How Your Co-op Manages Threats to the Electric Grid

MESSAGE FROM
GENERAL MANAGER BRAD BIERSTEDT

WHILE THE THREAT OF CYBERATTACKS ON THE electric grid gets a lot of attention these days, physical damage from storms or critters is still much more likely to disrupt power.

In fact, there are many physical threats to our power delivery system that Karnes Electric Cooperative works hard to deflect on a daily basis. From weather events (such as ice storms, high winds and flooding) to criminal activity (including copper theft and transformers taking gunfire), it takes a proactive approach to consistently deliver reliable service to our members. Even something as small as a squirrel can damage our system's infrastructure and cause power outages.

SHERYL WATSON | ISTOCK.COM

If the lights do go out, we are ready to restore power as quickly and as safely as possible. Here are three key ways Karnes EC works to keep your power as reliable as possible:

1. Being part of the community. Electric co-ops know our communities. We live and work in the neighborhoods and towns we serve, which is why you may know many of our board members and employees.

We know that emergencies can happen at any time and that relationships are important in urgently responding to unplanned events or in preparing for more predictable events, including winter storms or summer flooding. In the rare event of a major outage, our network of sister co-ops are ready to pitch in quickly and help us get power restored. That's because we're part of one large cooperative community, and Cooperation Among Cooperatives is a guiding principle for co-ops everywhere.

2. Planning, preparing and practicing. We test disaster and business continuity plans regularly and take pride in being prepared at all times. Plans not only focus on how to prevent outages but also how to respond and recover in the event of an incident. Maintenance work such as vegetation management and pole inspections may seem routine but is strategically performed to proactively reduce power disruptions. Trees that are too close to power lines can cause major damage and outages during a storm.

3. Coordinating with stakeholders. Karnes EC places a lot of importance on collaboration with fellow cooperatives, industry partners and government agencies. We work closely with the rest of the electric utility industry, our regional grid operator, the departments of Homeland Security and Energy, and the Federal Energy Regulatory Commission on matters of critical infrastructure protection, which includes sharing information about potential threats and working together to avoid disruptions.

You can help us in this endeavor to keep electricity flowing by:

- Reporting suspicious activity. Be mindful of unusual situations and immediately report them to Karnes EC or local authorities. For example, if you see noncooperative personnel near a substation, please report it. If you see something that doesn't seem right, let us know so that it can be investigated.
- Checking for damage. If you see tree branches or other vegetation growing too closely to power lines or utility poles, please contact us so we can keep the lines clear to provide the most reliable service.

Although the electric grid is incredibly resilient and can withstand many physical impacts, it's also a dynamic infrastructure that requires constant attention. To power your lives, your electric co-op is vigilant in ensuring grid protection from physical and cyber threats .

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Scholarships Available From Karnes EC

FINANCIAL HELP FOR STUDENTS WILL AGAIN BE AVAILABLE THROUGH KARNES ELECTRIC Cooperative this year, thanks to a law that took effect in 1997 that allows nonprofit electric cooperatives to grant scholarships using money from unclaimed capital credits. Unclaimed capital credits previously were collected by the comptroller's office for the state's general fund.

Karnes EC's board of directors has approved 10 $1,500 scholarships for this year. These scholarships will be awarded to graduating high school seniors who are legal dependents of active members receiving electric service from Karnes EC.

Applications are available on the Karnes EC website, **karnesec.org**, as well as through high school counselors at all schools in KEC's service area. Applications must be received by the co-op's main office in Karnes City by **5 p.m. March 13.** Applications received after March 13 will not be eligible. Awards will be announced within 60 days of this date.

Karnes EC is excited to be able to provide these scholarships. Please check with your school counselor if you or someone you know is interested and meets the qualifications. If you need additional information, contact the co-op at **(830) 780-3952** and ask to speak to Janet Scheffler or Becky Frazier, or email **jscheffler@karnesec.org** or **bfrazier@karnesec.org.**

OLGA NIEKRASOVA | ISTOCK.COM

Karnes Electric Cooperative

P.O. Box 7, Karnes City, TX 78118

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Brad Bierstedt

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COOPERATIVE OFFICES

Main Office
1007 N. Highway 123, Karnes City

District Office
1824 W. Goodwin St., Pleasanton

Pay your bill and view your account summary at karnesec.org.

Karnes Electric Cooperative is an equal-opportunity provider and employer.

