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Guest Column

Making Educated Decisions

As an educator and principal of Billingsley School, I have the opportunity to see students grow and change as they progress from kindergarten through their senior year. During this formative time, students develop skills that are far beyond reading, writing and arithmetic—as they mature, they gain the ability to make smart decisions that can have lasting effects on their lives.

Among the hats I wear as father and farmer, I am also a member and trustee of Central Alabama Electric Cooperative (CAEC), which allows me the chance to educate a younger generation on the need for good stewardship. For example, in the area of energy, our school uses educational materials and we try to lead by example with energy conservation days, recycling programs, utilizing lower-wattage lighting and gaining efficiencies with our bus routes by reducing drive times. We also encourage students to be hands-on and apply these concepts through innovative projects such as promoting the recycling of plastic bottles. By creating a culture that is aware of energy and efficiency, it is our hope that later in life our students will be more conscious of the effects of their decisions.

Just as we urge our students to make educated choices and supply them with the tools necessary to do so, your co-op also wants to encourage you to make decisions based on facts and your beliefs when it comes to energy issues that may impact the availability and price you pay for power. As part of CAEC's mission to help educate members on energy matters, such as climate change and Renewable Electricity Standards, we'll explore the issues this year in *Alabama Living*.

As we teach our students, though, simply being aware of an issue isn't enough; at times we need to take action. Students learn to play an active role in the political process through participation in organizations such as the Student Government Association. We also encourage them to see government in action by taking advantage of programs like CAEC's Youth Tour—allowing them to meet their elected representatives in both Montgomery and Washington, D.C.

As adults, it's just as important for us to know and be in contact with our elected representatives. For that reason, you can view a listing of the Senate and House representatives for CAEC's service territory along with their contact information on pages 6-7—making it easier for you to become involved and make contact with your elected officials on the issues that matter to you.

As we progress through this election year, it's important to study the issues and then act by taking advantage of your right to vote. Schools offer voter registration to encourage today's youth to become an active part of the political process. This year I will again have the opportunity to watch many first-time voters enthusiastically exercise this right, and I encourage you to exercise your right as well.

Education and action both play an important role in determining the future of our country. As the year continues, let me urge you to stay on top of the issues and then follow through by casting your vote in November. ■



Van Smith, member and CAEC Board of Trustee for District 7



Reviewing Renewables

As 2012 unfolds, the national debate regarding our country’s current and future energy needs, particularly as they relate to renewable resources, continues to revolve around three factors: supply, cost and an adequate delivery system. Excluding hydro-power, which has been rejected by the Environmental Protection Agency (EPA) as a renewable resource, our nation currently produces less than 4 percent of its electricity from renewables.

While proponents on both sides of the discussion can defend their views with statistics and supporting facts, it should be the end users of electricity who determine how we deal with challenges posed by renewables. Those challenges include the following:

- **Supply:** In some parts of the country, significant renewable resources are not readily available and therefore cannot help satisfy certain mandated renewable energy quotas, such as those found in Renewable Electricity Standards proposed on federal and state levels. For example, the Southeast lacks adequate wind or solar resources to supply sufficient levels of the renewable power generation needed to meet proposed quotas that may require as much as 25 percent.
- **Cost:** Electricity from renewable resources is considerably more expensive. While new coal and nuclear baseload plants produce electricity, on average, for about 7 cents per kilowatt-hour (kWh), solar thermal energy costs an average 14 cents per kWh and on-shore wind more than 9 cents per kWh before addressing the expensive integration issues of these intermittent resources, based on the Department of Energy’s 2010 Annual Energy Outlook.
- **Delivery:** A recent study by Navigant Consulting, a recognized independent firm, examined the current grid serving the eastern half of the country, and concluded that the current transmission system is incapable of delivering renewable-derived electricity to the areas that need to utilize it: “...if the U.S. wants to get 20 percent of its electricity from renewable [sources] by 2024, ...it would be necessary to build a new electricity circulatory system, including 15,000 circuit miles of extremely high voltage lines.” Implementing such a system would cost \$80 billion. This type of research and data must be considered when proposing renewable quotas and their timeline for implementation.

