ENERGY POLICY UPDATE

September 15, 2014

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UPCOMING WEBINARS

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

UPCOMING EVENTS 2014 – 2015

Arizona's Energy & Water Future: A Candidate Forum
Sep. 16 ASU, Downtown Campus - Phoenix, AZ

Arizona Technology Summit
Sep. 17 Phoenix, AZ

HTUF 2014 Nat'l. Meeting - The Forum for Action in High-Efficiency Commercial Vehicles
Sep. 22-24 Argonne, IL

EPA Clean Power Plan Stakeholder Meeting
Sep. 24 Phoenix, AZ

World Energy Engineering Congress
Oct. 1-3 Washington, DC

Geothermal Energy Expo
Sep. 28-Oct. 1 Portland, OR

SRP 2015 Economic Forecast
Oct. 2 Phoenix, AZ

AWEA Offshore Windpower Conference & Exhibition 2014
Oct. 7-8 Atlantic City, NJ

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

ARIZONA-RELATED

APS Planning Changes for Its Cholla Power Plant
[Arizona Daily Star, Sept. 11] PHOENIX — Arizona Public Service Co. is planning to close one of its four generators at a northern Arizona power plant in less than two years. Under a proposal APS is discussing with the Environmental Protection Agency, the 260-megawatt Unit 2 of the Cholla Power Plant in Joseph City will close in April 2016. The plant's No. 1 and No. 3 units could convert to natural gas or close in 2025 when the plant's coal contract expires. The EPA and Arizona Corporation Commission still must approve the plan.

Arizona's Drought Not Impacted by Record Rainfall
[Arizona Republic, Sept. 9] Despite seeing record rainfall on Monday, Arizona is unlikely to see an improvement in drought conditions that are impacting much of the state, officials say. The deluge, which dumped more than 3 inches of rain in Phoenix and flooded parts of the Valley, provided some short-term benefits to crops and the soil, National Weather Service forecaster Mark O'Malley said. Even though there was enough rain from the storm to put Phoenix back on track in terms of yearly rainfall totals, the state still needs strong snowfall accumulation during the winter for drought conditions to improve. Over half of Arizona is facing severe drought conditions or worse, according to the U.S. Drought Monitor. Arizona relies on snowfall to fill up its reservoirs, but there has not been an adequate amount of precipitation in recent years, O'Malley said. For example, last winter's snowfall in Flagstaff was 31 percent of what it normally gets, according to data from the National Weather Service. O'Malley said there was no indication that snowfall this winter would help alleviate the dry conditions.

ASARCO Plans $100 Million Upgrade of Hayden Smelter To Meet New EPA Sulfur Dioxide Emission Limits; Project Not Expected To Disrupt Operation of Plant or Employees' Hours
[Copper Area News, Aug. 26] Plans for a $110 million upgrade of the Hayden copper smelter that will bring the apparatus in compliance with new federal regulations concerning emissions of sulfur dioxide (SO2) have been filed by owner ASARCO/Grupo Mexico with the Arizona Department of Environmental Quality (ADEQ). The rules issued by the US Environmental Protection Agency (EPA) require that SO2 emissions from the smelter be reduced from 140 ppb (parts per billion) to 75 ppd during a 24-hour period. The Hayden smelter has until Oct. 3, 2018 to meet this standard. Meeting the standard is important to keep the Hayden copper smelting plant operating and providing employment for residents of the Hayden/Winkleman area. To meet EPA's goal, the plan ASARCO filed on June 24 with ADEQ describes a converter retrofit project that will replace the smelter's five current 13-ft. diameter converters with three 15-ft. diameter converters. Also

Ute Tribe Energy Conference & Expo
Oct. 14-15 Denver, CO

Nat'l. Alternative Fuel Vehicle (AFV) Day Odyssey
Oct. 17

Solar Power International.
Oct. 20-23 Las Vegas, NV

GreenBuild International Conference & Expo
Oct. 22-24 New Orleans, LA

World Bio Markets USA
Oct. 27-29 San Diego, CA

VERGE SF 2014
Oct. 27-30 San Francisco, CA

Governor's Celebration of Innovation
Nov. 13 Phoenix, AZ

ACEEE Intelligent Efficiency Conference
Nov. 16-18 San Francisco, CA

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

included in the plan are the installation of improved primary and secondary hoods, and an electrostatic precipitator for solids removal prior to SO2 recapture at the smelter's existing acid plants. Larger ladles (300 cu. ft. instead of 200 cu. ft.) will be installed to reduce the number of hot metal transfers. Additional upgrades will capture secondary gases and direct them to the acid plant for conversion to a sulfuric acid product. Overall the plan aims to reduce SO2 emissions at the Hayden smelter by 85 percent, with a total SO2 capture rate of 99.7 percent of what is produced during the copper smelting process.

