



YOUR ENERGY COLORADO NEWSLETTER

Issue 69

September 2017

Welcome to the 69th 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 Follow Us on [Facebook](#) to get energy tips and commentaries on emerging energy news.**



FARMERS TURNING TO RENEWABLE ENERGY

Two farmers in eastern Colorado are part of a growing trend of using renewable energy to offset electricity used for water pumping. Jim Park's farm near Kersey began using a 25 kilowatt hydropower turbine to generate enough electricity to offset all of his use to run a center pivot sprinkler for growing alfalfa and corn. Since Mr. Park had to order the turbine and most associated parts directly from a company in Germany, the process took longer than expected. But so far he is quite satisfied to watch his energy production, which has exceed expectations. Mr. Park is taking advantage of a ~20 foot drop in his irrigation ditch over a ~100 ft. span to generate the hydropower. Water is diverted from the ditch, ran through a screen, and sent by gravity through an underground penstock that feeds the powerhouse hosting the turbine and generator. Since electricity use happens in the same months that the water flows, the farm gets retail credit from Poudre Valley Rural Electric Association for every kilowatt-hour generated by the system.

Further east outside of Holyoke, Randy Weis and family are generating power to offset a portion of his electricity for pivot irrigation using solar PV. Mr. Weis's 15 kW system was energized earlier this summer. Under his net metering arrangement, Mr. Weis receives retail credit for every kWh generated during the irrigation season and then gets credited at Highline Electric Association's avoided cost of power in the offseason.

Both farmers received significant support for their projects. Mr. Park received grants from the USDA REAP and EQIP programs as well as from the Colorado Department of Agriculture's ACRE³ program. Mr. Weis received a financial feasibility assessment from CSU's Rural Energy Center, a USDA REAP grant, and a rebate from Highline. Support for farmers interested in pursuing renewable energy as well as energy efficiency is expected to continue. The Rural Energy Center will begin offering [economic feasibility assessments for solar at Colorado feedlots](#) in the coming year.



Water at Jim Park's farm is diverted into an underground penstock parallel to the ditch, where it flows into the powerhouse to spin a turbine. It returns to the ditch just below the powerhouse.



Randy Weis's 15 kW solar array was installed earlier this year to offset the electricity used by the

NEW ENERGY KITS AVAILABLE TO THE PUBLIC

Teaching energy in schools is required by state standards, but teachers don't always have access to materials to make lessons hands-on and engaging. Residents can benefit from identifying energy inefficiencies in the home and taking action to save energy and money. Youth and adults alike often don't understand how energy works. To address these issues, 30 Colorado State University Extension offices across the state have now been equipped with One-Stop-Shop energy kits for use by a variety of community members. Kits contain:

- a hand crank generator to charge small appliances or compare energy used by different light bulbs
- halogen and LED bulbs
- lux (light) meters
- flicker checkers to test the efficiency of ballasts for fluorescent tube lights
- Kill-a-Watt monitors to measure appliance electricity use
- and a variety of materials used to conduct basic home energy audits

The entire One-Stop-Shop kit or just the Home Energy Audit Loan (HEAL) kit materials can be borrowed from county Extension offices or used by Extension agents directly. In addition, solar and wind energy kits are available on the western slope to teach lessons plans to youth. Watch the video below to get a sense of the One-Stop-Shop kit then visit our kit [webpage](#) for more information and to borrow a kit.



Check out our kit webpage for more information

'KNOW BEFORE YOU GO (SOLAR)' WORKSHOPS ON POINT

workshop to several communities in the last few months, reaching 150 participants. 100% of our attendees have said that the workshops will help them make a more informed decision with respect to going 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](#). As part of this effort, we've been fortunate to partner with organizations like Xcel Energy, CLEER, CORE, Eagle County, and Walking Mountains Science Center to educate Coloradans. More workshops are scheduled as shown below. [Contact us](#) to bring a workshop to your community!



- **September 13, 5:30-6:30pm**
 - Summit County Community & Senior Center, Frisco
 - [Link for more information](#)
- **September 20, 6:30-8pm**
 - Bemis Public Library, Littleton
 - Contact Tim Aston to register: (303) 738-7907 or taston@arapahoegov.com
- **October 16, 7-8:30pm**
 - Larimer County Extension Office, Fort Collins
 - Contact Karen Crumbaker to register: (970) 498-6003 or crumbakm@co.larimer.co.us

COMMERCIAL ENERGY EFFICIENCY WEBINAR

Occupants of commercial buildings are often responsible for a majority of the energy used in those buildings. However, occupant engagement and behavior change is often one of the biggest barriers to energy savings. On September 19 from 12-1pm, Noah Welshans with McKinstry will provide a high level overview of commercial energy efficiency opportunities and how to best address the occupant engagement piece of the puzzle to truly drive the deepest savings. Sign up for this latest webinar in Your Energy Colorado's free webinar series below.

