

# Making electricity clean, keeping it affordable

It's been a long, hot summer in Washington, D.C.

For months, Congress has haggled over details of climate-change legislation meant to curb carbon dioxide emissions from sources like cars, factories and power plants. The inner workings of the plan are complex, but one thing comes through clear: Trimming carbon dioxide emissions will be challenging and expensive.

Developing climate-change policy will alter the way we think about electricity, plain and simple. Electric co-ops are working to make sure these new policies are fair to everyone while minimizing the impact on your electric bill. And we're already making investments in energy efficiency and renewable, "clean and green" generation as a part of these efforts.

Electric cooperatives are no strangers to renewable energy. Across the nation, co-ops are developing innovative ways to generate electricity from renewable sources and developing technology to reduce carbon dioxide emissions from traditional fossil fuels like coal and natural gas.

In North Dakota, Basin Electric Power Cooperative, a wholesale power supplier to co-ops in nine states, plans to separate carbon dioxide gas from smokestack emissions at a coal-fired power plant, pump it into underground cavities and, in theory, keep it there forever. When the carbon capture and storage facility goes online in 2012, 1 million tons of carbon dioxide will be removed in this fashion.

In Indiana, Wabash Valley Power Association, a wholesale power supplier for 28 electric co-ops in five states,

strips polluting sulfur compounds and mercury from coal and converts them into a clean-burning synthetic gas, which it then burns to generate electricity. Carbon dioxide emissions from the process are 20 percent lower than those produced by a traditional coal-fired power plant.

And renewable sources of power, which account for 11 percent of all co-op electricity, are as unique and varied as the co-ops using them. In the Southeast, biomass generation — using everything from peanut shells to chicken waste to make electricity

— shows great potential. The Northwest remains awash in hydro and wave power, the Midwest boasts lots of wind and the Southwest sees so few cloudy days that solar power becomes an easy sell.

Of course, the cheapest and cleanest power remains the power that's never generated. As a result, energy-efficiency education remains at the forefront of Holston EC's efforts to help consumers control costs. The vast majority of all electric co-ops, a full 92 percent, sponsor energy-efficiency education programs, and 77 percent offer residential energy audits to their members.

Electric co-ops are hard at work keeping electricity reliable, safe and affordable — and we can produce it cleaner, too. **But we need Congress to make sure electric bills stay affordable.** Through the Our Energy, Our Future grassroots campaign, you can help in this effort by asking your U.S. representative and senators to work with co-ops on affordability concerns as they hash out climate-change legislation. Please join the conversation today by visiting [www.ourenergy.coop](http://www.ourenergy.coop).



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**To report an outage or electrical emergency, call 272-8821 or 235-6811 day or night.**

# Tough choices call for strong voices

## Our Energy, Our Future

In a 1951 play, French philosopher Jean-Paul Sartre jotted down a line that seems tailor-made for the energy challenges facing our nation and electric co-ops: “We are our choices.” Indeed, who we are is reflected in how we choose to live and the decisions we make each and every day.

Our leaders in Congress are tackling tough energy choices this year, choices we, as a nation, should make together. Will we choose for electricity to remain affordable, or will we choose for it to be a luxury? Are we ready for brownouts if enough power is not available, or will we choose a diverse energy mix to provide safe, reliable and affordable electricity in an environmentally responsible fashion? Will we choose to move forward, or will we find ourselves, despite good intentions, moving backward?

The climate-change debate in Congress is coming down to the wire. Now, more than ever before, is the time to make sure your voice — and your choice — are heard. At Holston Electric Cooperative, our choice is clear. We’ve always been committed to providing affordable, reliable



