



ENERGY POLICY UPDATE

October 21, 2014

The Energy Policy Update Electronic Newsletter is published by the Arizona Governor's Office Of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international, domestic energy, and environment-related publications that are reviewed by Community Outreach Personnel. For inquiries, call 602-771-1143 or toll free to 800-352-5499. To register to receive this newsletter electronically or to unsubscribe, email [Gloria Castro](mailto:Gloria.Castro@az.gov).

UPCOMING WEBINARS

- ENERGY STAR Webinars
- U.S. Dept. of Energy Tribal Renewable Energy Webinar Series for 2014

UPCOMING EVENTS 2014 – 2015

- [GreenBuild International Conference & Expo](#)
Oct. 22-24 New Orleans, LA
- [AZ Get Into Energy Education Expo](#)
Oct. 24-25 AZ Science Center Phoenix, AZ
- [World Bio Markets USA](#)
Oct. 27-29 San Diego, CA
- [VERGE SF 2014](#)
Oct. 27-30 San Francisco, CA
- [NEW! Solar Zone: Advancing the Next Generation of Innovation](#)
Oct 29, 2014 Tucson, AZ
- [As the World Trades Forum](#)
Nov. 6 Phoenix, AZ
- [Governor's Celebration of Innovation](#)
Nov. 13 Phoenix, AZ
- [Western Water Conference](#)
Nov. 13 Huntington Beach, CA
- [ACEEE Intelligent Efficiency Conference](#)
Nov. 16-18 San Francisco, CA

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The Arizona Republic now has limited access. As such, links may or may not work.

ARIZONA-RELATED

[Arizona Waste Treatment Plant Gets Biomethane Upgrade](#)

Pima County signs contract with Anaergia to use the biogas from wastewater as a renewable fuel source.

[RenewableEnergyFocus.com, Oct. 8] Anaergia Inc. and its project partner Grannus Biogas, LLC, have signed a contract with the Pima County Regional Wastewater Reclamation Department in Arizona to design-build-finance-own-operate large-scale biomethane upgrading facility. The new plant will create biomethane — which is compositionally similar to natural gas — with the goal of displacing non-renewable fossil fuels. According to Jackson Jenkins, director of Pima County Regional Wastewater Reclamation Department, the new biomethane plant will help the country better meet the needs of its residents. “We are very pleased Anaergia will provide Pima County with the best technological solutions available globally, that are both economically and environmentally responsible,” he said. Pima County Regional Wastewater Reclamation Department operates nine wastewater treatment facilities in Pima County, which generate biosolids that can be used to create biogas. The majority of biosolids generated at these wastewater plants are transferred to a centralized wastewater biosolids handling and treatment facility located at the Tres Rios Water Reclamation Facility just outside of Tucson, Arizona, in the Town of Marana. At that facility, biosolids are processed in anaerobic digesters, producing a continuous supply of digester gas which is currently flared.

[Expanded Nogales Port Set To Expand Border Trade](#)

[Arizona Daily Star, Oct. 15] NOGALES — After nearly 10 years of planning and construction, Arizona's largest port of entry is ready to challenge Texas and California as the nation's busiest commercial crossing. The official opening ceremony Wednesday of the Mariposa Port of Entry marked the conclusion of the nearly \$250 million expansion project. Construction began in 2009 and the port stayed open throughout. Improvements at the international crossing include eight commercial lanes, a pedestrian processing area, a dedicated bus lane and 12 passenger vehicle lanes. Local and federal officials — including Sen. Jeff Flake, Rep. Raúl Grijalva and U.S. Ambassador to Mexico E. Anthony Wayne — spoke during the ceremony, highlighting the importance of trade with Mexico to the economy. “Our best trading partner is Mexico; this port of entry is going to be a vital linchpin in increasing economic growth, increased flow of visitors, goods and services, commerce, and yes, enhanced security,” said Grijalva. Mayor Jonathan Rothschild said Tucson would be an immediate beneficiary of the port's expansion. “For Tucson this day is a significant milestone in our economic development as a city,” he said. “As we go out

[Renewable Energy Markets Conference](#)
Dec. 2-4 Sacramento, CA

[Solar Power Generation USA](#)
Feb. 4-5 San Diego, CA

[GreenBiz Forum 2015](#)
Feb. 17-19 Phoenix, AZ

[2015 Sustainability Solution Festival](#)
Feb. 17-22 Phoenix, AZ

[Alternative Clean Transportation \(ACT\) Expo](#)
May 4-7 Dallas, TX

[Solar Power Generation Mexico](#)
May 19-20, 2015
World Trade Center, Mexico

[Green Building Lecture Series](#)
Granite Reef Senior Center
Scottsdale, AZ

[ASU Sustainability Series Events](#)

