



YOUR ENERGY COLORADO NEWSLETTER

Issue 68

June 2017

Welcome to the 68th issue of CSU Extension's 'Your Energy Colorado' Newsletter. The mission of Your Energy Colorado is to facilitate sustainable energy decisions in the state. As the name infers, we put the power to determine Colorado's energy future in **your** hands.

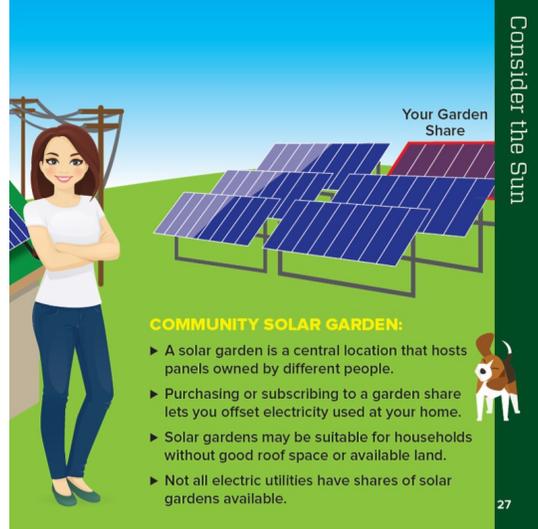
This newsletter gives the public and our partners updates on our work and its context among all things energy. Please forward this newsletter to anyone you think might be interested. Also feel free to send us your organization's energy-related news and events for listing in future newsletters. **And don't forget to Like us on [Facebook](#) to get energy tips and commentaries on emerging energy news.**



HOME ENERGY GUIDES RELEASED

We've released new [Home Energy Guides](#) intended to educate Colorado households about their options for reducing energy use, using solar, and driving electric vehicles. The guides star Average Jane and her dog Pepe, who bring the average Coloradoan to life through a series of engaging infographics. The guides are great for adults and kids alike (can you find Pepe on every page?), and organizations can purchase copies co-branded with their logos on the back.

See the Home Energy Guide online, and note the link to view it in a horizontal format (go full screen) to visualize the hard copy best. Contact [Cary Weiner](#) for pricing on copies with your organization's logo!



Check out the Home Energy Guide here!

USDA GRANT TO CONDUCT SOLAR ASSESSMENTS FOR FEEDLOTS

Colorado State University's Rural Energy Center is proud to announce that we have received another USDA Rural Energy for America Program (REAP) grant. The award will allow us to conduct 30 economic feasibility assessments for solar PV at animal feeding operations throughout the state. The concept was based on our successful [Solar and Wind Assessments for Pivots \(SWAP\)](#) project, in which we conducted 30 assessments for solar and wind on the non-irrigated corners of fields with center pivot sprinklers. The new project, dubbed Feedlot Assessments for Solar Energy (FASE), will serve livestock operations instead.

A key difference between animal feeding operations and irrigated farms is that feedlots use a fairly steady amount of energy year-round. So instead of generating electricity when it's not needed and being subject to reimbursement at a utility's avoided cost of energy, feedlots can expect to receive the full retail rate for any solar electricity generated on site. Although utility rate structures for larger feedlots tend to have relatively high demand charges (per kilowatt of power) and relatively low energy charges (per kilowatt-hour), smaller animal feeding operations may be subject to more "solar friendly" rate structures.

The project kicks off on July 1 with help from partners Morgan County Rural Electric Association, Rocky Mountain Farmers Union, and the Colorado Energy Office. Interested parties are welcome to [contact us](#) in advance with inquiries.



'KNOW BEFORE YOU GO(SOLAR)' WORKSHOPS

New models for using solar electricity such as solar leases, community solar gardens, and solar loans have been sprouting up throughout Colorado. Combined with financial incentives and the falling cost of panels, solar electricity is a realistic choice for a growing number of state residents. Your Energy Colorado is partnering with utilities and local governments to help homeowners and renters understand their options for solar. Different types of solar electric systems are explained in the workshops, along with comparisons of various financing models and a demonstration of CSU Extension's new online [Solar Calculator](#). The goal is to help Colorado residents make the best choice for their personal situations when it comes to solar energy. Workshops have been delivered in Black Hawk and Englewood, with more scheduled for Granby, Eagle, and Littleton. [Contact us](#) to bring a workshop to your community.



