

OEP Staff Notes: The Best of What We're Reading

[Toyota To Make Fuel Cell Modules For Hydrogen Big Rigs At Kentucky Plant](#)
(forbes.com)

[Will hydrogen usher in a new era of collaboration between gas and electric utilities?](#)
(Utility Dive)

[NARUC President Announces Several Key Leadership Appointments](#) (mailchi.mp)

[Electrifying 97% of the federal fleet by 2030 could save billions: report](#) (Utility Dive, Aug. 23, 2021)

[Weight, dawn-to-dusk demands pose challenges to electrifying farm vehicles](#)
(Energy News Network, Aug. 18)

[Inside Clean Energy: Three Charts that Show the Energy Transition in 50 States](#)
(Inside Clean Energy, Aug. 5, 2021)

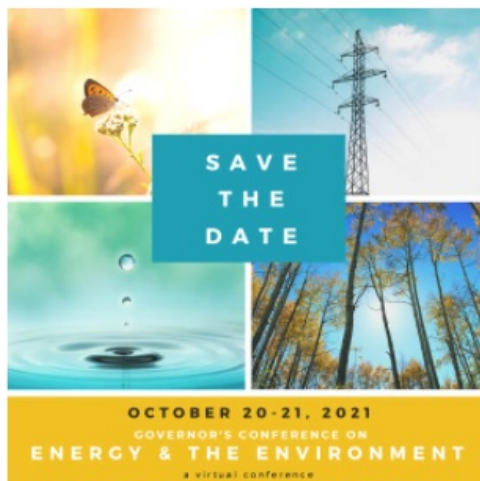
[Digital Transformation is Incomplete Without the Connected Worker](#)
(Harvard Business Review, July 23, 2021)

About Us



The OEP staff are committed to our mission to utilize Kentucky's energy resources for the betterment of the Commonwealth while protecting and improving our environment. Visit our [Energy Website](#) to learn about our programs, access publications, maps, and interactive dashboards.

Partner Spotlight



You.

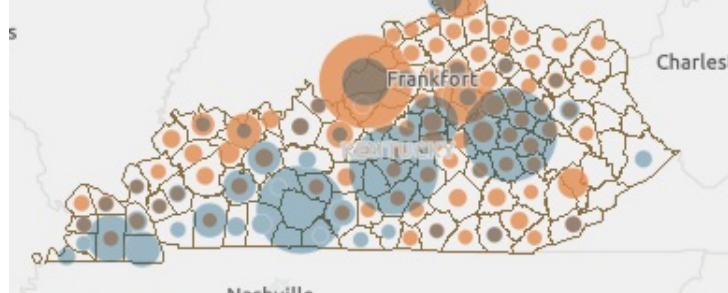
The Energy and Environment Cabinet proudly serves all citizens of the Commonwealth. You, our Kentucky partner, are invited to join us for the 45th Governor's Conference on Energy and the Environment, October 20 and 21. Kentucky's leaders, top energy experts and innovators, will discuss our changing energy and

Viz of the Month



2020 Renewable Distributed Generation Data Summary

environmental issues and how we are adapting to ensure a better quality of life for all. The Conference is virtual, 8:30 a.m. to 12 noon each day. There is no cost to attend. Registration coming soon.



OEP Updates & News



Finding a Home for Solar: Kentucky Maps Prime Renewable Energy Sites

The state of Kentucky is undergoing a transformation from a coal powerhouse to a compelling locale for renewable energy generation. Once the leading producer of coal in the U.S. and still one of the top three coal-producing states, Kentucky is nonetheless looking toward a future powered by alternative energy sources—hydropower, biomass, and of course, solar.

In the face of declining coal use and production coupled with increasing interest from corporate buyers of renewable resources, the state of Kentucky is experiencing significant growth in interest from developers looking for solar power project locations. With its robust infrastructure and available space, including previously used mine lands, Kentucky bills itself an ideal choice for solar production sites. But where do they put them? The Kentucky Energy and Environment Cabinet set out to answer this question. Teams at the Office of Energy Policy used their geographic information system (GIS) technology to create the [Solar Site Potential in Kentucky](#) platform, guiding solar developers to prime locations. [ESRI \(July 22, 2021\)](#) Read the full story by Mike Bialousz [here](#).