[Green Building Lecture Series](#)
Scottsdale, AZ

UPCOMING INTERNATIONAL BUSINESS EVENTS

MBDA Global Business Conference - Oct. 23-24 in Phoenix Network. Connect. Do Business. Succeed! [RSVP](#)

PCFR Int'l. State of the State - Oct. 27 in Phoenix
One global event you can't miss every year. The lunch that keeps on giving, with a flavor of foreign policy, economic development and business growth. [RSVP](#)

Global Chamber® Launch - Nov. 5 in Phoenix
Oh my, it's coming! Watch for the new website and a whole new way of getting connected with global business. [More info.](#)

Global Chamber® Tucson Launch - Nov. 6 in Tucson
Also coming to Tucson, introduced by Mayor Rothschild. [More info.](#)

NEW! As the World Trades Forum - Nov. 6 in Phoenix.

Governors Celebration of Innovation - Nov. 13 in Phoenix
By AZ Tech Council, the event for tech innovators in Arizona. [More info.](#)

and we market our city as a logistics hub, as a manufacturing hub, as a place where you want a headquarters to do business internationally, we had to have this piece in place." Originally built in 1973, the port was designed to process 500 trucks a day, said Bruce Bracker, chairman of the Greater Nogales Santa Cruz County Port Authority. When the Port Authority was formed in 2005 to actively lobby state and federal officials, volume was exceeding 1,800 trucks during the peak of the season and long wait times had taken their toll, pushing business to other ports. The new crossing can process 4,000 trucks a day, said Nogales Mayor Arturo Garino, and represents a real challenge to Texas and California.

[Gas Prices Fall Toward \\$3/Gallon Mark](#)

Low demand has gas prices falling in Arizona.

[Arizona Republic, Oct. 16] Gas prices in Arizona are falling and approaching \$3 a gallon, according to the weekly survey by AAA Arizona. The cost is dropping thanks to weak demand and high oil production in the U.S. "Barring unforeseen events, Arizona motorists should continue to experience falling pump prices in the coming weeks," AAA spokeswoman Linda Gorman said. The statewide average price was \$3.15 a gallon Thursday, according to AAA. The cheapest place in the state to buy gas was the Mesa, Gilbert, Chandler region in the East Valley, which averaged \$3.02 a gallon. That price fell almost a dime per gallon in the last week. Even though the average is above \$3 a gallon, plenty of local stations offer gas below that point. The cheapest gas in the state Thursday was \$2.83 per gallon, offered at a Valero station at Osborn Road and 20th Street and two Costco locations, according to Gasbuddy.com. At least 15 stations offered fuel for less than \$2.90 a gallon.

[What's The Best Direction In Which To Position Solar Panels? APS Says West](#)

[Arizona Republic, Oct. 15] Arizona Public Service Co. would like to see more solar panels face the setting sun in the west, producing electricity in the hottest part of the day, when the utility needs it the most. To generate the most power throughout the year, most panels are installed facing south. This ensures they capture sunlight even during winter when the sun is low in the southern horizon, and that they capture as much light throughout the day as the sun moves from east to west. But south-facing panels don't necessarily make electricity at the time when it is needed most, when customers demand the most out of the power plants that supply the region. APS wants to try something else. "What we want to do is get rooftops making electricity further and further into the day," said Marc Romito, APS renewable-energy program manager.

ALTERNATIVE ENERGY & EFFICIENCY

[Biofuel Companies Look beyond the Gas Tank](#)

[New York Times, Oct. 17] At many of the companies opening big new biofuel plants in the Midwest, executives are already shifting their focus to replacing petroleum not only in the gas tank but elsewhere as well. In Abengoa's case, a big target is plastic bottles. "There really is a huge upside potential in the nonfuel side of the business," said Chris Standlee, executive vice president for global affairs at the company. "Hugoton is the step that allows us to move on to some of these other things." Other companies are joining in. DuPont, which is developing a plant in Nevada, Iowa, recently said it had reached a deal with Procter & Gamble to funnel some of its ethanol into Tide Cold Water laundry detergent. And companies using other technologies are pursuing similar paths. Under an agreement with Unilever, for instance, Solazyme, which uses microalgae to produce oils, is making ingredients for Lux soaps.

[Canada's \\$7 Billion Hydro-Dam Project Wins Environmental Approval](#)

[RenewableEnergyWorld.com, Oct. 16] British Columbia's C\$7.9 billion (\$7 billion) Site C hydroelectric dam on the Peace River won environmental approval, paving the way for final decision later this year. [The project proposed by provincially owned BC Hydro & Power Authority](#) would involve construction of a power station near Fort St. John and the flooding of about 5,400 hectares (21 square miles) of land in B.C.'s northeast. The government of Canada's westernmost province, which accepted the results of the environmental review today and will make the final decision, has been deliberating on the assessment for more than three years.