Casa Grande Water Plant Expansion Plan Moves Forward

[Pinal Partnership, Sept. 8] With a stamp of approval on a proposed zone change from Casa Grande's Planning and Zoning Commission, an Arizona Water Company plan to increase production at its Henness Road treatment facility is moving forward. The commission on Thursday agreed to forward a favorable recommendation to the Casa Grande City Council to change the facility's zoning category from Urban Ranch to Single-family Residential.

EPA Backs Ariz. Co-Ops' Haze Plan

[Arizona Daily Star, Sept. 10] The U.S. Environmental Protection Agency is backing a less costly plan floated by Arizona's Generation & Transmission Cooperatives (known as AzGT) to cut emissions from the Apache Generating Station that contribute to regional haze. The EPA's proposed approval of the co-ops' plan comes two years after the agency issued an implementation plan that would have required installing expensive "selective catalytic reduction" technology on both of the coal units at the Apache Generating Station in Cochise, south of Willcox. That plan, which went through a public comment period and hearing last year, would have cost more than $200 million and could have forced the plant to close one or both of its coal-fired units, AzGT said in a news release. AzGT supplies power to six member electric co-ops, including Marana-based Trico Electric Cooperative. The revised plan submitted last year by AzGT calls for converting one of Apache's generating units to natural gas and installing upgraded emissions controls on both units, resulting in overall emissions reductions greater than the EPA's original plan at a cost of just $32 million. The EPA announced Tuesday that the proposal will soon be filed in the Federal Register, kicking off a 45-day comment period before final adoption.

First Solar Wants $20 Million Test Farm in Mesa

[Arizona Republic, Sept. 11] Tempe-based solar-panel manufacturer First Solar wants to develop a 20-acre test farm in east Mesa, a project that could include 18 jobs and $20 million in investment for the area, according to documents submitted to the city. The Nasdaq-traded company is seeking Mesa zoning and design approval for the First Solar Arizona Test Site, proposed near 80th Street and Germann Road, just south of Phoenix-Mesa Gateway Airport. First Solar would be relocating employees from the company's former Mesa property at Elliot and Signal Butte roads, where GT Advanced Technologies is now mass producing sapphire crystal for electronics giant Apple Inc. The project would allow First Solar to retain the jobs in Mesa but would not create any new positions, spokesman Steve Krum said. The company will maintain some testing operations at the current site near the Apple factory, Krum said.

Salt River Explores How To Integrate More Rooftop Solar

[Arizona Republic, Aug. 25] Salt River Project is looking down the road at how the utility might integrate more rooftop solar without disrupting voltage for customers. When it's not being used by the home or business with solar panels, the solar electricity flows along the utility's distribution circuits — the smaller power lines, not the larger transmission lines that carry power from rural power plants to the city. SRP has about 1,500 distribution circuits serving its nearly 1 million customers in central Arizona. Nearly 80 percent are underground. Each circuit must operate within a certain range for voltage, which can be thought of the same way as pressure in a water pipe. Usually, the voltage decreases the farther down the circuit a customer resides. SRP must ensure customers at the end of the line have enough voltage without providing too much for those at the start of a line, said John Coggins, senior director of power system planning and engineering.

Secretary of Agriculture Delivers Talk on 'Homegrown Energy' and the Need for Innovation

[ASU News, Sept. 4] Developing a deeper understanding of agriculture's role in the future of energy, innovation and economic growth, particularly in rural areas, will be key to addressing global sustainability challenges, said U.S. Secretary of Agriculture Tom Vilsack during his talk Sept. 4 at Arizona State University. Vilsack spoke on "Homegrown Energy: Unlimited Opportunity for Innovation" as part of the Sustainability Series at ASU's Julie Ann Wrigley Global Institute of Sustainability. The lecture series, which explores a range of environmental, social and economic issues, gave Secretary Vilsack the opportunity to discuss with students and faculty the U.S. farming shift to renewable energy. While each year fewer Americans – less than one percent – claim farming as an occupation, the number of ranchers and farmers transitioning to renewable

energy sources is on the rise, according to the 2012 Census of Agriculture, which saw that number double from 2007. Solar panels accounted for nearly two-thirds of farms' energy-producing systems. “The U.S. Department of Agriculture is partnering with the U.S. Departments of Defense and Energy to reduce our reliance on fossil fuels and diversify our portfolio of biofuels and other renewable energy sources,” Vilsack said. “We are also engaging with universities like ASU to explore innovative solutions for challenges related to energy, food and sustainability.”