Gov. Beshear: Broadband Providers Can Now Submit Proposals to Bring Better Internet to Unserved Kentuckians

Up to \$50 million in federal American Rescue Plan funds may be awarded by April 2022

FRANKFORT, Ky. (Aug. 11, 2021) — Gov. Andy Beshear called upon broadband providers to complete their applications and submit proposals that support the state’s expansion of internet access to unserved communities across the commonwealth. In support of the Governor’s Better Kentucky Plan, the Finance and Administration Cabinet issued a Request for Proposals (RFP) for \$50 million in federal ARPA funds allocated to bring internet access to those who need it most through the Kentucky Broadband Deployment Fund. Through this competitive RFP process, the state is soliciting bids from broadband networks owned, operated or affiliated with local governments, nonprofits and cooperatives, as well as private providers with a focus on serving entire communities. Proposals will be accepted until Oct. 25 and will be evaluated based upon the applicants’ ability to meet defined conditions in order to receive funding. The RFP is available on the state’s [vendor self-service portal](#). Read the full press release [here](#).

Toyota to Assemble Fuel Cell Modules at Kentucky Plant in 2023



Initially planned for use in heavy-duty fuel cell electric trucks, the FC modules signify another



step toward carbon neutrality for Toyota.

After thousands of miles of real-world testing in the harsh environment of commercial trucking, Toyota is preparing to further expand its portfolio approach to products by taking its groundbreaking hydrogen-powered fuel cell electric technology from prototypes to production in its efforts toward carbon neutrality. Starting in 2023, a dedicated line at Toyota Motor Manufacturing Kentucky (TMMK) will begin assembling integrated dual fuel cell (FC) modules destined for use in hydrogen-powered, heavy-duty commercial trucks. The FC modules bring Toyota's electrification strategy further into

focus as it will allow truck manufacturers to incorporate emissions-free fuel cell electric technology into existing platforms with the technical support of Toyota under the hood.

"We're bringing our proven electric technology to a whole new class of production vehicles," said Tetsuo Ogawa, president and chief executive officer, Toyota Motor North America. "Heavy-duty truck manufacturers will be able to buy a fully integrated and validated fuel cell electric drive system, allowing them to offer their customers an emissions-free option in the Class 8 heavy-duty segment."

The dual-fuel cell modules, which are a key component of an overall FC kit, weigh approximately 1,400 pounds and can deliver up to 160kW of continuous power. The FC kit also includes a high voltage battery, electric motors, transmission, and hydrogen storage assembly from top-tier suppliers. Toyota will also offer its powertrain integration expertise that will help truck manufacturers adapt these emissions-free drivetrain systems to a wide variety of applications in the heavy-duty trucking sector. Read the full story [here](#).

News Provided by Toyota Motor North America Aug 25, 2021, [CISION PR Newswire](#)

How Regenerative Design Boosts Local Impacts at Turkey Creek Solar Ranch

"We're showing that we can design and construct solar projects in alignment with nature, as well as managing them to mimic what nature does."

"I'm out on our properties or thinking about our properties every day, looking at how we can do things differently to restore natural ecosystems and increase our positive impacts on our local communities," said Loran Shallenberger, Regenerative Energy® Project Manager for Silicon Ranch. "We're showing that we can design and construct solar projects in alignment with nature, as well as managing them to mimic what nature does."

Shallenberger, who has seven years of experience in regenerative land management, joined Silicon Ranch just six months ago to help manage the company's Regenerative Energy® projects and develop the platform. A unique, holistic approach to agrivoltaics, [Regenerative Energy®](#) co-locates clean solar energy generation and climate-smart regenerative agriculture, keeping land in agricultural production.

The platform provides the solar industry with the opportunity to play roles in addressing climate change beyond the already significant role of reducing carbon emissions through low-carbon energy production. Regenerative Energy®'s integration of animal impact and other holistic land management practices can make the industry synonymous with carbon sequestration—[putting atmospheric carbon back in the soil where it belongs](#)—as well as low-carbon energy production. Read the full story [here](#).



OEP Executive Director Kenya Stump presented at the Local Level, **Aug. 26**, at the [Governor's Local Issues Conference, Kentucky Department for Local Government](#), in Louisville.

August 24-26, Kenya Stump and Amanda LeMaster served as moderators and presenters during a [NASEO](#) three-day virtual workshop: Enhancing Community Energy Resilience through Federal Emergency Management Agency (FEMA) Building Resilient Infrastructure and Communities (BRIC) Program, in partnership with the U.S. Department of Energy's Office of Cybersecurity, Energy Security, and Emergency Response (CESER).

August 25, Ashley Runyon and Greg Bone hosted three, Energy Affordability Focus Groups virtual meetings on policy, data, and outreach. Each group had between 10-15 participants. If you would like to participate or learn more, email Ashley.runyon@ky.gov.