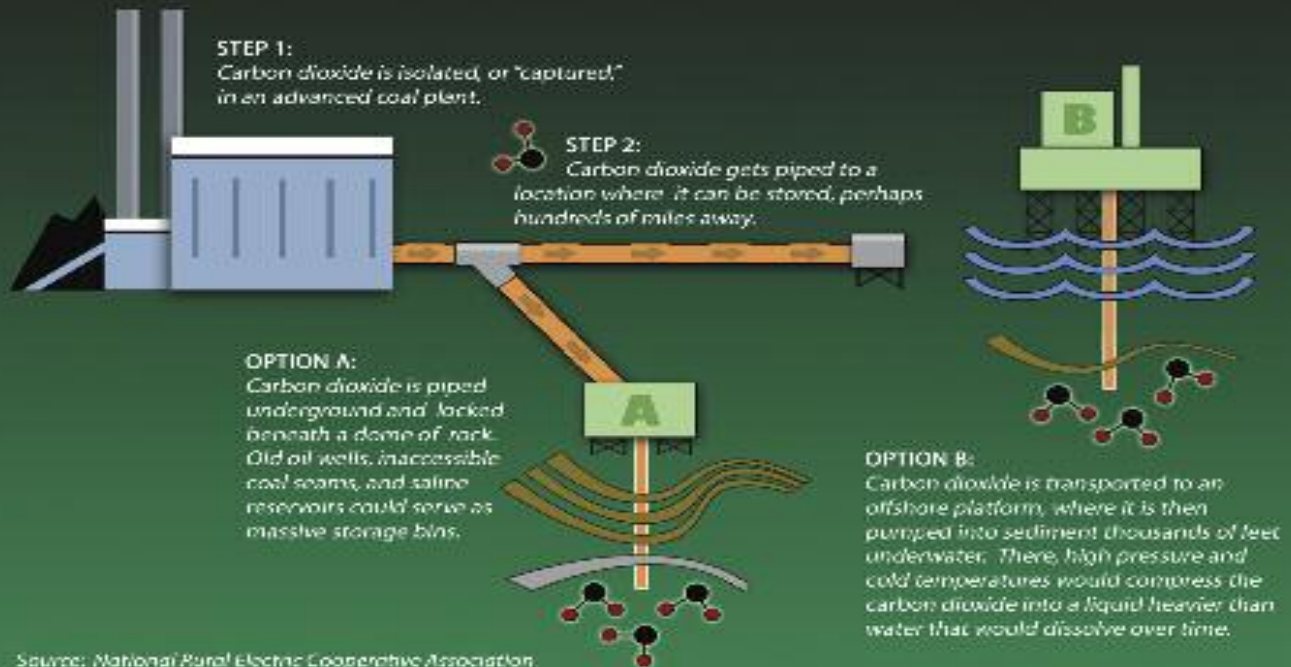
energy in a responsible manner. This choice reflects who we are and why we were founded by members like you in an effort to move our community forward into a brighter future.

Tough choices call for strong voices, and no voice is stronger than the combined force of 42 million electric cooperative consumers across the nation. Together we can choose to speak up for affordability. We can choose to invest in technology to lower energy costs, and we can pave the way for adding energy to the grid. Most importantly, we can choose to work together, calling on Congress to work with electric co-ops in a combined effort to address climate change responsibly with affordability in mind.

The choice is clear. More than 370,000 electric co-op members have decided to join a national conversation, making their voices heard through the Our Energy, Our Future grassroots awareness campaign. Make sure your voice — and your choice — count. Visit [www.ourenergy.coop](http://www.ourenergy.coop) and choose to be heard today.

## Capturing and Storing Carbon

In a process called carbon capture and sequestration, carbon dioxide can be separated from coal power plant emissions and stored underground. When the technology becomes available on a commercial scale, the result could be huge reductions in the amount of carbon dioxide that is released into the atmosphere.



# Do-it-yourself home energy audits

One of the first steps to making your home more efficient involves understanding how it uses energy. Just as a doctor has to do a thorough examination of a patient before writing a prescription, your home will need a good inspection before most inefficiencies can be identified and corrected.

In the past, many Holston EC customers have participated in the *energy right*® Home Energy Audit program by completing a printed booklet or an online form provided by the Tennessee Valley Authority. The information was returned to TVA and analyzed, and then a computer-generated report provided the homeowner with recommendations on how to reduce energy consumption in the home.

However, you can easily conduct a basic home energy audit with a simple but diligent walk-through. When auditing your home, keep a checklist of areas you have inspected and problems you find. Full lists are available online — Touchstone Energy Cooperatives Home Energy Saver (at [www.touchstoneenergysavers.com](http://www.touchstoneenergysavers.com)), TVA's *energy right* Program ([www.energyright.com](http://www.energyright.com)) and the Alliance to Save Energy Home Energy Checkup (search for it at [www.ase.org](http://www.ase.org)) are all useful — and most trouble spots can be found in a few key areas.

