

## Solid lighting solutions

### LEDs meet (and exceed) 2014 lighting efficiency standards

By Megan McKoy-Noe and Brian Sloboda

A new year calls for updated light-bulb efficiency guidelines. No need to use bulbs with a twist; light-emitting diodes (LEDs) can help you switch on savings.

Congress called for improved energy efficiency standards for traditional incandescent bulbs under the federal Energy Independence and Security Act of 2007. By 2014, light-bulbs using between 40-W to 100-W must consume at least 28 percent less energy than classic bulbs. The change will save Americans an estimated \$6 billion to \$10 billion in lighting costs annually.

When the next wave of standards kicks in next month, traditional 40-W and 60-W incandescents will no longer be available. In their place, some consumers are filling the gap with a solid solution: LEDs.

#### 'Solid' lighting

Incandescent bulbs create light using a thin wire (filament) inside a glass bulb—a delicate connection that can easily be broken, as frustrated homeowners can attest. In contrast, LEDs are at the forefront of solid-state lighting—small, packed electronic chip devices. Two conductive materials are placed together on a chip (a diode). Electricity passes

through the diode, releasing energy in the form of light.

Invented in 1960 by General Electric, the first LEDs were red—the color depends on materials placed on the diode. Yellow, green, and orange LEDs were created in the 1970s and the recipe for the color blue—the foundation for white LEDs—was unlocked in the mid-1990s. Originally used in remote controls, exit signs, digital watches, alarm clocks, and car signal lights, LEDs quickly gained momentum for large-scale lighting.

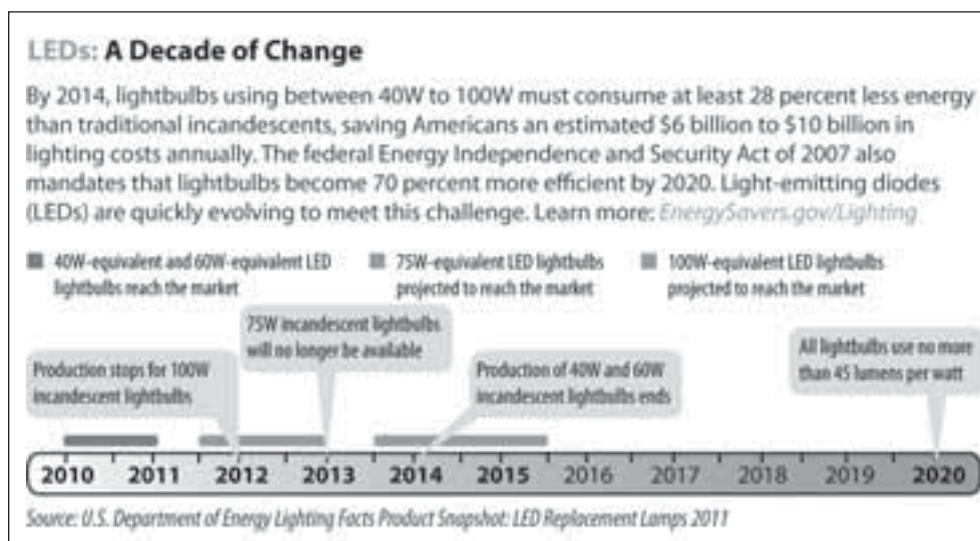
#### Measuring LED potential

The Arlington, Va.-based Cooperative Research Network has partnered with several electric cooperatives throughout the United States to test LEDs. Researchers are cautiously optimistic; LEDs offer several benefits:

- LEDs could last longer, perhaps for decades
- The energy to use LEDs could be substantially less than that of compact fluorescent lamps (CFLs) or other fluorescents
- With no mercury content, LEDs are more environmentally friendly
- The products are rugged and more resistant to breakage
- LEDs perform well in cold climates, especially outdoors
- LEDs can be dimmed and produce a more pleasing light

However, some consumers avoid LEDs because the price tag exceeds normal lightbulb costs. But the true value lies in the lifetime of the bulb. It takes about 50 traditional incandescent bulbs, or eight to 10 CFLs, to last as long as one LED lamp.