August 12, Kenya Stump presented Kentucky's Solar Site Suitability platform to the [Kentucky Chamber of Commerce](#).

August 3, Kenya Stump moderated a panel discussion during the [National Governor Association Conference](#), State Summit on Energy Resilience Planning and Funding. The four-day conference began July 28 and concluded August 4, 2021.

August 4, Amanda LeMaster presented on State Case Studies on Opportunities to Leverage the U.S. State Energy Program (SEP) funding in Resilience Planning and how Kentucky utilized U.S. State Energy Program funding to enhance energy system resilience.

August 4 – Lona Brewer presented to the [Kentucky Clean Fuels Coalition](#) Webinar on funding opportunities under the VW Settlement in Kentucky. Co-presenters represented the Federal Highways Administration and Kentucky Transportation Cabinet.

Resources



TVA Connected Communities Call for Pilots

The Tennessee Valley Authority (TVA), which serves regions in western and south-central Kentucky, announces the launch of the Economic Empowerment and Energy and Environmental Justice Call for Pilots for Connected Communities. Connected Communities are towns, main

streets, neighborhoods, and cities that use technology and share information to enable equitable access to new and improved services for all people. This new funding opportunity helps those communities to equitably improve the quality of life through innovative solutions with broad-range opportunities and applicability.

Non-profits, businesses, governments, local power companies, and others served by TVA are invited to submit innovative pilot ideas that address one of the three Connected Communities focus areas – [Equitable Access to Services](#), [Economic Empowerment](#), and [Energy & Environmental Justice](#). TVA will award at least one grant, up to \$1M, for each of the initial three focus areas. Approximately \$3 million will be available to fund projects in each of the three Connected Communities focus areas. At least 1 pilot per focus area will be funded, and the maximum award amount will be \$1 million per pilot.

This [short video](#) provides an overview of the TVA's Connected Communities initiative as well as the call for pilots and attached is a [one-pager](#) that includes key details about this opportunity. Applications for **Economic Empowerment and Energy & Environmental Justice** will be open from **August 20 to October 20**. To apply for this grant opportunity and for more information, including community resources and details about the evaluation criteria, visit www.tva.gov/ConnectedCommunities or email connectedcommunities@tva.gov.

TODAY IN ENERGY

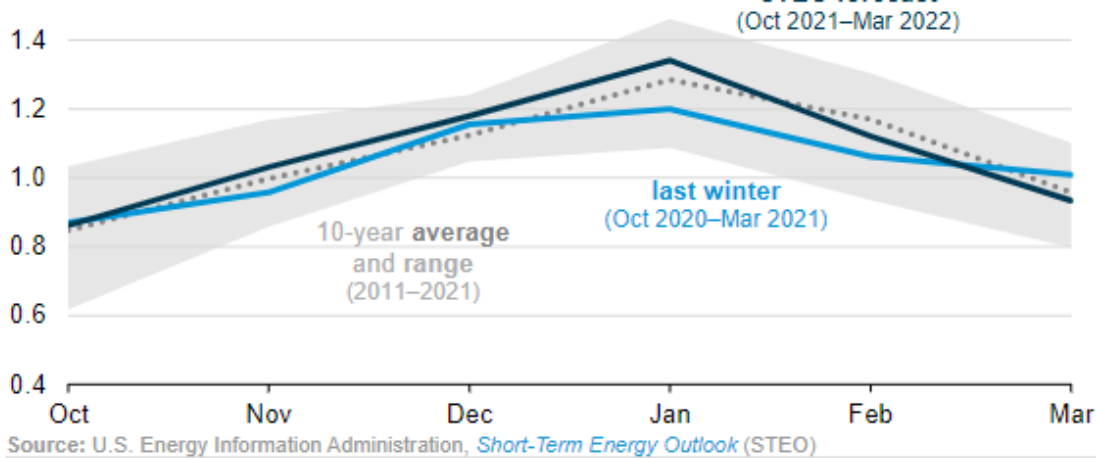
U.S. Energy Information Administration

Monthly U.S. propane consumption (winter months, 2011–2022)
million barrels per day

1.6

STEO forecast





August 25, 2021

EIA expects increased U.S. propane consumption this winter, especially in the Midwest

In our latest Short-Term Energy Outlook (STEO), we expect 3.4% more U.S. propane consumption this winter compared with last winter, reflecting greater use of propane as a petrochemical feedstock, outpacing expectations of below-normal demand for space heating because of a warmer weather forecast. This pattern is especially pronounced in the Midwest, where 42% of U.S. homes using propane as a primary space heating fuel are located and where 90% of the U.S. corn crop is grown.

