dishwasher.

Photo by Catt Liu



To ask a question, send an email to **Patrick Keegan** at energytips@collaborativeefficiency.com.
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Q: Is it true that turning lights off and on uses more energy than just leaving them on?

A: Not true. Turning off lights reduces energy use. Turn off LED and incandescent bulbs every time you leave the room. The situation is a little different with compact fluorescent bulbs. Turning them off does save energy, but can shorten the life of the bulb. The rule of thumb for CFLs is to turn them off any time they won't be used for 15 minutes or more.

Q: Would replacing my old windows with new, more efficient ones really cut my energy use in half?

A: No. While replacing inefficient windows with new, energy-efficient windows can cut the heat loss through windows in half, windows typically account for only about 25% to 30% of your space heating costs. The amount of energy you use for heating and cooling is likely one-third to one-half of your total energy use, so replacing your old windows might only reduce your total energy costs by about 10%. When you consider the high cost of new windows, you may not recoup your investment for 15 or 20 years, or even longer.

Q: Burning wood in my fireplace should save on my heating costs, right?

A: Possibly, but certain conditions need to be met. The wood should be dry and burned efficiently in a properly installed, properly placed, high-efficiency wood stove or fireplace insert. Otherwise, it's likely you will lose as much heat through your chimney as you're distributing throughout the house.

Q: My kids claim using the dishwasher is just as efficient as washing dishes by hand. Are they right?

A: Yes. In fact, it's usually more efficient. Properly used dishwashers use less water while doing a better job. As a bonus, they can save you more than 200 hours a year. For maximum energy savings, make sure your water heater is set to about 120 F and use the most efficient wash/dry settings.

Q: I've heard it's better to heat individual rooms with an electric space heater and keep the doors closed to trap the heat. Is this true?

A: It's possible to save money with an electric space heater if you use it only a few hours a day and reduce your home's thermostat setting by a couple degrees. But space heaters can cause fires, so they need to be used wisely and never left unattended.

Q: Should I close the vents in rooms that aren't being used?

A: Most experts advise against this because closing supply registers forces your furnace or air-conditioning unit to work harder. They advise keeping all your vents and doors open. If your system supplies too much heat to some rooms and too little to other rooms, talk to a heating and air conditioning professional about modifying your ductwork. ■

This column was co-written by Pat Keegan and Brad Thiessen of Collaborative Efficiency. For more information on energy efficiency, visit www.collaborativeefficiency.com/energytips.



Don't let winter weather and thermostat confusion ruin your winter. Learn to control costs and maintain comfort.

Winter Warming 101

QUESTION: Should I set my thermostat lower during winter? If so, how low and for how long?

ANSWER: It is a common myth that it takes as much energy to reheat a house—in the morning for example—as was saved during the temperature setback period overnight. The amount of heat a house loses through its walls, ceilings and floors is directly proportional to the difference between the indoor and the outdoor temperatures. Air leakage into and out of your house also increases with larger temperature differences.

When the indoor

temperature is set lower, the indoor-to-outdoor temperature difference is smaller so less heat is lost from your house. If less heat is lost from your house, your furnace has to use less gas, oil or electricity to create the heat to replace it. The amount of heat used to reheat the house, therefore, is less than the amount saved over the temperature setback period. During the summer, the same concept applies when air-conditioning.

It saves energy overall if

you lower the temperature setting on your central furnace or heat pump thermostat. The dollar amount you can save depends primarily on how low you set the thermostat, how long you have it set back and, to a lesser degree, your climate.

The only time a temperature setback may not be wise is if you have a heat pump with backup electric resistance heat and an old standard thermostat. When it is time to reheat the house and you set the thermostat higher again, the expensive backup electric resistance heater may come on. However, for a long eight-hour setback, you will likely still save overall. That is not true for a short couple-hour setback.

If you use a heat pump, install a setback thermostat specifically designed for heat pumps. These have electronic circuitry to keep the backup resistance heating elements off after the setback period.

There is not a “best” thermostat setting for all homes and climates. The lower you set it, the greater the overall savings. The amount of savings per degree for each nighttime eight-hour setback period ranges from 1% to 3%. Since many people are also gone working during the daytime, the temperature can be set lower for about 16 hours a day. Unless there are some health problems in your family, 62 F is typically

comfortable if you are wearing long sleeves or a sweater.

Selecting proper temperatures throughout the day and night can be a bit confusing. You want to balance comfort with energy savings. It is surprising how comfortable you can be at a lower indoor temperature once you become accustomed to it.

In moderate climates, let your comfort dictate how low you initially set the furnace or heat pump thermostat. As you get used to the lower temperatures and wear a sweater, you will be able to gradually lower it more. In colder climates, excessive window condensation often limits how low the indoor temperature can be set. To set the temperature lower, you will have to reduce the indoor humidity level.

When selecting a new programmable thermostat for setback, choose one that lets you control it from your cellphone or tablet. Schedules can deviate, so you may want to change the setback times and temperatures remotely. For maximum savings and comfort, install a thermostat capable of setting different temperatures in different rooms along with a duct zoning system. ■



For more information or to ask a question about energy savings, go to www.dulley.com. (c) 2020 James Dulley

Reflect on Efficiency This Holiday Season

Keep energy efficiency and conservation in mind to get the most from your home



Daniel Meyers is a field representative for Efficiency Services Group in Hillsboro, Oregon.

It's December—a month where routines go to die. Holidays are important to me because they give me a break from routines and a chance to examine the things most important in my life.

This is why I travel to Eastern Oregon every year to spend Christmas with my family. They are the people I want to be with during the holidays.

While I may go about my routines the rest of the year, I find that when December comes back around, I'm always overdue to revisit the question of what my priorities are and to make adjustments that carry forward into the new year.

In the course of my work as an energy-efficiency specialist, I go into people's homes and help find ways to save energy. I do my best to say things that are helpful. I offer solutions that are realistic.

The task of being energy efficient is complex, and I am a realist. I believe positive change is made gradually—in manageable doses.

I usually have an hour to get to know a person's life and routines. That means I have to work fast and get down to business. I poke and prod attics and crawlspaces in houses and question people about their habits.

Then, I ask them to consider a few things, such as insulation, a new HVAC system and their behaviors. The temptation to foist energy-efficiency platitudes on people is one I must resist. If I don't, I am merely a caveman,

beating my fist: "Analog thermostat bad! Smart thermostat good!"

I don't want conservation work to paint a picture where energy is our enemy. Energy is much more our friend because we use it to live our lives.

Energy efficiency is about making informed decisions. By revealing the hidden costs associated with life's activities, people can decide for themselves what is and isn't worth the cost.

To put this another way, energy efficiency helps people understand their true priorities—just like holidays. The spirit of the holidays and the spirit of energy efficiency is the same spirit!

Holidays often bring relatives over to stay. HVAC bills aren't always affected by this. A warm house is a warm house, whether there are two people inside or 10. However, extra occupants often affect hot water use. It's a sneaky problem because most of the time, the expense of hot water flies under the radar.

For perspective, if you have a modern, low-flow showerhead and set your water heater at a reasonable temperature, a five-minute shower might cost 25 cents for heat. But tweak a few parameters and the picture looks different.

