March 2019 Share Package
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Save Energy With DIY Door Upgrades

Replaceable vinyl weatherstripping seals well on the hinge side of the door because it gets compressed with little rubbing and wear.

Photo by Pemko Manufacturing

The threshold under the door can be raised or lowered with a screwdriver so the door bottom weatherstripping seals tightly.

To ask a question, write to **James Dulley**, Energy Report, 6906 Royalgreen Dr., Cincinnati, OH. 45244, or go to **www.dulley.com**.

Q. *Our doors are old, inefficient and drafty. One is made of solid wood and one is metal. What inexpensive improvements can I make myself to increase their efficiency?*

A. People often do not realize how leaky an old door can be.

Check doors for leaks by moving a stick of lighted incense around the edge on a windy day. Observe the smoke trail for signs of leaky spots. If you cannot find leaky spots by watching the smoke trail, have someone shine a light from the outside. Leaky spots also allow more road noise to come through, so listen for the noisiest spots around the edge.

Leaky doors cost money in two ways. First, the cold air leaking in makes your heating system run longer to keep your house warm. Second, the draft—even if you do not notice it—makes you feel chilly. When feeling chilly, people often set the thermostat higher, which wastes energy.

There are ways to improve the efficiency of old doors, but don't immediately eliminate the possibility of installing a new one. Prices for some well-insulated steel and fiberglass doors—especially those without glass—are reasonable. They are efficient and easy to install.

Check for rotten wood by probing bad-looking spots on a wood door with a screwdriver. If a spot is more than a quarter-inch deep, it will be difficult to repair with wood filler. Place a long straight edge on the door to check for warpage. If the warpage is more than one-half inch across the door, installing new weatherstripping probably won't seal it.

Most metal doors have steel skins, so rust is a common problem. But it can be repaired. Rainwater often gets trapped at the bottom by the weatherstripping. Small rust holes can be filled with auto body compound. Drill several one-eighth-inch drain holes in the weatherstripping so no more water gets trapped.

On the wood door, the weatherstripping may compress over time. Push the door tightly closed to see if this helps. Install closed-cell foam weatherstripping if it must be replaced.

Metal doors use magnetic weatherstripping, so compression is not often a problem.

To fix leaks for a wood door, reposition the latch plate. Remove some wood in the door frame and move the plate back up to one-quarter-inch maximum. Drill out the old screw holes and fill them with a dowel rod. Drill new screw holes to secure the latch plate in its new position. Installing a stepped latch plate is another option to better compress the weatherstripping.

Check the condition of the hinges. Replace them if needed. If the hinges and pins get worn, the door will not hang square in the opening, which means it will not seal well.

There are many sizes of hinges, so take an old one along to the store and get an exact match. Don't just buy the cheapest hinge. A good-quality spring hinge is a good choice, but each may cost $15 or more.

It is almost certain the seal on the bottom of the doors against the floor threshold is worn. If it is not torn, adjust the floor threshold higher. There are several height adjustment screws across the threshold. They may be filled in with dirt from years of use, so poke around to find them. If the seal is bad, there are many generic replacement seals you can install.

Another option is an add-on retractable threshold seal, which is effective with carpeting by the door. It is mounted on the inside surface of the lower door edge. When the door starts to open, a pin against the door frame is released and the seal automatically lifts to clear the carpeting. It is easy to install and adjust. ■

The following companies offer door improvement products: Duck Brand, 800-321-0253, www.duckbrand.com; M-D Building Products, 800-654-8454, www.mdteam.com; Pemko Manufacturing, 800-283-9988, www.pemko.com; and Thermwell, 800-526-5265, www.frostking.com.

Alaska Quakes Inspire Preparation

For many Alaskans, a 7.0-magnitude earthquake was a reminder to be ready

There's always a sense in the back of an Alaskan's mind that the earth may start to shake any second. With hundreds of small earthquakes every day—most not felt by people—complacency has a way of taking root and relaxing even the most prepared Alaskan.

That changed Friday, November 30, 2018.

I had just walked my two daughters, Joplin and Jolie, to the bus stop, leaving our house in Palmer through our garage and walking past the shelves with the emergency food and water we stored there years ago, but largely ignored.

We arrived at the bus stop at 8:25 a.m. in the dark and biting cold of an Alaska winter. The sun wouldn't come up for almost two more hours.

As we stood on the street admiring the stars and playing with our dog, Maple—our faithful bus stop companion—a rumbling sound like an overloaded freight train suddenly rose up. We all said it before the shaking started: "Earthquake!"

What we expected to be just another brief shake turned out to be anything but. When the quake hit, the earth moved violently, the rumbling growing almost deafening. Both of my girls grabbed ahold of me as I planted my feet and tried to remain upright while the earth tried its best to throw us down.

The ground just kept shaking.

We held on for nearly a minute as the 7.0-magnitude quake unleashed its energy. We watched as everything in front of us—houses, a neighbor's car, the kids at the other bus stop—was jolted from side to side. Car alarms started blaring in the distance. Lights flickered off and on.

Amidst it all, I became unsure of just what was going to happen to us.

Mercifully, the shaking finally stopped. But the crisis was not over. As we reached our driveway, a 5.7-magnitude aftershock hit, followed by even more aftershocks that sent Alaskans ducking for cover throughout the weekend.

When cellular service went down for almost 30 minutes, I had no way to contact my wife, Candace, to make sure she was OK and had evacuated her office safely. She did. With the schools closed, we all hunkered down at home for the day.

Friday night was spent awake, as aftershocks hit one after the other throughout the night.

We were lucky. Besides having items thrown from shelves, some glass from a shattered clock and rattled nerves, our home didn't sustain structural damage. The same cannot be said for hundreds of people in Eagle River and Anchorage, whose homes were split in half, cracked at the foundation or had the facades fall off. Amazingly, no one was killed during the quake.

Once things had settled down a bit, our family—and many other Alaskans—began to re-evaluate how prepared we are for "the big one." Now that we've been through it, how can we better position ourselves to react next time?

One of the biggest concerns I had after the quake was my house exploding due to broken gas pipes. Luckily, our pipes were fine. But it got me thinking that I did not have a tool at the ready to shut off my gas at the meter if necessary. To remedy this, we bought a crescent wrench of the correct size, which now hangs on a hook near the door to my garage, ready to grab at a moment's notice.

Gas wasn't the only concern. We were outside during the quake and not in any danger of a building collapsing on us. Had we been inside during the temblor, it might have been a different story.

We practiced what to do again: which table to go under, how to cover yourself with your pillow if the quake hits while you're in bed. Like tornado drills in the Midwest or fire drills at school, it's all about making it a routine—a reflex.

Most of all, we stressed staying calm. An earthquake is scary—especially to a child who might not comprehend what's going on. We talked to our kids frankly and openly about the quake, and stressed safety.

On New Year's Eve, a 5.0 aftershock hit. We all paused to see what was going to happen, then went back to what we were doing.

Now we have to make sure we don't become complacent again. ■

Michael Rovito is director of member and public relations at the Alaska Power Association in Anchorage, Alaska.