[Falling Gasoline Prices Make Alternative-Fuel Vehicles a Tougher Sell](#)

[Automotive News, Oct. 20] For a sign of the challenges in selling fuel efficiency as a virtue, Tanner Hulette need only look at the signs near his dealership advertising gasoline for \$2.70 a gallon. Hulette, general manager of Mechanicsville Toyota near Richmond, Va., said he's seeing higher demand for pickups and SUVs, and less interest in the Prius hybrid. The store's year-to-date light-truck sales are up 5 percent while car sales are down 5 percent. "The floor traffic is dictated by what's going on with fuel," Hulette said. "If we didn't have SUVs and light trucks right now we'd definitely be feeling some pain." The national average price of gasoline hit \$3.14 per

gallon last Friday, the lowest level since at least February 2011, after falling 10 cents per gallon last week alone, the fastest rate of decline in roughly two years, according to AAA. Gasoline prices tend to decline every fall, but the recent drop highlights what analysts and economists see as a broader trend toward moderate and more stable fuel prices in the U.S., one fueled by the boom in U.S. oil production, a more efficient fleet and softening global demand for oil. The U.S. Energy Information Administration, the Energy Department's research arm, says gasoline prices will fall from a projected \$3.45 per gallon this year to \$3.38 next year, which would be the third straight year of lower prices.

[First of a Kind Biorefinery Features Cogeneration Component](#)

Will generate up to 21 MW of electricity

[Fierce Energy, Oct. 20] Abengoa recently celebrated the grand opening of a new biomass-to-ethanol facility -- a "first of a kind" commercial scale biorefinery that will allow Abengoa to produce renewable liquid fuel from one of the most abundant organic feedstock sources, plant fiber or cellulosic biomass. The Abengoa Bioenergy Biomass of Kansas (ABBK) facility, located about 90 miles southwest of Dodge City in Hugoton, Kansas, will be sold into the ethanol commodity market and used to fuel light duty vehicles. "Every gallon of cellulosic ethanol produced and used to fuel our vehicles reduces the impact of harmful greenhouse gas emissions by greater than 60 percent as compared to conventional gasoline," said Secretary Moniz at the grand opening. "The Department is committed to supporting innovative technologies, from an early idea in the lab to a full, commercial-scale source of clean energy. As part of the Administration's all-of-the-above approach to homegrown American energy, the production of cellulosic ethanol creates economic opportunities for rural communities, helps diversify our energy portfolio, and moves us closer to a low-carbon energy future." The facility uses a proprietary enzymatic hydrolysis process, which turns cellulosic biomass, including non-edible corn stalks, stems and leaves, into fermentable sugars that are then converted into transportation fuels. The plant will utilize approximately 1,100 dry tons of biomass per day in the ethanol production process, the residue from which will be combusted along with 300 tons a day of feedstock to produce electricity. The plant's electricity cogeneration component will generate up to 21 MW of electricity -- enough to power itself and provide excess clean, renewable power to the local community. Once operating at full commercial-scale, the biorefinery will produce up to 25 million gallons of cellulosic ethanol per year -- enough to avoid 132,000 metric tons of carbon dioxide annually and the equivalent of removing 28,000 vehicles from the road.

[SEIA Report Details Benefits of Solar Heating and Cooling Systems](#)

[Solar Industry Magazine, Oct. 9] A new [report](#) by the Solar Energy Industries Association's (SEIA) U.S. Solar Heating & Cooling Alliance says solar heating and cooling (SHC) technology has an important role to play in lowering energy use and saving money in commercial buildings in the U.S. According to the report, heating and cooling represent an average of 35% of commercial buildings' energy usage. Because SHC systems generate [thermal energy](#) on-site and displace the price-volatile fossil fuels traditionally used for heating and cooling, including SHC systems in new building financing can often lead to fuel cost savings that exceed the monthly payment for a financed system, the report says.

[Solar Businesses Ready To Roll with Clean Power](#)

[Solar Energy Industries Association, Oct. 16] WASHINGTON, DC - More than 500 solar industry leaders from hundreds of businesses issued a [letter](#) to the White House today, endorsing limits on carbon pollution from power plants and advocating that solar energy become a focal point of the U.S. Environmental Protection Agency's proposed Clean Power Plan. "As solar power installers, manufacturers, designers, aggregators, product suppliers, and consultants, we welcome the unveiling of the Clean Power Plan," reads the letter, organized by the advocacy group Environment America. "This plan is a critical step toward transforming our energy system to one that protects our health and environment, and that of our children." To address the growing threat of climate change, in June the U.S. EPA proposed a requirement that power plants nationwide cut carbon emissions 30 percent by 2030. The plan is open for public comment until December 1st, and is due to become final next year. Solar businesses said they were ready and eager to help meet and exceed the pollution reductions proposed by EPA.

