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FLINT HILLS RURAL ELECTRIC COOPERATIVE
NEWS

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FROM THE MANAGER

What is Grid Resiliency?

Resiliency of the grid is a popular concept being talked about in the electric industry today. This concept recently made headlines in the wake of Hurricanes Irma and Maria, which caused extraordinary damage to Puerto Rico's electric grid resulting in the longest sustained outage in U.S. history. Lack of resilience became the go-to phrase to describe Puerto Rico's grid. Here at Flint Hills RECA, what does grid resiliency mean for you?

Resiliency is many things—reliability in your electric service, our ability to efficiently restore your power, meeting the demands of new technology and how we serve you with various generation sources without skipping a beat. Ultimately, resilience is how we deliver on our promise to improve the quality of life for our members.

Having a resilient electric grid begins with a system designed and built to withstand high winds, powerful storms, cybersecurity threats and other disruptions that could result in outages. A resilient grid is also flexible and adaptable by allowing different types of generation—such as wind, solar, coal and hydro—to seamlessly work together to provide you with safe and reliable power. The way our systems react to advancements in technology—from demand response investments to serving the needs of electric vehicles—factor into grid resiliency.


Chuck Goeckel

Resiliency is a 24/7, 365-days-a-year task. Whether it's the power lines, substations or generation facilities on our grid, it takes proactive maintenance and investment to keep them running smoothly. With thousands of consumers without power for months, the lack of resiliency in Puerto Rico's grid wasn't solely caused by hurricane damage; it was the result of years of neglect in taking care of their system and preparing for a worst-case scenario.

Similar to maintaining vehicles with regular oil changes, a grid must also be properly maintained. Throughout the year, we regularly conduct pole and line inspections. Our goal is to find a problem before it becomes one. For example, if we find a weak pole damaged from termites or rot, we replace it. This ensures that pole is as strong—or as resilient—as it can be.

In Kansas, significant power outages can occur as a result of inclement weather year-round. Whether we face tornadoes or winter storms, we have confidence in the resiliency of our system to recover with as little disruption as possible. When it comes to providing our members with resilient service, this is what we work toward—day in and day out!

Harvest Safely

Now is the time for farmers to reap the rewards of a long and often tiring growing season. When it comes to harvest, there is a lot to get done in a seemingly short amount of time. These factors, along with today's technology and large farm equipment, can lead to serious accidents.

Overhead electric lines near end rows and along roadways can be a danger to operators of large, tall farm equipment. Safe Electricity urges farmers to keep equipment and associated extensions at least 10 feet away from power lines in all directions. Follow these tips when harvesting this fall:

- Know where overhead power lines are before you head out to the field, and have a plan to remain a safe distance from them.
- Use a spotter when raising any equipment such as augers, grain trucks and even ladders; it can be difficult to tell how close you are to overhead power lines.
- Know what to do and have a plan if you come into contact with an overhead power line. Do not leave the vehicle until utility workers have cut off electricity and confirmed that it is safe to exit the vehicle.
- Know what to do in the rare event the equipment catches fire.
- Always lower portable augers or elevators to their lowest possible position—under 14 feet— before moving or transporting them. Wind, uneven ground, shifting weight or other conditions can make it difficult to control raised equipment.
- Never try to move a power line to clear a path. Power lines start to sag over time, bringing them closer to farmers and others who need to avoid them. Contact your utility to repair sagging power lines.

For more information on electrical farm safety, visit SafeElectricity.org.

Latest and Greatest in Smart Home Tech

Today's smart home has grown to near Jetson-esque capabilities. The applications for home automation are racing ahead, fueled by the greater availability of wireless technology and the growth of the "internet of things."

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The actual smart home gadgets and technologies continue to evolve, but mobile apps seem to be taking the lead. Let's catch up with the advances in some key areas.

Smart thermostats deserve top billing as they were truly the first smart device to become mainstream. Product choices abound with smart options for baseboard electric being developed, while the focus remains solidly on convenience, energy savings and peace of mind.

Geofencing—GPS technology that creates a virtual geographic boundary—is one of the best enhancements in this category. Link your smart thermostat to your smart phone, set a radius around your home, and whenever you cross that boundary your thermostat goes into away or return mode, depending on which way you are heading.

Smart security is surging. Smart door locks were the first entrants in this category. More recently, video doorbells have entered the fray where you can see who is at the door from wherever you are. Very slick.

Wireless cameras have dropped in price, allowing you to canvas your home and property to keep an eye on things anywhere. Get an alert? Open the app on your mobile device and find out what's going on at home.

Smart smoke and carbon monoxide sensors are key in the safety sector, with the capability of sending alerts to your phone, allowing remote status checks and silencing alarms from the app—all without sacrificing that awful, ear-splitting alert we have come to know and love.

Smart appliances are slowly grinding forward. Refrigerators with cameras allow you to check for needed items while at the grocery store, and dryers sense when electric use is highest and turn off—talk about demand response! Even HVAC systems, including window air conditioners, are sporting mobile apps these days.

There is not a huge amount of automation for stoves and cooktops. Controlling this appliance remotely seems too dangerous unless the feature is to turn it off. In that case, chalk up another one for peace of mind by resolving that nagging vacation worry, "Did I turn the stove off?"