The Thrill of Electric Vehicles

Electric vehicles aren't just for city driving anymore

By Paul Wesslund

The economics of electric vehicles are affected by geography, climate and how your electricity is generated.

Photos courtesy of Ford

If you want a really powerful car—one that can accelerate from 0 to 60 mph in fewer than 3 seconds—consider the NIO EP9 electric vehicle. The downside is it costs more than $1 million.

But modest versions of electric cars can offer a respectable kick. The Chevy Bolt and Ford Focus—with price tags in the $35,000 range—make the jump to 60 mph in 6 to 11 seconds, which is about average for U.S. cars.

There is a built-in reason electric cars hold their own in performance, says Brian Sloboda, a program and product manager at the National Rural Electric Cooperative Association.

"In an electric car, all of the power is going into the wheels," he says. "With a gas-powered car, a lot of power is lost inside the mechanical engine. If you sit in an electric car and the driver smashes down on the accelerator, you are going to be thrown into the back of your seat, much more so than many gasoline cars."

Electric vehicles—which some people traditionally have viewed as a glorified golf cart—hold a lot of other surprises.

"The battery is at the bottom of the car, so you have a lower center of gravity, which means you can take the corners crisper," Sloboda says. "If you do a lot of driving in the hills or mountains, they are fun."

The U.S. Department of Energy's Energy Information Administration projects electric vehicle sales to grow from about 1 percent of the market today to 12 percent by 2050.

About 700,000 electric vehicles drive on U.S. roads today, according to CoBank, a financier for electric co-ops. It projects that number could jump to 3 million in the next five years.

Many drivers buy electric cars for environmental reasons. Sloboda says there is no doubt an electric car is cleaner than a gas-powered car.

The biggest roadblock to growth in the electric vehicle industry is range anxiety. But Sloboda says the fear of getting stranded far from home with no way to refuel may be overblown, and is becoming less of a concern.

While electric cars won't work for someone regularly commuting 100 miles a day, "for most people, even in rural areas, that number is under 40 miles a day," Sloboda says.

The Federal Highway Administration reports the average American drives 36 miles a day. Most electric cars on the market today have a range of 120 to 200 miles.

Sloboda says electric car acceptance doesn't need to wait for a network of charging stations to appear around the country.

"No more having to stop and fill your tank up once or twice a week," Sloboda says. "You can charge it at home while you're sleeping and wake up to a full tank every single day."

He notes electricity costs less per mile than gasoline.

There are three ways to charge an electric car:

Level 1. The simplest and slowest charging technique is to plug the car into a standard home outlet. That charges the battery at a rate that will add 2 to 5 miles to its range each hour.

Level 2. Faster charging requires a professional to upgrade the home's voltage for a unit that adds 10 to 25 miles of range for each hour of charging, which would fully charge the battery overnight. The equipment costs $500 to $800. Labor is at least that much.

Level 3. DC fast charge—which

Forget waiting in line at the gas station. By charging an electric vehicle's battery at home, the "tank" tops off overnight.

requires specialized equipment more suited to public charging stations—brings a battery up to 80 percent of capacity in 30 minutes. Sloboda warns this technique should only be used for long-distance driving, since it can degrade the battery over time, and is why DC chargers shouldn't be used to bring the battery up to 100 percent.

Electric cars also can save on maintenance, Sloboda says.

"With an electric vehicle, you don't have oil changes, and you don't really have transmission fluid changes," he says.

Regenerative braking in electric cars uses the electric motor to slow the car rather than relying only on brake pad friction.

"A lot of electric vehicle owners are saying they've never replaced their brakes because you just don't have the physical wear and tear on the brake pad," Sloboda explains.

The initial cost of the vehicle affects the economics, although tax breaks at the federal level and in some states can reduce costs by several thousand dollars.

In terms of price, "these cars are really in the luxury and performance car categories," Sloboda says.

Today, the average electric car costs close to $40,000, compared with less than $30,000 for an internal combustion engine. By 2025, that gap is expected to close thanks to electric car research, development and production increases.

One of the most radical new notions about electric vehicles is to think of them not as cars or trucks, but as consumer electronics, Sloboda says.

"The internal combustion engine is a perfected technology, so those cars aren't improving at a very rapid pace," he says. "But electric vehicles are evolving at a very rapid pace, so you're really kind of comparing it to a cellphone or a computer."

Like they do with cellphones, Sloboda says, consumers might consider leasing an electric car rather than buying one, making it easier to trade in the car to take advantage of the annual improvements in battery life and other features. ■

Is an Electric Vehicle Right for You?

Should your next car be an electric vehicle? The answer could depend on where you live.

Electric vehicles account for just 1.2 percent of the U.S. vehicle market, but sales are booming, growing 25 percent last year.

Here are factors to consider when assessing whether an electric vehicle is suitable for you.

Issue 1: The Distance Myth

According to the Federal Highway Administration, the average American drives 36 miles a day. The typical range for an electric car today is more than 100 miles, with ranges of 150 to 250 miles becoming common.

"If you're an insurance salesman you're logging a lot of miles, so an electric car's not going to be for you," says Brian Sloboda, a program and product manager at the National Rural Electric Cooperative Association. "For most people in the United States, even in rural areas, that number is under 40 miles per day. So if your car has a range of 120 miles, that's a lot of wiggle room."

Track the number of miles you drive.

Issue 2: Off-Peak Electric Rates

What you pay to charge your electric car could depend on whether your local utility offers a lower rate overnight, when demand for electricity tends to be lower.

"It's different depending on where you are in the country," says Sloboda. "There are areas of the country where the on-peak, off-peak difference in price is extreme."

Some utilities have fairly stable electric demand throughout a typical day, so they may not offer a special electric vehicle rate.

Issues 3 and 4: Environment and Geography

For many people, one of the biggest selling points for electric cars is their more favorable effect on the environment compared to conventional vehicles.

"Seventy-five percent of people now live in places where driving on electricity is cleaner than a 50 mpg gasoline car," says a report from the Union of Concerned Scientists.

Climate and geography also affects performance. If you regularly drive up and down mountains, or make a lot of use of the heater or air conditioner, performance will be sacrificed.

Sloboda says electric vehicles are not for everybody—yet.

No major carmaker offers a pickup truck, although he believes that will happen within the next 24 months.

Sloboda says there is no technological barrier to making an electric pickup, and suggests advantages: a heavy battery in the bottom would lower the center of gravity for better handling, and at a remote worksite the battery could run power tools.

CPI Programs Help Members Save

Rebates and advice offer savings on energy use and power bills

Wanting to reduce energy waste and be more comfortable in their homes, Consumers Power, Inc. members have been taking advantage of both the co-op's knowledge and energy-efficiency rebates in recent years.

With the help of CPI representatives, members have discovered energy inefficiencies in their homes and how to eliminate them with free walk-through energy audits and energy rebate programs.