ENERGY/GENERAL

[Big Box Retail's Latest Bright Idea: Solar Power](#)

[Bloomberg, Oct. 20] Big companies are finally beginning to see the light. Over the past two years, the top 25 corporate solar users in America have more than doubled their capacity, according to a [new report](#) by the Solar Energy Industries Association. Cumulatively, these companies produced enough electricity last year to power more than 115,000 homes. Leading

the pack by a significant margin: Wal-Mart Stores ([WMT](#)). The retail giant produced 105 megawatts of power last year at 254 locations in the U.S. Eight of the top 13 companies identified in the solar-power study are big-box retailers, including Costco ([COST](#)), Macy's ([M](#)), Kohl's ([KSS](#)), and Bed Bath & Beyond ([BBBY](#)).

[Coal Supply Cuts Signal Challenging Winter for Utilities](#)

[Bloomberg, Oct. 16] NRG Energy Inc. (NRG), the largest publicly traded U.S. independent power producer, faces challenges supplying grids with electricity this winter because of reduced stockpiles at its coal plants, Chief Executive Officer David Crane said. Last winter's arctic blast known as the polar vortex has already put generators on alert. Now, as rail operators are focused on oil deliveries amid the U.S. shale boom, it has been difficult for Princeton, New Jersey-based NRG to move coal to plants, Crane said in an interview at Bloomberg News headquarters in New York. That may mean tight supply again during the cold months for the grids NRG serves from California to the Northeast. "Coal piles around the country have gotten to levels that don't make us 100 percent comfortable," Crane said. Coal stocks fell 28 percent to 103.7 million tons in July from a year earlier, reducing the number of days of fuel supply to 39 from 57, according to the most recent U.S. Energy Information Administration data available. Some coal-fired power producers were forced to take deliveries by truck and reduce or idle output as they competed for rail space with petroleum products and a record grain harvest, the government said.

[Despite Slumping Prices, No End in Sight for U.S. Oil Production Boom](#)

[New York Times, Oct. 17] HOUSTON — Falling [oil](#) and [gasoline](#) prices have sent oil company stocks tumbling, but oil experts say the boom in American energy production shows no signs of slowing down, keeping the market flush with crude and gasoline prices low. Even after a drop of as much as 25 percent in oil prices since early summer, several government and private reports say that it would take a drop of \$10 to \$20 a barrel more — to as low as \$60 a barrel — to slow production even modestly. On the downside, taxes and royalties on oil will decline, potentially cutting into the finances of oil-producing states like Texas, Alaska, Oklahoma and North Dakota. And it will continue to put pressure on the Organization of the Petroleum Exporting Countries to cut output to support prices, as well as cause economic pain to big producers like Russia, Venezuela and Iran. Current production levels can be sustained in the shale fields in 2015 even if the Brent global oil benchmark, which fell to just under \$84 a barrel at one point this week, dropped to as low as \$60 to \$65, according to Rystad Energy, an international oil and gas consultancy based in Norway.

[How Grid Efficiency Went South](#)

[New York Times, Oct. 7] Almost every rooftop solar panel in the United States faces south, the direction that will catch the maximum energy when the sun rises in the southeast and sets in the southwest. This was probably a mistake. The panels are pointed that way because under the rules that govern the electric grid, panel owners are paid by the amount of energy they make. But they are not making the most energy at the hours when it is most needed. Solar panels thus illustrate how the rules add cost and reduce environmental effectiveness, critics say, because they are out of step with what the power grid actually needs from intermittent renewables like wind and sun, and from zero-carbon nuclear power. With the existing price structure, "we incentivize maximum power generation," said James Tong, the vice president for strategy and government affairs at Clean Power Finance, an investment firm. But in most parts of the country, there is plenty of electricity available from other sources in the morning and midday. Crunch time is late afternoon, when temperatures are higher and air-conditioners are working hard, and inefficient plants running on [natural gas](#) or even coal are cranked up to the maximum. That is obvious from the wholesale power market, where prices reach a peak in the late afternoon. But at that point, the declining sun is hitting the panels at an oblique angle, reducing power output. "The needs of the grid may mean that they should be pointed west," more toward the setting sun, said Mr. Tong. That way, a bigger portion of their production would come at the hours when electricity was most needed. But their total production would be a bit lower, and that would hurt panel owners, at least under current rules.

[How Minnesota's Highways Are Poised To Become Renewable Energy Generators](#)

Minnesota's highways are poised to become green energy generators with up to five 1-megawatt solar panel arrays built on public right-of-way around the state. If the pilot project proceeds as planned it would exceed the total capacity of a solar installation at [Minneapolis-St. Paul International Airport](#) expected to go online next fall and touted this month as the largest in Minnesota. The state Department of Transportation is [soliciting proposals](#) through Nov. 3 for solar developers to lease land along highways that they would select for the installations.