LIGHTING EDUCATIONAL DISPLAY (LED) PROJECT AT RETAIL STORES

Ever scratch your head or find yourself staring for an unreasonable amount of time at the latest array of lighting choices you find in your local store? It turns out that you're not alone as the number of lighting technologies and options has grown of late. (Have you heard of an LED speaker bulb that works with Bluetooth??) To address a sense of growing confusion in the lighting market, Your Energy Colorado has provided educational signs to 10 retail stores in mostly rural Colorado where information tends to be lacking. Dubbed the Lighting Educational Display (LED) project, the intention is to help consumers make more informed lighting choices by boiling down the purchase of a standard household bulb into 3 simple steps:

1. Choose your technology;
2. Choose your brightness;
3. Choose your color.

The signs provide more details of course, and we plan to track sales in at least one of our participating stores to measure the impact of these signs.



TECH-IN-FOCUS: RECESSED CAN LIGHTS

If you thought you were done dealing with your home's lighting after upgrading to LED, the bad news is that this post is going to give you more to think about. The good news is that this post will provide you with another opportunity to save energy and money.

Recessed canlights are common across households in Colorado and the U.S. They offer a nice down light, flexibly spaced, without intruding into a room's overhead square footage. Yet many recessed cans – especially those installed in older homes – are not air tight or rated for insulation contact. As a result, heat produced by your furnace can escape right out through the cans and into your attic. In addition, insulation must be kept away from these cans to avoid a fire hazard (especially if using incandescent or halogen bulbs), reducing your attic's R-value and increasing your energy bills.

How do you know if your can is air tight and rated for insulation contact? Unscrew the bulb and use a headlamp or flashlight to peer into the can itself. Look for a label that reads either IC or ICAT. IC stands for insulation contact, and those cans contain a switch to automatically shut the light off should the temperature reach a set threshold. ICAT cans contain this thermal switch but also do not contain any holes or slits and are therefore air tight.



A look inside this can shows the ICAT, or "insulation contact and air tight" rating.

So what can be done if you have non-ICAT recessed can lights? A few options exist.

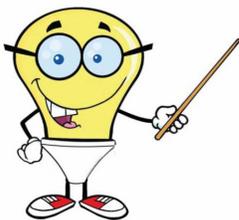
1. **Integrated LED recessed can trims.** These are inserts into the existing recessed can that come with an airtight trim and a hard-wired LED light. The insert itself may still let air travel through the

- can.
2. **Recessed can covers.** If you can access the cans from your attic, you can place these new rock wool covers over your cans, seal them in place, and insulate over the covers. This is a more airtight solution than just sealing the trim. Note that although many of these products claim that they are safe for non-IC fixtures, some experts in the field caution that they are to be used only with cans rated for insulation contact.
 3. **Replacing the cans.** A straightforward but more expensive solution is to replace a non-IC or just IC-rated can with an ICAT can.
 4. **Removing the cans altogether.** This is of course the most extreme solution, but one that will guarantee you an opportunity to have a properly sealed and insulated ceiling/attic. The cans would be plugged with drywall and surface/other lighting would be used instead.

While it's hard to pinpoint expected savings from these upgrades as each home is different, recessed cans can be a significant source of air leaks as shown by IR cameras during energy audits. With some options being quite inexpensive (can covers and integrated can trims both cost around \$15), improving the air tightness (and insulation capacity) of your cans is likely a cost-effective move. It's also a DIY special!



An ICAT rated can on the left has no holes or slits. The IC rated can on the right is not airtight.



**ENERGY
-IN-
BRIEFS**

ENERGY-IN-BRIEFS

EV Market Trends

Electric vehicles still make up a small fraction of total annual vehicle sales. But so did gasoline hybrids like the Toyota Prius when they first started selling in earnest. To compare apples to apples, we take a look at the first five years of sales of both gasoline hybrids (HEVs) and plug-in electric vehicles (PEVs).

[Read more.](#)

The Tao of Mow

Grass growing – and mowing – season has arrived. And with that comes the pesky question of how to mow efficiently and effectively. While gas-powered and corded (electric) mower technology has remained fairly static, cordless (battery-powered) mower technology seems to grow with each coming of the spring.

[Read more.](#)

Trees, Energy, & People

What if someone told you that something beautiful, organic, and potentially stateily could cut your cooling bills in half and also reduce your heating bills? What if that thing could also provide a home for birds, something to climb, and a source of oxygen for the planet? Yep – trees can cut your energy bills while doing a whole lot more.