Back home, my parents have a shower in their basement with fixtures that are about 40 years old. It's sturdy and has the flow rate of a firehose. It's amazing and I love it. Turning this thing on is

like summoning Neptune. The sound of water hitting the shower wall is about 120 decibels.

Showering in it will exfoliate your entire body with the effectiveness of a power washer. It will leave you numb, tingling and squeaky clean. There is something about this shower that triggers shower hubris in me. It makes me want more of all the things I'm already getting. It makes me want to crank that sucker up to the full hot-rock sauna temperature and cook myself like a lobster for at least 20 minutes. I penciled this out, and these soul-purifying showers, at their worst, cost about \$2.50 a pop—a tenfold increase.

If I wanted to call this shower a crime against energy efficiency, it would be an easy thing to do. But I'm not waging war on showers.

My job is to take the invisible and make it visible. My message to the world is not to say, "Make do with less." My message is, "Make your decision."

By knowing the cost of the shower, I can decide if it's really worth it.

And holidays teach me, every year, that once I have my priorities in order, letting go of small indulgences no longer feels like a sacrifice. It feels like a decision that I made, based on my own values.

My glam shower isn't ruined. It is revealed. By knowing the cost, we can know our values—at least once a year—on the holidays. ■

Invested in the Community

Consumer-owned electric utilities are committed to making a difference in the lives of their neighbors

Compiled by Pam Blair

For consumer-owned electric utilities, service means much more than delivering power to members. It is about the power of community connections.

The utilities and their employees devote time in the areas they serve, building relationships and community partnerships. After all, the women and men who work there also live there.

Here are ways cooperatives, municipalities and PUDs in the region make a difference in the communities they serve.

Alaska Village Electric Cooperative, Anchorage, Alaska. AVEC donates to annual spring cleanups, provides reflective trail markers and supports holiday celebrations, sled dog races, search and rescue, and educational and cultural events.

Barrow Utilities and Electric Cooperative Inc., Barrow, Alaska. BUECI donates \$70,000 annually to support athletic, scholastic, cultural and safety activities such as the Christmas and Fourth of July Games, which highlight Native Alaskan traditional athletic contests, the city's New Year's Eve fireworks display, and school trips for the football and basketball teams. The co-op hangs Christmas streetlight displays around public buildings, sponsors local radio programming and uses utility equipment to offer free grave digging in the frozen tundra.

Blachly-Lane Electric Cooperative, Junction City, Oregon. Each year the co-op supports local schools, libraries, youth sports, veterans' groups, community centers, granges and food banks through its donations program.

Central Electric Cooperative, Redmond, Oregon. CEC and its employees support more than 50 organizations and causes,

including childhood health and development, veterans' outreach and food banks. The co-op donated poles and labor to help repair the Oregon Youth Challenge obstacle course.

Clatskanie PUD, Clatskanie, Oregon. Employees and board members donated \$3,200 to local food banks. Employees volunteer on Chamber of Commerce and food bank boards. The crew installs Christmas decorations in Clatskanie and Rainier. Employees provided safety demonstrations at health and safety fairs. The PUD sponsors the Share the Warmth energy assistance fund to help customers.

Consumers Power, Philomath, Oregon. CPI donated to more than a dozen local nonprofit organizations. CPI also presented electrical safety demonstrations to school and community groups.

Coos-Curry Electric Cooperative, Port Orford, Oregon. CCEC plans and hosts a one-day safety camp for first and second graders. The co-op collected 5,000 pounds of canned food.

Harney Electric Cooperative, Hines, Oregon. Employees volunteer to run fair gates and cook burgers at the Harney County Fair. The co-op sponsors 4-H Carcass of Merit awards for two county fairs in Oregon and Nevada.

Kotzebue Electric Association, Kotzebue, Alaska. KEA donates to Special Olympics, Mothers Against Drunk Drivers, the Salvation Army, the Food Bank of Alaska, and Boys and Girls Club. It sponsors Little League softball and youth basketball teams, provides annual scholarships for high school graduates, sponsors a radio swap-and-shop show, puts on the community's New Year's Eve fireworks show and hangs Christmas lights on Main Street. Employees help



West Oregon Electric Cooperative, Vernonia, Oregon

Above, employees installed a pole at the Mist-Birkenfeld Rural Fire Protection District main station for emergency management purposes. The fire department will use the pole as a radio tower to facilitate communications when phone lines are down.

organize local snowmobile races and run the Kobuk 440 sled dog races.

Lane Electric Cooperative, Eugene, Oregon. LEC hosted veterans and their spouses for a lunch at the cooperative to thank them for their service. The co-op awarded \$20,500 in scholarships and participated in the Oakridge Keg and Cask Festival, McKenzie Chainsaw & Arts Festival, Lowell Blackberry Jam Festival and Veneta Light Parade.

Lassen Municipal Utility District, Susanville, California. LMUD sponsors Spring Home, Garden and Outdoor Recreation Show and supports Magical Country Christmas, Lassen County Fair Parade, Safe and Sane Uptown Trick or Treat, Lassen Land and Trail Trust Kids Nature Camp, Lassen County Fair



Golden Valley Electric Association, Fairbanks, Alaska

At left, for the 29th year, GVEA adopted families for Christmas. It also gave away trees in celebration of Arbor Day. Through its GoodCents round-up program, GVEA has distributed more than \$1 million to non-profit organizations in its service area.

Raft River Electric Cooperative, Malta, Idaho. The co-op donated toward a new sound system for the Raft River High School auditorium. RREC also sponsors a community color run and provides safety demonstrations during Ag Days.

Tillamook PUD, Tillamook, Oregon. The PUD awarded \$75,000 in grants

Kiddies Day and Soaring Eagle Blue Star Moms Main Street Banners.

Midstate Electric Cooperative, La Pine, Oregon. Nearly 100 students participated in MEC's Career Days, learning about careers at the co-op. MEC supports economic development, veteran, youth, emergency service and community programs.

Mt. Wheeler Power, Ely, Nevada. The co-op offers a workshop that helps low-income families complete state paperwork for one-time energy assistance.

Northern Lights Inc., Sagle, Idaho. Through its Operation Round-up program, NLI's Community Trust funds local food banks, fire departments, schools and community-based organizations. NLI also sponsors blood drives.

Oregon Trail Electric Cooperative, Baker City, Oregon. OTEC awards 32 scholarships a year, sponsors students to the Rural Electric Cooperative Youth Tour and the Idaho Youth Rally, and teams up

with community partners to deliver free books to local children through the Dolly Parton Imagination Library.

Parkland Light & Water, Tacoma, Washington. The utility provides energy assistance through Project Round-Up to help customers in need with their utility bills. PL&W participates in Touch-A-Truck—where kids get up close to big vehicles—provides utility awareness at Garfield Days Street Fair and awards an annual scholarship to a graduating senior. Employees donate to Winterfest, a jacket and toy drive for children from families struggling to make ends meet.

Plumas-Sierra Rural Electric Cooperative, Portola, California. PSREC sponsors youth and Christmas stocking programs for children. Employees buy, cook and serve food at community dinners. They also host food, toy and coat drives, and participate in Adopt-A-Highway cleanups.

to nonprofits for economic development projects. Employees and their families assembled food and gift baskets for 18 families, and donated to school districts to help students in need of supplies.