Contact Us

For information and outages during office hours

(830) 780-3952 Karnes City
(830) 569-5538 Pleasanton
1-888-807-3952 Toll-free

To report a power outage after 5 p.m. and on weekends and holidays

(830) 780-3952
Coy City, Ecleto, Floresville, Gillette, Goliad, Karnes City, Kenedy, Runge, Three Rivers, Tilden and surrounding areas

(830) 569-5538
Charlotte, Christine, Pleasanton, Poteet, Verdi and surrounding areas

FIND US ON THE WEB
karnesec.org

Lighten Your Laundry Load

LAUNDRY ISN'T A TASK THAT MANY PEOPLE RELISH. BUT IF THE PROCESS CAN BE tweaked to save money, conserve electricity and prolong the life of your clothes, some minor adjustments may be worth your time. Here are some suggestions from *Consumer Reports*.

Opt for cold water. Hot water is only needed for laundering oily stains, cloth diapers, and sheets and towels used by a family member who has been sick.

Use high-efficiency detergent for front-loaders, high-efficiency top-loaders and where otherwise recommended by the machine's manufacturer. Conventional detergents create more suds, which can cause the washer to repeatedly rinse laundry, wasting water and time.

Increase the spin speed to extract more water from your laundry, reducing dryer time. Shake clothes out before transferring them from the washer to the dryer to avoid wrinkles.

Clean the dryer's lint screen before every load. This improves air circulation and prevents fires. Dryer sheets can leave a film on the filter, so if you use them, scrub the filter with a brush monthly.

Clean the dryer duct regularly to increase airflow, which dries your clothes faster and prevents fires.

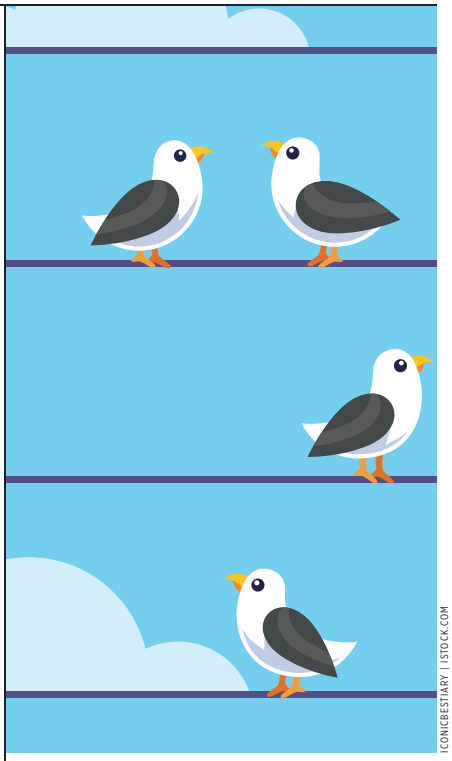
Clean the dryer's moisture sensors. Dryer sheets can leave residue on the sensors that affects their ability to gauge how dry laundry is. Check the owner's manual for instructions on how to clean them.

Dry similar items together. Don't mix heavy cottons with lightweight fabrics. Wash and dry towels and sheets separately, for example.

Use the automatic cycle instead of timed drying. If the moisture sensors are working properly, the automatic cycle avoids overdrying, which shortens the life span of clothes and can shrink them.

And for the least expensive, most efficient method, dry your laundry on a clothesline or use a drying rack indoors. This approach takes a bit more time but is gentler on your clothing, keeping it nicer looking for longer—a savings in itself.

KATE_SEPT2004 | ISTOCK.COM



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Test Your Power Line Safety Knowledge

TRUE OR FALSE? POWER LINES ARE insulated for contact.

False. While power lines may have a covering to protect against weather, they are not insulated for contact. Birds can sit on power lines unhurt because they don't represent a path to the ground. You and your ladder do.

TRUE OR FALSE? I should keep myself and any equipment I'm using at least 10 feet away from any power lines.

True. You don't need to contact a power line to be in danger; electricity can jump, or arc, from a power line to a person who gets too close. The best insulator is lots of space. You should keep yourself and any equipment you're using a minimum of 10 feet away from power lines, but far greater distances are recommended.

TRUE OR FALSE? I can be electrocuted by a power line even if I am wearing gloves and rubber boots.

True. Work gloves and rubber boots offer no protection against contact with a power line. Once again, space—and lots of it—is the best insulator.

