

AREA



2017
KENTUCKY LIVING
ENERGY GUIDE

LIFE

SAVINGS

Four co-op members share how they successfully cut their energy bills—and how you can, too.

ROBIN ROENKER



- ★ Buy 6 LED lights
- Change HVAC filter
- Clean dryer duct pipe
* clothes are not drying
- Set water heater to 120°
- Flip ceiling fan direction



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■ With the help of energy advisor Barbie Goodwin, center, Thelma and Robert Woods, members of Shelby Energy Cooperative, also pictured on previous pages, have reduced their electric usage by nearly half since building their new home. Photo: Thomas Hart Shelby

TOUCHSTONE ENERGY HOME SAVINGS

Shelby Energy members Robert and Thelma Woods turned a tragedy into a happy ending after a 2016 fire destroyed the home they had shared for 50 years. Anxious to rebuild quickly, the couple worked with their co-op energy advisor, Barbie Goodwin, and their builder, Gary Curry, to ensure that their new house met energy-efficient standards required to qualify as a Touchstone Energy Home.

Their new 1,900-square-foot home in Waddy is about the same size as their old house, but much more open, Thelma says. Friends and family warned her that the new home's taller cathedral ceilings and its open flow between the living room, dining room, and kitchen would make it more difficult to heat and cool. But that hasn't been the case.

In fact, the Woodses' home is airtight and cozy, and their monthly electric bill is now under \$100 a month for the first time in years. "I can't recall the last time our electric bill was this low, except maybe when we were first starting out," Thelma says.

As a certified Touchstone Energy Home, their new house features energy-efficient windows, doors, and appliances; sufficient attic, wall, and crawlspace insulation; LED lighting; and an energy-efficient heat pump.

Because of all the upgrades, the Woodses' electric usage dropped by nearly half in their new home. Their experience is proof-positive: building an energy-efficient home yields big energy savings.

The Touchstone Energy Home Program

Thinking of building a new home? Touchstone Energy Homes typically use 20 percent less energy than the same home built to typical construction standards. Area co-ops offer incentives for new homes that qualify for the Touchstone Energy Home Program.

Touchstone Energy Homes are built with energy efficiency in mind and must meet a series of minimum standards for insulation, windows, exterior doors, water heaters, and heating and cooling ducts.

Be sure to check with your cooperative early on in the building process, as the initial certification visit must occur before the home's drywall is installed, advises Barbie Goodwin, an energy advisor with Shelby Energy. "We encourage customers to share the Touchstone Energy Home checklist with their builder, so that the builder knows exactly what is required," she says.

Check with your electric co-op to find out if it participates in the Touchstone Energy Home Program and ask for the specifications sheet and pre-drywall checklist to share with your builder.



■ This Touchstone Energy Home is nearing completion in the Clark Energy Cooperative service area. Always contact your co-op early in the building process for TSE Home details. Photo: Charlie Pasley


What's your eScore?

The eScore program, offered by TVA co-ops Gibson EMC, Pennyrite Electric, Tri-County Electric, Warren RECC, and West Kentucky RECC, is a home energy-efficiency plan that provides homeowners with simple ways to make existing homes as energy efficient as possible. The program also increases home comfort and saves the participant money.

eScore provides expert recommendations to help homeowners identify areas for improvement that reduce energy costs. It enables them to work toward a score of 10 for their home at their own pace, earning rebates on qualified energy-efficiency upgrades and re-engaging with the program as many times as needed to achieve their home's best possible energy performance.

For more information on eScore, go to www.2eScore.com, call toll-free (855) 237-2673, or contact your local electric co-op.





■ By working with Jackson Energy Cooperative and energy advisor Chuck Stuber, right, Susan Hinkle, left, was able to reduce her energy usage by 35 percent. Photo: Jackson Energy Cooperative

MAKING A BIG DIFFERENCE WITH SMALL INVESTMENTS

No matter what she did, the master bedroom in Susan Hinkle's late 1970s-era house near Corbin always felt cold and drafty. She worked with Chuck Stuber, an energy advisor with Jackson Energy, to conduct an energy audit on her home and was surprised by what they found.

"We discovered a big (uninsulated) hole behind the medicine cabinet in my bathroom," she said. "It was almost like having an open door—that was where all the air was coming from." Stuber's audit helped Hinkle identify areas that needed additional insulation—like the bathroom, as well as her attic, under the house, and beneath the flooring. Sealing up these leaks kept the air she was paying to heat and cool from escaping her home. Afterward, "the house was so much warmer, and so much quieter," Hinkle says.