United Electric Cooperative, Heyburn, Idaho. UEC participated in the "Sleep in Heavenly Peace" program, setting up bed kits for kids who don't have beds. Through the co-op's annual Mitten Tree, members and employees bring in winter apparel to give to local children. UEC hosts a food drive to benefit local food banks and shelters, donated turkeys to Kat Country for an annual drive, contributed to the Festival of Trees, sponsors students to the annual Youth Rally, offers academic scholarships and a summer internship, and provides free safety demonstrations for the public. It also supports local schools, sports and 4-H students. Employees and their families participate in Adopt-A-Highway cleanups. ■

Where Does Your Power Come From?

By Paul Wesslund

We depend on electricity 24/7, but have you ever wondered how it's made, or where it comes from? To understand the basics of something so important to modern life, think about steam from a teakettle and those magnets stuck to your refrigerator door.

Magnetic metals in nature attract each other because parts of the atoms that make up the metals want to match up with others. Those restless atomic particles are called electrons—and that's where we get the word "electricity."

In the early 1800s, a scientist in England named Michael Faraday noticed that when he rotated a metal disk through the middle of a horseshoe-shaped magnet, he could get electrons to flow together in an electric current.

Engineers soon took over and made Faraday's process really complicated—and really useful. Today, nearly all of our electricity comes from turbines that spin a magnet inside a coil of wires.

One way to turn those turbines is by heating liquid into

steam that forces the turbine to spin, using the same principle that makes a teakettle sing.

When you boil water on your stove, that liquid expands more than 1,000 times as it vaporizes. If you've ever had your hand burned near boiling water, you've felt the power that steam produces.

The use of heat to spin a turbine generates two-thirds of the nation's electricity from a pair of fossil fuels: coal and natural gas.

Another 20% comes from nuclear power, with hydroelectricity adding 7% and wind contributing 6.5%. Smaller amounts come from solar, biomass and geothermal.

Coal

Coal—which produces about a third of the nation's electricity—is dug from the ground, either near the surface or from deep underground mines. It is then shipped to power plants, often by train, and stored in large piles on the ground

until it is crushed into small pieces or powder and burned in a furnace.

The heat from that combustion is used to turn liquid into steam in a furnace/boiler that spins the steam turbine/generator, producing electricity.

Large transformers at the plant boost the voltage of the electricity—lowering the current and minimizing line loss potential—for shipment across the country through tall transmission lines. As it gets closer to where it will be used, a substation of transformers reduces the voltage to a level that can be safely delivered to a smaller transformer on the utility pole or pad-mounted transformer in your yard, decreasing the voltage further for use in your home.

The furnace burns the coal up to 3,000 degrees F, and the steam it produces gets hotter than 1,000 degrees.

Coal contains harmful elements that are captured and removed through sophisticated

pollution controls. That environmental equipment can cost as much as the power plant.

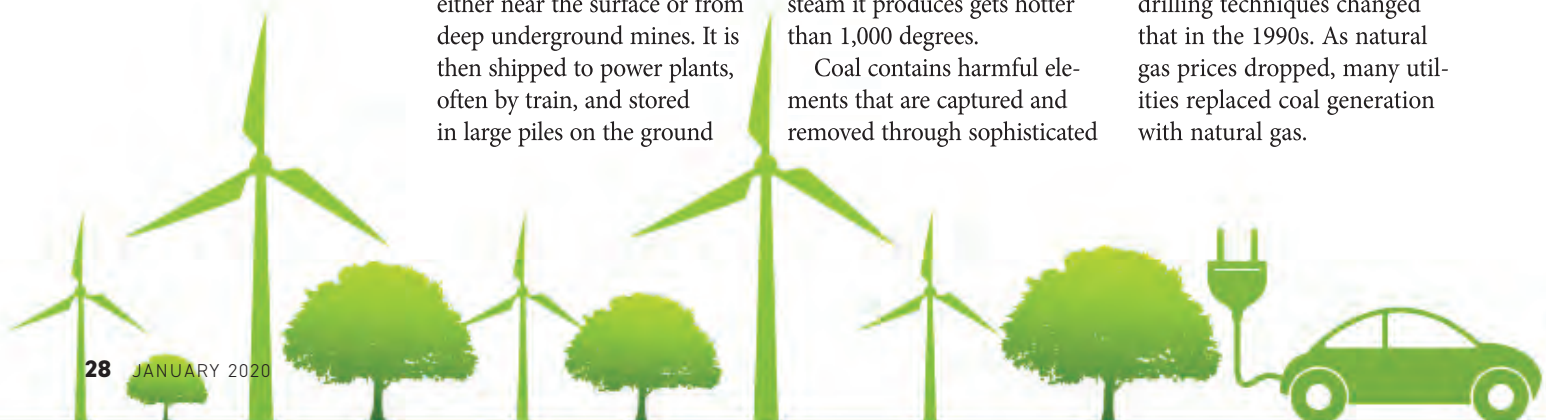
Natural Gas

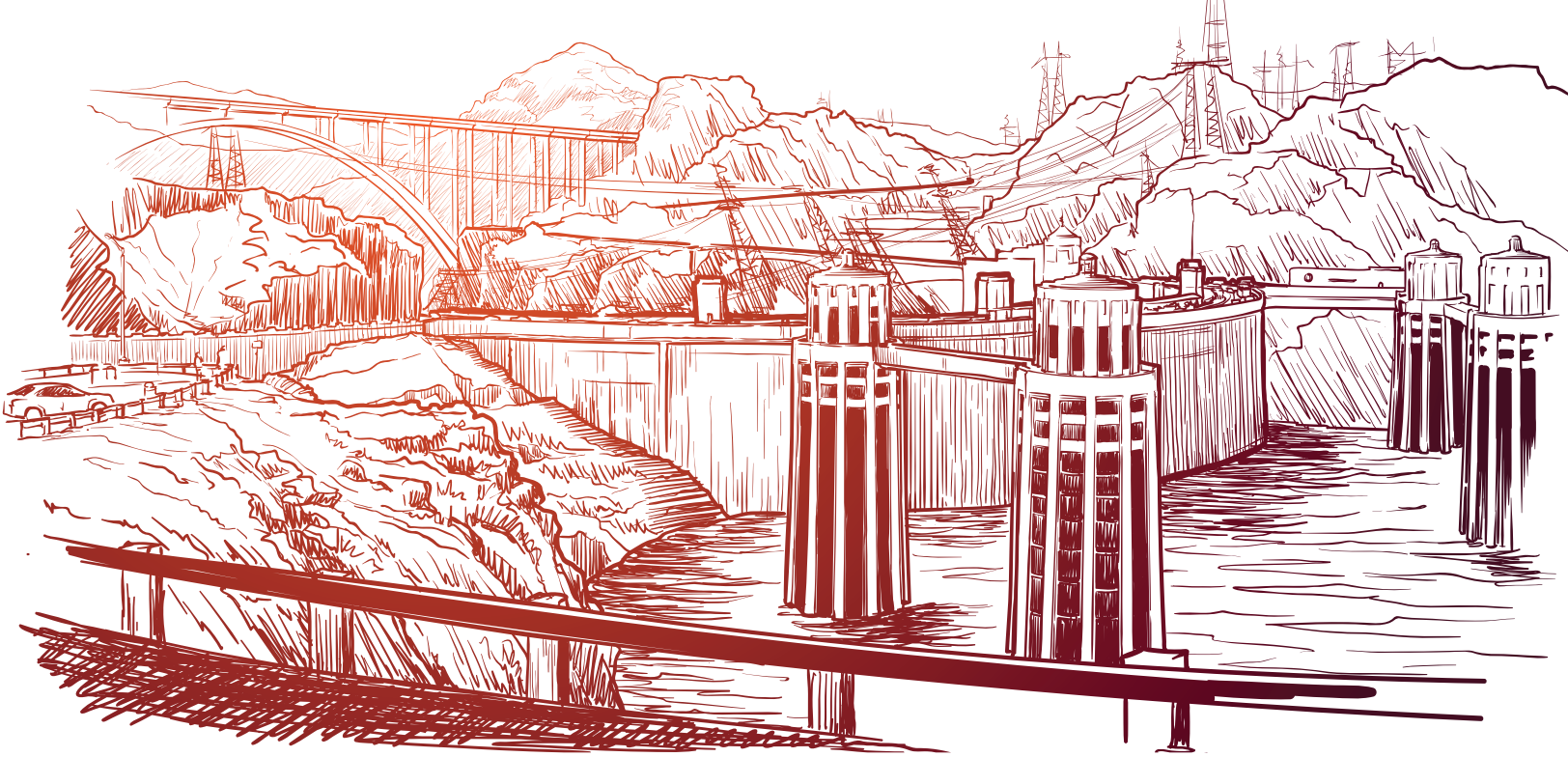
Ancient plants and animals that died long ago turned into coal, oil and natural gas. That's why all three are called fossil fuels.