Jennifer and Pete Kuehn of Lebanon live in a house that was wasting energy when they moved in July of 2017. The 1,100-square-foot building was originally the Mount Hope School House, but was converted to a residence after it was sold at auction in 1952.

The house, at least 100 years old, had no insulation beneath the floor and likely none in the walls, according to the Kuehns. Wall heaters and a pellet stove provided heat. The windows were also old.

Although their new home had energy inadequacies, the Kuehns have enjoyed researching the history of the building and the site, finding information on the Mount Hope School that dates back to 1855.

Needing some answers and knowledge to upgrade their home, the Kuehns called CPI. Based on the recommendation of member service representative Jonathan Farmer, the couple bought a ductless heat pump and had it installed three months after moving in. That was just prior to their first winter in Oregon after moving north from Grass Valley, California.

A heat pump provides a home with low-cost heating

Jennifer and Pete Kuehn heat their home in the old Mount Hope School House with a ductless heat pump. They also added a heat pump water heater and insulation.

Above, the floor of the Kuehns' home had no insulation when they moved in. Right, Mike Stewart added a heat pump water heater to his home, reducing his water heating costs significantly.

and air conditioning. Electric heating and cooling account for around 60 percent of a home's annual bill, so installing a heat pump will drop dollars off the monthly bill.

The Kuehns have since bought a heat pump water heater. Water heating is the second-largest use of power in the home and makes up, on average, around 20 percent of the annual bill.

Heat pump water heaters use 50 percent less power than standard water heaters so the technology pays for itself multiple times in its lifetime.

In both cases, the Kuehns took advantage of generous rebate programs offered by CPI after installing their energy-efficient equipment.

The Kuehns' energy updates included tripling the insulation in the ceiling from 10 inches to 30 inches, adding insulation under the floor boards, wrapping the water pipes in insulation, switching lights from incandescent and fluorescent to LEDs, and changing the showerheads in both bathrooms to low-flow with temperature sensors. CPI offers these showerheads for free, up to two per home.

Upgrading the windows is next on the couple's schedule of energy upgrades.

"We're definitely pleased with the efficiency after the changes," Jennifer says. "We've called CPI with our questions and the representatives have been nothing but courteous and informative. It seems like they are really passionate about providing education regarding energy. I recognize good customer service, and CPI has provided it."

CPI also helped Mike Stewart, a Philomath area resident, upgrade the efficiency of the house he and his wife have lived in for the past 20 years. Mike recently bought and installed a ductless heat pump and a heat pump water heater.

The Stewarts also took advantage of rebates on the appliances. Mike says there has been a big savings on his electric bill.

Mike says the house already had insulated 6-inch walls and insulated windows, so it doesn't take much to heat or cool the home.

"Both the heat pump and water heater make the house much more energy efficient," he says. "Both of us are interested in environmental issues, so we're trying to do the best we can to protect the environment. It is important to me to reduce energy consumption and not use more energy than we need, but still be comfortable.

"The more energy efficient we can be means we don't have to build new power plants. That's a savings for them and better for the environment."

The Stewarts also switched to LED lights in their house. CPI helps members convert to LEDs by selling them for as little as 49 cents a bulb at both our Philomath and Lebanon offices.

"We want to make it as strong and as energy efficient as we can," Mike says of his home.

Mike told a couple of his neighbors about his energy upgrades. One of them bought a heat pump water heater and the other a heat pump for heating and cooling their home.

Both the Stewarts and the Kuehns have discovered how to make their homes more energy efficient, comfortable and affordable by taking advantage of CPI's rebate program. It doesn't hurt that they're also saving on their monthly electric bills. ■

Don't Let Your Home Nickel and Dime You

You could be losing money by leaving energy savings on the table. Take advantage of CPI's energy efficiency rebates and save yourself some money in your pocket and on your bill!

Triple check your tank. Water heating is the second-largest user of energy in your home. CPI offers up to $600 in rebates to replace your current electric water heater with an energy-efficient heat pump water heater. Waiting for your current water heater to fail is a costly mistake. Installing one of these units can cut your water heating bill in half!

Water heaters that are more than 10 years old should be considered for replacement—especially if it is located where a leak will cause damage to your home. CPI offers Energy Star-certified, heat pump water heaters for purchase.

Pump up your heating system. You can get $300 to $2,000 in rebates for adding a qualifying heat pump to your electrically heated home.

Why upgrade? Simply put, you could save 25 to 50 percent on your electric bill.

Get your ducts in a row. A certified duct sealing qualifies for a $250 rebate from CPI. Leaky ducts can reduce heating and cooling system efficiency by as much as 20 percent. Sealing and insulating ducts increase efficiency, lower your energy bills and even without a rebate, can often pay for itself in energy savings.

Clear out the dust. Don't forget to change your air filters while you are having your system checked out. A dirty filter will slow down air flow and make the system work harder and waste energy while keeping you warm or cool.

Put your thermostat in check. CPI offers a $100 rebate for upgrading to a qualified smart thermostat in your electrically heated home. On average, these smart thermostats save around 12 percent on heating and 15 percent on cooling. Homes with gas do not qualify.

Enjoy the window(s) of opportunity. With a rebate of $3 per square foot, replacing your windows in your electrically heated home could be more affordable than you think. With energy-efficient windows, you could be looking at up to $460 in average annual savings.

Also take the chance to install sliding windows where possible. Opening windows creates a cross-breeze, allowing you to naturally cool your home without switching on an air conditioner. This is an ideal tactic in spring when

Check out these and other energy savings ideas online at CPI.coop/Rebate or call us at 800-872-9036.

temperatures are mild. An inspection visit is required before installation so be sure to give us a call.

Seal the deal. Most homes in Oregon do not have enough insulation and have significant air leaks. CPI offers a rebate of 25 percent of the installed insulation costs up to $500.

As a bonus, if you follow our checklist to air seal your attic and/or crawl space, you can get an additional 8 cents per square foot of area sealed. This is a highly encouraged and useful task, as it saves significant energy and allows less pollen, dust and insects to enter your home. An inspection visit is required before installation so be sure to give us a call.

Clean up your laundry act. Buying an Energy Star-certified clothes washer or dryer will get you $30 to $50 in rebates from CPI. Energy Star-certified dryers use about 20 percent less energy while the clothes washers use about 25 percent less energy and 45 percent less water. You could always go old-school as the weather warms up and air dry your clothes on a line outside. This will help limit your laundry costs and give you a fresh, outdoor scent.

Have a lightbulb moment. Lighting is an easy and cost-effective improvement to make. Whether you are still using incandescent bulbs or have already switched to compact fluorescent lighting, replacing them with LED bulbs can cut your lighting bill by up to 85 percent. At our CPI offices, we sell Energy Star-certified LEDs starting at just $0.49 a bulb. Stop by and grab some today.

Shower yourself with savings. Consumers Power offers a number of ways to save in the shower. While we already mentioned the incredible savings to be had with a heat pump water heater while producing your hot water, you can also save by not wasting it. CPI offers two powerful low-flow showerheads for free per home. These use less water but are still able to offer the same comfortable showers you normally enjoy.