Landscaping for Energy Efficiency

THE APPROACH OF SPRING HAS MANY gardeners turning their attention to planting plans, but if energy efficiency is one of your goals as a homeowner, you should know that landscaping can beautify your home while helping you control energy costs for years to come.

According to researchers at the Department of Energy's National Renewable Energy Laboratory, carefully positioned trees can save a household as much as 25% on its heating and cooling costs. Foundation shrub plantings can also help control energy costs by diffusing solar heating or wind to moderate temperature transfers.

No matter how much you love trees, give them some room. Don't plant too close to foundations, pavement or plumbing because root systems and maturing branches can damage foundations, roofs and pipes. And always make sure trees will be well clear of power lines when they reach their full size.

NRECA

Deciduous trees—those that lose their leaves in autumn—are great options for seasonal summer shade. Tall varieties planted to the south of a home can help diffuse sunlight, providing roof shading.

But planted in the right place, within five to 10 years, a fast-growing shade tree can reduce outside air temperatures near walls and roofs by as much as 6 degrees on sunny days. Surface temperatures immediately under the canopy of a mature shade tree can be up to 25 degrees cooler than surrounding shingles or siding exposed to direct sunlight.

According to the Department of Energy, deciduous trees—those that lose their leaves in autumn—are great options for summer shade. Tall varieties planted to the south of a home can help diffuse sunlight, providing shade for the roof.

Shorter varieties of deciduous trees can be planted near exposed west-facing windows to help shade homes on sultry summer afternoons. Mass plantings of evergreens—selected for their adaptability to regional growing conditions—can be planted farther away, on a north or northwestern section of a yard to form a windbreak, which helps shield a home from frigid winter winds.

Deciduous trees with high, spreading crowns (i.e., leaves and branches) can be planted to the south of your home to provide maximum summertime roof shading. Trees with crowns lower to the ground are more appropriate to the west, where shade is needed from lower, afternoon sun angles. Trees should not be planted on the southern sides of solar-heated homes in cold climates because the branches of these deciduous trees will block some winter sun.

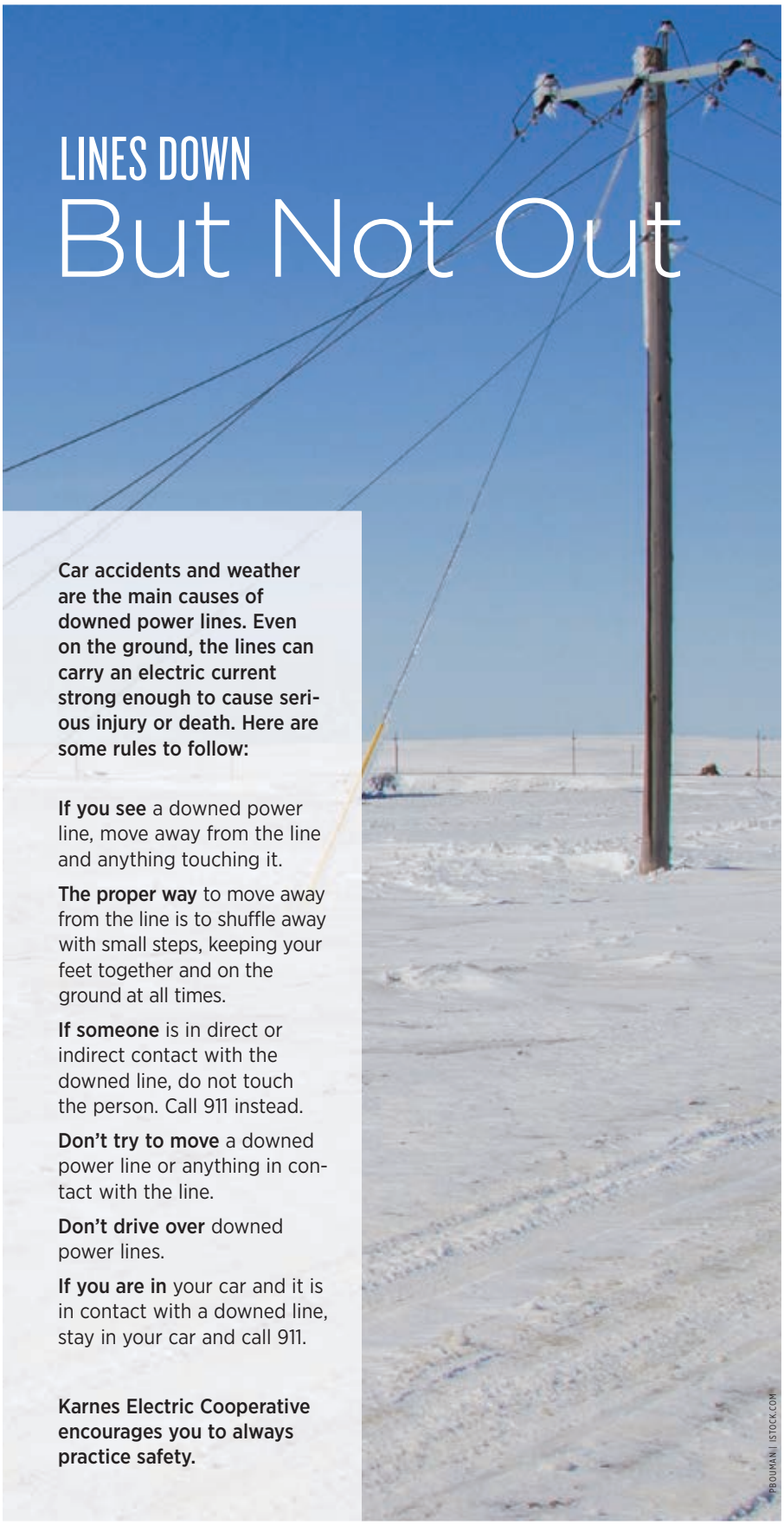
Trees are available in appropriate sizes, densities and shapes for almost any shade application. To block solar heat in the summer but let much of it in during the winter, use deciduous trees. To provide continuous shade or to block heavy winds, use dense evergreen trees or shrubs.