MnDOT, with expertise in pavement and bridges, is leaving most of the solar details to experts in that field. "We don't even know how many potential solar sites we have," said Rick Morey, the agency's project manager. "We're looking for a simple landlord-tenant relationship." Once sites are suggested, MnDOT would determine only that they had no potential impacts on traffic operation and safety, then negotiate a fair market rental rate required by state law. Leases will extend 20 years, four times longer than most roadside rentals but considered necessary to allow a return on the heavy investment in solar arrays. MSP's 3-megawatt facility, for example, will cost \$25.4 million, but is expected to net \$10 million in benefits for the airport over 30 years. MnDOT recently launched an agency-wide push to increase revenue from roadside rentals, which dipped just below \$400,000 in fiscal 2014 from the peak a decade ago of about twice that, said Bonnie McCabe of the agency's land management office. Most existing leases are for farming or commercial parking, she said. Counties get 30 percent of the money in lieu of property taxes; the rest goes to the state Trunk Highway Fund. The solar initiative developed separately in response to inquiries from "a couple of companies," Morey said. They are expected to focus on south-facing highway embankments large enough for a 1-megawatt array, at least one acre. Many highways also are routes for power lines, which solar installations could plug into.

INDUSTRIES AND TECHNOLOGIES

[Energy Department Announces Funding To Develop Improved Next Generation HVAC Systems](#) [U.S. Dept. of Energy – EERE website, Oct. 15] The Energy Department today announced nearly \$8 million to support research and development of the next generation of heating, ventilating, and air conditioning (HVAC) technologies. The R&D will focus on developing regionally appropriate HVAC solutions that would offer significant potential energy savings for new and existing buildings, and on developing innovative approaches that could replace current vapor compression HVAC technologies and their use of refrigerants that harm the global environment. Currently, HVAC systems account for the largest proportion of energy used in buildings, consuming almost 14 quadrillion British thermal units (quads) of primary energy annually—or nearly 30% of all energy used in commercial and residential buildings. Developing non-vapor-compression HVAC systems could potentially lead to an estimated 40% primary energy savings over current technologies.

[Energy Storage Fuels](#)

[Forbes, Oct. 20] Shipments of fuel cell technology from the likes of [Plug Power PLUG -1.1%](#), [Bloom Energy](#) and myriad other players should reach 1.5 million annually by 2023, according to [new projections](#) from Navigant Research. Right now, the main driver is installations for industrial and commercial buildings, where fuel cells are gaining credibility as a power back-up alternative during outages or to complement demand response strategies (in which business reduce their load on the electric grid for a break in pricing). Two big geographies for that back-up market are North America and emerging economies in Southeast [Asia](#).

[IBM "Sunflowers" To Supply Off-Grid Energy, Water, and Cooling](#)

[GizMag.com, Oct. 8] Looking rather like a 10-meter (33 ft) tall sunflower, IBM's High Concentration PhotoVoltaic Thermal (HCPVT) system concentrates the sun's radiation over 2,000 times on a single point and then transforms 80 percent of that into usable energy. Using a number of liquid-cooled microchannel receivers, each equipped with an array of multi-junction photovoltaic chips, each HCPVT can produce enough power, water, and cooling to supply several homes. Swiss-based supplier of solar power technology, Airlight Energy, has partnered with IBM Research to utilize IBM's direct wam-water cooling design (adapted from use in IBM's [SuperMUC supercomputer](#)), water adsorption technologies, and leverage IBM's past work with multi-chip solar receivers developed in a collaboration between IBM and the Egypt Nanotechnology Research Center, to develop and produce the system. Using a 40-sq-m (430.5-sq-ft) parabolic dish coated with 36 plastic foil elliptic mirrors just 0.2 mm thick, the HCPVT system prototype concentrates the sun's radiation onto a number of liquid-cooled receivers, each of which contains an array of 1-cm² (0.39 in²) chips that each generate "up to 57 watts of electrical power when operating during a typical sunny day," combining to produce 12 kW of electrical power and 20 kW of heat. Micro-structured conduits pump treated water around these receivers to carry away excess heat at a rate that is claimed to be 10 times more effective than passive air cooling. Although the water is still subsequently heated to around 85-90° C (183-194° F), the removal of heat from the chips keeps them at a relatively cool safe operating temperature of around 105° C (221° F). Without this cooling, the concentrated energy of the sun would see the chips reach temperatures of over 1,500° C (2,732° F).