We also offer two thermostatic shower valves for free. These valves are easily installed with no tools and install just before your shower head. Once you turn on your shower and your water temperature reaches 95 degrees it will stop the flow of water until you enter the shower. Every time you shower, these valves stop the waste of 2-5 gallons of hot water. Stop in and ask us about getting your TSVs today. ■

Biking the Divide: A Journey of Discovery

From left, Kim Heintzman, Andrew Stanciott, Jeff Beaman and Dave Schnitger line up at the start of the Great Divide Mountain Bike Ride Route in British Columbia. The four men spent part of their summer riding the trail.

Photo courtesy of Jeff Beaman

Four riders travel the Continental Divide trail in a test of mind and body

By Courtney Cobb

Last August, a four-member team set out to challenge themselves amongst the backdrop of thick forests, open meadows, high peaks, and desert terrain.

These men pushed themselves mentally and physically to bike the 2,800-mile Great Divide, also known as the Continental Divide. Originally plotted in 1998, the ride runs from Banff, British Columbia, to Antelope Wells, New Mexico, on the U.S.-Mexico border.

Ranging in age from late 50s to late 60s, the men wanted to check a box off their bucket-list of mountain bike rides.

Kim Heintzman served as trip planner in coordinating team Old Geezers. He invited fellow rider Andrew Stanciott from Maine, Dave Schnitger—who had put an ad out looking for a team in Adventure Cycling—and longtime friend Jeff Beaman, who is Central Electric Cooperative's member and public relations director.

"I think it's important to challenge yourself in life," Jeff says. "I'm not an extreme athlete, but it's important to be active, to push yourself. It's a great way to get into a different frame of mind and test myself physically."

Trip Preparation

To get themselves physically ready for a trip of this length, Jeff and Kim began taking longer bike rides.

Kim has biked since the early 1970s and rode 20 to 40 miles a day in the Boise, Idaho, foothills the month prior to departure.

Jeff practiced with 10- to 15-mile rides, with a few longer rides of 30 miles or so.

"Most of them were unloaded, but I did complete a few where I put weight on the bike so I could get used to that," Jeff says. "But none of that prepared me for what

Top, Jeff pauses on his biking journey below one of the few signs directing bikers along the Continental Divide trail.

Above, along the trail, the team viewed sites accessible and not accessible by the general public.

Photos by Jeff Beaman

it was actually like. It wasn't even close to reality."

The group tried to average about 50 miles a day depending on elevation, terrain and weather.

Another challenge was what to pack. Jeff admits he might have loaded his bike heavier than he should have.

"You want to have everything you need, while also packing lightly," he says. "I had a few changes of clothes, where the guys who packed lighter would wear the same clothes all the time."

Challenges

Besides heat, cold, bugs, huge elevation changes, and an occasional flat tire, Kim says one of the biggest challenges was that most of the roads were forest service trails or gravel.

"Eighty percent of the time it required a lot of determination," Kim says. "As we said multiple times, 'You gotta wanna.'"

The roads were not always ridable, so the group had to walk their bikes around rocks and boulders, or the path might not be clear, so they would scout the best route.

Of course, there were physical challenges involved with being on their bikes for six or more hours a day.

"As you are doing this, you are dealing with physical discomfort and physically demanding challenges," Jeff says. "You are continually working on your willpower."

Memories From the Trail

As challenging as the trip was, all of the riders came away with a lifetime of memories.

"It was fascinating to be out there doing something like that," Jeff says. "To wake up every day knowing you were going to be pushing yourself in order to get to the next spot on the trail—and you gain an appreciation of how easy we have it in life."

Kim says some of the best memories of the ride were the people they met along the way. Riders from England, Spain, Holland, Canada and Norway also were testing their skills on the trail.

"I was amazed at the Continental Divide hikers with their determination to walk for six-plus months," Kim says.

Other memories included the scenery. Because the group started in the middle of forest fire season, there were times the scenery was compromised by smoke and haze.

Kim says riding through Colorado during the height of the aspen leaf change was beautiful.

"Around every corner was a more spectacular vista of yellow," he says.

Only two of the four made it the full 2,800 miles. Andrew fell a few hundred miles short due to a family matter. Work obligations forced Jeff off the trail after 780 miles. Dave and Kim reached the final checkpoint after close to two months on the road.

A group of 15 riders with a support team passed them at the end and were still celebrating when Dave and Kim made it to the end at Antelope Wells, New Mexico.

"They ended their ride about an hour before us," Kim says. "When we got there we had music, balloons, margaritas and applause—something that few riders at the end of this route experience. It was wonderful!"

Play it Again Sam

While he says he's glad he went on the trip, Kim says he does not plan to repeat it.

"I would encourage any biker that likes to bike travel and has experience in this area to try this route," he says.

Jeff says he would like to hit the trail again, but this time he would do it in chunks of 500 to 600 miles at a time, and possibly with a support team.

"The ride, eat, sleep, ride, eat, sleep, ride cycle gets a little tiring," he says. "I think it would give an opportunity to do more days shorter in length and take time to enjoy the country you are riding through." ■

Programmable thermostats help homeowners control when their heating and cooling systems run, but they cannot control how hard the HVAC system has to work.

Why Is My Electric Bill Higher This Year?

Temperature fluctuations have a large effect on how hard your heating system works

My thermostat is still set at the same temperature and I haven't done anything different in my home. Why is my electric bill so high?

Since heating tends to be one of the largest energy consumers in the home, this is a common question this time of the year.

To answer this question simply, when it's colder outside your heater has to work harder to maintain the same temperature inside your home. To put it another way, the greater the difference between the temperature outside and the thermostat setting inside, the harder your heating system works. The harder the heater works, the more energy it uses—even if you keep your thermostat set exactly the same. This increase is even greater for homes that don't have enough insulation, homes with single-paned or aluminum-framed windows, and homes with a lot of air leaks around windows, doors, and plumbing and electrical boxes.

Average Temperature

If your energy use is higher than expected, comparing the average temperature during the month to the same month last year can be helpful.

Let's look at some examples from the past couple of years using data available as of mid-February 2019.

The average temperature during the first two weeks in February 2019 was 44 compared to 54 in February 2018. In most cases, this would result in a higher heating bill in February 2019 compared to the same time frame in 2018.

Degree Days

Degree days are a more precise measurement of how temperature affects your energy bill. A degree day is the

difference per degree between the average temperature for a day and 65 degrees F.

If it is cooler than 65, it is a heating degree day. If it's warmer than 65, it's a cooling degree day. For example, if the average daily temperature is 50 degrees, we would have a 15 heating degree day.

During the first two weeks of February 2018, we only had 123 heating degree days compared to 232 in the same period in 2019. That is a whopping 46 percent increase in the effect temperature had on energy use and on a heating bill during February 2019 over 2018.

Keep Your Bill From Jumping When the Temperature Plummets

Reducing your household energy use does not need to mean wearing earmuffs in the dead of winter.