Like coal, natural gas comes from the ground and produces about a third of the nation's electricity. In a natural gas power plant, specially designed combustion turbines burn the gas to make them spin, generating the electricity. Natural gas turbines are a large, complicated version of what you see hanging on airplane wings.

Natural gas plants are simpler and cheaper to build than coal plants, require less staff, and can be shut down and powered up more quickly. Natural gas doesn't contain as many pollutants as coal, so fewer environmental controls are needed. Burning natural gas also produces less greenhouse gas.

Although natural gas used to be more expensive than coal, fracking and other new drilling techniques changed that in the 1990s. As natural gas prices dropped, many utilities replaced coal generation with natural gas.





Hydropower provides about 55% of power in the Northwest, but only 7% nationwide. Two-thirds of the nation's power is still generated from coal and natural gas.

Nuclear

A nuclear power plant works basically the same as a coal plant, making steam to spin a turbine and generator. The difference is that instead of burning coal, heat from a nuclear reactor heats the liquid into steam.

The basic fuel for a nuclear power plant is uranium, which is mined from the ground. It then must be formulated into expensive and complex fuel components for utility use.

A little uranium can last a long time, making it a promising, incredibly cheap power source—and it produces none of the pollution or greenhouse gas that comes from burning coal or natural gas.

However, concentrated radioactivity in the nuclear reactor is potentially so dangerous, expensive safety measures need to be part of any nuclear plant. Highly technical

control systems need to be in place to slow or shut down the level of heat produced, and the nuclear reactor needs to be inside a strong containment building to keep radioactivity out of the atmosphere in the event of a low-probability accident in the reactor core.

Another issue is how to dispose of the spent nuclear fuel, which can stay radioactive for millions of years before the radioactivity is brought down to naturally occurring radioactivity in the environment. Most of the spent fuel is stored in pools of water and dry storage casks at the site of the nuclear plant.

Hydropower

One way to turn an electricity-generating turbine is to store water behind a dam, then harness its power as it flows from the

reservoir to the river below.

Hydroelectric projects in the Columbia River Basin provide about 55% of the Northwest's energy needs—much higher than the national average.

Unlike many other renewables, Northwest hydropower is dependable and predictable. Because it is a load-following resource, it can throttle up or down to match the daily peaks and valleys of our energy use—increasing in the morning when people start the day, and decreasing in the evening as people wind down.

Operators control the electrical output by choosing how much water to allow through water intakes in the dam. Opening and closing the intakes directly controls the amount of water flowing to the turbines, which determines the amount of electricity the dam generates.

Hydropower doesn't create greenhouse gas or other

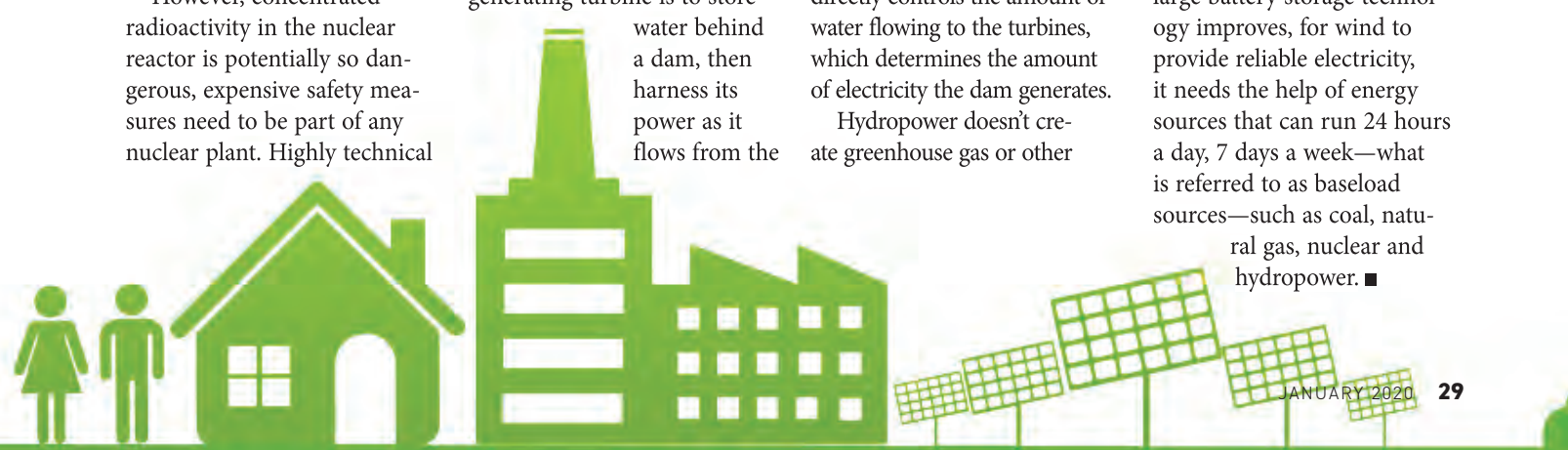
chemical pollutants, which is an issue with burning fossil fuels.

Wind Power

Like other forms of generation, wind creates electricity by spinning a turbine that creates an electricity-producing magnetic field. The difference is the turbine is turned by enormous propeller-like blades designed to catch the wind from towers as high as 300 feet in the air.

Although still a small overall contributor to the nation's electricity supply, wind power has increased significantly as costs decrease. It has increased about 35% during the past four years.