## Locating air leaks

First, make a list of obvious air leaks (drafts). The potential energy savings from reducing drafts in a home may range from 5 percent to 30 percent per year, resulting in a much more comfortable residence. Check for indoor air leaks such as gaps along a baseboard or edge of the flooring and at junctures of walls and ceilings.

Inspect windows and doors for air leaks. If you can rattle them, movement means possible air leaks. If you can see daylight around a door or window frame, then the door or window has a leak; you can usually seal these through caulking or weatherstripping.

On the outside, inspect all areas where two different building materials meet, including all exterior corners, siding and chimney junctures and areas where the foundation and the bottom of exterior brick or siding join. You should plug and caulk any holes or penetrations for faucets, pipes, electric outlets and wiring.

Also, look for cracks and holes in the mortar, foundation and siding and seal them with the appropriate material. Check the exterior caulking around doors and windows and



see whether exterior storm doors and primary doors seal tightly.

When sealing any home, be aware of indoor air pollution and appliance “backdrafts.” Backdrafting occurs when various appliances that burn fuels and exhaust fans in the home compete for air. An exhaust fan may pull combustion gases back into the living space. This can obviously create a very dangerous and unhealthy situation.

## Insulation

Heat loss through the ceiling and walls in your home could be very large if insulation levels are less than the recommended minimum. When your house was built, the builder likely installed the amount of insula-

tion recommended (if any) at that time. Given today's energy prices (and future prices that will probably be higher), your insulation might be inadequate, especially if you have an older home. Online energy audits will provide more details on checking insulation levels in the attic, walls and basement.

## Heating/cooling equipment

Inspect heating and cooling equipment annually or as recommended by the manufacturer. If you have a forced-air furnace, check filters and replace them as needed. Generally, you should change them about once every month or two, especially during periods of high use. Have a professional check and clean your equipment once a year.

## Lighting

On average, lighting accounts for about 10 percent of a home's electric bill. Examine the wattage size of the lightbulbs in your house. You may have 100-watt (or larger) bulbs where 60 or 75 watts would do. You should also consider compact fluorescent lightbulbs for areas where lights are left on for hours at a time.

More information on both do-it-yourself and professional energy audits can be found at [www.energysavers.gov](http://www.energysavers.gov). **For folks who are interested in having a professional energy audit done in their homes, Holston EC will have more information next month about the In-Home Energy Evaluations that will be available!**

*Article courtesy of the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy.*

# Annual meeting entertainment features Keith Longbotham, Appalachian Express Chorus

You'll want to mark Tuesday, Oct. 13, on your calendars to be sure you catch two outstanding musical acts at the 69th Holston Electric Cooperative Annual Meeting at the Rogersville office. Providing entertainment at this year's meeting will be Keith Longbotham and the Appalachian Express Barbershop Chorus.

Longbotham is a singer, songwriter, instrumentalist, entertainer, worship leader and humorist. He performs concerts for conventions, rallies, fairs, festivals, churches and other special events all over the U.S. and Canada.

Longbotham is a native of Plainview, Texas, where he grew up playing guitar and singing for churches and civic organizations. He is a graduate of Wayland Baptist University with a bachelor's degree in music. While at Wayland, Keith sang with the international choir and played bass guitar in the university orchestra. He was also a charter member of a touring group for the university called Spirit of America. After graduation, Keith was the minister of music at First Baptist Church in Crosbyton, Texas, for five years. He then went into full-time music evangelism, singing at churches all across west Texas and New Mexico.

Keith moved to Nashville in 1982 to join a bluegrass group at Opryland USA, a musical theme park. For the next eight years, he not only entertained fans but also attracted the attention of country music legends Roy Acuff and Porter Wagoner. Soon he was invited to perform at the Grand Ole Opry as a guest of Acuff and Wagoner. He went on to perform for many other Opry shows and also appeared numerous times on The Nashville Network.