ALTERNATIVE ENERGY & EFFICIENCY

Corn Waste to Gasoline: First Commercial Plant Operating in Iowa

[SustainableBusiness.com News, Sept. 5] The first biofuel plant that runs on corn waste has begun commercial production in Iowa - Project LIBERTY. POET - one of the big corn ethanol companies - will produce 25 million gallons of cellulosic ethanol a year from the plant for use in transportation fuels. Yeast and enzymes convert corn cobs, leaves, husks and stalk into fuel. Corn waste will be sourced from 450 farmers that are within 30-40 miles of the plant and it runs on a biogas anaerobic digester and solid fuel boiler. Farmers typically regard corn stover as waste and have to pay for it to be removed. Now they will get paid instead and still have plenty to mulch the soil. To come up with locally sourced, sustainable processes that can turn agricultural products into fuel, the Department of Energy (DOE) has invested $100 million in research and development (since 2007) in the cost-shared project with POET and Dutch enzyme-maker DSM Royal. Most important, they developed a cost-effective process for producing cellulosic ethanol with biochemical conversion technologies, which now serves as a test bed for the industry. POET says it will incorporate the technology in its 27 grain ethanol plants. Its goal is to produce 3.5 billion gallons of cellulosic ethanol by 2022 from wood, grass and agricultural waste. It expects the fuel to sell for around $3 a gallon.

Geothermal Provides 0.4% of US Electricity

[Energy Manager Today, Sept. 9] Geothermal energy has been a small, but consistent, source of electricity in the United States since 1971, providing 0.4 percent of total US generation in 2013, according to the Energy Information Administration. California is the site of most US geothermal capacity, but since 2001 new geothermal capacity additions have increasingly been located in other western states as most of the low-cost resources in California have already been developed. There are currently 64 operating conventional geothermal power plants in the United States, accounting for nearly 2,700 MW of total capacity at the end of 2013. Over three-fourths of US geothermal power generation in 2013 was in California, largely because of favorable geothermal resources, policy, and market conditions in the state. The largest group of geothermal power plants in the world, a complex called the Geysers, located in Northern California, has more than 700 MW of capacity.

In Vermont, a Milestone in Green-Energy Efforts

[Associated Press, Sept. 14] BURLINGTON, Vt. — Vermont's largest city has a new success to add to its list of socially conscious achievements: 100 percent of its electricity now comes from renewable sources such as wind, water and biomass. With little fanfare, the Burlington Electric Department crossed the threshold this month with the purchase of the 7.4-megawatt Winooski 1 hydroelectric project on the Winooski River at the city's edge. When it did, Burlington joined the Washington Electric Co-operative, which has about 11,000 customers across central and northern Vermont, which reached 100 percent earlier this year. "It shows that we're able to do it, and we're able to do it cost effectively in a way that makes Vermonters really positioned well for the future," said Christopher Recchia, the commissioner of the Vermont Department of Public Service. It's part of a broader movement that includes a statewide goal of getting 90 percent of Vermont's energy from renewable resources by 2050, including electricity, heating and transportation. Across the state, Vermonters are urging their electric utilities to provide them with renewable sources of power, and the utilities are listening, Recchia said. It's also a growing movement across the country, as governments and businesses seek to liberate themselves from using power produced by environmentally harmful fossil fuels. Diane Moss, the founding director of the Southern California-based Renewables 100 Policy Institute, said that she wasn't sure if any other communities as large as Burlington — a city of 42,000 — have reached 100 percent, but that many are working on it.

Kyocera, Century Tokyo Leasing, Ciel et Terre Announce Construction of the World's Largest Floating Solar Power Plant

New project commences Kyocera TCL Solar LLC’s floating solar power plant business in Japan

[Business Wire, Sept. 3] KYOTO, Japan - Kyocera Corporation, Century Tokyo Leasing Corporation and Ciel et Terre International (Japanese subsidiary Ciel Terre Japan K.K.) announced today that they will begin construction this month on the world’s largest floating solar

installation. Kyocera TCL Solar LLC will develop and operate utility-scale floating solar power plants utilizing Ciel et Terre's Hydrelio© floating solar platforms in two installations, totaling 2.9 megawatts (MW) at Nishihira Pond and Higashihira Pond in Kato City, Hyogo Prefecture, Japan. The 1.7MW plant planned at Nishihira Pond will become the world's largest solar power generating system installed on water[*1]. Kyocera and Century Tokyo Leasing jointly established Kyocera TCL Solar LLC in August 2012 for the purpose of constructing and operating multiple utility-scale solar power plants in Japan under the country's feed-in-tariff system, which commenced in July 2012. Since the company launch, it has constructed 28 solar power plants, of which 11 plants have begun operation.