Here are some simple tips to use less energy:

- Turn down your thermostat a couple of degrees. Lowering your thermostat 2 degrees can reduce your heating bill by about 4 percent. Set it lower when you are asleep or away to save even more.
- Block drafts. Use caulk and weatherstripping to block leaks around doors, windows and outlets.
- Have your heater inspected. If you use central heat, have the system inspected annually for peak efficiency. Don't forget to change your air filter.
- Cover your windows. Insulated window covering can help cut heat loss. Keep window coverings closed unless the sun is shining directly on the windows.
- Check your insulation. If your home is poorly insulated, adding insulation will lower your energy bill.
- Keep track of your use. Monitoring your use at www.ccec.coop can help identify changes in energy consumption before they become a surprise.

Remember, we are here to help you understand your energy use and make energy-smart decisions. ■

Calculate and Conserve

By understanding your energy use, you can take charge of your electric bill. Use these formulas to calculate your energy use and projected costs.

A watt (W) is a measurement of power. Most appliances and lightbulbs are labeled with the wattages they use.

A kilowatt (kW) is equivalent to 1,000 watts.

A kilowatt-hour (kWh) is a measurement of energy consumption. It is the amount of power used over time, and the basis for how electric bills are calculated.

Calculate Energy Consumption: Power x Time = Energy.
Using a 100-watt bulb for 10 hours equals 1 kWh.
(100W x 10 hours = 1,000 watt-hours or 1kWh.)

Calculate Energy Costs:
Power (kW) x Time (hours of operation) x Price ($/kWh) = Cost of operation.

To find out how much it may cost to run a specific appliance, follow these five easy steps. Keep in mind you are billed per kWh, which is how much electricity you use in one hour.

1) Obtain the wattage (watts) from the appliance nameplate. Example: A quartz heater with a nameplate of 1,500W.
Note: If listed as kW, skip to step 3. If amps are specified, multiply amps x voltage to obtain watts.

2) Divide the number of watts by 1,000 to get kW.
Example: 1,500W ÷ 1,000 = 1.5kW.

3) To find out how many kWh the appliance uses, multiply the kW x the number of hours* the appliance runs each day.
Example: The heater runs for 10 hours per day = 1.5kW x 10 hours = 15 kWh per day.

**If the appliance operates for less than one full hour, (i.e., a hair dryer), divide the number of minutes by 60. For example: a hair dryer is used 5 minutes each day, or 5 ÷ 60 = 0.083 hours per day. A 1,250W hair dryer = 1.25kW x 0.083 hours per day = 0.1 kWh per day.*

4) To calculate the daily operating cost, multiply the kWh of the appliance by the average cost per kWh.
Example: Quartz heater daily cost = 15 kWh x $0.0941= $1.41 per day.

5) To calculate the monthly operating cost, multiply the daily cost by the number of days the appliance is used during the month.
Example: If you run the 1,500W quartz heater 10 hours a day, 30 days a month = 15 kWh x $0.0941 x 30 = $42.35

Remember: Calculate and Conserve! In the example used, you could conserve energy by putting the heater on a thermostat or timer to decrease the time it is used.

Considering Solar? We're Here to Help

By Anne Prince

Today's consumers want and expect options, including the type of energy powering their homes. Many homeowners are looking for a less expensive form of energy with ongoing savings. Some are looking for a green energy source. These two motives are why many homeowners consider rooftop solar panels.

The interest in alternative energy sources is also fueled by decreasing costs for rooftop solar, the availability of financial incentives and the proliferation of companies offering solar panel installation.

As attractive and popular as rooftop solar may appear, it is important for consumers to fully understand its true costs, the operational reality of this form of energy and actual energy savings.

To determine whether rooftop solar is right for their particular situation, homeowners must undertake their due diligence.

As your trusted energy adviser, Blachly-Lane Electric Cooperative encourages members interested in solar energy to have a professional and objective assessment of their specific situation.

Blachly-Lane Electric Cooperative seeks to keep pace with the changing energy environment and evolving technology. Through our energy-efficiency rebate program, members can achieve energy savings with their HVAC and other heating and cooling systems, water heating, windows, doors and insulation weatherization.

We take a holistic, objective view of how to achieve energy savings. In other words, it doesn't make much sense to invest in solar energy if your home's insulation is inadequate, your buildings

envelope is leaky, or your heating, cooling and water heating systems are energy guzzlers.

To determine whether rooftop solar is right for you, consider the following:

- Overall energy efficiency of the home/building.
- Age and pitch of the roof.
- Orientation of the sun in relation to the home/building.
- Tree coverage near the home/building.
- Weather patterns for the region.

While rooftop solar works for many people, it is not the answer for all.

There are also financial considerations:

- Is there a large, up-front payment required, or are fees spread out over time?
- Will the homeowner own the solar panels, or will they be leased?
- Are there hidden costs? Does the roof need to be replaced before installing the panels?
- Are there ongoing maintenance fees?
- Are state or federal tax incentives available?
- Is the estimated energy savings worth the investment?
- Is it more cost effective to invest in other energy-saving measures?

Considering current energy consumption, the home envelope, the age and efficiency of the HVAC system, and the home site can help co-op members determine whether rooftop solar is the best choice.

When assessing solar options, it is an excellent time to examine other energy-efficiency improvements for your home. For example, it may make sense to insulate the attic at the same time as installing solar.

Blachly-Lane Electric Co-op recognizes that consumer interest in green energy sources and renewables is at an all-time high. We encourage members to seek objective guidance to determine if solar energy is a good fit for their needs. ■

Ask Us

Call us at 888-883-9879 and ask our energy experts how solar fits with your home.

Who Runs the Cooperative Business?

From members and managers to board and staff, all play a role in your cooperative

A successful cooperative hinges on active cooperation of the members. Toss into the mix a board, managers and employees, and together they shoulder the responsibilities of operating a cooperative. Each has specific responsibilities.

Members

Your responsibility as a member is to be informed. Members must know what a cooperative is, what it can do, its purpose and objectives, policies and the issues it faces.

You gain this information by attending board meetings and the annual meeting, reading cooperative publications and annual reports, and having open and candid conversations with your co-op's managers and board members.

Your cooperative requires capital to finance the needed goods and services. By maintaining active and current membership, you are fulfilling one of your responsibilities.

You can effectively exercise your right of ownership by voting in elections, but it does not end there.

It is your right as a member-owner to ask tough questions. You may not be able to make decisions directly, but you do have a voice through your director. Participate in the election process..

Good judgment and business management skills are needed to be a successful cooperative board member. It is your job to put the right people in the director seats.

The Board of Directors

Now that you voted in elections, hopefully the most qualified candidate won and is serving as a director. What exactly are a board member's responsibilities?

In addition to attending regular and special board meetings, directors must read and understand the cooperative's articles of incorporation and bylaws. They must have an understanding of the terms of all contracts, leases, loan agreements, membership agreements, and supply contracts. They must have a clear understanding of the general legal responsibility of serving on the board of directors.

Your board member must make a commitment to participate in training programs to better understand operation of the cooperative and the director's role in it.