Although a slow-growing tree may require many years of growth before it shades your roof, it will generally live longer than a fast-growing tree. And because slow-growing trees often have deeper roots and stronger branches, they are less prone to breakage by windstorms or heavy snow.

Trees, shrubs and ground cover plants can also shade the ground and pavement around a home. This cover reduces heat radiation and cools the air before it reaches your home's walls and windows. Use a large bush or row of shrubs to shade a patio or driveway. Plant a hedge to shade a sidewalk. Build a trellis for climbing vines to shade a patio area.

To ensure the durability of energy-saving landscaping, use plant species that are adapted to the local climate. Native species are best, as they require little maintenance once established and sidestep the dangers of invasive species.

LINES DOWN
But Not Out



Car accidents and weather are the main causes of downed power lines. Even on the ground, the lines can carry an electric current strong enough to cause serious injury or death. Here are some rules to follow:

If you see a downed power line, move away from the line and anything touching it.

The proper way to move away from the line is to shuffle away with small steps, keeping your feet together and on the ground at all times.

If someone is in direct or indirect contact with the downed line, do not touch the person. Call 911 instead.

Don't try to move a downed power line or anything in contact with the line.

Don't drive over downed power lines.

If you are in your car and it is in contact with a downed line, stay in your car and call 911.

Karnes Electric Cooperative encourages you to always practice safety.

PBOUMAN | ISTOCK.COM

Keep Warm, Save Energy

FEBRUARY CAN BE HARD ON ENERGY bills, but cold winter weather is no match for a home that is prepared to fight it. Address these common winter culprits throughout your house:

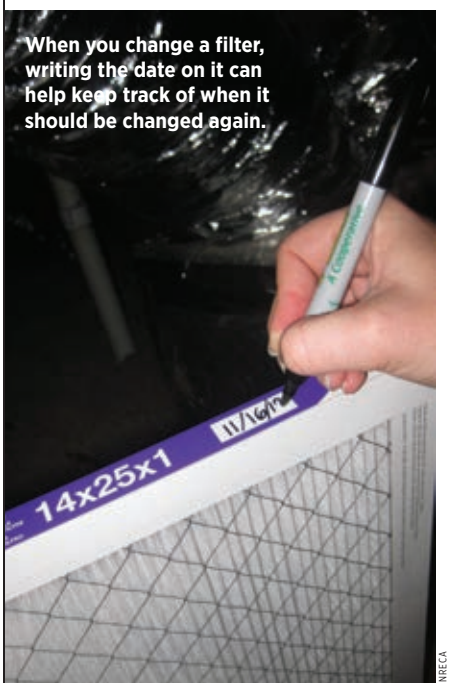
Drafty doors and windows. An easy fix with a big payback is weatherstripping. Caulk or apply weatherstripping around all window and door seams, especially those leading to the attic. Weatherstrip your attic access door.