Net Zero Energy Building Market To Reach $1.4T

[Fierce Energy, Sept. 10] Hundreds of zero energy building (ZEB) pilots are being developed to showcase technology solutions and create high-performance buildings across a variety of residential and commercial facilities as governments, corporations and individuals seek ways to minimize the carbon footprint of their buildings. In fact, Navigant Research predicts that global ZEB revenue will grow from $629.3 million in 2014 to $1.4 trillion by 2035. Although the global outlook for ZEB is strong, the market will start slowly. While several pilots are trying to prove the investment savings in lower energy bills, a stronger driver for the adoption of ZEBs, which use as much energy over the course of a year as it generates from onsite renewables, is regulation. The variety of definitions of a ZEB (also called net zero energy buildings and, in the European Union, nearly zero energy buildings) and the lack of a single standards body to identify what success looks like create noteworthy challenges.

Solar Guide To Help Country Solarize

[Fierce Energy, Sept. 5] A new guide for community group solar purchasing has been released by the New England Solar Cost-Reduction Partnership -- a coalition of five New England States managed by the Clean Energy States Alliance (CESA). "Planning and Implementing a Solarize Initiative: A Guide for State Program Managers" features detailed cases studies of two particularly well-developed programs from New England -- Solarize Connecticut and Solarize Mass -- and is expected to serve as a tool for those across the country seeking to develop their own programs. Solarize is a group purchasing program for solar PV systems that lowers acquisition costs for rooftop solar installations. As more homeowners join the group purchasing program, the cost goes down, because of a tiered-pricing plan with reduced prices for more participation. Solarize programs in both Connecticut and Massachusetts have been successful in increasing the rate of residential solar adoption in three ways – by expanding the potential customer base, speeding solar deployment, and driving down installation prices for customers.

Small Towns USA Get on LED Bandwagon

[SustainableBusiness.com News, Sept. 4] Some of the biggest cities are saving millions of dollars a year by switching streetlights to ultra-efficient LED bulbs and even the smallest communities want in. Over the past three years, 25 communities with less than 35,000 people have gotten on the bandwagon, saving a combined $25 million in energy costs while slashing the carbon emissions equivalent to 80 million cars. And that's after installing only 5700 LED bulbs, says Crystal McDonald at the Department of Energy (DOE) in the Kansas City area. The communities are in the Kansas/Missouri area where the Mid-America Regional Council has a "Smart Lights for Smart Cities" program. But plenty of other cities around the country have or are following suit. Boston, Baltimore and Los Angeles have finished city-wide lighting retrofits and New York City's is in progress, converting all 250,000 streetlights. NYC expects to save $6 million a year on energy bills and $8 million a year on maintenance costs.

ENERGY/GENERAL

Boom in Energy Spurs Industry in the Rust Belt

[New York Times, Sept. 8] YOUNGSTOWN, Ohio — Waist-high weeds and a crumbling old Chevy mark the entrance to a rust-colored factory complex on the edge of town here, seemingly another monument to the passing of the golden age of American industry. But deep inside the 14-acre site, the thwack-thwack-thwack sound of metal on metal tells a different story. "We're holding our own," said Greg Hess, who is looking to hire draftsmen and machine operators at the company he runs, Youngstown Bending and Rolling. "I feel good that we saved this place from the wrecking ball." The turnaround is part of a transformation spreading across the heartland of the nation, driven by a surge in domestic oil and gas production that is changing the economic calculus for old industries and downtrodden cities alike. Here in Ohio, in an arc stretching south from Youngstown past Canton and into the rural parts of the state where much of the natural gas is being drawn from shale deep underground, entire sectors like manufacturing, hotels, real estate and even law

are being reshaped. A series of recent economic indicators, including factory hiring, shows momentum building nationally in the manufacturing sector.

Cheapest U.S. Gasoline Since 2010 Set To Get Cheaper

Drivers across the U.S. enjoying the lowest pump prices for this time of year since 2010 will probably see further declines as refineries benefiting from the shale boom produce record amounts of fuel. The average is $3.428 a gallon, down 6.2 percent since Memorial Day on May 26, AAA data show. That's the largest decline from the start of the summer driving season since 2008. U.S. refineries operated at the highest-ever seasonal rates every week since July 4. Processors are using domestic crude that costs less than foreign imports as horizontal drilling and hydraulic fracturing in shale formations increased output to the most since 1986. Gasoline will drop another 10 to 20 cents a gallon by the end of October as retailers switch to cheaper winter-blend fuel, said Michael Green, a Washington-based spokesman for AAA, the largest U.S. motoring group.