[Liquid-Cooled Supercomputer Saves NREL \\$1M in Energy Costs](#)

[Energy Manager Today, Oct. 20] Crunching a quadrillion calculations per second takes a lot of energy, so it's not surprising that supercomputing data centers generate a lot of heat. Hewlett-Packard (HP) and the US Department of Energy (DOE) National Renewable Energy Laboratory (NREL) have created a supercomputer that uses warm water to cool its servers and then reuses that water to heat the building. *R&D Magazine* recognized the supercomputer as one of the top innovations of the year, [NREL reports on its website](#). The supercomputer—dubbed the Peregrine—is housed in NREL's [Energy Systems Integration Facility](#) (ESIF) and is the first installation of the [HP Apollo 8000 platform](#). Using more than 31,000 Intel Xeon processors to provide a total capacity of 1.19 petaflops, Peregrine provides sufficient heat to meet the needs of the 182,500-square-foot ESIF and is saving NREL about \$1 million a year in energy costs. The ESIF consumes 74 percent less energy than the national average for office buildings. It has been designated a LEED Platinum building and was named 2014 Laboratory of the Year by *R&D Magazine*.

[SunEdison In Talks for \\$2 Billion China Polysilicon Plant](#)

[Bloomberg, Oct. 16] SunEdison Inc. (SUNE), the best-performing U.S. solar company this year, is negotiating with a Chinese company about investing as much as \$2 billion to build a polysilicon plant in China. The plant will have "the lowest cost" in the world if it's in China, SunEdison President Ahmad Chatila said today in an interview in Beijing. The cash cost for making the commodity used in solar panels will be less than \$6 a kilogram, about \$2 below the next lowest competitor, he said. The decision is the latest evidence of recovery in the solar industry after a capacity glut depressed prices and margins for manufacturers worldwide. GCL-Poly Energy Holdings Ltd. (3800) of China and Wacker Chemie AG (WCH) in Germany, which are two of the biggest makers of polysilicon, are expanding production of the commodity that sells for \$20.96 a kilogram.

LEGISLATION AND REGULATION

[DOE Proposes New Efficiency Standards for Rooftop Air Conditioning Energy Use](#)

[NASEO, Oct. 16] The U.S. Department of Energy (DOE) recently proposed new efficiency standards today that would slash commercial rooftop air conditioner energy use by about 30%. The proposed standards would achieve the largest national energy savings of any standard ever issued by DOE. "DOE's new standards are a breath of cool air for businesses since air conditioners account for about 10 percent of a typical commercial building's electricity cost," said Steve Nadel, executive director of the American Council for an Energy-Efficient Economy. "The new standards will drive innovative, energy-efficient air conditioners into buildings across America, not only saving businesses money, but also reducing electricity demand and environmental emissions." "Commercial cooling is a big part of the electricity load in many parts of California," said Vincent Davis, senior director of Energy Efficiency at Pacific Gas and Electric Company (PG&E). "Working through our efficiency programs, PG&E and the other California utilities have encouraged installation of high efficiency commercial cooling systems. These proposed new national standards will help further drive energy savings for customers." DOE estimates that over the lifetime of units sold over thirty years, the proposed standards would save businesses between \$16 and \$50 billion and reduce electricity consumption by about 1.3 trillion kilowatt-hours, or enough energy to cool all the commercial buildings in the U.S. for 7 years. The new standards would net a typical building owner between \$3,500 and \$16,500 over the life of a single commercial rooftop air conditioner. Overall savings will often be higher since most buildings have multiple units. For example, a big-box store can have more than 20 rooftop air conditioners. Rooftop air conditioners are commonly used in low-rise buildings such as schools, restaurants, big-box stores, and small office buildings. They cool about half of the total commercial floor space in the United States. (Most of the other half is cooled by chilled water systems, residential-type central air conditioners, or individual air conditioners mounted in windows or external walls.)

[Energy Conservation Standards Target Fluorescent Lamps, Water Heaters](#)

[The Hill, Oct. 20] The Department of Energy (DOE) is considering new energy conservation standards for some water heaters and fluorescent lamps, the agency announced Monday. Even as the Energy Department moves to [halt energy conservation standards](#) for high-intensity discharge lamps, the agency said Monday it is working on new efficiency rules for a handful of other devices, including fluorescent lamp ballasts, which control electrical current. The [proposed rules](#) would include new test procedures to measure the energy and water consumption of fluorescent lamp ballasts. The DOE is also considering new energy conservation standards for [solar-thermal water heating systems](#), [commercial water heaters](#), hot water supply boilers, and unfired hot water storage tanks. The public has 30 days to comment on all three proposals.