Dirty filters. Dirty filters make your heating system work harder to warm the air. Aim to change the filter every three months, or more often if it is especially dirty.

Leaky ducts. A contractor can test your ducts for leakage and repair any problems. Repair visible or accessible leaks with metal tape—not duct tape.

Chilly water heater. If your water heater is older or not well insulated, wrap it in an insulating jacket.

Wood fireplace. Traditional fireplaces pull heated air out of the house. When not in use, check that the damper is completely closed.



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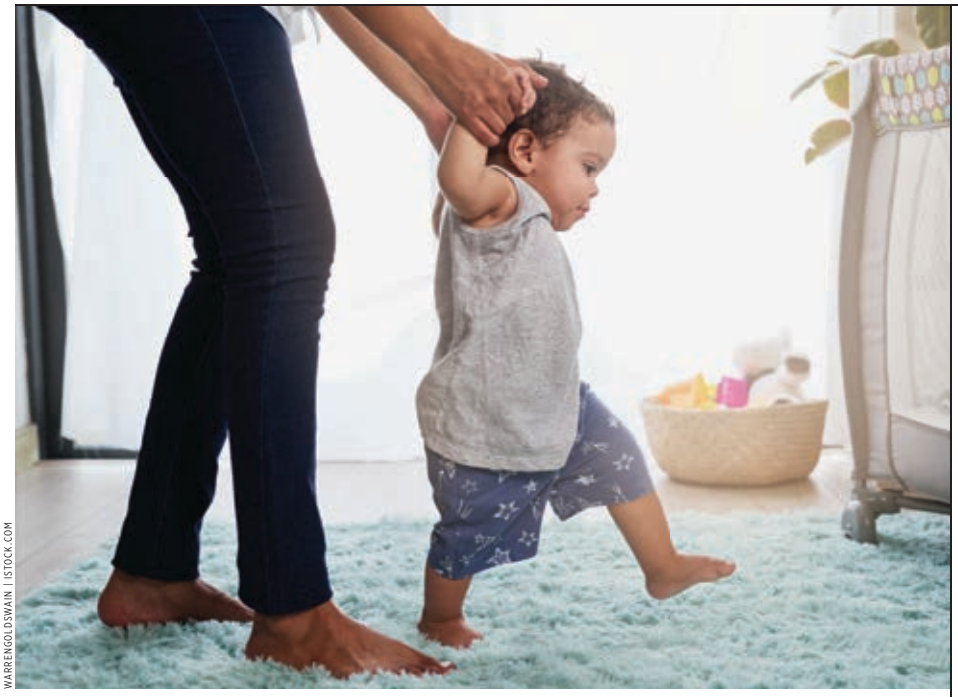
NRECA



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Ways To Make Your Home Safer

IF YOU HAVE SMALL CHILDREN, MAKE SURE UNUSED WALL OUTLETS HAVE SAFETY coverings. Unprotected wall outlets can be a hazard. Also:

- Check that outlets and wall switches are cool to the touch. Unusual warmth may indicate unsafe wiring and should be checked by an electrician.
- Ensure all outlets and switches are working properly. Faulty equipment may mean unsafe wiring.
- All outlets and switches should have faceplates. Exposed wiring is a shock hazard.
- Check that extension cords are correctly rated for the amount of electricity they are going to carry and are approved by a reputable safety standards organization.
- Screw lightbulbs in securely. Loose bulbs may cause a fire or shock.
- Check all electric cords for visible damage. Frayed cords can be dangerous.
- To avoid excessive wear and cord damage, ensure that cords don't run under rugs and don't have furniture resting on them.
- Do not nail or staple electric cords in place. Cord damage can result in a fire and shock hazard—and extension cords should only be used for temporary purposes.
- If you have wet hands or are standing on a wet surface or in water, don't touch or use any electrical device.
- Small appliances (hair dryers, toasters, etc.) should be unplugged when not in use. Unattended, connected appliances create unnecessary risk.
- Keep all appliance cords away from hot surfaces (toasters, range tops, ovens, etc.). Cords can be damaged by excessive heat.
- Check that all appliances and electric equipment are located away from the sink and bath. Appliances can kill if they come into contact with water.
- In kitchens, bathrooms and anywhere there is water nearby, standard outlets should be replaced with ground-fault circuit interrupters. GFCIs provide shock protection by quickly cutting off the circuit and preventing injury.
- Never insert any metal object, such as a fork, into an appliance.
- Make sure you're using the correct wattage and proper kind of lightbulb in all lighting fixtures. The wrong type of bulb can lead to overheating or fire.
- Never leave space heaters unattended when in use.