Power Plant Capacity Additions in 2014 Mostly Natural Gas, Solar, Wind

[Power Engineering, Sept. 9] In the first half of 2014, 4,350 MW of new utility-scale generating capacity were brought online, with more than half of that from natural gas-fired power plants, according to data from the U.S. Energy Information Administration (EIA). While natural gas plants made up more than half of all additions, solar plants contributed more than a quarter and wind energy plants around one-sixth. Utility-scale capacity additions in the first six months of 2014 were 40 percent less than the capacity additions in the same time period last year, EIA said. Compared to last year, natural gas additions were down by about half, while solar capacity was up 70 percent. Wind additions were more than double the additions in the first half of 2013.

With Gas Cut Off, Ukraine Looks West

[New York Times, Sept. 11] UZHGOROD, Ukraine — Keeping Ukraine warm keeps Andriy Kobolev up at night. Mr. Kobolev, the head of Ukraine's state energy company, Naftogaz, is scrambling to keep gas flowing into his country as winter looms. Russia's energy giant, Gazprom, had provided a little more than half of Ukraine's total gas supply, but suspended its shipments in June in the face of fighting in eastern Ukraine between Russian separatists and the Ukrainian military, citing a price dispute. Europe — itself dependent on Russia but also expanding sanctions on the country — has not been able to fill the gap. That means Ukraine will have to cut its energy use sharply or risk running dry, which could lead to more civilian deaths when the weather turns cold, and could further batter the country's economy. "The situation is very difficult," Mr. Kobolev said in a recent interview. "Since we have no choice, no other solution, we'll find a solution and have to live with the amount of gas we will have."

INDUSTRIES AND TECHNOLOGIES

Building Water Splitters To Store Energy

Improving technology is making electrolysis a viable way to store excess energy from renewable sources.

[MIT Tech Review, Aug. 27] Germany, which has come to rely heavily on wind and solar power in recent years, is launching more than 20 demonstration projects that involve storing energy by splitting water into hydrogen gas and oxygen. The projects could help establish whether electrolysis, as the technology is known, could address one of the biggest looming challenges for renewable energy—its intermittency. The electrolyzer projects under construction in Germany typically consist of a few buildings, each the size of a shipping container, that consume excess renewable energy on sunny and windy days by turning it into an electric current that powers the water-splitting reaction. The resulting hydrogen can then be pumped into the storage and distribution infrastructure already used for natural gas and eventually turned back into electricity via combustion or fuel cells. It can also be used for a variety of other purposes, such as powering natural-gas vehicles, heating homes, and making fertilizer. Germany isn't the only country investing in hydrogen energy storage. Canada is getting in on the action, too, with a major demonstration facility planned for Ontario. Electrolysis has advantages over some other energy storage options. It can be deployed almost anywhere, it can store vast amounts of energy, and the hydrogen can be used to replace fossil fuels not only in electricity production but also in industry and transportation, which account for far more carbon emissions.

Global Miniature Solar PV, Solar Photovoltaic Home Systems Market To Reach USD 2.1 Billion by 2024

[SolarPlaza.com, Sept. 15] A recent report from Navigant Research (Boulder, Colorado, US) analyzes the emerging global market for solar photovoltaic (PV) consumer products, and finds that

world-wide revenue from “pico” solar and solar home systems is expected to grow from USD 538 million in 2014 to more than USD 2.1 billion in 2024Miniature solar PV systems, including “pico” solar and solar photovoltaic home systems, are moving rapidly from specialized niches for enthusiasts and early adopters into the mainstream, according to Navigant Research

Hitachi Developing Reactor That Burns Nuclear Waste

[GizMag.com, Sept. 3] The problem with nuclear waste is that it needs to be stored for many thousands of years before it’s safe, which is a tricky commitment for even the most stable civilization. To make this situation a bit more manageable, Hitachi, in partnership with MIT, the University of Michigan, and the University of California, Berkeley, is working on new reactor designs that use transuranic nuclear waste for fuel; leaving behind only short-lived radioactive elements. In popular imagination, nuclear waste is a wildly radioactive goo that glows like the back end of a lightning bug. But in real life, the real problem of nuclear waste isn't the "hot" stuff, but the mildly radioactive elements with atomic numbers greater than 92. That’s because highly radioactive elements have short half lives. That is, they burn themselves out very quickly – sometimes in a matter of minutes or even seconds. On the other hand, mildly radioactive elements, such as plutonium, have half lives measured in tens of thousands or even millions of years. That makes storing them a very long-term problem, and is a particular difficulty in countries like the United States that don’t recycle transuranium elements by fuel reprocessing or fast-breeder reactors.