Because the wind does not blow all of the time, it is a tricky power source. Until large battery storage technology improves, for wind to provide reliable electricity, it needs the help of energy sources that can run 24 hours a day, 7 days a week—what is referred to as baseload sources—such as coal, natural gas, nuclear and hydropower. ■



The Detailed Price of Power

Determining the need for increased rates is both a science and an art for the PUD

By Rodger Nichols

Calculating the price of power for ratepayers is a complex process involving both science and art.

First, the utility needs to take in enough money to cover expenses, which come in a number of manners. In rate-setting jargon, it's known as the "revenue requirement," says Harvey Hall, Northern Wasco County PUD's chief financial officer.

"It's the cost of getting the power, bringing it to our territory, distributing it our customers and then serving our customers in terms of our customer interaction—the metering, the billing, the collection—and the processing of that," Harvey says.

Determining rates involves several components, including:

- The cost of buying or producing the power.
 - Transmission costs.
 - Wages and other compensation.
 - Recruiting and training expenses.
 - Maintenance and upgrades to the existing system.
- Capital construction, such as a new substation.
 - The cost of buying and maintaining vehicles and equipment.
 - Facilities maintenance.
 - Maintaining an inventory of key components.
 - Taxes and insurance.
 - Debt service.

There is an art to each component. For instance, how often should the PUD replace vehicles? As they age and gather mileage, maintenance costs rise. Picking



One of many factors that weighs into the price of power is capital construction, which includes substations. Above, the Columbia Heights Substation provides power to homes and businesses in Wasco County.

the right timing for replacement can save a great deal of money and effort. Too soon, and too much is spent in capital costs; too late, and too much is spent in maintenance costs and lost use in downtime.

To make smart choices, it's necessary to have accurate information. That is why each year, workers inspect 10% of the thousands of power poles the utility owns. Poles in Eastern Oregon's dry climate tend to last 20 to 30 years, although one was found recently that dated from 1926 and was still going strong.

One of the biggest factors in the art side of the equation is the size of a reserve fund. It needs to be large enough to cover contingencies and provide

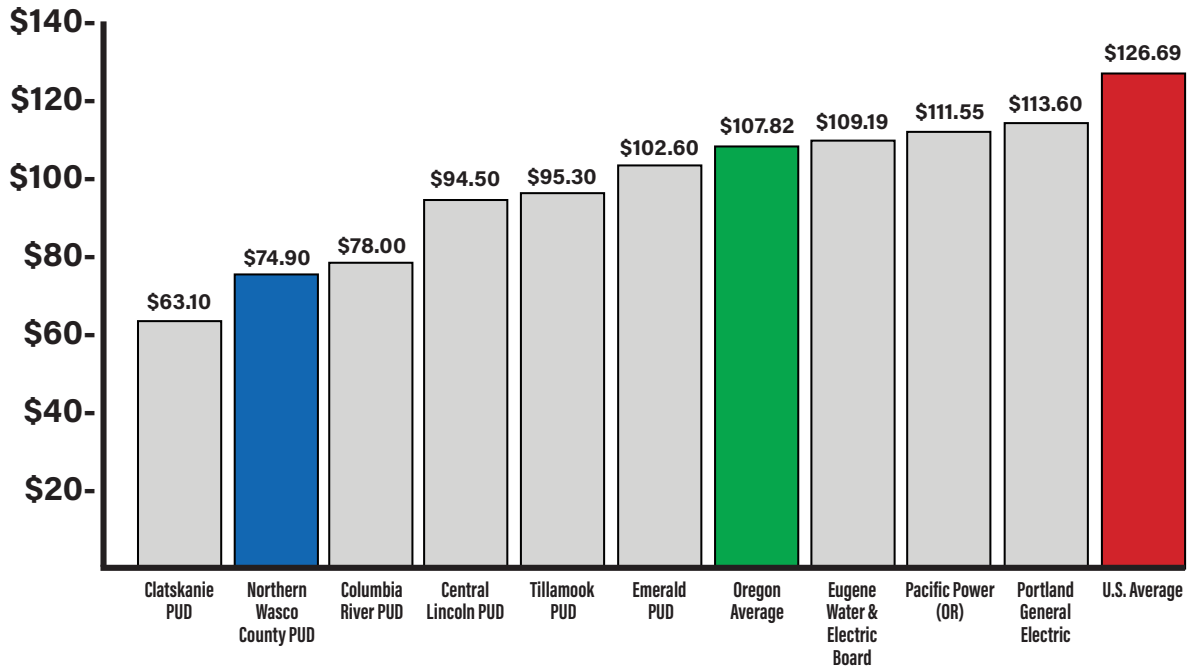
some measure of rate stabilization. Too large, and it means the utility is charging ratepayers more than is necessary; too little, and there won't be funds available to cover emergencies or potentially smooth out rate increases.

Where and when to upgrade is another decision. Recently, the PUD switched to an automatic metering system that doesn't require employees to visit each home or business to read meters. The meters communicate wirelessly, beaming their information back to headquarters.

The new meters are more accurate, give instant feedback and eliminate the need for estimating readings, which sometimes had to be done during inclement weather.

Residential Bill Comparison

Cost of 1,000 KWh



The upfront expense will result in long-term savings. The two employees who had read meters are being retrained for other jobs at the PUD.

With this many moving parts—and with costs changing over time—it becomes necessary for the utility to adjust rates from time to time to compensate. The last adjustment was two years ago.

The PUD board is committed to smoothing out rate changes to prevent sudden spikes. At their November meeting, board members heard a presentation from EES Consulting, which did a cost-of-service analysis to determine the revenue requirement for the next two years.

The analysis said if the PUD continued the same rate structure next year, along with planned capital construction, the revenue would be two-tenths of a percent short in covering expenses—a deficit that would rise to 13% in 2021.

The board unanimously rejected the

idea of waiting until 2021 and boosting rates by 13%.

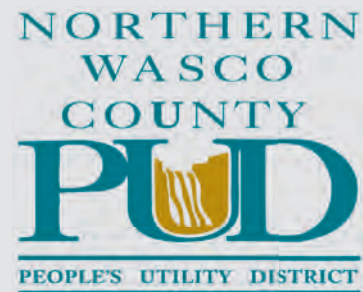
One option is to take a 6.7% raise in 2020 and another 6.7% raise in 2021.

Also under consideration is to reduce planned capital construction for next year by \$1 million, which would require a 3.8% increase.

Nothing was decided at the November meeting. No increase will take place before spring. As a ratepayer-owned utility, Northern Wasco County PUD has a policy to never adjust rates during winter—the time of heaviest use.

An advantage of being part of a public ratepayer-owned utility rather than a private investor-owned utility is that loyalty is to the ratepayers rather than to investors, with no pressure to send dividends to stockholders.

The board members and employees of Northern Wasco County PUD have the ratepayers' best interest at heart, and will continue to embrace solutions that provide the best outcome among all the variables. ■



Community Calendar

- ▶ **December 6:** Festival of Trees, 6-9 p.m., The Dalles Civic Auditorium
- ▶ **December 14:** Holiday Spectacular at the Civic, 7-9 p.m., The Dalles Civic Auditorium
- ▶ **December 23 through January 3:** Winter break for Wasco County schools
- ▶ The Dalles City Council meets the second and fourth Monday of each month at 5:30 p.m., with the exception of August and holidays, at City Hall.
- ▶ The Board of County Commissioners meets the first and third Wednesdays of each month at Wasco County Courthouse.