After investigating these key concerns, the final piece of the puzzle is a simple question: Is the outcome worth the impact and cost?

Renewables have their place in our country’s energy-production portfolio, but keeping these three concerns—supply, cost and delivery—in mind is vital when planning how much of that portfolio they are to account for.

As end-users of electricity, we need to hold our current elected representatives accountable for the key concerns involving renewables, and during this election year, we have the opportunity to find out where the candidates stand on these energy issues. Ultimately, we can let the 2012 candidates know that we expect them to support legislation that is designed to keep electricity reliable and costs affordable for all. ■

The High Cost of Renewable Energy Systems

Using wind and solar energy systems to provide 100 percent of electricity could double or triple household electric bills.

Average Electricity Bill for a Family of Four, by Energy Source

Energy System	Costs	
	Monthly	Annually
Coal	\$188.66	\$2,263.90
On-shore wind	\$339.58	\$4,075.02
Off-shore wind	\$403.65	\$4,843.75
Solar thermal	\$504.03	\$6,048.34
Solar photovoltaic	\$717.82	\$8,613.85

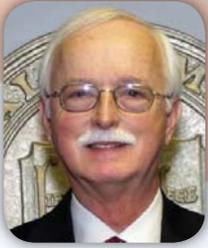
Sources: Heritage Foundation calculations, and U.S. Energy Information Administration, “2016 Levelized Cost of New Generation Resources from the Annual Energy Outlook 2010,” at http://www.eia.doe.gov/ia/iaef/aeo/electricity_generation.html (March 30, 2010).

Chart 1 • CDA 10-03 heritage.org



STATE SENATORS...

...in your service area.



Sen. Jerry Fielding (D)

District 11
Year Elected: 2010
State House
11 South Union St., Ste. 735
Montgomery, AL 36130
(334) 242-7898



Sen. Hank Sanders (D)

District 23
Year Elected: 1983
P.O. Box 1305
Selma, AL 36702
(334) 242-7860



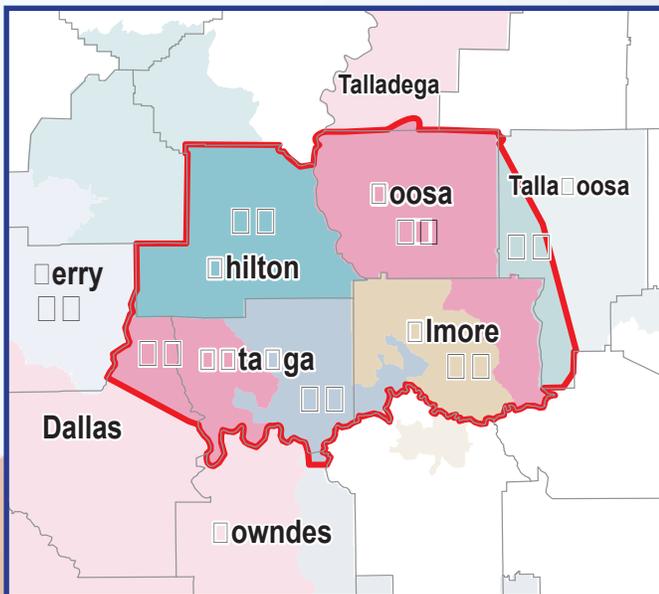
Sen. Cam Ward (R)

District 14
Year Elected: 2010
124 Newgate Road
Alabaster, AL 35007
(334) 242-7873
camjulward@aol.com



Sen. Bobby Singleton (D)

District 24
Year Elected: 2005
105 Cobb Street
Greensboro, AL 36744
(334) 242-7191
bsingle164@yahoo.com



Sen. Dick Brewbaker (R)

District 25
Year Elected: 2010
State House
11 S. Union Street, Ste. 734
Montgomery, AL 36130
(334) 242-7895
dick.brewbaker@alsenate.gov



Sen. Tom Whatley (R)

District 27
Year Elected: 2010
State House
11 South Union St., Ste. 733
Montgomery, AL 36130
(334) 242-7865



Sen. Bryan Taylor (R)

District 30
Year Elected: 2010
State House
11 S. Union Street, Ste. 733
Montgomery, AL 36130
(334) 242-7883
bryan.taylor@alsenate.org

STATE REPRESENTATIVES...