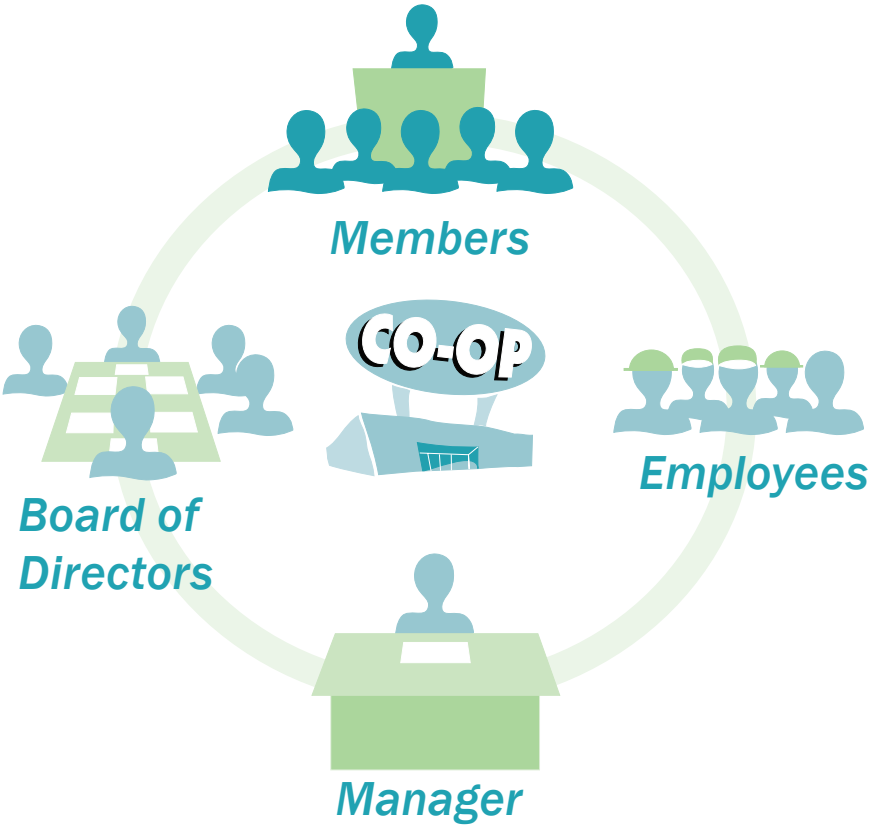
As a group, the board of directors is responsible for hiring your general manager and reviewing his or her performance. The board is responsible for adopting general policies to guide the manager, including general personnel regulations.

While day-to-day operations are left in the hands of managers, policies are set by the board. They are regularly reviewed to ensure successful management of the cooperative.

The board of directors should have long-term objectives that consider the best interest of the cooperative and strategies to ensure its success.

The board hires a qualified auditor and legal advisers to ensure the accuracy of financial records and protect the interests of the cooperative.

At no time should a director act independently, or cater to special interest



groups, municipalities or political entities.

General Manager

Your board has entrusted the day-to-day business of the cooperative to a general manager. This includes managing staff, capital and physical resources. It is the general manager's job to oversee operations and make recommendations for change, when necessary. Hiring a management team to run different departments, training, supervision and evaluations are the general manager's responsibility.

The general manager provides information to the board for long-range planning, and brings concerns to the board regarding fixed asset additions or recommended policy revisions.

Taking the overall cooperative objectives set by the board into consideration, the general manager makes short-range plans and sets goals.

As the face of the cooperative, it is important that the general manager portrays a positive image within the community, communicates developments of the cooperative, and educates members on current local, state and federal issues, regulations and pending legislation that may affect the cooperative.

Employees

While you may never have had a face-to-face conversation with your cooperative board representative or have not met the general manager, you likely have worked with a cooperative employee.

The heart of the cooperative is its employees. Your management team works diligently to hire qualified crew and customer service representatives. It is the employee's responsibility to provide a consistent, reliable energy source and positive customer experience.

Crew members are expected to respond quickly to emergencies, freeze ups, leaks and outages. They understand they may be called to work outside normal business hours to restore power.

Employees are expected to stay up-to-date on training and present a positive image in the community. They are encouraged to be engaged in the community through volunteer work. They are expected to have a clear understanding of the cooperative's policies and procedures, and to perform their day-to-day duties in a positive, supportive way that expresses their desire to provide exceptional service to members.

Cooperation among the members, board, management and employees is critical to the cooperative form of business, which is founded on specific core principles. ■

How To Become a BUECI Board Member

BUECI accepts director nominations from the floor at the annual meeting, which is Thursday, April 4, 2019. If elected, directors must meet the director qualifications to take office. The qualifications are listed in the cooperative bylaws and include: Article IV, Directors, Section 3, Qualifications: No person shall be eligible to become or remain a director in the cooperative who:

- Is not a member and bona fide resident in the area served or to be served by the cooperative; or
- Is in any way employed by or financially interested in a competing enterprise or a business selling other utility services or supplies to the cooperative; or
- Is an employee of the cooperative for which he is paid a regular salary.

Directors are strongly encouraged to complete a series of director education courses lasting five days, to earn the Credentialed Cooperative Director Certificate. Directors will also be invited to represent the cooperative and you, its members, at three industry conferences each year.

Prepare and Protect Your Home From Fire

By Susan Parrish

Last year's wildfire season in Eastern Oregon began June 28. With the 2019 wildfire season about three months away, Oregon Trail Electric Cooperative members have time to protect their homes and outbuildings from the threat of wildfire with simple seasonal maintenance.

Statewide in 2018, Oregon Department of Forestry handled 1,113 wildland fires covering 76,739 acres, according to Jamie Knight, Oregon Department of Forestry public information officer in La Grande. The number of fires caused by humans as well as those caused by lightning strikes increased.

Disaster movies might lead us to believe it's a wildfire's 100-foot-tall flames that destroy houses. But that's not true. It's usually the tiny, burning embers—called firebrands—projected through the air ahead of the flames that land on dry fuel that ignite structures.

"It's not the flame front that gets us, it's the embers that catch fire to the leaves in gutters," says Gary Timm, deputy director with Baker County Emergency Management. "If fire embers are burning toward a home, subdivision or urban area, those embers could be a mile ahead of the flames, depending on how much thermal lift there is."

Seasonal maintenance tips include keeping dead fuels and debris away from your home's exterior, including roof, deck, porch and outbuildings.

"Look for any place where the wind whips leaves and pine needles and causes them to collect," Jamie says. "That creates fuel for wildfires. If you have a buildup of fuel, if an ember lands there, it causes structure loss."

In a wildfire, dry fuels on or adjacent to the house ignite quickly. A bed of pine needles can ignite in nine seconds. Pine needles in a gutter ignite in about 1 minute. A PVC gutter can melt and collapse in 2 minutes, 43 seconds.

This homeowner in Baker County completed defensible fuels treatment around their home, including attaching a garden hose to the top of the fence in case of fire.