In 1984, Keith met Tim Clearly, a single adult consultant at Lifeway Christian Resources. Tim invited Keith to sing and perform at a national single adult convention at Ridgecrest, N.C. This led to Keith singing at churches all across the U.S. and Canada. It was also in 1984 that Keith was given his own show at the Nashville KOA music theatre. Today, Keith still travels the country, singing and performing for all types of groups. He also still performs every Thursday night at the KOA music theatre from April through October.

By popular request, the Appalachian Express Barbershop Chorus returns to the Holston EC annual meeting for a repeat performance. The 40-member group of men from throughout upper East Tennessee sings traditional barbershop favorites in four-part a cappella harmony. But this year, many new, fun and upbeat rock 'n' roll oldies have been added as well. Don't miss your chance to see this exciting group perform.

They'll all be at the 69th Annual Meeting of Holston Electric Cooperative on Tuesday, Oct. 13, at the cooperative office location in Rogersville. Make plans to be there!



**Keith Longbotham**



**Appalachian Express Barbershop Chorus**

# Load up your washer for energy savings

By Brian Sloboda

Doing the laundry is a chore that few people enjoy, but today the task is much easier than it was a few decades ago. A job that once required a washboard and considerable elbow grease now requires not much more than the push of a button. The washing machine has certainly made everyone's lives easier. These days, the hard part is picking the right one to buy.

The washing machine performs a fairly simple function ... it cleans clothes. Yet anyone who goes to an appliance store to look at washing machines encounters what seem to be unlimited choices. A few years ago, the choices were simple: Do you want white or off-white? Today, consumers are faced with top-loading, front-loading, high-efficiency (HE), water-saver, steaming and wrinkle-remover models to name only a few. Of course, as the number of options increases, so does the price.

One option that no one should overlook is an energy-efficient washing machine. These machines can be identified most easily by the Energy Star label. Approximately 93 percent of all households have a clothes washer, and about 102 million clothes washers currently are in use in the U.S. About 9 million washing machines are sold each year. Energy-efficient models make up slightly more than one-third of all washing machines sold.

Energy Star-rated washing machines do cost slightly more than their less efficient counterparts, running from \$400-\$1,500, depending on what features the consumer desires. Obviously, the more bells and whistles added, the greater the cost. Those bells and whistles do not always mean more savings, however. For this reason, when making a purchase, pay careful attention to the yellow energy guide on each individual washing machine.

An energy-efficient washing machine can save the typical homeowner around \$50 a year, or \$540-\$600 over the life of the appliance. Efficient washing machines also will save more than 5,000 gallons of water a year. Careful shopping could mean that the resulting savings will pay for the washing machine over its lifetime.

Energy Star-qualified clothes washers use the latest technology to reduce energy and water consumption substantially, compared to nonqualified models. The energy and water efficiencies of clothes washers are measured according to their Modified Energy Factor (MEF) and Water Factor (WF).

These criteria generally limit Energy Star qualification 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. A clothes washer consumes the most energy when it heats the water. Front-loading models also squeeze more water out of clothes by using spin speeds that are two to three times faster than conventional washers, thereby reducing both drying time and energy use.

Energy Star-qualified top-loading models typically use spray valves to rinse clothes, rather than a new tub of water. The spray rinse cycle consists of repeated high-pressure rinses to remove soap residues. This method not only reduces the energy required for water heating but typically saves an average of 15 gallons of water per wash, compared with conventional clothes washers.

Qualified top-loading models also have sensors to monitor incoming water temperature, which is then adjusted to maintain an optimal temperature. This temperature keeps the 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. This technology results in less hot water consumption and therefore less energy consumption. One limitation of efficient top-loading washers is that many models do not offer a high-temperature standard wash option.

Consumers typically purchase a washing machine when their current one fails. Price and features generally are the two criteria used when buying a new washing machine. If you remember to look for the Energy Star logo and shop at a store with knowledgeable staff, you should be able to leave the store knowing that, over time, your new energy-efficient washing machine will pay for itself.

*Brian Sloboda is a program manager specializing in energy efficiency for the Cooperative Research Network, a service of the Arlington, Va.-based National Rural Electric Cooperative Association. The mission of the Cooperative Research Network is to monitor, evaluate and apply technologies that help electric cooperative utilities control costs, increase productivity and enhance service to their consumer-members.*



Image courtesy of Whirlpool Corporation