(Continued on page 16b)



## Solid lighting solutions (Continued from page 16a)

### Buyer Beware

Poor quality LED products are flooding the marketplace. Some are manufactured outside of the United States with components that produce low light levels, don't boast a long service life, or make exaggerated energy saving claims.

Don't be fooled. Look for the U.S. Department of Energy's ENERGY STAR logo for guaranteed color quality over time, steady light output over the lifetime, high efficiency, and a warranty.

You can also look for an LED Lighting Facts label. The label helps consumers compare products to manufacturer claims and similar products with a quick summary of performance in five areas:

- **Lumens:** Measures light output. The higher the number, the more light is emitted.

- **Lumens per watt (lm/W):** Measures efficiency. The higher the number, the more efficient the product.

- **Watts:** Measures the energy required to light the product. The lower the wattage, the less energy is used.

- **Correlated Color Temperature (CCT):** Measures light color. "Cool" colors have higher Kelvin temperatures (3,600–5,500 K); "warm" colors have lower color temperatures (2,700–3,000 K). Cool white light is usually better for visual tasks. Warm white light is usually better for living spaces because it casts a warmer light on skin and clothing. Color temperatures of 2,700 to 3,600 K are recommended for most general indoor and task lighting.

- **Color Rendering Index (CRI):** Measures the effect of the lamp's

light spectrum on the color appearance of objects. The higher the number, the truer the appearance of the light. Incandescent lighting is 100 on the CRI.

### Shedding Light on LEDs

More lighting efficiency changes are coming. Congress' measure mandates lightbulbs become 70 percent more efficient by 2020.

Curious to know if LEDs are right for you? Learn how to show using LED labels at [www.lightingfacts.com/content/consumers](http://www.lightingfacts.com/content/consumers). Homeowners can visit [www.energysavers.gov/lighting](http://www.energysavers.gov/lighting) to compare LEDs to new energy-efficient incandescent bulbs and CFLs.

*Sources: The Association of Electrical Equipment and Medical Imaging Manufacturers, U.S. Department of Energy, Cooperative Research Network*

# Minutes of Board of Trustees Meeting

## Regular meeting September 23, 2013

**T**rustees present were: Frank Czyzewski, Bill Croy, Neil Gould, Frank Herman, Kevin Logan, Bob Pierson, Richard Rudolphi, Danny Schnepfer and Greg Smith. Also present were Executive Vice President/General Manager John Meng, and Cooperative Attorney Melanie Pearce. The invocation was given by Frank Czyzewski.

**Approved** the minutes of the regular meeting held August 26, 2013.

**Accepted** 14 new members for service.

**Canceled** 14 members no longer receiving service.

**Approved** work orders in the amount of \$29,340.62.

**Accepted** the disbursement list for the month of August, 2013 & **Informed** of recent truck repairs.

**Heard** a report by Trustee Logan concerning the AIEC, as no monthly meeting was held, including financial information, Strategic Planning, and AIEC Print Shop business. Also a report on recent Region 5 meeting including proposed resolutions, disaster assistance programs, EPA administrative hearings

regarding regulation of coal, and presentations by Sheldon Peterson of CFC and Jo Ann Emerson of NRECA.

**Heard** a report by Trustee Herman concerning the recent SIPC Board meeting, including the financials, status of CEO replacement and SIPC Administrative and Finance Dept. Summary.

**Approved** the Managers report as presented by Gen. Mgr. Meng including Financial and Maintenance reports.

**Collected** from individual Trustees by Gen. Mgr. Meng, Business Ethics Conflict of Interest Certification.

**Discussed** Clay Electric Annual Meeting of Members with no complaints noted, and also including bill credits given as attendance prizes being desirable and appreciated.

**Discussed** Managerial Succession Planning options.

**Heard** a report by Gen. Mgr. Meng as to recent monthly safety meeting topics.

**Approved** December Regular Monthly Board Meeting date as December 16, 2013.

**Heard** and approved a report by Gen. Mgr. Meng as to the retirement of Capital Credits to the estate of 1 deceased member pursuant to Cooperative Policy.