Don't Ignore Flickering Lights

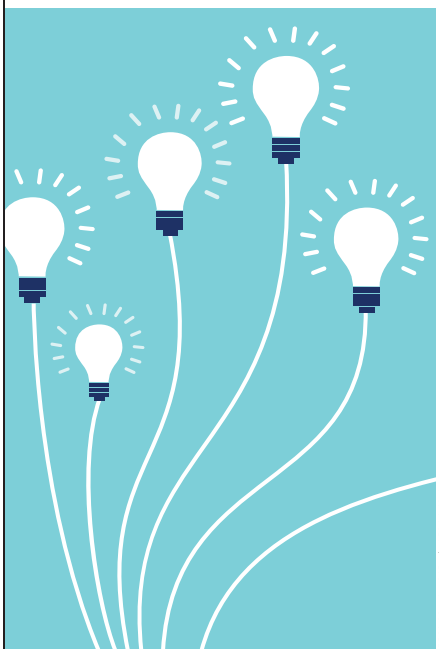
JUST AS AN AMBULANCE'S FLASHING lights alert you to an emergency, so should a flickering lightbulb get your attention.

It may be that the bulb is simply about to burn out. But sometimes a flickering bulb is a sign that the light fixture is damaged or the electrical connection is faulty. Don't ignore these signs!

Turn off the power immediately and check the connection to the fixture and its internal wiring. If you're not confident in your abilities, call an electrician. Leaving a flickering light on could present a risk of electrical fire.

The same is true for a lamp that burns too hot. You may have installed the wrong wattage lightbulb. If the wattage is too high, the heat builds up and cannot escape. Check the rating on your lamps and light fixtures to make sure you're using the right size and kind of bulb.

You should be especially concerned about warm or hot bulbs if you've made the smart move to energy-efficient LED or CFL bulbs, which typically produce very little, if any, heat when in use.



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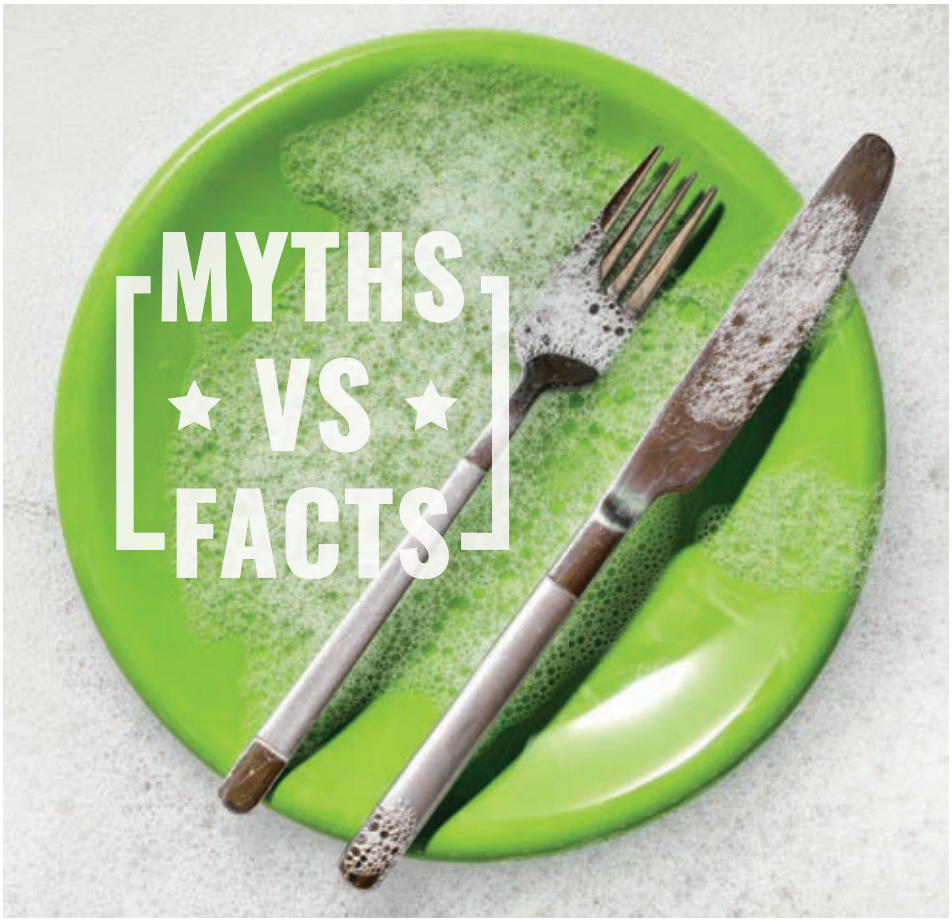
Somebody Told Me ...