Lithium, The Salton Sea and A Startup That’s Trying To Change the Game

[Gigamon.com, Sept. 8] Just south of the Salton Sea — the salty, shrinking 350-square-mile lake that was formed as the result of an engineering accident in the early 1900s — a six-year-old tech startup has been extracting the “white gold” that lies thousands of feet below the surface. That valuable material, lithium, can be used in batteries for electric cars and cell phones, and the project has piqued enough interest that execs from a handful of battery makers, as well as electric car company Tesla, have visited the site. On a typical baking-hot, dusty summer afternoon off an industrial road outside of Calipatria, California, Simbol Materials’ executives showed me the series of gray pipes and beige tanks that have so far extracted a few hundred tons of lithium product from the mixture of hot water and mineral deposits that’s pumped up to the surface by a neighboring geothermal power plant. Simbol’s plant collects this hot geothermal “brine,” purifies it, extracts the lithium — and in the future other valuable materials like manganese, zinc and potassium — and sends the water back to the geothermal plant to be reused in the system. The project is only at the demonstration scale right now, but the company plans to build a much larger (1,000 times larger in terms of volume produced) commercial-scale factory just south of the current one that could eventually create 15,000 metric tons of lithium carbonate equivalent a year. Lithium carbonate is one of the two lithium products that Simbol’s tech can deliver; the other is lithium hydroxide. Depending on the type of battery chemistry used, lithium ion battery makers would buy one or the other. It might not sound like much, but if the venture capital-backed startup is able to scale up this process economically and efficiently, it could some day provide an important U.S.-based source of lithium for the emerging electric car battery market. Currently much of the world’s lithium comes from huge evaporation ponds in Argentina, Chile and China (and some day Bolivia). They take months to produce lithium, and have some notable environmental, as well as social, drawbacks. The United States Geological Survey (USGS) estimates there are about 13 million tons of economically recoverable lithium reserves in the world. By some estimates, the Salton Sea could provide 800,000 tons of that. If Simbol is able to tap into more of the abundant geothermal resources around the Salton Sea it could also help revitalize the area, offering jobs to help combat a disturbingly high unemployment rate in the county, and also deliver needed money to funds that could help manage the effects of the shrinking Salton Sea.

US Utility-Scale Solar To ‘Collapse’ During 2017, Says GTM Research

[PV-Tech.org, Sept. 10]There will be almost no new utility-scale solar in the US in 2017 following the cut to the investment tax credit (ITC), according to GTM Research. The drop from 30% to 10% will means practically no new utility PV plants will come online during 2017, the firm’s senior vice president Shayle Kann told PV Tech. “The ITC reduction is going to have the biggest immediate impact on the utility scale sector. What are going to see is a huge boom in installations completed in 2016 and then a complete collapse in 2017,” said Kann. “Some of the developers that are signing PPAs that start in 2018 or 2019 are still planning on constructing the projects in 2016 but then use a variety of ways through which they can bridge those few difficult years,” Kann said. With deals with utilities all ready in place for after the ITC drop, developers who want to build before then need a revenue source for the interim. “There’s two main ways. The first is what is called a merchant nose, so it’s a merchant project selling wholesale merchant power for a few years until the PPA kicks in." This involves more risk and more effort but should offer better returns until an appealing long-term PPA is on offer.

LEGISLATION AND REGULATION

EPA Faces '14 Accusations on Ethanol

[The Hill, Sept. 12] The American Petroleum Institute and renewable energy groups are furious with the Environmental Protection Agency for “playing politics” with the nation’s ethanol mandate. These groups rarely see eye to eye, but they both agree the Obama administration is flip-flopping on the Renewable Fuel Standard to save face as the midterm elections approach — or as Jon Doggett of the National Corn Growers Association put it, “for all the wrong reasons.” “Again and again and again, we find ourselves at the mercy of policies that can be changed for all the wrong reasons,” he said. The Renewable Fuel Standard requires oil refiners to mix a certain amount of ethanol into their fuel before they ship it off to gas stations around the country. Groups like the American Petroleum Institute (API) always want the mandate to be lowered to increase the amount of crude oil in the supply, while some green groups also want to abolish the mandate, but for other reasons. The Environmental Working Group, for instance, argues that the Renewable Fuel Standard encourages farmers to cut down more trees so they have more fields to grow corn — a process that may actual use more energy and emit more greenhouse gases than traditional fuels. But the National Corn Growers Association and other pro-ethanol groups want the mandate to be raised. Last November, the EPA proposed to cut the ethanol mandate for the first time to 15.21 billion gallons from 16.55 billion gallons in 2013, because some say ethanol is raising gas prices at the pump.

