Colorado State University EXTENSION

Your Energy

YOUR ENERGY NEWSLETTER

Issue 66 **December 2016**

Welcome to the66th issue of the Your Energy Newsletter (*formerly called the CSU Extension Energynewsletter*). This newsletter is distributed as a way to give our stakeholders updates on CSU Extension energy work and itscontext in Colorado. Our mission is to empower Coloradans to make moreinformed energy decisions. Please forwardthis newsletter to anyone you think might be interested and Like us on Facebook to get our latest energy tips, news commentaries, and case studies.

'YOUR ENERGY' WEBSITE LAUNCHED

CSUExtension is proud to announce the official launch of our new 'Your Energy' website intended to help Coloradans make moreinformed energy decisions. Released at the end of September, the site hasreceived about 1,000 hits per month and we hope for more. The site featuresenergy information on: home; business, and farm energy efficiency; biofuels;biomass; geothermal; solar; wind; alternative transportation; Colorado's energysystem; oil & gas; and more. We see it as the state's go-to resource forresearch-based, practical energy information consumers can use to bothunderstand the energy big picture as well as options for energy use in our ownlives.

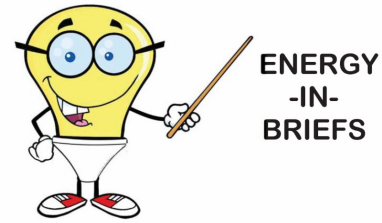
Significantfeatures of the site include our decision tools, fact sheets, and blog. Ourdecision tools are mostly Excel spreadsheet-based tools that can help youfigure out energy savings from using more efficient lighting, low-flowshowerheads, heating & cooling systems, water heaters, and more. Othertools can help you understand how much you spend on heating, cooling, andbaseload electricity and your bottom line should you install a wind turbine orsolar array. Fact sheets are research-based publications you can download andeven print to handout at energy-related events.

Ourblog is lovingly called 'Energy-in-Briefs' as it includes a series of briefcommentaries on timely energy topics and is represented by our mascot of alight bulb wearing 'briefs' underwear (see next article). The weekly-ishentries to date have covered divisiveness in energy, the value of renewablesvs. efficiency, the energy use of leaf-blowers, cooking energy use, and muchmore.

Weurge you to check out Your Energy - and bookmark it as your go-to source for energy information!

YOUR ENERGY
COLORADO STATE UNIVERSITY

Check out YourEnergy.colostate.edu



ENERGY-IN-BRIEFS

The Power of Policy
Allindicators point to a significant shift in national energy policy following theelection of Donald Trump for President of the United States. Two of the moredramatic changes would be for the U.S. to pull out of the Paris Agreement onglobal greenhouse gas emissions and to rescind the Clean Power Plan (CPP). Readmore.

Renewables Before Efficiency?
Conventionalwisdom in the energy world says that energy conservation should come first,followed by energy efficiency, and then renewable energy. The analogy used inthe industry is to eat your efficiency vegetables before your renewables dessert.If you're like me, you've heard this phrase so many times from so manyreputable sources that it has become almost impossible to question. But withthe cost of solar falling and the cost of natural gas so low, I thought itcouldn't hurt to take a peek into the financial reality behind this widelyaccepted admonition. Readmore.

E-Bikes: Fad or For Real?
TheSubaru Outback and Subaru Forester have recently been identified by ColoradoAAA as the two top-selling new vehicles in the state. What many like aboutthese vehicles is that they allow for hauling of family and/or luggage whilegetting decent fuel efficiency and the safety and ruggedness of all-wheeldrive. It's about the versatility.

Bicycles,on the other hand, offer much more limited versatility. They have traditionallybeen used for short commutes or for recreation by those fit enough to move vialeg power. Longer rides may call for earlier wake-up times, extended exposureto potentially unpleasant weather, and perhaps the need for a shower uponreaching your destination. This is where the electric bicycle comes in. Readmore.

TECH-IN-FOCUS: LOW-FLOWSHOWERHEADS

Whilenot a new technology, it turns out that low-flow showerheads can still providea lot of bang for

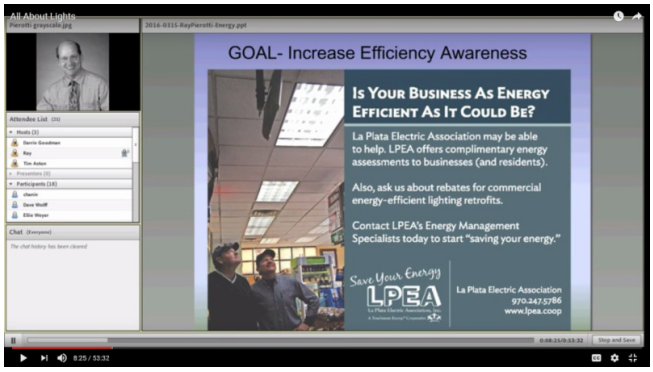
the hot water buck. Showerheads sold on the market these dayscan use no more than 2.5 gallons per minute, but low-flow showerheads can useas little as 1.5 gpm. That 1 gpm can add up, especially in larger households. Considerthe following example:

- Familyof four taking (1) 10-minute shower per day each
- Conventionalgas storage water heater (0.6 Energy Factor)
- $0.60per them of natural gas
- Waterheater temperature at 120 F and shower temperature at 105 degrees F

UsingCSUExtension's low-flow showerhead calculator, we can calculate annual savings of over $60 by convertingto a low-flow showerhead. If this family had an electric hot water heater,savings could add up to over $200 per year. These little guys can pack a realpunch when it comes to energy (and water) conservation!