...in your service area.



Rep. Barry Mask (R)

District 31
Year Elected: 2006
41 Brookland Court
Wetumpka, AL 36093
(334) 242-7782
barry.mask@alhouse.gov



Rep. Ralph Howard (D)

District 72
Year Elected: 2005
700 M.W. Rollins Lane
Greensboro, AL 36744
(334) 242-7759



Rep. Ronald Johnson (R)

District 33
Year Elected: 1978
3770 Sylacauga-Fayette Hwy.
Sylacauga, AL 35151
(334) 242-7777



Rep. Greg Wren (R)

District 75
Year Elected: 2005
7700 Wynlakes Blvd.
Montgomery, AL 36117
(334) 242-7764
repgregwren@yahoo.com



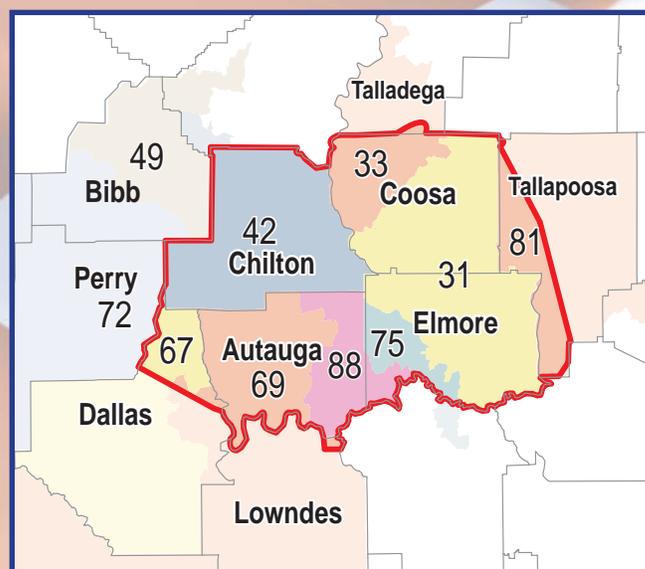
Rep. Kurt Wallace (R)

District 42
Year Elected: 2010
24 Maple Drive
Maplesville, AL 36750
(334) 242-7772
representativewallace@gmail.com



Rep. April Weaver (R)

District 49
Year Elected: 2010
State House
11 S. Union St., Ste. 522-B
Montgomery, AL 36130
(334) 242-7731



Rep. Darrio Melton (D)

District 67
Year Elected: 2010
P.O. Box 371
Selma, AL 36702
(334) 242-7540
darriomelton@gmail.com



Rep. Mark Tuggle (R)

District 81
Year Elected: 2010
424 Sleepy Hollow
Alexander City, AL 35010
(334) 242-7219
tughd81@gmail.com



Rep. David Colston (D)

District 69
Year Elected: 2010
P.O. Box 996
Hayneville, AL 36040
(334) 242-7535
asthp20@yahoo.com



Rep. Paul Beckman (R)

District 88
Year Elected: 2010
1803 Tara Drive
Prattville, AL 36066
(334) 242-7499
paulbeckmanjr@yahoo.com

Derek: The Energy Sleuth

Addressing common energy efficiency issues that CAEC's certified Residential Energy Auditor often encounters in member homes.

Taking the Window *Pain* out of Energy Bills

Windows can add a pleasing appeal to a home—they let in natural light, offer a view to the outdoors and add to a home's overall appearance, but they can also be the culprits of costly air leaks. During the winter, many homeowners explain how they feel noticeably cold air near their windows. There can be several reasons for this. First, windows offer the smallest amount of protection from the weather conditions outside. If you think about it, your home's walls are, on average, eight inches to one foot thick, and consist of wood, insulation and sheetrock, offering you several layers of protection from the elements. A window, on the other hand, does not offer much depth, or significant temperature resistant surface between you and Mother Nature.