[Register for webinar](#)

[Visit webinar page](#)

SOLAR TARIFF DEBATE HEATS UP

President Trump has indicated interest in placing tariffs on foreign imports in order to boost domestic manufacturing. For the solar industry, however, the issue of tariffs gets complicated fast. For context, it's important to understand that solar panels are made up of solar cells that actually

generate the electricity. American solar cell manufacturing has been struggling to keep up with cheaper solar cells imported from Asia. This sector of the U.S. solar industry now supplies just 2,000-4,000 jobs. At the same time, domestic manufacturing of solar panels from imported cells has been rising, supplying 38,000 jobs. And low solar costs are driving massive installations across the country. Installers account for 137,000 of the solar industry's 260,000 total jobs.

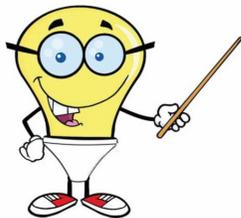
So when Suniva Inc. – a cell and panel manufacturer out of Georgia that declared bankruptcy this past April – filed a petition with the International Trade Commission (ITC) to place tariffs on all imported solar cells, the solar industry was thrown into uncertainty. Worldwide tariffs are necessary, they argue, because previous tariffs on Chinese and Taiwanese solar products simply shifted manufacturing to other Asian countries. But the Solar Energy Industries Association opposes tariffs because they threaten the health of the majority of the larger industry.

The ITC has decided to review Suniva's petition and forward a report to the President this November. And what may seem to be a relatively obscure act by a bankrupt manufacturer could send shockwaves through energy markets across the country.

Source:

E&E News:

- "Trade officials, and Trump, will consider tariffs"
- "Suniva trade case throws industry into doubt"



**ENERGY
-IN-
BRIEFS**

ENERGY-IN-BRIEFS

Efficiency Isn't the Enemy

Since the time of Thomas Edison, electric utilities have collected revenues and generated profits by selling electricity. That's what they do. Recently, however, some utilities have recognized that their customers are more interested in saving energy than in buying it. So in order to keep the peace and continue making ends meet, these innovators have adopted "revenue decoupling".

[Read more.](#)

Plethora of Solar Options

What makes something a 'plethora'? I hope many of you will harken back fondly to the movie *The Three Amigos*, in which trusty sidekick [Jefe tells head honcho El Guapo](#) that he has arranged a

'plethora' of pinatas for El Guapo's upcoming 40th birthday bash. El Guapo, moody from a recent romantic rejection, angrily questions Jefe's understanding of the word 'plethora'. And after reviewing the evidence, I feel comfortable stating that there are a plethora of solar options available to Colorado households.

[Read more.](#)

Conservation in the Kitchen

For those of us with big gardens, August and September are the heart of canning and preserving season. My wife puts up dozens and dozens of jars of raspberry jam, pickles, pickled beets, and other assorted vegetables. We also freeze lots of veggies to enjoy the bounty of our garden during the frozen days of winter. Which leads to the question (for us energy geeks): how much energy do we use in the kitchen?

[Read more.](#)