**Heard** a report by Gen. Mgr. Meng as to recent certifications completed by Trustees Neil Gould, and Frank Czyzewski. Meng announced that all nine Trustees are now CCD certified.

**Discussed** the office window project.

**Informed** of 2014 IEC Memorial Scholarship program announcement.

**Disbursed** a copy of Touchstone Energy "Extra" magazine.

**Informed** that Brian Rudolphi of GeoDecisions was the recipient of 2013 President's Innovation Award from Gannett Fleming.

**Heard** a report by Gen. Mgr. Meng regarding the availability of a used truck to replace an older unit. **Approved** authority to purchase said vehicle by Gen. Mgr. Meng at his discretion.

**Discussed** purchase price of an SEDC server.

**Adjournment.**

# Green giving

## Energy efficient shopping, baking, and decorating holiday tips

By Christina Sawyer

Hosting a “green” holiday takes a little planning and effort, but the payoff can help your budget stay out of the red. So go ahead and deck the halls with energy savings by following these tips for energy-efficient shopping, baking, and decorating.

### Green shopping

Before buying a gift, most folks check the price tag to make sure it’s a good deal. Smart consumers also check the product and manufacturer. Greenpeace International’s Greener Electronics Guide rates manufacturers on the full life cycle of products. If you’re considering an electronic device as a gift, see how it ranks at [greenpeace.org](http://greenpeace.org).

Investing in a big gift? ENERGY STAR TVs and appliances save a bundle on power use. They feature a lower standby-mode consumption than an average device and generally use less energy in all functions. Include a smart power strip as part of your gift. Most electronic devices consume energy, even when turned off. In fact, such standby power consumption ranges from 5 percent to 10 percent of a household’s total energy consumption.

Smart power strips save energy by shutting off power to plugged-in gadgets when they go into standby mode. Many smart power strips also have one or two unmonitored, always-on outlets. Use these outlets to plug in devices that always need power, like a cordless phone base or alarm system.

### Deck the house in savings

Know a neighbor who gives the fictional Griswold family from “National Lampoon’s Christmas Vacation” a run for their money? Give them strings of light-emitting diodes (LEDs). A high-quality LED has a life expectancy of 50,000 hours or more. Consider recycling the

retired strands at [HolidayLeds.com](http://HolidayLeds.com) and get a 25 percent off coupon toward the purchase of LED holiday lights.

More isn’t always best. A small, thoughtful display stirs warm holiday feelings and you’ll be grateful when your January power bill doesn’t put a dent in your budget. Consider using timers for holiday lights, too. Set lights to turn on when it gets dark and off once viewers are snug in their beds. Four to six hours should be plenty of time. And don’t forget using ribbons, wreaths, and garland—energy-free decorating traditions still deliver holiday cheer!

### Green-baked goodies

The U.S. Department of Energy estimates cooking accounts for 4 percent of a home’s total energy use. Add energy costs for refrigeration, hot water heating, and dishwashing and you’ve got a hefty kitchen price tag. As holiday parties and potlucks gear up, keep efficient cooking tips in mind.

Cut baking temperatures by 25 degrees with a ceramic or glass pan. These pans retain heat better than metal. Use the oven wisely by cooking in large batches, and fit pans into all available oven space. Keep the door closed. Each time you peek into the oven you let out hot air, causing the oven to work overtime to bring the temperature back up.

Get to know how long it takes to preheat your oven and make sure you’re ready to start cooking right away. Insert a stainless steel skewer through meat or baked potatoes to speed the cooking process, or cut food into smaller pieces to shorten cooking time.

### Consider recycling your old strands of Christmas lights for new LED versions.



Have a convection option on your stove?

It helps reduce cooking time and temperature. Turn your electric oven off ten minutes before the end of the cooking time; it maintains the temperature that long. And last but not least, if you’re planning some kitchen time, lower your thermostat. The heat generated in your kitchen can help heat the entire house, especially if you leave the oven door open after you are done.