Feds Look To Make Hotels More Energy Efficient

[The Hill, Sept. 15] The Department of Energy could soon level new **efficiency regulations** on the air conditioning and heating units found in hotels and motels. The Energy Department's Office of Energy Efficiency and Renewable Energy announced Monday it is considering new efficiency standards for packaged terminal air conditioners and heat pumps, which are used throughout the hospitality industry. The proposed rules for these temperature-control systems could save consumers millions of dollars and reduce emissions over the next 30 years, the agency said in the *Federal Register*. The Energy Department estimates the new rules would cost manufacturers just $700,000 to comply with, but could save consumers as much as $69 million. "In addition, the proposed standards would have significant environmental benefits," the agency notes. The Energy Department says the standards would substantially reduce emissions of carbon, methane, sulfur and nitrogen.

Green Groups Cheer New Refrigerator Standards

[The Hill, Sept. 12] Green groups are cheering new efficiency standards for household refrigerators that kick in next week and are expected to cut energy use and save consumers money. The new refrigerator standards will help to "significantly bring down the cost of running a typical refrigerator," says Marianne DiMascio of the Appliance Standards Awareness Project. According to the Department of Energy (DOE), the new efficiency standards will reduce energy use by as much as 25 percent on new refrigerator models that are manufactured after the rules go into effect on Monday. That's enough energy savings to power a quarter of all the homes in the U.S. for one year, DiMascio said. The DOE estimates these rules will save consumers $36 billion over the next 30 years, even after factoring in the higher up-front costs of buying these new refrigerators. Put another way, this would save consumers $215 to $270 each year on their electricity bills compared to 1978 when the agency began regulating the efficiency of refrigerators, says Elizabeth Noll of the Natural Resources Defense Council.

WESTERN POWER

Californians Cut Water Use by 7.5 Percent in July

[Phoenix Business Journal, Sept. 12] Maybe Californians are finally getting the message. New numbers announced Tuesday by State Water Resources Control Board could signal a change in mindset by water consumers who might finally realize there is a drought going on or it could just be an optimistic assessment. Measuring water production to indicate urban use, the board reported a 7.5 percent reduction in July compared with the same month a year ago, after a 4.4 percent reduction in June. What does 7.5 percent translate to in terms of gallons? Good question. The answer is about 17 billion, according to the Los Angeles Times.

Google Invests in California Solar Power Plant

[Associated Press, Sept. 1] NEW YORK — Google is helping to convert a one-time oil field into a solar power plant. The Internet search company is providing $145 million in financing so that SunEdison can build the plant north of Los Angeles in Kern County. "There's something a little

poetic about creating a renewable resource on land that once creaked with oil wells," Google said in a blog post Wednesday. The plant will be fitted with nearly 250,000 SunEdison solar panels and generate enough energy to power 10,000 homes. Google said the project will bring 650 jobs to the area. SunEdison Inc. expects the plant to be operational later this year and supply power to utility company Southern California Edison. The plant is owned by TerraForm Power Inc., a subsidiary of SunEdison, based in Beltsville, Maryland.

Nevada Governor Enacts Tesla Tax Break Package

[Associated Press, Sept. 12] CARSON CITY, Nev. — Calling it one of the most important pieces of legislation in Nevada history, Gov. Brian Sandoval signed into law an unprecedented package of incentives to seal a deal to bring Tesla Motors' $5 billion battery factory to the Silver State. The "gigafactory" is expected to bring more than 20,000 jobs and $100 billion to Nevada's economy over the next 20 years. It will be the biggest lithium battery factory in the world and is critical to the electric car-maker's plans to begin mass marketing a more affordable line of the vehicles within three years. One lawmaker said it was the most important development in Nevada since the construction of the Hoover Dam southeast of Las Vegas during the Great Depression. "It doesn't get any bigger than this," Sandoval said as he put his signature to four bills late Thursday night, shortly after the state Legislature unanimously approved the package that includes tax credits and other incentives worth up to $1.3 billion. "This is some of the most important legislation that's hit this state in perhaps our history," the Republican governor said. "We have changed the trajectory of this state, perhaps forever." Flanked by legislative leaders and dozens of lawmakers, Sandoval presented a Nevada license plate with "TESLA" to Diarmuid O'Connell, Tesla's vice president for business development who helped pick the site at an industrial park along Interstate 80 about 15 miles east of Sparks.