IN THE NEWS

- [Fed-up Colorado towns fight oil and gas ops by making new rules, but industry is ready to fight back, Bruce Finley, Denver Post, 8/24/17](#)
- [U.S. lays groundwork for saving coal plants with grid report, Catherine Traywick and Jim Polson, Bloomberg, The Denver Post, 8/24/17](#)
- [Noise is the biggest source of oil and gas complaints in Colorado, John Ingold, Denver Post, 8/20/17](#)
- [Governor Wants New Rules For Oil And Gas Industry, State's Chief Regulator Says, Michelle Fulcher, CPR, 8/17/17](#)
- [Nederland commits to 100 percent renewable energy by 2025, Alex Burness, Daily Camera \(Boulder County News\), 8/16/17](#)
- [The U.S. Department of Energy Announces Winners of Prestigious Housing Innovation Awards, U.S. Department of Energy, 8/15/17 \(note: Colorado firms won awards in 3 of 5 categories\)](#)
- [U.S. Rep. Polis pushes 100-percent renewable energy goal, Nick Coltrain, Coloradoan, 8/14/17](#)
- [EPA moves to rewrite limits for coal power plant wastewater, Michael Biesecker, Denver Post, 8/14/17](#)
- [Drilling and development are on collision course in northeastern Colorado, Aldo Svaldi, Denver Post, 8/6/17](#)
- [Post-Firestone, Front Range Cities Seek Oil And Gas Local Control 2.0, Grace Hood, CPR, 8/3/17](#)
- [Tesla Finishes First Solar Roofs—Including Elon's House, Tom Randall, Bloomberg, 8/2/17](#)
- [Colorado's top oil-producing county retools to make solar development easier, Ethan Millman, Denver Post, 7/30/17](#)
- [Peabody Applies To Mine 4.1M Tons Of Coal West Of Steamboat Springs, The Associated Press, CPR, 7/28/17](#)
- [BLM weighing request to mine 4.1 million more tons of coal in northwest Colorado under Trump's energy policies, Jesse Paul, Denver Post, 7/27/17](#)
- [New power accord likely to be struck soon in mountain states, Aldo Svaldi, Denver Post, 7/26/17](#)
- [Vail Resorts promises to eliminate emissions, waste and offset forest impact by 2030, Jason Blevins, Denver Post, 7/25/17](#)
- [Anadarko Says Tiny Fraction Of Its Oil, Gas Flowlines Failed Inspection, Grace Hood, CPR, 7/24/17](#)
- [Can Colorado really achieve 100 percent green energy by 2040?, Vincent Carrol, Denver Post, 7/14/17](#)
- [Is The Broomfield Recall Effort A Proxy Fight For Colorado's Oil And Gas Conflicts?, CPR, 7/13/2017](#)
- [State: 129,000 Oil, Gas Pipelines Are Within 1,000 Feet Of Occupied Buildings, Associated Press, 6/30/17](#)
- [Aspen Charts A 100 Percent Renewable Course. Can Other Cities Match That?, CPR, 6/28/17](#)
- [Xcel gets go-ahead for \\$612M investment in new Colorado meters, equipment, Denver](#)

- [Business Journal, 6/21/17](#)
- [Colorado coal mine is shut down, Denver Business Journal, 6/8/17](#)
- [Xcel Energy will ask for \\$139 million more to improve gas grid in Colorado, Denver Post, 6/2/17](#)
- [Trump Announces U.S. Withdrawal From Paris Climate Accord, NPR, 6/1/17](#)

RESOURCE SPOTLIGHT: OUR FACEBOOK FEED

Interested in getting the most interesting Colorado energy news in real time? [Follow us on Facebook](#) where we post news, link to our blog, engage with our audience, and generally have a good time! We usually post a few times a week so you get the news you want without feeling overwhelmed. Hope to see you there!



DID YOU KNOW?

Increasing federal appliance standards have meant that new clothes washers use 70% less energy, new dishwashers use more than 40% less energy, and new air conditioners use about 50% less energy than 1990 models.

UPCOMING EVENTS

- **Every day through 9/29**

Poudre Valley REA/Grid Alternatives volunteer solar installation project
Larimer County Landfill
Morning and afternoon shifts available
Contact Alison Moe: amoe@gridalternatives.org or (303) 481-4384

- **September 9-17**

[National Drive Electric Week](#)
Includes a location in Greeley

- **September 13, 5:30-6:30pm**

'Know Before Your Go (Solar)' Workshop
Summit County Community & Senior Center, Frisco
[Link for more information](#)

- **September 19, 12-1pm**

Your Energy Colorado 'Lunch N Learn' Webinar
Commercial Building Efficiency and Occupant Engagement
[Register here](#)

- **September 20, 6:30-8pm**

'Know Before Your Go (Solar)' Workshop
Bemis Public Library, Littleton
Contact Tim Aston to register: (303) 738-7907 or taston@arapahogov.com

- **October 5-15**

- **October 7, 9am-4pm**

[Metro Denver Green Homes Tour](#)

Jefferson Unitarian Church

- **October 16, 7-8:30pm**

'Know Before Your Go (Solar)' Workshop

Larimer County Extension Office, Fort Collins

Contact Karen Crumbaker to register: (970) 498-6003 or crumbakm@co.larimer.co.us

YOUR ENERGY COLORADO RESOURCES

- Follow the [Your Energy Colorado Facebook page](#) for energy tips, news commentaries, and more
- Visit our [Energy-In-Briefs blog](#)
- Download and/or print CSU Extension energy [fact sheets](#)
- 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 [Advanced Energy Legislation Tracker](#)
- [Contact us](#) to request an energy efficiency, solar, farm energy, or Colorado energy workshop



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