[EPA Releases Guidance To Improve Schools' Indoor Air Quality and Energy Efficiency](#)

[NASEO, Oct 17] The U.S. Environmental Protection Agency (EPA) recently released new guidance to help school districts protect indoor air quality while increasing energy efficiency during school renovations. "This guidance provides common-sense solutions for improving energy efficiency and indoor air quality in schools across the country," said Janet McCabe, acting assistant administrator for EPA's Office of Air and Radiation. "By using these guidelines, school districts can cut their energy bills and help ensure that students have a healthy and safe learning environment." Both energy management and protection of indoor air quality (IAQ) are important considerations for school facility management during energy upgrades and retrofits, and schools can protect occupant health by addressing both goals holistically. These renovation and construction activities can create dust, introduce new contaminants and contaminant pathways, create or aggravate moisture problems, and result in inadequate ventilation in occupied spaces. EPA's Energy Savings Plus Health: Indoor Air Quality Guidelines for School Building Upgrades offers opportunities to prevent and control potentially harmful conditions during school renovations.

WESTERN POWER

[California's Drought Taking a Toll on Hydropower](#)

[The Weather Channel, Oct. 20] Impacts from California's worsening drought continue to add up, and this time, a renewable energy source is taking a hit. A report from the U.S. Energy Information Administration (EIA) [details how California's hydropower generation](#) has been decimated by the drought, dropping to unprecedented levels. The numbers are telling: From 2004 to 2013 hydropower accounted for 20 percent of California's total energy generation during the first six months of the year; in 2014, that total dropped to just 10 percent during the same time period. Even though California's drought began in 2011, water levels in reservoirs across the state started to dramatically drop starting in 2013 because of a prolonged absence of water -- [to the tune of 4 trillion gallons a year](#). Lower water levels result in a decreased capacity to funnel large quantities of water through turbines at hydroelectric dams, and thus, generate electricity.

[EPA Announces \\$43 Million for Southwest Tribes](#)

[Associated Press, Oct. 15] Sacramento, CA — The U.S. Environmental Protection Agency on Wednesday announced \$43 million for Native American environmental projects in Arizona, California and Nevada, including ones that respond to drought as extremely dry conditions persist across large swaths of the Southwest. Tribes stand to receive money for a variety of needs, including cleaning open dumps, establishing waste-water systems, and improving community outreach and educational programs. The annual funding is distributed among 148 tribes with territories that make up half the land in Indian Country. "In many cases, they're poor, rural communities, and those communities don't have a lot of capacity for infrastructure," EPA regional administrator Jared Blumenfeld told The Associated Press. "In some cases, you go to the tribes and the only paid people are the environmental folks." The funding announcement accompanied the start of a three-day tribal EPA conference in Sacramento. Native American communities must abide by certain federal environmental regulations, but local leaders say they often lack money and technical expertise to meet their obligations. The problems have been aggravated by a three-year drought in California, where 44 tribes are in danger of running out of water in the next six months, Blumenfeld said. He said California Native American communities have been scrambling to adapt to dry conditions compared with tribes in other Western states. The \$18.8 million in California grants announced Wednesday includes several million dollars for help with water supplies.

[First National Carbon Emission Cap-and-Trade Program Vulnerable to Market Meltdowns](#)

[Fierce Energy, Oct. 17] No other state or country in the world has attempted to regulate the sale of gasoline and diesel under a cap-and-trade program, but on January 1, 2015, California will, for the first time, include transportation fuels -- gasoline, diesel and propane -- in the nation's first carbon emission cap-and-trading scheme. As California readies to launch this major expansion of its three-year-old cap-and-trade program administered by the California Air Resources Board (CARB), the Western States Petroleum Association (WSPA) is calling the program flawed. Under this program, power producers operating in California must purchase carbon allowances from CARB to cover their emissions of greenhouse gases. Specifically, a new report from Latham & Watkins law firm and commissioned by WSPA identifies what it calls "major design flaws" that make the program "vulnerable to market meltdowns." "Past experience demonstrates the importance of proper design," writes report author Jean-Philippe Brisson, a carbon markets expert with the Latham & Watkins law firm in New York and a former Goldman Sachs vice president and commodity trader. "Market design flaws can result -- and have resulted -- in

catastrophic implications for environmental markets around the globe."

[Geothermal Power Industry Lost Steam But May Be Poised for Comeback](#)

[LA Times, Oct. 19] Geothermal power was once king of California's renewable energy. So many companies were clamoring to transform steam into electricity that they sucked the world's largest geyser field dry. But the industry's shortsightedness — and its slowness to innovate — left geothermal floundering for three decades in the shadows of the solar and wind energy juggernauts. Now, industry leaders say the energy harnessed from the Earth is poised for a renaissance, powered by new technology that will boost production, pare costs and expand its reach. "We had been in a gradual decline, but we've turned the corner," said Doug Hollett, director of the federal Energy Department's Geothermal Technologies Office. "The growth curve for geothermal is extremely exciting." Some impetus for the change has come from within. The geothermal industry's not-so-politically-savvy leaders, mostly geologists and mechanical engineers, had since the 1980s been eclipsed by hard-charging solar and wind energy developers who play the lobbying game, and play it well. Geothermal's leaders watched and learned. Their challenge now, they say, is regaining some of the lost political and financial ground. "We thought our competitors were fossil fuels," said Bob Sullivan, senior vice president of Ormat Technologies Inc., the nation's largest geothermal developer. "Now we're finding that our competitors are other renewable technologies." Although geothermal companies are unlikely to be the energy giants that solar and wind producers have become, new technology could enable the industry to grow far beyond the Western states.