WE ALL HAVE A "SOMEBODY" IN OUR LIVES WHO IS THE SOURCE of a wealth of information—some true and some not so reliable. "Somebody" has spread a lot of myths about saving energy, and we'd like to set the record straight.

Myth: Leaving a light on uses less energy than turning it off and on several times.

Even though a higher level of current is needed to turn on a light, this higher level is only used for a fraction of a second. When a light is kept on, it uses a lower level of power but for much longer. Leaving a light on for longer than a few seconds uses more energy than turning it off and back on as needed.

Myth: Appliances don't use energy when they are turned off.

Thanks to standby power settings, most appliances constantly use energy to be ready for immediate usage. These "energy vampires" cannot be turned completely off without unplugging the device altogether.

Myth: Closing air registers saves energy.

Forced-air heating systems are designed to operate with all of the registers open. The blower won't perform as well with registers closed and can create whistling in the ducts. In some cases, duct systems have so many leaks that closing a register won't force more warm air into other rooms—it will force more air out of the leaks.

Myth: Washing dishes by hand rather than running them through the dishwasher can save energy.

Washing a load of dishes by hand requires a lot of hot water and therefore a lot of energy. Today, most dishwashers have energy efficiency settings that typically allow you to run a load of dishes using less water and less energy than washing by hand.

Myth: Electronic chargers don't use energy if plugged in and disconnected from the device.

Most chargers use power while plugged in but not connected to their device. If your charger feels warm to touch, it is most likely using power. It is best to just assume that all of your chargers waste energy when left plugged in, so unplug them when they are not being used.

Myth: Most heat is lost through windows.

While heat can be lost through windows, window heat loss is only a small percentage of the total heat loss in most homes. Typically, walls account for much more heat loss because of their large surface area. It's best to consider insulating walls before upgrading windows.

Myth: Replacing windows is a good investment.

New windows can increase security and comfort, but they'll take 20–30 years to pay for themselves. Replacing single-pane windows with double-pane low-e windows will save energy and money, but in a house with 20 windows, it'll take you almost 24 years to recoup the cost of the new windows. That being said, if you plan to stay in your home and the existing windows are drafty and in disrepair, it's probably a good idea to replace them.