LUNCH 'N' LEARN ENERGYWEBINARS DRAW HUNDREDS

CSUExtension delivered 5 free energy webinars in 2016, with over 100 individualsparticipating in live webinars and over 350 viewing recorded versions. Webinartopics have covered LED lighting, the Clean Power Plan, energy storage, solaroptions for the home, and community solar gardens. Presenters have ranged fromexperts at the National Renewable Energy Laboratory and CSU to private sectorand utility professionals.



Thegoal of these webinars is to help Coloradans understand our energy system andour options for clean energy in our personal and professional lives.

View recorded webinars

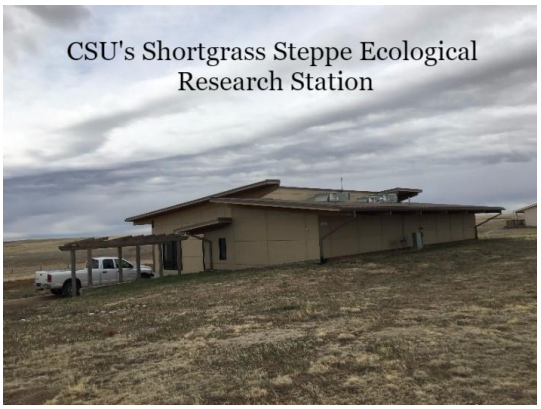
EXTENSIONPARTNERS WITH RETAILERS ON LIGHTING SIGNS

A pilot project to help Colorado consumers make better – and easier –lighting decisions has begun in Highlands Ranch. The Highlands Ranch AceHardware and King Soopers have installed signs in their lighting aisles thathelp potential purchasers understand how to compare LED bulbs with theircompact fluorescent and halogen counterparts. Information on the operatingcosts of bulbs, how to compare brightness, and what color temperatures to lookfor is included. We plan to expand this partnership and educational effort toother stores across the state soon.

Try our lighting cost comparison calculator

CSUBRANCH OFFICES RECEIVING ENERGY AND WATER ASSESSMENTS

While CSU has won accolades for its sustainability efforts, our branch offices still have the potential to benefit from green upgrades. CSU Facilities wants to address this by conducting energy and water efficiency assessments for all 37 of CSU's branch facilities, including State Forest Service offices and Agricultural Experiment Stations. Together, these facilities spend hundreds of thousands of dollars every year on energy and water expenses and inefficiencies are likely as many buildings are older. The CSU Rural Energy Center has begun this assessment work and will continue throughout 2017 to provide a list of potential energy and water efficiency measures for consideration, along with estimates of costs and savings from energy upgrades.



RESOURCE SPOTLIGHT: NEWSOLAR ASSESSMENT TOOL

We'reso excited about the upcoming release of our new online solar assessment toolthat we're putting the spotlight on it now! Our current Excel-based spreadsheettool for calculating the financial costs and benefits of grid-tied solar have beenvery well-received throughout the years. As the popularity of solar has grown,however, so must our ability to keep the tool up-to-date and accessible. Hence,we will be bringing a sleek new version of the tool online – no Excelnecessary! The

tool will contain plenty of default assumptions to give thosethat know little about solar or their home electricity use a sense of what theymight expect from a solar array. But more advanced users can compare solarloans and leases, enter custom electricity rates, interest rates, loan terms,lease conditions, roof sizes, ground mount orientations, and more.

Pleasecheck your inbox for our official release soon!

Use our current solar assessment tool

DID YOU KNOW?

Efficientlighting can make a BIG difference during the holiday season! A string of 125 largeincandescent holiday lights can use 500 watts when turned on. In contrast, astring of 300 LED bulbs would use only 12 watts when turned on. If each ofthese strings ran all night over a 40 day period, electricity for theincandescent string would cost about $24 while electricity for the LED stringwould cost 57 cents!

See more home energy efficiency tips

UPCOMING EVENTS

- **December 7, 7-8:30pm**
  Home Energy Efficiency workshop – BemisPublic Library, Littleton.
  (Xcel and CSU Extension)
  RSVP here.
- **December 13, 7:30-11am**
  Colorado Farm Energy workshop – MontroseCounty Fairgrounds.
  More info and registration here.
- **December 14, 7:30-11am**
  Colorado Farm Energy workshop – MonteVista Information Center.
  More info and registration here.
- **March 13-15**
  Solar Power Colorado 2017 Conference –Broomfield.
  Moreinfo and registration here.

YOUR ENERGYRESOURCES

- Likethe YourEnergy Facebook page forenergy tips, news commentaries, and more
- Downloadand/or print CSU Extension energy factsheets
- Calculateyour savings fromswitching light bulbs, a new furnace, a low-flow showerhead, adding insulationand more
- Conducta DIYhome energy audit
- Watchenergywebinars

- Borrowa HomeEnergy Audit Loan (HEAL) program kitfrom your local Extension office
- Use alesson plan from CSUExtension's clean energy curricula
- Askan energy expert
- Track energy legislation in Colorado andnationwide using the CSU Center for the New Energy Economy's Advanced Energy Legislation Tracker

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