Smart lighting seems to have become a convergence of mood, efficiency, convenience and security. This is where a centralized hub and its software might make sense. Setting up a coordinated lighting schedule is easier from a single interface. Create "scenes" for individual rooms or for the whole house. For security, grab a scene that gives your castle a lived-in look.

Perhaps the coolest new entrants are the voice-controlled assistants. These are receiving a lot of attention and, depending on the capabilities they are given, have the potential to command everything via voice, freeing you from the tedium of opening an app to control something.

The smart home circa 2018 is a lot closer to the cartoon vision of the Jetsons. With the ease of installation, programming and use enabled by wireless technology and smart phone apps, anyone not already engaged with smart home tech should at least consider dipping a toe in the water.

ENERGY EFFICIENCY TIPS

Understanding Appliance Energy Use

BY PAT KEEGAN AND BRAD THIESSEN

Patrick Keegan

Brad Thiessen

DEAR PAT AND BRAD: Several of my appliances are getting older and will need to be replaced soon. Will the appliance choices I make have much impact on my energy bill? – Chelsea

DEAR CHELSEA: Your energy use varies month to month, so it can be difficult to see how much difference an appliance purchase makes. It's best to view the purchase over the lifetime of the equipment. Think about the up-front cost and the lifetime energy cost. In a *Consumer Reports* test, the most efficient refrigerator used $68/year less electricity than the least efficient model. Multiply that difference over a decade or two, and the lifetime energy savings could be greater than the up-front cost. All it takes to get the best appliance for your needs is some initial research.

Appliance energy use is usually less, on average, than home heating and cooling bills, but can be several hundred dollars each year. Your appliance use depends on factors like the model, how often you use it, the settings you use for its particular function and even the time of day it is most used.

Over the last few decades, new appliances became more energy efficient, driven partly by minimum government standards. These standards, created by the U.S. Department of Energy, save consumers more than $60 billion each year. Appliances are required to include an Energy Guide label that shows estimated energy use and operating cost per year. These labels help you compare different models and calculate the initial cost against the long-term savings.

Some appliances will also have an ENERGY STAR label. This indicates the appliance is substantially more efficient than the minimum standard. Your greatest energy savings opportunities can come from replacing an old appliance with an ENERGY STAR-rated appliance. Removing a refrigerator that's 20 years old and replacing it with a new ENERGY STAR model can lower the monthly electricity cost by 75 percent, from $16.50 to less than $4.

In some cases, the configuration of the appliance can also make a substantial difference. For example, a side-by-side refrigerator/freezer uses about 70 percent more energy than other configurations, with the most efficient models having the refrigerator stacked on top of the freezer. All 36 of the most efficient clothes washers of 2018 are front-loading models.

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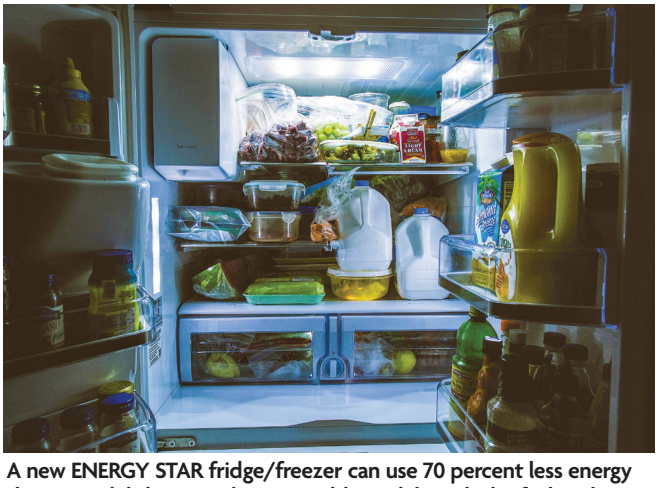
PIXABAY, CREATIVE COMMONS

All the most efficient 2018 models of washers and dryers were front-loading.



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A new ENERGY STAR fridge/freezer can use 70 percent less energy than a model that's 10-plus years old. Models with the fridge above the freezer are two-thirds more efficient than side-by-side models.

Understanding Appliance Energy Use

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Consider how much you use the appliance. The more you use the appliance the greater your savings will be from choosing a more efficient model. If you use the appliance less or have a small household, you may get by with a smaller refrigerator or freezer, which will save you money.

How you operate appliances can also make a difference. Here are some easy ways to save.

Refrigerator/Freezer

- Set your refrigerator at 35 to 38 degrees and your freezer at zero degrees.
- Make sure there is adequate air flow between the wall and the back of the unit.
- Keep the refrigerator relatively full when possible.
- Replace the seals around the doors if they appear to be leaking air.
- Defrost the refrigerator and freezer regularly.

Stove/Oven

- Use the correct size of burner to fit the pan.
- Use smaller appliances like a microwave or slow cooker instead of the oven when possible.

Dishwasher

- Use the most energy-efficient and shortest setting that gets your dishes clean.

PIXABAY, CREATIVE COMMONS

To maximize energy savings when using your stove top, be sure to match the size of the pot to the burner.

- Air dry rather than use the heated dry function.
- Wait to run a load until the dishwasher is full.

Make the most out of your appliance energy use with a little research before buying a new model and a few easy adjustments to the way you use them.

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