Attention, Photographers

Your photo could be on the cover of Ruralite magazine

CPI is hosting a Ruralite cover photo contest. Photos will be judged by Ruralite magazine.

- Contest is open only to Consumers Power members.
- Each member can submit three photos.
- Submitted photos must be vertical (portrait) orientation.
- All submissions must include the photographer's name and location of the photo.
- All submitted photos must be taken within the Consumers Power service territory.
- Submissions must be high-resolution, digital images in jpeg format, 300 dpi at approximately 8-by-10 inches.
- Prints WILL NOT be accepted.

Email your high-resolution photos to info@cpi.coop. Winning photos will be featured on the covers of the Consumers Power edition of Ruralite throughout the year. Winners also will receive a poster print of the cover with their winning photo.

Winning Tips:

- Make photos near sunset or sunrise. The light is low in the sky and makes for prettier landscapes.
- Include people doing interesting things such as kayaking, hunting, fishing or biking.
- Get close to your subject so it will fill the viewfinder.
- Only send your best photos.

By submitting photos to this contest, you agree to give Consumers Power the right to use submitted photos on the cover of Ruralite magazine and other marketing materials for Consumers Power Inc.



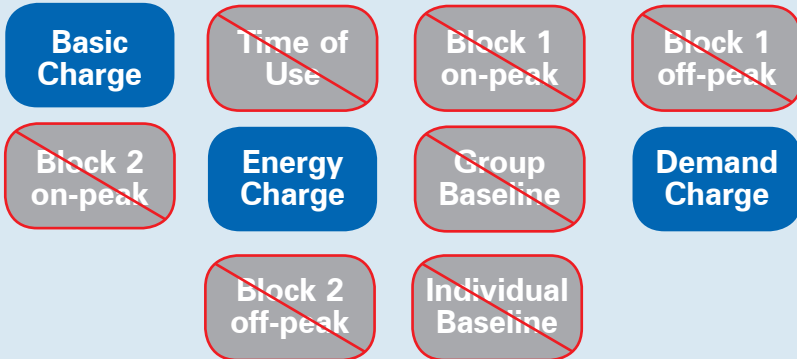
Contest Deadline: January 31, 2020

Streamlined Rates Beginning January 2020

Over the last year, Umatilla Electric has worked toward the goal of creating a rate structure we feel is easier for our members to understand.

Our simplified new rates will begin on Jan. 1. The changes will be reflected in your February bills.

Overall, the new rates will add 2% to UEC revenue next year to cover costs of providing high-quality and reliable service at the best value. The new rates represent our first overall revenue increase in four years.



How have we simplified our rates? Our rates will no longer include blocks, baselines and off-peak rates that were incorporated into several customer classes. Those rates – in which the price per kilowatt hour changes at different levels or times of usage – were introduced in 2012 to mirror conditions at the time for buying wholesale power.

Because such rates no longer reflect today’s wholesale power markets, they have been eliminated in our new rate schedule (see opposite page).

Further, to promote simplicity, rate schedules have been combined within the commercial, industrial, irrigation and outdoor lighting customer classes.

As a not-for-profit cooperative, we remain focused on keeping operating costs low.

A study helped determine UEC’s needs to recover costs of providing service, including our largest expense, acquiring wholesale power.

Our study outlined costs needed to serve each customer class. The study sought to balance cost recovery among customer classes, with a goal of minimizing one class subsidizing the others.

We realize any rate change can affect your family’s budget. Our customer service and energy efficiency specialists are here to help. Call 541 567-6414 or visit our Hermiston and Boardman offices if you wish to receive an analysis of your bill and suggestions on how to save energy.

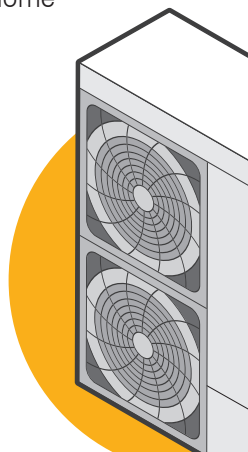
Manage Your Account for Savings

- Monitor your usage in **SmartHub**
- Sign up for **PowerUp Prepay**
- Consider **Budget Billing**
- Make payment arrangements
- Request heating assistance



Save Energy with Rebates and Loans

- Free Energy Efficiency Assessments
- Energy Saver Loans for your home
- Rebates for your home or business
- Rebates for irrigation pumps, VFDs and sprinklers
- Technical expertise for industrial custom projects



Your Rates Explained

The impact of the new rate structure for residential, commercial, irrigation and industrial accounts varies by individual account. The bill for a residential member who consumes the average of 1,200 kWh per month will rise 30 cents per day. Below is a summary of the changes:

	C U S T O M E R C L A S S				
	Residential	Commercial	Industrial	Level 1 Irrigation	Level 2 Irrigation
Basic Charge (per month)	\$22	\$35	\$200	\$35	\$80
Demand Charge (per peak kW)	\$0	\$6	\$6	\$8	\$7.50
Energy Charge (per kWh used)	6.91 cents	4 cents	3.87 cents	6.11 cents	3.83 cents

- Residential:** UEC's basic charge will rise to \$22, up from \$18. The energy charge for kWh consumed will change to a single rate of 6.91 cents, compared with the current block rates of 6.37 and 8 cents. The basic charge recovers a portion of the fixed costs it takes to run the business, regardless of the amount of power consumed. The energy charge, or kilowatt-hour rate, is based on the cost of energy and includes the balance of the fixed costs.
 The seasonal rate's basic charge will rise to \$29.50, up \$4.
- Commercial:** UEC's two commercial rate classes (Schedules 3 and 4) have been combined into one and block rates eliminated. The combined rate class will have a basic charge of \$35, demand charge of \$6 and energy charge of 4 cents.
- Industrial:** Two industrial classes, 5A and 5B, have been combined into one, with a basic charge of \$200, demand charge of \$6, and energy charge of 3.87 cents. Baselines and block rates have been eliminated.
- Irrigation:** For **Level 1** irrigation accounts (those with demand of 100 kW or less), the basic charge of \$35 and demand charge of \$8 will remain the same. The energy charge of 6.11 cents will replace the current on- and off-peak rates of 5.5 cents and 4.98 cents. The larger **Level 2** irrigation accounts (Schedules 8, 9 and 9A) have been combined into one. The basic charge will be lowered to \$80 and the demand charge will remain at \$7.50. Block and off-peak discounts will be eliminated and replaced with an energy charge of 3.83 cents.
 The demand charge for both Level 1 and 2 will now apply for eight months, March through October, consistent with the customer charge.
- Lighting:** Rates for multiple types of outdoor lights have been combined. For residential customers, lights under 100 watts will be \$10, for 100 to 200 watts will be \$11, and over 200 watts will be \$15.

A detailed chart comparing the current and new rates is available online at www.UmatillaElectric.com.



2020 Youth Tour

Do you know a high school freshman or sophomore who would like to have an all-expenses paid trip to Washington, D.C., in June 2020?