Additionally, many people may feel cool air concentrated around windows due to drafts caused by gaps. These gaps can be large enough for you to see or so small, you don't realize they exist. So what can you do to take the "pain" out of windows that allow outside air infiltration? One option is simply caulking around the window frame. Caulking windowsill gaps is a fast and inexpensive way to keep cold air out during the winter. We show you how to easily complete this process step by step on our website, www.caec.coop.

Another option to block the cold is to install insulated, or black out, curtains. These curtains aid by adding an extra layer of material against cold air, which can reduce heat loss through the window by as much as 25 percent. Throughout

the winter, insulated curtains should be open during sunny days to allow the sun's radiant heat to help warm the house and closed on cloudy days and at night to help keep the heat inside.

Many people often ask if replacing their windows is a good investment since they can be costly to upgrade. On average, it can take three to seven years or longer to receive a payback.

Want to learn about other ways to make your home more energy efficient? Request a home energy audit. Learn more on page 34.

But if you do decide to replace your home's windows, there are some features you should look for. Double panes (or two sheets of glass) offer a thicker barrier for your home from the outside temperatures than do single panes. Double-paned windows contain a type of gas in between the panes as well as a coating on the glass. The gas between the panes is heavier than air and reduces the movement of air. Low emissive coatings on the glass (Low-e) are used to block the heat from the sun and are another beneficial feature to request. The frame of the window also plays a role and should be constructed of either vinyl or fiberglass, both of which offer a higher value of energy efficiency than wood-framed windows, which can decay over time, allowing air leaks.

Also, look for Energy Star-rated energy efficient windows. These windows are double-paned and include two numbers showing the efficiency of that particular window: the U-factor and the Solar Heat Gain coefficient. The U-factor measures how easily heat can flow through the window and should be .35 or less, the lower the number, the more energy efficient is the window. The Solar Heat Gain Coefficient, which should be .30 or below, depicts the window's ability to absorb heat from the sun, and is more important during Alabama's long summer months.

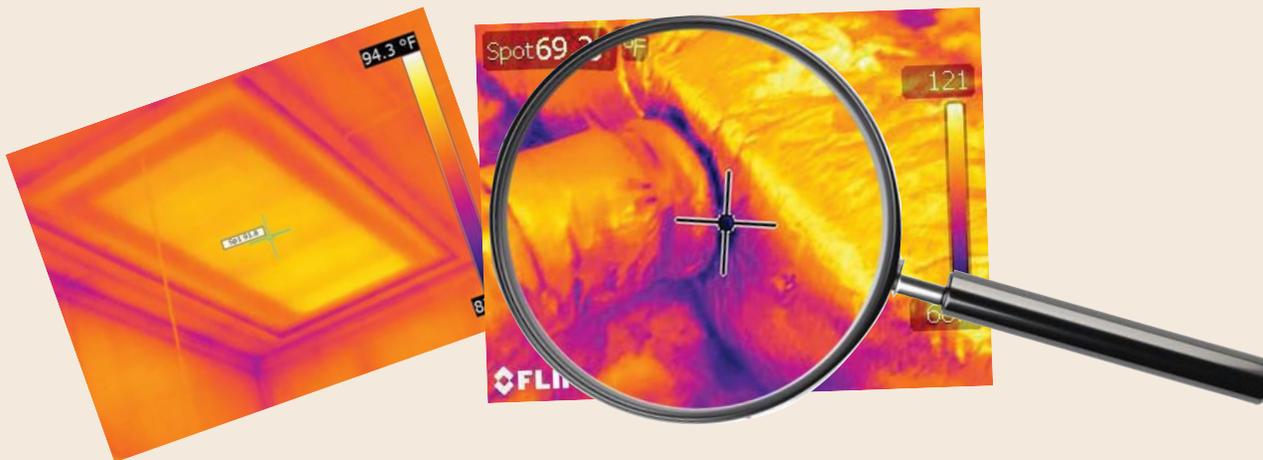
From caulking to using insulated curtains, or even upgrading your windows, any of these options can help keep your home comfortable, reducing the use of your heating and cooling (HVAC) system, thereby helping to keep energy dollars in your pocket. ■



Derek Blankenship
is CAEC's Energy Service Representative and Residential Energy Auditor

CAEC offices will be closed February 20 for President's Day

Can you find the wasted energy dollars?