"The reality is, we see a lot of people in older houses that are underinsulated," Stuber says. "You can make a big difference with a small investment just by insulating."

With Stuber's guidance, Hinkle also made other energy-saving upgrades throughout her home, including installing a new energy-efficient heat pump, new ductwork, one new utility room door, and new windows.

"In Susan's case, her heat pump was outdated and her compressor was blown, which meant her system was operating on expensive emergency heat any time the heat pump kicked in. So instead of costing her 80 cents an hour, it would cost her over \$2 an hour when the system was running in heat mode," Stuber says.

All the changes led to a dramatic drop in Hinkle's monthly electric bill—from an average monthly usage of 1,456 kilowatt-hours to just 944 kWh, a 35 percent reduction, or roughly \$64 per month in savings.

"I would encourage anybody to contact their co-op, because they will help you make a list of what you need to do," Hinkle says. "With the list, you can make changes as you can afford them; you don't have to do them all at once. Every change saves you money. Check with your co-op often; the programs they offer change over time."



What is a home energy audit?

To learn how to make your home more energy efficient, schedule a home energy audit with your cooperative's energy advisor. If the service is available in your area, that takes the guesswork out of your home energy savings to-do list.

During an audit, your advisor will point out areas where you may be wasting energy due to air leaks, duct leakage, insufficient insulation, or aging "energy-hogging" appliances. The entire process usually takes about an hour, perhaps a little longer if a blower door test is done.

What is a blower door test?

During a home energy audit, a blower door test helps determine how airtight your house is—and where leaks may be occurring. A powerful fan is mounted to the home's front door, pulling air out of the home and lowering the pressure inside. This causes higher-pressure outdoor air to flow through leaks and gaps in the home. The auditor then uses a smoke pencil to see and identify these air leaks wherever they occur—whether around the home's windows, doors, or other exterior penetrations or in the ductwork.



The energy-efficient heat pump

Heat pumps offer an energy-efficient option for both heating and cooling. In fact, heat pumps use about half as much energy as standard electric furnaces and baseboard heaters, according to the U.S. Department of Energy.

Before shopping for an air source heat pump, check with your local electric co-op for the minimum SEER and HSPF ratings required for Touchstone Energy Home certification. (SEER, or Seasonal Energy Efficiency Ratio, is the unit used to measure cooling efficiency, while HSPF, or Heating Seasonal Performance Factor, measures heating efficiency.)

Some co-ops offer heat pump financing, added to your monthly electric bill. Ask your local co-op if it offers a financing option.



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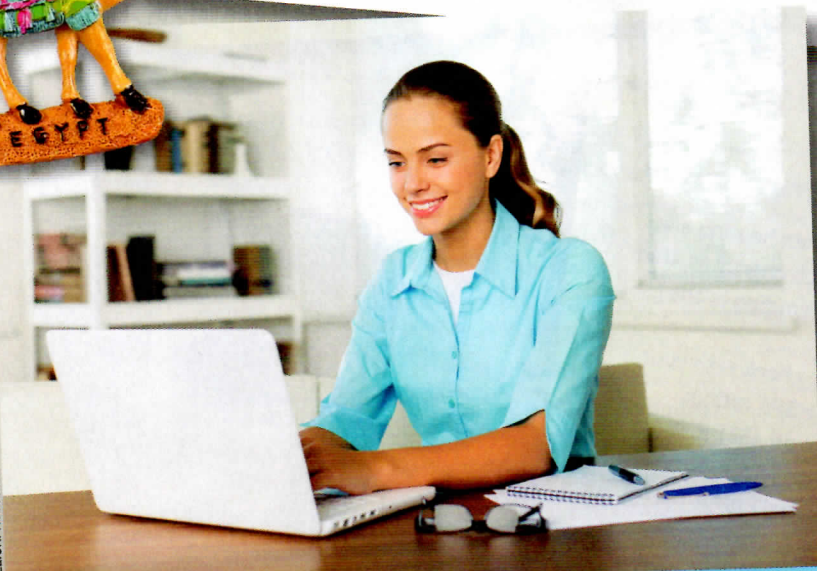
Meade County RECC commercial customer Jerry Dubree knows one thing for sure: the LED lights he installed roughly three years ago at his Commonwealth Machining factory in Harned are bright with the flip of a switch.

"The main thing is they're a lot better lighting, a lot brighter, and there's no hesitation like we had on the old lighting," says Dubree. "If the power went out or you accidentally turned them off, the old lights would take 15 minutes to warm back up. Not these. You turn them on, and you're ready to go."