[NM To Offer State Land for New Solar Power Plants](#)

[Power Engineering, Oct. 15] Santa Fe, N.M. — The State Land Office is accepting bids from companies interested in developing what would be [New Mexico's](#) largest solar power plant. Land Commissioner Ray Powell wants to lease four square miles of state trust land in southern New Mexico for the development of a 150 MW solar power plant. Powell says the plant would be three times bigger than the state's largest existing plant. It would be capable of producing enough renewable power for more than 54,000 average homes.

[Texas Battles EPA on Carbon Emissions Rules](#)

[Energy Manager Today, Oct. 15] Representatives and officials from the state of Texas are pushing back against the Environmental Protection Agency's proposed new federal standards to reduce emissions of greenhouse gases, saying that they will disproportionately affect the state and that the new guidelines might be out of compliance with previously-passed legislation. In an ongoing effort by the Obama administration to reduce the country's contributions to global warming and climate change by promoting energy sources such as solar, wind, natural gas and nuclear power that create fewer emissions or none at all, the EPA has released a draft proposal of the Clean Power Plan. These new federal guidelines will require power plants to reduce carbon emissions by as much as 50% in some cases by the year 2030, with an interim goal set for 2020. Kenneth Anderson, a member of the Texas state utility commission, said at a House hearing that the new standards could make Texas responsible for 25% of the overall reduction for the United States, even though the state produces only 11% of the nation's energy. Texas is the largest producer of carbon emissions in the country by a wide margin, so it would have to reduce emissions by much more than other states. Another challenge is the interim goal set for 2020, which would require major infrastructure changes to be in place and at least partially working within six years, a target that seems untenable to opponents of the proposed guidelines. Texas has just completed a huge \$7 billion [electricity infrastructure](#) project to make better use of the state's abundant wind energy capacity. Ratepayers aren't likely to have the stomach for another multi-year, multi-billion dollar infrastructure plan that would likely drive up electricity rates.

[The Risks of Cheap Water](#)

[New York Times, Oct. 14] This summer, California's water authority declared that wasting water — hosing a sidewalk, for example — [was a crime](#). Next door, in Nevada, Las Vegas has paid out \$200 million over the last decade for homes and businesses [to pull out their lawns](#). It will get worse. As climate change and population growth further stress the water supply from the drought-plagued West to the seemingly bottomless Great Lakes, states and municipalities are likely to impose increasingly draconian restrictions on water use. Such efforts may be more effective than simply exhorting people to conserve. In August, for example, cities and towns in California consumed much less water — 27 billion gallons less — than in August last year. But the proliferation of limits on water use will not solve the problem because regulations do nothing to address the main driver of the nation's wanton consumption of water: its price. "Most water problems are readily addressed with innovation," said David G. Victor of the University of California, San Diego. "Getting the water price right to signal scarcity is crucially important." The

signals today are way off. Water is far too cheap across most American cities and towns. But what's worse is the way the United States quenches the thirst of farmers, who account for 80 percent of the nation's water consumption and for whom water costs virtually nothing. Adding to the challenges are the obstacles placed in the way of water trading. "Markets are essential to ensuring that water, when it's scarce, can go to the most valuable uses," said Barton H. Thompson, an expert on environmental resources at Stanford Law School. Without them, "the allocation of water is certainly arbitrary." Two studies to be presented at a forum next week organized by the Hamilton Project at the Brookings Institution and the Stanford Woods Institute for the Environment make the case that [markets](#) and [prices](#) are an indispensable part of the tool kit to [combat scarcity](#). They are essential to induce both conservation and investment in water-saving technology, and to steer water to where it is valued most. "There is enough water; we can live within our means," said Jim Lochhead, chief executive of Denver Water. "But the systems we have in place simply do not have enough flexibility to move water to the places where it is most needed." The price of water going into Americans' homes often does not even cover the cost of delivering it, let alone the depreciation of utilities' infrastructure or their R&D. It certainly doesn't account for other costs imposed by water use — on, say, fisheries or the environment — caused by taking water out of rivers or lakes. Consumers have little incentive to conserve. Despite California's distress, about half of the homes in the capital, Sacramento, still don't have water meters, paying a flat fee no matter how much water they consume.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

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