WE CAN! We can show you how...

Is your home losing climate controlled air? Is it letting in outside air--making your heating or cooling unit work harder? A home energy audit from CAEC can help.

Conducted by CAEC's Energy Services Representative (ESR) and Certified Residential Energy Auditor, there is an audit that can fit your needs. The up-front cost of either audit is reimbursed when improvements based on the ESR's recommendation are made to the home.

Basic Audit for \$75:

- General Return on Investment (ROI) Information
- Infrared Camera Evaluation
- Internal/External Visual Inspection
- Air Infiltration
- Solar Effect
- Heating/Cooling System
- Building Structure
- Insulation
- Lighting
- Appliances

Advanced Audit for \$100

Everything in the basic audit plus:

- Blower Door Test- air changes per hour
- Specific ROI information on energy efficient upgrades

Members can be reimbursed for items including, but not limited to: maintenance on HVAC unit, air filters, caulking, weather-stripping, appliances, CFLs, windows and more. Call 1-800-545-5735 ext. 2178 and let us locate your energy-stealing suspects today!

Call 1-800-545-5735 ext. 2178
or visit www.caec.coop



Central Alabama
Electric Cooperative

A Touchstone Energy® Cooperative 



Importance of Inspections



Darren Maddox is CAEC's Training and Safety Coordinator and is responsible for the co-op's safety program.

Buying a home is often the largest investment we ever make. And while we may look for things that are visually appealing, such as color schemes, countertops and flooring, we don't usually think about what we can't see—such as a home's electrical system.

When considering the purchase of a home, an inspection is crucial to protect you from potentially expensive, and sometimes deadly, problems that may arise. One of the most important factors an inspector will check is the electrical system.

A qualified and licensed home inspector will examine many areas of your home—from the roof to the foundation. When it comes to the home's electrical system, licensed inspectors check the air conditioning and heating systems, ceiling and exhaust fans, major appliances like ovens and dishwashers, and smoke detectors as well as the home's overall wiring. They can also locate any faulty outlets or switches that may need replacing. While these inspections are a good place to start, it's wise to also get an examination by a licensed and qualified electrician who is up to date on all regulations and standards when it comes to keeping your home safe (learn how to find a qualified electrician by reading my January article on the subject, which you can find online at www.caec.coop).

An electrician can determine whether the size of the service meets current standards or the load of the home. Finding out later that you need to upgrade the service coming into the home can cost thousands of dollars.

On the safety side, an electri-

cal inspection can identify common risks such as exposed wiring which could cause a fire. Another concern is that many homes wired in the mid 60s to mid 70s may have aluminum wiring. A qualified electrician can determine if an approved retrofit (where the aluminum home wiring meets the copper wiring found in outlets and switches) has been installed at the wiring connections, thus preventing fire safety hazards. If the home is very old (constructed before 1950), it may have knob and tube wiring, which is considered hazardous due to the age of the wiring, its lack of grounding and because it is typically undersized for today's electrical loads. Being aware of these possible safety concerns up front, and the cost of the upgrades, will save you thousands of dollars, and may help eliminate potential dangers in the home.

What if you're not in the market to buy a home, but may be considering renovating your current home? Electrical renovations completed by contractors should also be inspected by a qualified home inspector or electrician. And electrical projects—such as moving a switch or outlet—should be completed by a licensed electrician, especially if your home has aluminum or knob and tube wiring.

Inspections can add a few hundred dollars to your home buying or renovation budget, but it's money well spent. While you can change paint colors and flooring for relatively nominal costs, problems in your home's electrical system can be costly not only to your wallet, but also to your family's safety. ■