Propane consumption is highly seasonal, and two-thirds of the annual consumption occurs during the winter heating season (October through March) because of peak demand for both residential space heating and agricultural grain drying. Agricultural demand for grain drying occurs early in the heating season, usually peaking in October or November, but can vary year to year. [Read more.](#)

August 23, 2021

Associated natural gas production declines in 2020, following three years of growth

In 2020, annual production of [associated-dissolved natural gas](#) (or associated gas)—which is natural gas [produced from oil wells](#)—declined in the combined five major U.S. onshore crude oil-producing regions for the first time since 2016. The share of associated gas produced in these five regions (Permian, Bakken, Eagle Ford, Niobrara, and Anadarko) declined by 1.5% year over year and averaged 37.7% of natural gas production in the regions. [Read more.](#)

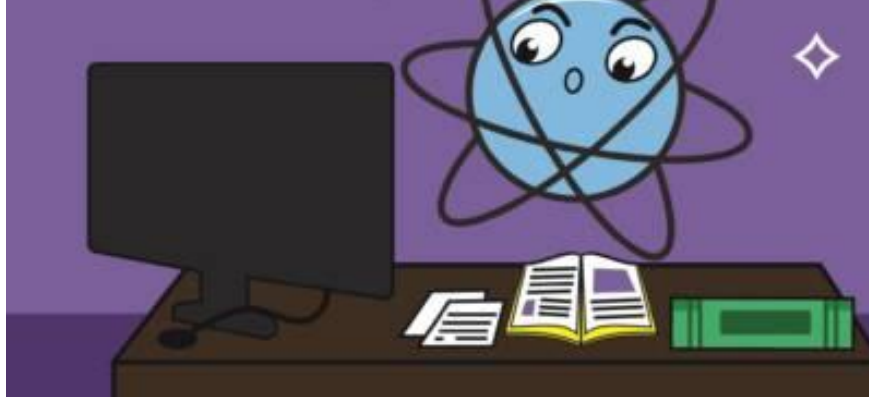
August 20, 2021

U.S. large-scale battery storage capacity up 35% in 2020, rapid growth set to continue

The United States continued a trend of significant growth in large-scale battery storage capacity in 2020, when year-end U.S. battery power capacity reached 1,650 megawatts (MW). According to our report, *Battery Storage in the United States: An Update on Market Trends*, U.S. battery power capacity grew by 35% in 2020 and has tripled in the last five years. The trend is expected to continue; utilities have reported plans to install over 10,000 MW of additional large-scale battery power capacity in the United States from 2021 to 2023—10 times the capacity in 2019. Much of the recent increase in new storage capacity comes from battery energy systems co-located with or connected to solar projects. [Read more...](#)

Energy in Education





NEED Distance Learning Resources

The Office of Energy Policy has partnered with the National Energy Education Development (NEED) Project to deliver energy education programming and resources to teachers and students across the Commonwealth. During this current school year, with funding from the State Energy Program, NEED will host virtual teacher workshops and new project-based learning activities. Details of the 2021-22 Kentucky NEED Project will be announced soon.

Currently, the coronavirus pandemic has caused many schools and educational institutions to rethink and restructure the school year. To help Kentucky's educators, NEED provides [Distance Learning Resources](#) at **no cost**. Materials offer engaging and hands-on ideas for teachers and organizations to use in a distance learning or hybrid teaching environment, and for families to use at home to keep kids thinking, exploring, and inquiring during this time. [Click here](#) to see some of NEED's favorite resources for teachers, students, and families to utilize! NEED curriculum is constantly being updated and is available for FREE PDF download or e-publication at shop.NEED.org.



Sign up for the Better Buildings Webinar Series

The U.S. Department of Energy Better Buildings Webinar Series takes on the most pressing topics facing energy professionals, with new experts leading the conversations on proven best practices, cost-effective strategies, and innovative new ways to approach sustainability and energy performance. Sign up below for the upcoming Summer Series webinars. To browse all upcoming webinars, see the [calendar view](#).

[INTERNAL ENGAGEMENT AND COMMUNICATION: SHARING YOUR ENERGY VISION](#)

Tuesday, September 14, 2021 | 3:00 - 4:00 PM ET

This webinar will discuss how organizations can share their energy efficiency vision with employees and engage them in contributing to that vision.

