



YOUR ENERGY COLORADO NEWSLETTER

Issue 72

June 2018

Welcome to the 72nd 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 implies, we put the power to shape 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 any one 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, fast facts, and commentaries on emerging energy news.**

Inaugural Local Government Energy Academy Scheduled

Colorado State University Extension and our partners Eagle County, the Northwest Colorado Council of Governments, and Walking Mountains Science Center are excited to announce that the inaugural Local Government Energy Academy is set for August 29-30 in Eagle. The 1.5-day workshop will help local government and special district officials identify, understand, and implement selected energy efficiency, renewable energy, and alternative fuel vehicle opportunities. Options for both local government operations (i.e. buildings and fleets) as well as community-wide actions will be covered.

Confirmed speakers to date include Kathleen Staks (Director of the Colorado Energy Office), Bryan Hannegan (CEO of Holy Cross Energy), John Widerman (Minturn Town Council), Jay Harrington (Carbondale Town Manager), Frank Watt (Palisade Public Works Director), and others in the public and private sectors. Topics will include community energy case studies, working with electric utilities to achieve energy goals, energy efficiency in public buildings, solar for public facilities, solar for the community, and electric vehicle initiatives. We will maximize use of peer-to-peer learning and provide more intimate opportunities for attendees to engage with program administrators. CSU Extension will also offer follow-up assistance to local government and special district staff.

In the process of putting the agenda together and recruiting speakers, we've learned a lot about the amazing things going on in sustainable energy in Colorado and especially on the western slope. The Town of Palisade, for example, will soon offset all of its electricity use with solar from a combination of directly purchased power and participation in a community solar garden. The solar garden will be located on Town land, providing for a revenue stream. Other communities can also participate in that solar garden.

We expect to open registration in June. Until then, visit our website for more information and our evolving agenda.

[Visit the LGEA website](#)



CSU Extension – Xcel Partnership Yields Results

Tim Aston, Arapahoe and Douglas County Extension Director, has been a leader and member of Xcel Energy's Partners in Energy (PiE) community program for the past four years. Tim has been involved PiE community programs in Littleton, Englewood and Centennial. PiE, which engages communities in energy assessments, energy efficiency initiatives, and renewable energy programming, has several ongoing programs in Colorado and Minnesota.

Tim's involvement has positioned Extension front and center in energy program awareness through PiE's large public events and smaller, more targeted community workshops. Working in tandem with Xcel Energy Specialists and State Energy Specialist Cary Weiner, Tim has found an excellent entry point to engage energy stakeholders in all three communities. These stakeholders include municipal leaders, commercial employees, and residential action groups, all interested in energy efficiency and renewable energy development.

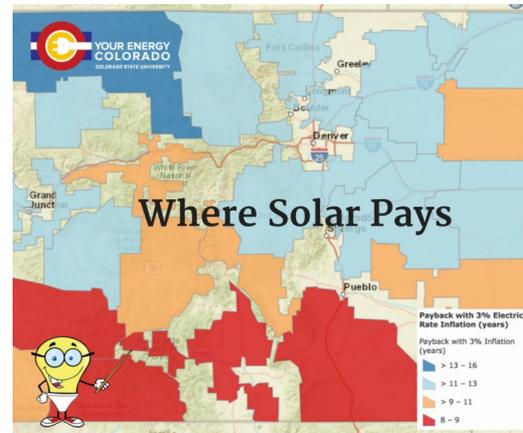
Each PiE community first conducts a thorough energy use assessment. This includes Xcel's consumption data (both electricity and natural gas), and an inventory of energy efficiency program enrollment in Xcel's many consumer and business rewards programs. The stakeholder group formulates energy efficiency goals in a one, three and five-year timeframe for residential, commercial and municipal consumption scenarios. The framework for each community program is an Energy Action Plan and, in some instances, a Climate Action Plan, that fosters reduced energy consumption and a smaller carbon footprint for each community moving forward. Each segment (residential, commercial and municipal) has a team leader that focuses on that segment, and the various programs that are employed to teach community residents and local employees and leaders about efficiency measures they can each employ to save energy. They also publicize and use Xcel's rewards programs to encourage constituents to lower their energy consumption.

All three PiE communities Tim is working with are meeting their efficiency goals. For example, Littleton has reduced municipal energy consumption by 10% from 2014 levels and has over doubled participation in both residential and commercial demand side management programs. The program is gaining steam in many Colorado and Minnesota communities.

[Click here for more information](#)

Residential Solar Payback Map and Calculator

Our annual Residential Solar Payback Map for rural electric association service territories in Colorado was updated with new electric rates, solar costs, and incentive information. The interactive map shows a clear geographic trend of shorter solar payback periods in southern Colorado compared to central or northern Colorado. In addition, our online solar calculator was updated with new electric rates and default values. Play around with both tools and share with your friends and neighbors!