[Read more.](#)

IN THE NEWS

- [Wind Project in Wyoming Envisions Coal Miners and Trainees, Diane Cardwell, NY Times, 5/21/17](#)
- [Legislature Dismantles Colorado Energy Office, Passes Major Spending Bill on Final Day, Ed Sealover, Denver Business Journal, 5/11/17](#)
- [Turning Windows Into Solar Panels, Nell London, CPR: Colorado Matters, 5/8/17](#)
- [As Coal Jobs Decline, Solar Sector Shines, NPR, Reid Frazier, 5/6/17](#)
- [Governor Calls for Statewide Inspection Of Oil and Gas Wells After House Explosion, CPR, 5/2/17](#)
- [After fatal house explosion, Anadarko Petroleum to shut down 3,000 wells in northeastern Colorado, The Denver Post, Aldo Svaldi, 4/27/17](#)
- [Want an Efficient Colorado Home? The Program that Certifies that May Face Cuts, CPR, Grace Hood, 4/24/17](#)
- [Talking Colorado Climate Change: Rising Temps, Shorter Ski Seasons, And Possibly More Air Turbulence. CPR, Anthony Cotton, 4/17/17](#)
- [Colorado's About to Find Out What Middle Ground Feels Like in The Solar Wars. CPR, Grace Hood, 4/11/17](#)
- [Colorado Youth Environmental Activists Win Court Round In Oil and Gas Case. CPR, 3/13/17](#)
- [Wind takes renewable power crown from hydro in U.S, Aldo Svaldi, Denver Post, 3/6/17](#)
- [Vestas gets big wind turbine order, Ben Miller, Denver Business Journal, 2/28/17](#)

RESOURCE SPOTLIGHT: ENERGY GEEK QUIZ

Are you an energy geek? Our new 5-question Energy Geek Quiz will help you find out. (Sort of. I mean it's pretty hard to make that judgment based on a 5-question quiz, but it's a catchy name and pitch so we're going with it.) Plus, it's just fun!



[Take the quiz here!](#)

DID YOU KNOW?

Located mostly in mountainous areas, 7 percent of Colorado's irrigated farm land (roughly 170,000

acres) has pressurization potential to produce a total of 30 megawatts of hydropower. On-farm hydropower generation can be used to power center pivots directly or can be connected to the electrical grid to offset on-farm electricity consumption. Most on-farm small hydropower projects will not need to obtain a new legal water right if small hydropower generation is combined with an existing water use.

Read our new fact sheet on Agricultural Hydropower On-Farm for more

UPCOMING EVENTS

- **June 26, 6:30-8pm**
CSU Extension 'Know Before You Go (Solar)' workshop
Granby, Colorado
Contact Travis Hoesli to register: [\(970\) 724-3436](tel:9707243436)
- **June 27, 12:00-1:00pm**
CSU Extension 'Know Before You Go (Solar)' workshop
Eagle County Building, Eagle
[Register here](#)
- **July 11, 12:00-1:00pm**
CSU Extension Lunch 'N' Learn Webinar: Home Energy Retrofits
[Register here.](#)
- **July 18, 6:30-8pm**
CSU Extension/Xcel Energy Renewable Energy for the Home workshop
Englewood Civic Center
Contact Tim Aston to register: (303) 738-7907 or taston@arapahoegov.com
- **September 12, 12:00-1:00pm**
CSU Extension Lunch 'N' Learn Webinar: Commercial Building Efficiency & Occupant Engagement
[Register here.](#)

YOUR ENERGY COLORADO RESOURCES

- Like the [YourEnergy Colorado Facebook page](#) for energy tips, news commentaries, and more
- Visit our [Energy-In-Briefs blog](#)
- Download and/or print CSU Extension energy [factsheets](#)
- Download and/or order printed copies of our [Home Energy Guide](#)
- [Calculate your savings](#) from switching light bulbs, a new furnace, a low-flow showerhead, adding insulation and more
- Assess your [solar potential, costs, and benefits](#)
- Conduct a [DIY home energy audit](#)
- Watch [energy webinars](#)
- [Borrow an energy kit](#) to teach youth, for a public demonstration, or to conduct a home energy assessment
- Teach one of our many hands-on, standards-based [energy lesson plans](#)
- Ask an [energy expert](#) a question
- Track energy legislation in Colorado and nationwide using the CSU Center for the New Energy

Economy's [AdvancedEnergy Legislation Tracker](#)

- [Contactus](#) to request an energy efficiency, solar, or Colorado energy workshop



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