[KICK THE TIRES: UNDERSTANDING THE ROLE OF R&D IN THE DEPLOYMENT OF BUILDING ENERGY TECHNOLOGIES](#)

Tuesday, September 21, 2021 | 3:00 - 4:00 PM ET

This webinar will explore current real-world examples of deploying technologies developed by DOE and the National





Labs. Participants will learn about DOE's ongoing efforts and opportunities to collaborate with the department.

[WHAT'S NEXT IN WATER TECH FOR MULTIFAMILY HOUSING](#)

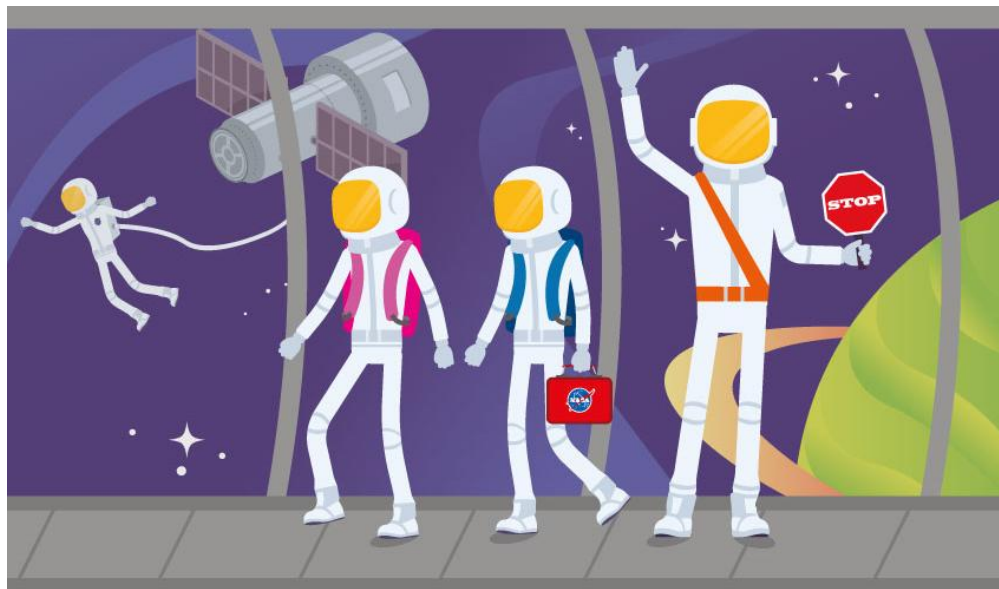
Tuesday, September 28, 2021 | 11:00 AM - 12:00 PM ET
Hear from water efficiency experts who reach beyond the low-hanging fruit of faucet aerators and low-flow showerheads to implement deep water conservation measures in multifamily

housing.

U.S. Department of Commerce Launches STEM Talent Challenge to Fuel Nation's Growing Innovation

August 12, 2021

The U.S. Department of Commerce [recently announced](#) the launch of the [STEM Talent Challenge](#) to support programs to train science, technology, engineering, and math (STEM) talent and fuel regional innovation economies across the nation. The \$2 million program will provide funding for work-and-learn programs to increase America's STEM-capable workforce in emerging and transformative sectors such as space commerce, aeronautics, digital manufacturing, biotechnology, advanced manufacturing, and cybersecurity. Competition applicants may request up to \$250,000 for the implementation of a 24-month workforce development program that complements their region's innovation economy. The deadline to apply is **October 12**. [Click here](#) to access the full Notice of Funding Opportunity. [Click here](#) to apply.



Launch Back to School With NASA: Student and Educator Resources for the 2021-2022 School Year

As students across the country are saying goodbye to the summer and the new school year is kicking off, NASA is gearing up to engage students in exciting activities and thought-provoking challenges throughout the year ahead. The agency offers many resources to inspire the next generation of explorers, and help educators and students stay involved in its missions.

"Back-to-school season is a really exciting time for NASA. It represents the beginning of a new year of opportunities to connect with students and the families and teachers who support them," said Mike Kincaid, associate administrator for NASA's Office of STEM Engagement. "We're thrilled to be able to offer this variety of activities and options for students from K-12 to the collegiate level, whether they're returning to a brick-and-mortar school or a virtual classroom at home." [Learn more here.](#)

NASA has prepared a long list of mission-related resources and opportunities for students, educators, and families to utilize during the 2021-2022 school year. Follow NASA STEM on Twitter and Facebook social media channels using the hashtags #BacktoSchool and #NASASTEM for additional content and updates.

How Hydrogen Trucks Are Shaping The Future Of The Port Of Los Angeles | Forbes



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Energy & Environment Cabinet
Office of Energy Policy Newsletter, July 2019
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