Dubree worked with David Pace, vice president of Marketing and Member Services at Meade County RECC, to replace roughly a dozen 18-inch, metal halide high-beam lights with high-efficiency, four-bay LED lights. The light from the LEDs was so much better, in fact, that Dubree was able to remove several rows of auxiliary fluorescent lights in the building, Pace says.

The new LEDs use about half the electricity per fixture each hour as the old halide lights—a reduction from 0.56 kilowatt-hours to 0.256 kWh. Dubree says the lights will pay for themselves via return in energy savings in just seven years—not a bad turnaround time, considering the bulbs have a life expectancy of more than 20 years.

For commercial customers, "lighting is probably the easiest (efficiency change) to look at initially, and you can see returns immediately," Pace says. "We had a car dealership change their outside lights to motion-sensor lighting, and they saw a 50 percent reduction in their electric bill."



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ONLINE

Check for rebates and incentives

Before you tackle your energy-savings improvement list, find out what rebates and incentives you may be eligible to receive from your cooperative. A summary of currently available rebates and incentives offered by each electric co-op is available on our website. Go to KentuckyLiving.com, then click on Energy, then Incentives & Rebates.

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Update your light bulbs

Energy-efficient LED bulbs typically use 75-80 percent less energy than traditional incandescent bulbs and can last 25 times longer. Replace your home's five most-used lights with ENERGY STAR bulbs, and you could save roughly \$75 a year.





WHOLE-HOME UPGRADE

Last year, Kenergy Corp. member Jeanne Hayden undertook a whole-home, energy-savings overhaul of her 100-year-old Hartford farmhouse—proving it’s never too late to retrofit.

Hayden worked with contractors to install new insulation and to seal the envelope of her home against air leaks, which in her case weren’t all that hidden. “I could see the blinds moving due to wind coming in around gaps in the windows,” Hayden says.

To combat the draftiness, workers considerably increased the aging home’s insulation, adding thick batting insulation across the attic floor and her basement ceiling, and installing blown-in, cellulose insulation in the second-story gabled ceiling. They also sealed Hayden’s ductwork, weatherproofed around all her windows and doors, and caulked and sealed between all the furnace registers and her floors.

“It is hard to even begin to describe how much more comfortable my home has been,” Hayden says.

In addition to the sealing and insulation improvements, Hayden also installed a new high-efficiency heat pump water heater, added a programmable thermostat, and replaced her aging refrigerator with a new, energy-efficient model.

“The new refrigerator doesn’t kick on and off all the time, and it doesn’t generate the heat that the other one did,” Hayden says.

Between July and October 2016, Hayden says her electric usage dropped by 874 kilowatt-hours over the same period in 2015, for a savings of roughly \$90.

The entire process, which took about three months, was well worth it, Hayden says: “It’s definitely benefited my entire life. I feel much more comfortable and safe here now. And the stress of trying to deal with all those different challenges with the house is gone.”



■ Kenergy Corp. member Jeanne Hayden was able to reduce her energy bill and increase her comfort level by completing a whole-home, energy-savings overhaul. Photo: Willis Howard/Kenergy



Proper insulation is key

Many older homes are underinsulated. Work with your local electric co-op energy advisor to find out where you may need to add additional blown-in or batting insulation to prevent air leaks. Be sure to insulate around all gaps within the home's envelope, including the attic hatch, around dropped soffits and knee walls, and between the original home structure and any newer additions. Not sure how to get started sealing and insulating your home? Download *A Do-it-yourself Guide to Sealing and Insulating* at www.energystar.gov; search for DIY Guide.



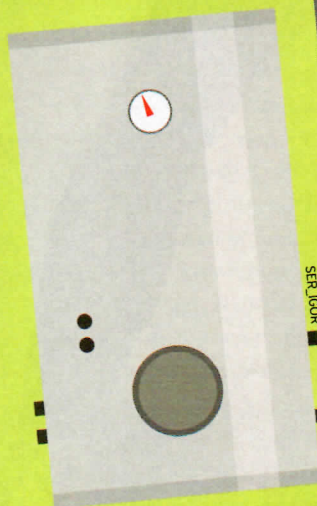
Look for energy-efficient appliances

When replacing old, outdated appliances, look for energy-efficient models such as ENERGY STAR. In general, ENERGY STAR-qualified appliances use up to 50 percent less energy than standard appliances. Find out more at www.energystar.gov.



Update your water heater

Heat pump water heaters can be up to 70 percent more efficient than conventional electric water heaters. When you consider that heating water accounts for approximately 15 percent of a home's energy use, the savings add up quickly. In fact, a family of four could expect to save roughly \$400 a year when they replace their standard electric water heater with a heat pump water heater.



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