Photos courtesy of Baker City Fire Department

Right-of-Way Plant Maintenance

Trees and vegetation in the utility's right-of-way can cause power outages and become fire hazards. Keeping power lines and meters clear of obstacles provides safe and dependable electricity for OTEC member-owners.

Trees falling into power lines are a leading cause of blinks and outages. OTEC crews and tree-clearing contractors work year-round to identify and remove trees that can be a problem.

Members are always a good source of information for locating and reporting these types of problems. Members often contact the OTEC office to report dead trees, trees with decayed trunks or root systems, severely leaning or overhanging trees near power lines, and trees with a high potential to fall into a power line.

OTEC's yard-planting guide says all vegetation must be planted away from power lines so mature plants won't grow into the right-of-way. For those who live in a town, vegetation within 20 feet of either side of the power line may be removed during power line maintenance, repair and replacement. In rural areas, vegetation must be at least 25 feet from either side of power lines.

Create Defensible Space

To protect your home from wildfire, maintain barriers between structures and trees. Vegetation should be well

The 2015 Cornet-Windy Ridge Fire threatened this outbuilding on private property in Baker County. Firefighters successfully defended the structure.

maintained and fire resistant for 100 feet around a home. The first 5 to 10 feet adjacent to the home are most crucial.

"Federal, state and local firefighters need homeowners to do their part to create defensible space around the home prior to the fire season so responding fire crews can provide protection faster, safer and more successfully," Gary says.

He cites specific tasks homeowners can do reduce the threat of wildfire to their home and outbuildings.

- Consider how your home is constructed. Is the siding fire resistant? Is the roof fire resistant? Metal roof and asphalt shingles are more fire resistant than shake roofs. The valleys of the roof can hold 20 pounds of pine cones to fuel a fire. Protect your vents with mesh screen to prevent debris and firebrands from entering your home.
- Build defensible space around the home. If a fire approaches, can you defend your home? What does the landscape look like 30 feet from the home and then 100 feet from the home? Is there green grass up to house, crushed rock or flammable bark mulch? Are trees or shrubs touching the house? Are tree canopies touching? Have you stacked firewood on the deck, porch or against the house?
- Protect the community. Well-designed fuel breaks should separate homes. Subdivisions and neighborhoods can implement a phone tree to notify each other.
- Create access for emergency responders. Ensure your address is clearly marked to the right of the driveway so emergency services can see it. Ensure the driveway has good turnabout space for large emergency vehicles.
- Have an evacuation plan. Plan how you will get your family and animals to safety in case of wildfire.

Can doing these proactive tasks save a house threatened by wildfire? Ryan and Christine Hodek say yes. The Hodeks applied wildfire prevention guidelines—from fireproof materials, landscaping, maintenance and even lawn furniture—when they built their home in the wooded hills in Rist Canyon, Colorado.

In 2012, when the High Park Fire threatened their neighborhood, the Hodeks and all their neighbors evacuated. When they returned, 294 homes had been destroyed, but the Hodeks' home was untouched by the fire.

In spring when plants are still green is a good time to get out and do pruning, trimming and cleanup work, says Al Crouch, a fire mitigation/education specialist with the Bureau of Land Management's Vale District.

"When it gets hot and dry, it's almost too late," he says.

Al encourages homeowners to reduce ignition sources by mowing grass and trimming branches before it's dry. Chainsaws and motorized or wheeled equipment can spark and cause wildfires.

"It's important for landowners to take responsibility and make their structures survivable to fire," Al says. "Make your site and structures defensible without the presence of a firefighter." ■

Protect Your Home With Seasonal Cleanup

- Eliminate the fire threat for the first 5 to 10 feet adjacent to the house, which is the most critical zone.
- Remove material that could fuel a fire if airborne embers land on or near your house or outbuildings. Remove pine needles and dry leaves from the gullies of the roof, gutters, decks and porches.
- Cover vents with fine-mesh screen to prevent debris and firebrands from entering the vent and igniting the house.
- Don't stack firewood on the deck, porch or next to the house.
- Plant trees that are leaf succulent and hold moisture.
- Prune branches that are close to the ground. No trees should touch structures. Prune dead wood from trees and shrubs near the house and other structures.
- Buy fire-resistant outdoor furniture.
- Be mindful of structure-to-structure fire. Examine outbuildings that might threaten the house.

Move Over for Safety's Sake

Drivers need to heed the law and give line crews a buffer to do their work

The vehicles we drive today have dashboards filled with the latest technology and innovations that keep us in tune with our vehicle's performance, engaged and entertained. But don't let these things distract you when you drive.

Escambia River Electric Cooperative line crews often work alongside roadways. Passing motorists make their hazardous job even more dangerous. Accidents are preventable if drivers pay attention, slow down and move over.

The move-over law helps protect law enforcement officers and other emergency responders by requiring motorists to move over when approaching stopped emergency vehicles with flashing lights.

In July 2014, the Florida Move Over Act was amended. Utility service vehicles and sanitation vehicles were added to the list of public safety vehicles motorists must slow down or move over for to protect personnel who work on roads and highways.

Florida law states:

- On a two-lane roadway, you are required to slow to a speed that is 20 miles per hour less than the posted speed limit.
- If the speed limit is 20 miles per hour or less, you must slow down to 5 miles per hour.
- If you are driving on an interstate or roadway with multiple lanes of travel in the same direction, and you approach an emergency or law enforcement vehicle parked along the roadway, you must vacate the lane closest to that vehicle as soon as it is safe to do so. If you are not able to safely move over, you must slow down to a speed of 20 mph below the posted speed limit unless directed otherwise by a law enforcement officer.

Violating the move-over law can result in a fine and points on your license.

In addition to slowing down and moving over, remember to always keep your eyes on the road. While linemen working high in bucket trucks can be interesting to look at, it is important that you keep your eyes on the road.

The safety of both the crews working and other motorists is of utmost importance. To keep everyone safe, always maintain a safe distance between you and any utility work being done.

Escambia River Electric Cooperative takes great care to avoid interfering with traffic when working along our roadsides. We ask that you give our lineworkers a safe working area.

Those men and women are not just utility workers. They are moms and dads, sons and daughters, baseball coaches and choir members—fellow co-op members. Moving over not only will help keep your friends and neighbors safe, it is the law. ■

Right, David Deese operates the boom while Kevin Macht and Matthew Reynolds work from the bucket to set a new utility pole. Opposite page, the crew often must set up in a lane of travel. Lineworkers have a difficult job under the best of circumstances. Please use caution when driving through work areas. Always maintain a safe distance between you and utility workers.

A Word About Water

Head Spinning With 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 with all of 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 percent of American households have a clothes washer, adding up to 102 million across America. About 9 million washing machines are sold each year. Efficient models account for slightly more than one-third of sales.

Energy Star-rated washing machines cost slightly more than their less-efficient counterparts—anywhere from $400 to $1,500, 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 the 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. ■

Source: NRECA's Cooperative Research Network

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

Outdoor tools need routine maintenance before tackling your springtime lawn.