This is a wonderful opportunity to find out more about co-ops, see our nation's capital, and visit special memorials and historical sites that most people only read about or see on television. You also will meet young people from around the United States and make new friends.

Requirements:

- Parent(s) or legal guardians are members of Wasco Electric Cooperative.
- Applicant is a current freshman or sophomore.
- Primary residence is within Wasco Electric Cooperative's service territory.

If you would like to participate, complete an application and return it to the Wasco Electric Cooperative office by Friday, January 17, 2020.

For most students, this is a once-in-a-lifetime opportunity and an unbelievable experience. Students from across this nation are exceptional and make the trip enjoyable for all involved.

Download an application at www.wascoelectric.com, stop by the WEC office at 105 E. 4th St., The Dalles, or call us at 800-341-8580 or 541-296-2740. ■



October

SEPTEMBER 2020							NOVEMBER 2020						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	1	2	3	4	5	6	7
8	9	10	11	12	13	14	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28
29	30						29	30					

Surrounding foliage is reflected in Sparks Lake looking toward South Sister, Oregon.
By Brad Walter, Redmond, Oregon—
Central Electric Cooperative

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1	2	3
				☾ Full Moon		
4	5	6	7	8	9	10
					☽ Last Quarter	
11	12 Columbus Day	13	14	15	16	17
					☀ New Moon	
18	19	20	21	22	23	24
					☽ First Quarter	
25	26	27	28	29	30	31 Halloween
						☾ Full Moon

Your 2020 Ruralite Calendar is Now Available

To get next year's edition while supplies last, please call 541-548-2144 or 800-924-8736.

You may also pick up your copy at:

- Redmond—2098 NW 6th St.
- Bend—61090 SE 27th St.
- Sisters—220 S. Pine St. Suite 101



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Play it safe around downed power lines. Never assume a line is dead. Photo by bibi/stock.adobe.com

Winter Power Line Safety

By Don Rose

During the winter and its accompanying rain, ice, snow and strong winds, many branches and trees fall to the ground. This often brings down power lines. Bad road conditions at any time can cause vehicle accidents involving power poles.

If you see a wire on the ground, do not go near it. Do not let anyone else approach it. Contact the power company to take care of the situation. You won't be able to tell if it is a phone line, secondary line or a primary voltage line. The wire on the ground could be energized with as much as 500,000 volts.

Power lines, whether on the ground, a vehicle or a blown-down tree, are still dangerous. A fallen energized line will not always arc or spark.

Electricity from a power line will create a ripple effect—much the same as throwing a pebble in still water—for up to 30 feet. If you touch any two spots in this zone, electricity will use your body to increase the strength of the charge and push the ripple forward. The electricity

will take a step using you as a conductor. You will be shocked and seriously or fatally injured.

If you are in a car that has hit a power pole and the power lines are lying on your car, or a tree has torn down the power line and it ends up on your car, do not get out of your vehicle. Have someone contact the power company to come assist you.

If remaining in your vehicle is unsafe—for example, the car is on fire—and you must exit, jump clear of the vehicle and land with both feet together. Move away from the vehicle and power line by hopping with your feet together, or by shuffling your feet—your heels should not pass your toes. Do not take full steps. Taking full steps can cause “step potential” and will give you a severe electrical shock. Continue shuffling your feet until you are at least 30 feet from the vehicle.

Remember, even if a power line is on the ground, there is no way you can tell if it is energized or not. Call your utility for help. ■

Surge Protection at Home

Power surges—also known as power spikes—occur during lightning storms, ice storms and sometimes when the utility switches grids. They can even happen in your home when an air conditioner or large cooler turns on.

Whatever the cause, it is generally your responsibility—not the utility's—to protect your devices.

There are many types and styles of surge protectors and surge suppressors. The cheapest is not always the best. Do your research to get the best value for your money.

Surge protectors detect the surge and turn off the unit. Surge suppressors regulate the voltage in a surge and keep the unit running. There is also a power conditioner on the market. This is unnecessary, because your electronic devices automatically do that for you.

Whole-house surge protectors are good, and should be considered as a first line of defense.

You should also protect your individual devices. UPSs—uninterruptible power supplies—are good protection for your computer. Check the joule rating, that it has an UL seal and states it is for transient voltage surge suppression. Also check for the clamping voltage and energy absorption rating.

These units do not last forever. Every time they take a surge, they are damaged a little. Replace them after a strong storm with multiple power outages or a bad lightning storm. Otherwise, every two years is a good rule of thumb.

The type and amount of surge protection you get and what you want to protect is a personal decision. Do some thorough research and enjoy your electronics.

There's a storm on the horizon.

ELECTRIC COOPERATIVES ARE AT RISK

We don't know where the next snowstorm, ice storm or wildfire will strike, but we do know electric cooperatives will lose their tax-exempt status if they accept state or federal grants to restore service after a disaster.

#PassTheRURALAct

H.R. 2147 | S. 1032




A Touchstone Energy Cooperative 



Photo of 2019 storm disaster at Douglas Electric Cooperative

TILLAMOOK PUD

Office Hours Change

Beginning December 30, 2019

Come in we're
OPEN

NEW HOURS

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7:00 a.m. to 6:00 p.m.
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Tillamook PUD Will Continue to be Available 24/7

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Tillamook PUD SmartHub app on a mobile
device, or deposited in the after-hours
drop box located at the Tillamook PUD
office.

Questions? Contact the Tillamook PUD
office at 503-842-2535, 800-422-2535 or
email service@tpud.org.



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www.tpod.org



Together, We Can Save \$ This Winter

By Joseph Hathaway

Winter weather has arrived in Eastern Oregon, meaning Oregon Trail Electric Cooperatives member-owners are cranking up their thermostats or keeping a steady pile of firewood next to their fireplaces.

For the hundreds of OTEC members who are making energy-efficient improvements to their homes or businesses, not only will their spaces be more comfortable, their electric bills could be lower, too.

OTEC has been committed to helping our member-owners improve energy consumption in their homes for nearly 30 years, offering energy-efficiency rebates and conservation programs to teach responsible electric use and help members make wise, energy-efficient choices.

In the past two years, OTEC has provided rebates to residential and commercial members for 1,100 energy-efficiency improvement projects. These rebate programs are offered to members who install electrical appliances or equipment in their homes or businesses, including such things as:

- Energy Star-approved appliances, such as washers, dryers, dishwashers and refrigerators.
- Smart thermostats.
- Water heaters.
- Ducted electric heat pumps.
- Ductless mini-split heat pumps.
- Permanent air conditioners.
- Energy-efficient double-pane windows.
- Insulation.

This is just an example of the extensive rebate incentives OTEC offers to its members. OTEC also offers the Buy Local Program, where you can save more money from buying your appliance from a local vendor.

Susanne Snyder, OTEC's supervisor of energy services, says OTEC employees are ready and happy to help members make informed choices.

"Please reach out to the energy program team before you make your purchase and let us put our energy to work helping you," she says. "It can save you time, money and a lot of headache by knowing in advance how to meet the program criteria. For example, there are certain requirements or ratings that must be satisfied for installing new windows, heat pumps or water heaters and other appliances. Check in with us before you buy so you can be assured your new equipment or material purchases will qualify for an incentive rebate and you won't miss out."