The holidays are a joyful time, and there’s little that feels as good as giving someone you love the perfect gift. Make that gift a positive one and keep the holidays green for both you and your loved ones.

Sources: *Greenpeace International, U.S. Department of Energy*

*Christina Sawyer writes on safety and energy efficiency issues for the National Rural Electric Cooperative Association, the Arlington, Va.-based service arm of the nation’s 900-plus consumer-owned, not-for-profit electric cooperatives.*



# Eight 2014 IEC Memorial Scholarships Available

**E**xecutive V.P. / General Manager John Meng has announced that the Illinois electric cooperatives will again in 2014 award seven academic scholarships to high school seniors through a memorial scholarship fund designed to financially assist deserving students in the “electric cooperative family.” In addition, an eighth scholarship – to assist with costs in attending an electric lineworker school – will also be offered.

The eight scholarships of \$1,500 each will be awarded in 2014 through the Thomas H. Moore Illinois Electric Cooperatives (IEC) Memorial Scholarship Program.

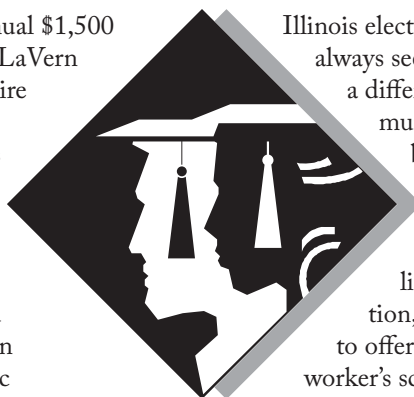
Four scholarships will be awarded to high school seniors who are the sons or daughters of an Illinois electric cooperative member receiving service from the cooperative. A fifth scholarship, the Earl W. Struck Memorial Scholarship, will be awarded to a student who is the son or daughter of an Illinois electric cooperative employee or director. The sixth and seventh scholarships are reserved for students enrolling full-time at a two-year Illinois community college who are the sons or daughters of Illinois electric cooperative members, employees or directors.

The eighth annual \$1,500 scholarship, the “LaVern and Nola McEntire Lineworker’s Scholarship,” was created in 2011 to help pay for costs to attend the lineworker’s school conducted by the Association of Illinois Electric Cooperatives in conjunction with Lincoln Land Community College (LLCC), Springfield, Ill.. LaVern McEntire served as a lineman for McDonough Power Electric Cooperative from 1949 until 1991. He and his wife, Nola, endowed the new scholarship to financially assist deserving individuals in becoming trained lineworkers. Sons and daughters of co-op members; relatives of co-op employees or directors; individuals who have served or are serving in the armed forces or National Guard; and individuals participating in the LLCC lineworker’s program are all eligible for the lineworker’s scholarship.

“We hope to assist electric cooperative youth while honoring past rural electric leaders with these scholarships,” says General Manager Meng. “Clay Electric and the other

Illinois electric cooperatives are always seeking ways to make a difference in our communities. One of the best ways we can do that is by helping our youth through programs like this one. In addition, we are very pleased to offer the electric lineworker’s scholarship. It will benefit not only electric cooperative youth but also those fine men and women who have served their country through their military service and may now be wanting to become a trained lineworker.”

For more information regarding the scholarships, check out the Clay Electric website at [www.ceci.coop](http://www.ceci.coop). All necessary paperwork has also been sent to area high school guidance counselors and is also available for download at the cooperative’s website [www.ceci.coop](http://www.ceci.coop) or at the Association of Illinois Electric Cooperative’s website [www.aiec.coop](http://www.aiec.coop). Any questions please call Member Services Director Doug Hockman at Clay Electric Cooperative at 662-2171, or toll free 1-800-582-9012.



**OFFICE CLOSINGS**

## Clay Electric Co-operative, Inc.

will be closed on

**December 24th, & 25th** to celebrate **Christmas**

and on **January 1st 2014** for **New Years Day.**

*The Board, and Employees of Clay Electric Cooperative would like to wish the Membership a very happy Holiday season.*



## Clay Electric Co-operative, Inc.

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