Keep It Safe

Spring Clean Tools, Too

While your lawn tools hibernated over the winter, they got dusty and maybe even rusty. Before you pull them out of storage to get your lawn ready for spring, clean and examine your tools for damage. Without proper maintenance, they might not operate well, could overheat and put you at risk.

Lawnmowers, trimmers, drills and all tools that have moving electrical and mechanical parts need routine maintenance every spring. Here are tips for cleaning and storing your power tools and lawn equipment.

- Thoroughly wipe down each tool with a damp cloth. Reach into hard-to-clean areas such as exhausts and intakes with a lightly oiled cotton swab. Dry the tools before using them.
- Blow compressed air from a can into vents and crevices to remove dirt from inside the tools.
- Replace filters in tools that have them, following manufacturer's instructions.
- Inspect each tool for cracks or broken parts. Do not use a broken tool.
- Turn on the tool and listen. Does it sound as good as it did last summer? If not, it might be time to replace it.
- Examine corded electric tools for damaged or frayed cords and exposed wires. Check plugs for bent or missing metal. If you spot a problem, have the tool professionally serviced to prevent shocks. Unplug the tool before inspecting it.
- Wipe off tools with a dry cloth after each use before storing them.
- Store tools in a dry location away from the weather and dust. If you have the box or case a tool came in, store it in that.
- Save instruction manuals for all of your tools so you can consult them when necessary.
- Periodically lubricate a tool's moving parts. Your instruction manual will suggest a type of oil.
- Remove batteries from cordless tools before storing them. Batteries that sit unused for long periods can corrode. ■

Take a Break From Technology

It is becoming increasingly difficult to escape the pull of technology. As a society, we are dependent on our devices for nearly everything we do. However, it is detrimental to our cognitive development and can strain relationships.

Here are a few tips you and your family can use to keep device dependence at bay:

- Instead of going online or checking your phone the next time you finish a task, take a walk in a quiet place or sit back and let your mind wander. Daydreaming is a great way to rest your brain throughout the day.
- Set up gadget-free zones at the dinner table, the bedroom and other areas of the house.
- When using devices to listen to music, read books or take notes during meetings, turn your device on airplane mode. If you need Wi-Fi or a mobile connection, disable push notifications so they do not distract you.
- Start a contest in your family to see who can go the longest without checking their phone or playing a video game. Make the prize a fun treat.
- When spending time with friends and family, put your device in another room so you are not tempted to check it if there is a lull in the conversation.
- On family vacations, make it a rule that devices can only be used to take photos and check in with those who need to know how things are going. Stare up at the stars, not at your screen.

Enjoy fellowship with your family by making the dinner table a gadget-free zone.

Use Energy Wisely

Little Measures Net Big Savings

Tackle home improvement projects and change your energy behaviors to keep more money in your pocket

It does not take much time or money to reap the benefits of a more energy-efficient home. Here are ways you can save energy with little effort and less money.

- **Caulk and weatherstrip around windows and doors.** Even the tiniest gaps or cracks can let your heated or air-conditioned air outside and the outdoor air in. Using materials purchased at a hardware or home store, plug these energy-wasting leaks and save up to 20 percent on heating and cooling bills. An extra benefit: Your home will feel more comfortable because it will be less drafty and the air will be conditioned more evenly.
- **Turn off lights, fans and the TV when you leave the room.** Unplug everything you can before you leave the house for an extended time. Turning off electric devices saves energy and unplugging them—even when turned off—saves even more because it prevents them from using standby power.
- **Check your attic insulation.** You might have plenty up there, but if it is sagging away from the surfaces it is supposed to touch, it is not doing you any good. A properly insulated attic can save you up to 20 percent on heating and cooling bills.
- **Wash your clothes in cold water.** They will get just as clean as if you use warm water.
- **Be efficient with the dishwasher.** Select the energy-saver and no-heat drying options.
- **Change incandescent lightbulbs in table lamps or overhead fixtures to LEDs or compact fluorescent bulbs.** They use at least 30 percent less energy than traditional bulbs.
- **Install a programmable thermostat.** Set it to turn down the temperature a few degrees in the winter and up a bit in the summer after everyone leaves the house for the day. You could save 10 percent on heating and cooling bills.
- **When it is time to replace an appliance, buy one with the Energy Star label.** You will save up to 30 percent on the electricity it takes to run the appliance. ■

Install insulation in the attic and caulk around windows to make your home more energy efficient.

Save Energy With DIY Projects

By Abby Berry

Winter weather can have a big impact on your energy bill, hitting your pocket a little harder than you would like.

Now that spring is just around the corner, it is the perfect time to tackle a few do-it-yourself energy-efficiency projects for your home.

The good news is you don't have to be an energy expert.

There are several easy ways to save energy, but if you're willing to take a hands-on approach, here are three projects you can do now.

Make the Most of Your Water Heater

One of the easiest projects is insulating your water heater. You can save 7 to 16 percent annually on your water heating bills. If your water heater is new, it is likely already insulated. But if your water heater is warm to the touch, it needs additional insulation.

You can buy a pre-cut jacket or blanket for about $20. You will need two people for this project.

Before you start, turn off the water heater. Wrap the blanket around the heater and tape it to temporarily keep it in place. If necessary, use a marker to note the areas where the controls are so you can cut them out. Once the blanket is positioned correctly, tape it permanently in place, then turn the water heater back on.

If you have an electric water heater, do not set the thermostat above 130 degrees, which can cause overheating.

Seal Air Leaks With Caulk

The average American family spends $2,000 annually on energy bills. Unfortunately, much of that money is wasted through air leaks in the home.

Applying caulk around windows, doors, electrical wiring and plumbing can save energy and money.

There are many types of caulking compounds available, but the most popular choice is silicone. Silicone caulk is waterproof, flexible and won't shrink or crack.

Before applying new caulk, clean and remove old caulk or paint with a putty knife, screwdriver, brush or solvent. The area should be dry before you apply the new caulk.

Apply the caulk in one continuous stream. Make sure it sticks to both sides of the crack or seam. Afterward, use a putty knife to smooth out the caulk, then wipe the surface with a dry cloth.

Caulking around windows, doors, electrical wiring and plumbing can save energy and money.

Photo courtesy of Rare Form Properties

Weatherstrip Exterior Doors

One of the best ways to seal air leaks is to weatherstrip exterior doors, which can keep out drafts and help you control energy costs. Ask your local hardware or home store for assistance if you are unsure about the supplies you need.

When choosing weatherstripping materials, make sure it can withstand temperature changes, friction and general wear and tear around the door. Keep in mind, you will need separate materials for the door sweep at the bottom and the top and sides.

Before applying new weatherstripping, clean the moulding with water and soap, then let the area dry completely. Measure each side of the door, then cut the weatherstripping to fit each section. Make sure the weatherstripping fits snugly against both surfaces so it compresses when the door is closed.

Completing these simple efficiency projects will save energy and money, while increasing the comfort level of your home. And you can impress your family and friends with your savvy energy-saving skills. ■