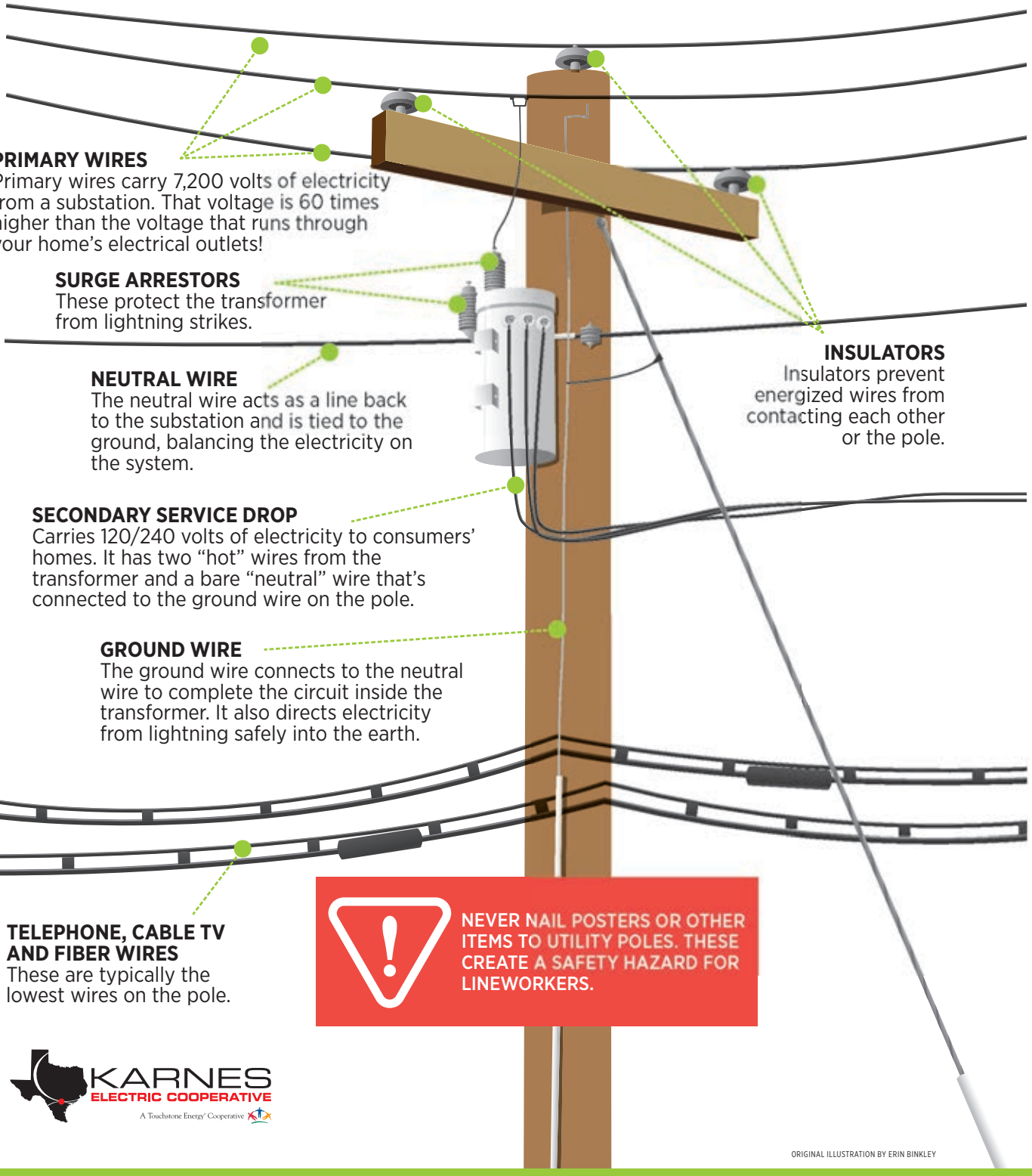
Myth: Sleep mode is just fine for computers overnight.

Your computer continues to draw quite a lot of power in sleep mode so that the computer can be ready to pop back on at a moment's notice. It is best to shut your computer down all the way overnight or when you are planning on not using it for a while.

DISHES: VIORIKA | ISTOCK.COM. MYTHS: IGOR LEVIN | ISTOCK.COM

WHAT'S ON THAT POLE?

This illustration shows the basic equipment found on electric utility poles. The equipment varies according to the location and the service they provide.



PRIMARY WIRES
Primary wires carry 7,200 volts of electricity from a substation. That voltage is 60 times higher than the voltage that runs through your home's electrical outlets!

SURGE ARRESTORS
These protect the transformer from lightning strikes.

NEUTRAL WIRE
The neutral wire acts as a line back to the substation and is tied to the ground, balancing the electricity on the system.

INSULATORS
Insulators prevent energized wires from contacting each other or the pole.

SECONDARY SERVICE DROP
Carries 120/240 volts of electricity to consumers' homes. It has two "hot" wires from the transformer and a bare "neutral" wire that's connected to the ground wire on the pole.

GROUND WIRE
The ground wire connects to the neutral wire to complete the circuit inside the transformer. It also directs electricity from lightning safely into the earth.

TELEPHONE, CABLE TV AND FIBER WIRES
These are typically the lowest wires on the pole.

NEVER NAIL POSTERS OR OTHER ITEMS TO UTILITY POLES. THESE CREATE A SAFETY HAZARD FOR LINEWORKERS.

KARNES ELECTRIC COOPERATIVE
A Touchstone Energy® Cooperative

ORIGINAL ILLUSTRATION BY ERIN BINKLEY