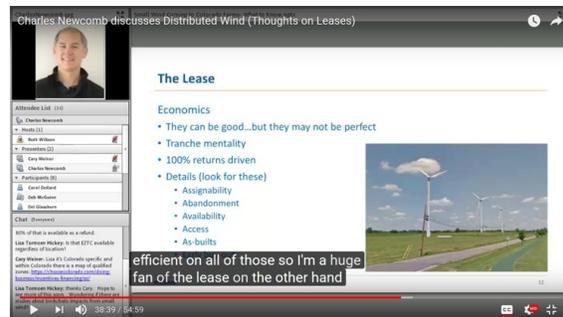


[Solar Calculator](#)

[Solar Map](#)

Small Wind and Other Webinars Now Accessible

Our most recent webinar on Small Wind Coming to Colorado Farms (by Charles Newcomb of mCloud), as well as our growing collection of other recorded webinars have all been closed captioned and made publicly available on our website. So whether it's residential retrofits, commercial occupant engagement, energy storage, or LED lighting that you're interested in.



[Click here to start watching!](#)

Popular 'Know Before You Go Solar' Workshops Going Strong

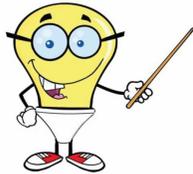
Twenty one Huerfano County residents came out for our latest Know Before You Go (Solar) workshop in Walsenburg in early May. Upcoming workshops include Pagosa Springs on June 18 and Alamosa on June 19. See our Upcoming Events calendar below to register!



[New Report on Ag in Colorado](#)

In this report, the [CSU Center for the New Energy Economy](#) identifies clean energy opportunities in the agricultural sector and indicates policy changes and programs that will maximize the use of agricultural land in a manner that benefits agricultural producers, electric utilities, and the community. While this report focuses on Colorado's agricultural sector, it can also be used as a model to promote the adoption of clean energy technologies in the agricultural sectors of other states and regions.

[Read the report here](#)



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The Short on Hydrogen Vehicles

By Maria DiBiase Eisemann of the Colorado Energy Office

Fuel Cell electric vehicles (FCEV). What is that? Aren't those all electric vehicles? Why does this matter? No, [FCEVs](#) are not your typical electric vehicle. Where electric vehicles require plugs to charge up, FCEVs run on gaseous hydrogen that you fuel like traditional motor vehicles. When hydrogen stored in the vehicle reacts with oxygen being pulled in from the outside air, electricity is created to mobilize the powertrain of the vehicle, running like an electric vehicle that creates its own electricity.

[Read more: Hydrogen Vehicles](#)

Battery Storage Bill

The Governor recently signed Senate Bill 009, which limits the ability of investor-owned utilities (IOUs) to put up barriers to customer-sited battery storage systems. With the cost of battery backup coming down significantly in recent years, this bill could facilitate a broader movement to pair on-site renewables with batteries.

[Read more: Battery Storage Bill](#)

Where Solar Pays

CSU Extension recently unveiled our interactive 2018 Solar Payback map of home solar arrays in Colorado rural electric association service territories, and there is a lot of data there to analyze. Perhaps the most meaningful map layer is called "Payback with 3% Electric Rate Inflation". This shows how quickly a household could get its money back after buying a solar array to offset its electricity use. The map shows a clear geographic trend of shorter solar payback periods in southern Colorado compared to central or northern Colorado.

[Read more: Where Solar Pays](#)

[Electric Vehicles That Charge as You Drive: CSU Study](#)

By Joanna McWilliams as published in [CSU Source](#)

Imagine never needing to stop at a gas station or wait hours while your electric car battery charges. Instead, you'd simply drive your electric vehicle, like a Nissan Leaf or Toyota Prius, and watch as your battery maintains charge. Retrofitted with a special receiver pad, your vehicle would communicate with the inductive coiled roadway beneath your car as you drove. Using the same technology to wirelessly charge a cell phone, your car's battery would maintain charge. Gone would be worries about how far you can drive, or finding the next charging station. The technology for this type of hassle-free driving of electric vehicles exists – and is ready to be tested further.

To further explore the idea, a joint team composed of Colorado State University, Utah State University and Purdue University researchers, and infrastructure development firm AECOM, has been awarded \$500,000 from the Department of Energy's [Advanced Research Projects Agency - Energy](#) (ARPA-E). They received the support under the IDEAS program – Innovative Development in Energy-Related Applied Science.