It's just not residential members and commercial businesses



You could save money by installing a smart thermostat in your home.

who can save money through OTEC programs. OTEC also offers incentives to local farmers and ranchers who replace their older irrigation and stock watering systems with new systems that save electricity, water and money.

That includes:

- Adding a variable frequency drive to irrigation pumps.
- Replacing leaking irrigation hardware, including nozzles, sprinklers, hubs and boot gaskets.
- Installing freeze-resistant, electricity-free cattle fountains in place of stock water.
- Installing low-energy precision agriculture systems, such as low-elevation sprinklers.

Susanne says Oregon Trail Electric Cooperative members potentially stand to save hundreds, possibly thousands, of dollars through OTEC's energy programs.

"Whether it's your home, commercial or irrigation systems, OTEC may have a rebate that fits your need," she says. "We're here to help you manage your electric usage wisely." ■

Call your local OTEC office or visit www.otec.coop/programs-rebates to learn more. Remember to call in advance before you buy your appliances or energy-efficient products.

How Do Capital Credits Work?

Because electric co-ops operate at cost, any excess revenues, called margins, are returned to members in the form of capital credits.

5
Your co-op notifies you of how and when you'll receive your capital credits retirements.

1
Your co-op tracks how much electricity you buy and how much money you pay for it throughout the year.



has retired
\$43 million
to member-owners
since 1996

At the end of the year, your co-op completes financial matters and determines whether there are excess revenues, called margins.

4

When the co-op's financial condition permits, your board of directors/trustees decides to retire, or pay, the capital credits.

3

2
Your co-op allocates the margins to members as capital credits based upon their use of electricity during the year.

One Benefit of Ownership

Oregon Trail Electric Cooperative member-owners to receive \$3.5 million in capital credits

By Joseph Hathaway

December is a special time of the year for many reasons. For one, it's when Oregon Trail Electric Cooperative returns capital credits to its members.

As a member-owned, not-for-profit cooperative, capital credit retirement is one of the most important things OTEC does as a co-op. This year, the OTEC Board of Directors approved the retirement of \$3.5 million in capital credits to our member-owners.

"I am extremely pleased that OTEC

has the financial strength to be able to retire capital credits for the 23rd consecutive year," says Anthony Bailey, OTEC's chief financial officer. "Co-ops exist to make sure the needs of their members are being met, not to make a profit."

Capital credits retirements are one of the more visible benefits of membership in your electric cooperative. Returns of less than \$15 are applied to your account to reduce your December bill. Members with greater amounts receive a check in the mail.



OTEC first returned capital credits to its member-owners in 1996. Since then, the co-op has returned \$43 million.

The \$3.5 million in retired capital credits is the second-highest amount OTEC has ever returned to our member-owners.

Since OTEC first began retiring capital credits in 1996, the co-op has returned \$43 million to our member-owners. The \$3.5 million returned to member-owners in early December equates to more than 4% of all the capital credits balances on file.

What are capital credits?

Capital credits are each member-owner's share of margins earned during the year. At the close of the year, after all operating expenses have been paid, remaining margins are allocated to each member's capital credits account based on the amount of services bought during the year.

These capital credits become each member's "owner's equity" and investment in OTEC.

Capital credits serve an important purpose. They reduce the cooperative's need to borrow for plant upgrades or

additions. OTEC uses the capital credits for a period of time before returning it to the members. By maintaining equity level recommended by our lenders, we get lower borrowing rates and ensure the cooperative remains financially stable into the future to serve your needs.

The Benefits of Your Membership

Capital credits are just one of the ways OTEC is different from other utilities. That's because we're owned by you, our members.

Cooperatives put their member-owners first, existing to serve a need in the community. Co-ops are not-for-profit businesses created and owned by the members who use their services. Electric cooperatives were formed to bring electricity to rural areas of America when it wasn't cost effective for for-profit utilities to do so.

OTEC operates, manages and makes business decisions according to the Seven Cooperative Principles, one of which is Members' Economic

Participation. As an OTEC member, you are also an owner and therefore, participate financially. This means a portion of what you pay on your electric bill is returned to you in the form of capital credits when your cooperative is financially healthy and revenues exceed expenses.

The graph above provides a visual of your OTEC membership at work, as well as OTEC's successful record of returning capital credits to you, our member-owner.

OTEC Capital Credits Through the Years

Since the 1990s, OTEC returned capital credits when financially possible. At an investor-owned utility, such as Idaho Power, Pacific Power or Portland General Electric, the money would be given to their stockholders, not their consumers. Because you are a member-owner of Oregon Trail Electric Cooperative, it is paid back to you. ■

Note: OTEC was formed in 1988. From 1993 to 1995, OTEC retired decedent capital credits only.



KUMU'S CUPBOARD

By Beth Tokioka

It's a tidy store with shelves stocked full of colorful items such as portfolios, pencils, art supplies and books. Customers stroll through the aisles, placing carefully hand-picked items into their baskets and chatting breezily about events of the day.

But there's something missing.

"We may be the only store on the island without a cash register," says Elyse Litvack, co-founder and president of Kumu's Cupboard, the self-proclaimed "free school supply store for Kau'i educators."

Kumu's Cupboard was the brainchild of Elyse and former Kau'i resident Sharon Lasker.

"Most educators spend money from their own pockets for classroom supplies and special projects," Elyse says. "We wanted to help alleviate some of that burden and help teachers get supplies not readily available on island."

The store opened in January 2017, and to date has resourced and made available more than \$100,000 worth of school supplies, all free of charge. "Customers" include public, private and charter K-12 teachers, counselors and educational assistants. More than 600 island educators have registered to shop at Kumu's Cupboard, representing every eligible school on the island.

Kukui Grove Center and Marketplace has provided complimentary space next to Great Harvest Bread Co. for the venture.

"Kumu's Cupboard has received good support from individuals, service groups and businesses," Elyse says. "This comes mostly in the form of monetary donations; however, we've received supplies as well."



identify the perfect college to fit their academic and financial needs," he says.

KIUC Charitable Foundation board member David Iha says Kumu's Cupboard aligns perfectly with the goal of the foundation.

"Investing in our keiki is vitally important to the well-being of our community," he says. "The KIUC Charitable Foundation will continue to support our schools and our children, hopefully even more in the future with the launch of KIUC's Makana program."

Elyse says Kumu's Cupboard is a true labor of love for all involved.

"We are an all-volunteer organization," she says. "Amongst our volunteers are several teachers, a psychologist and a district resource teacher. The fact that they give of their time shows us that what we're doing makes a difference."

To learn more about Kumu's Cupboard and how you can help, go to www.kumuscupboard.org.

One source of funding for the project has been the KIUC Charitable Foundation, which provided \$2,500 via grants in 2017 and 2019. Elyse says the grant funds have helped buy supplies as well as establish a resource center, making equipment such as laminators, comb binders and die-cut machines available.

"We also offer a lending service of non-consumable items, such as microscopes, math and science manipulatives, literature sets, teaching kits and even a few instruments," Elyse says.

Giancarlo Graneto, who teaches the AVID program at Chiefess Kamakahalei Middle School, says Kumu's Cupboard has added immeasurable value to his students' work.

"I've been blessed with a resource for the supplies I need to help students find their spark, match it to a career, and