The diverse team of researchers and private businesses will evaluate how best to roll out in-motion charging technology for electric vehicles, and look at the benefits from both a cost and environmental standpoint. They will use lower Los Angeles County as a test bed.

“Electric roadways could revolutionize how we think about transportation,” said CSU Energy Institute researcher and mechanical engineering assistant professor Jason Quinn. “Looking at the feasibility of adoption, cost and emissions savings will help us understand what it actually takes to implement this exciting new technology.”

Quinn is working with mechanical engineering associate professor Thomas Bradley, using detailed computer models of traffic in lower Los Angeles to evaluate the potential of the new technology. They'll also look at the cost of implementation, and potential emission reductions once adopted.

ARPA-E's IDEAS program provides rapid support of early-stage applied research to explore pioneering new concepts that have the potential to be transformative in energy technology. “This program identifies potentially disruptive concepts in energy-related technologies that challenge the status quo and represent a leap beyond today's technology,” explains the ARPA-E website.

The project's lead is Professor Regan Zane of Utah State University and will be initially awarded \$500,000 over one year, but may be considered for future funding.



Photo courtesy of SELECT

In The News

- [Denver's green roof initiative may face big changes that provide less-costly options – but its lead backer is OK with that, Jon Murray, The Denver Post, 5/14/18](#)
- [The World's Fifth Largest Economy Is About to Require Solar Panels for All New Homes, Hallie Detrick, Fortune, 5/7/18](#)
- [Anheuser-Busch Nikola Truck Order Puts U.S. on Hydrogen Highway, Jerry Hirsch, Trucks.com, 5/7/18](#)
- [Trump Admin Proposes Easing Oil, Gas Restrictions On Western Sage Grouse Lands, The](#)

- [Associated Press, CPR, 5/3/18](#)
- [Electric Buses Are Hurting the Oil Industry, Jeremy Hodges, Bloomberg Technology, 4/23/18](#)
- [What's The Best Way To Stop Methane Pollution? CPR, 4/19/18](#)
- [Colorado Sees New Oil Production Records As Prices Hit 3-Year High, Ben Marcus, CPR, 4/19/18](#)
- [CSU seaweed-to-biofuel project receives DOE support under ARPA-E, Innovation News, 4/17/18](#)
- [Xcel Energy becomes first utility to use drone tech to inspect energy infrastructure beyond sight, Innovation News, 4/19/18](#)
- [Electric Scooters Are Giving U.S. Cities Uber Déjà Vu, Jousa Brustein, Bloomberg Technology, 4/18/18](#)
- [What's Changed Since The Firestone Explosion? Let's Count The New Regulations, Grace Hood, CPR, 4/16/18](#)
- [What Trump May Mean For The Future Of Renewable Energy In Colorado, Grace Hood, CPR, 4/12/18](#)
- [Why An Industry Lobbyist Thinks There Was A 'War On Coal' And Why It's Over, CPR, 4/11/18](#)
- [After four years of hard work, it's the final lap for CSU's EcoCAR 3, Anne Manning, CSU Source, 4/7/18](#)
- [Barraged With Comments, BLM Insists No Drilling Leases In Sand Dunes, Nathaniel Minor, CPR, 4/6/18](#)
- [EPA to ease back emissions standards, The Denver Post, The Associated Press, 4/2/18](#)
- [Solar employment declined nationally last year, but that wasn't the case in Colorado, The Denver Post, Aldo Svaldi, 3/28/18](#)
- ['The Fracking Debate' Author Wants To Move The Conversation Forward, CPR, 3/14/18](#)
- [E-Bikes On Trails? It's A Question You Only Ask If You're Ready For Coloradans To Sound Off, Grace Hood, CPR, 3/12/18](#)
- [US Coal Saw Gains In 2017. So, How Did Colorado Jobs Fare?, Grace Hood, CPR, 3/6/18](#)
- [How biofuels from plant fibers could combat global warming, Mary Guiden, CSU Source, 2/26/18](#)

Did You Know?

According to U.S. DOE's [EV Pro Lite tool](#), Colorado would need almost 300 public DC fast charging plugs and almost 4,000 Level 2 plugs to support 100,000 electric vehicles. The state currently has 160 DC fast charging plugs, 1,400 Level 2 plugs, and 8,600 electric vehicles.

Upcoming Events

June 18, 6:30-8pm: Know Before You Go Solar workshop in Pagosa Springs

- CSU Extension Office at the Archuleta County Fairgrounds
- Register by June 14 by calling (970) 264-5931

June 19, 6:30-8pm: Know Before You Go Solar workshop in Alamosa

- Register by June 14 by calling (719) 852-7381

August 29-30: Local Government Energy Academy

- Eagle County Building; Eagle, CO
 - [Registration forthcoming](#)
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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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