New Mexico Eyes Nuke Project After Ruling

HOBBS, N.M. (AP) — The southeastern New Mexico area that houses the federal government's troubled nuclear waste dump is renewing its push to also store spent nuclear fuel from power plants. Lea and Eddy County have long advocated for such a facility, and officials say that effort could get a new boost thanks to a recent ruling by the U.S. Nuclear Regulatory Commission. The Hobbs News-Sun reports (http://goo.gl/b8SlF5) the NRC last month approved a plan for the continued storage of used nuclear fuel onsite at nuclear power plants. Officials say that action could reopen the door for a long-term interim storage facility for spent nuclear fuel in Lea and Eddy counties.

Sandia Gets $5.6 Million for Carbon Sequestration Research

[Albuquerque Business First, Sept. 15] Sandia National Laboratories announced it has received a grant from the Department of Energy to study long-term geologic sequestration of carbon. The process involves storing captured carbon dioxide emissions underground, thereby preventing them from being released into the atmosphere. The Department of Energy grant totals $12 million, with $5.6 million going to Sandia Labs and the rest going to University of Texas, Austin, which is partnered with Sandia on the project. The work covered by the grant covers three distinct research areas: sustaining large storage rates over decades, increasing efficient use of pore space in reservoirs where carbon dioxide would be stored, and making sure it doesn't leak from the reservoir.

Western Governors' Drought Forum Launched by Nevada Gov. Brian Sandoval

[Western Governors' Association, Sept. 11] Nevada Gov. Brian Sandoval launched the Western Governors' Drought Forum on Thursday, Sept. 11, with the announcement of the regional initiative's first four meetings and the rollout of an online resource library to collect case studies and best practices.Gov. Sandoval created the Drought Forum, his main initiative as Chairman of the Western Governors' Association (WGA), to foster a regional dialogue in which states and industry can share best practices on drought policy, preparedness and management. The governor made the announcement at Lahontan Reservoir in Nevada, where low lake levels caused by extended drought conditions have forced the closing of all boat launches. As a result, the Lahontan State Recreation Area has seen a 75% decrease in visitation, and 70% decrease in revenue during the past three years. "The impact of drought in the West is clear to everyone here today. But it extends far beyond what's happened at Lahontan Reservoir," Gov. Sandoval said. "California is experiencing 'exceptional drought,' the most severe measurement reported by the U.S. Drought Monitor. And 'extreme drought' conditions continue in much of Nevada, Arizona, New Mexico, Colorado, Kansas, Oklahoma and Texas."

Work Begins on $1B Solar Plant in Nevada

[Associated Press, Sept. 5] Company and federal officials have marked the start of construction on a $1 billion solar power generating station in the desert 50 miles south of Las Vegas. Executives

with Arizona-based First Solar Inc. and Florida-based NextEra Energy Resources joined federal Bureau of Land Management chief Neil Kornze at a ceremony Wednesday at the site of the 250-megawatt project, dubbed Silver State South. It is expected to produce enough electricity to power about 80,000 California homes when it is completed in 2016. First Solar is building the array on almost 4 square miles of federal land adjacent to the 25-megawatt Silver State North project the company completed in 2012 on almost 1 square mile of land near the Nevada-California state line.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

- **INCENTIVES**

  Arizona has lowered taxes, streamlined regulations, and established a suite of incentives to support corporate growth and expansion. The Arizona Competitiveness Package, groundbreaking legislation adopted in 2011, makes it easier for existing Arizona companies to prosper and establishes Arizona as one of the most desirable places for expanding companies to do business. Give your company a competitive edge by utilizing Arizona's incentives.

  - Job Training
  - Quality Jobs
  - Qualified Facility
  - Computer Data Center Program
  - Research & Development
  - Foreign Trade Zone
  - Military Reuse Zone
  - Angel Investment
  - Renewable Energy Tax Incentive
  - Healthy Forest
  - Sales Tax Exemption for Machinery and Equipment
  - Lease Excise
  - Additional Depreciation
  - Work Opportunity
  - Commercial/Industrial Solar
  - SBIR/STTR
  - Private Activity Bonds
  - QECB's

- **(ACA) PROGRAMS**

- **DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY (DSIRE)**

  - Arizona Incentives/Policies
  - Federal Incentives/Policies
  - Solar Policy News

    DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

GRANTS

The following solicitations are now available:
(Click on title to view solicitation)

- Secure and Trustworthy Cyberspace - Response due Sep. 19, 2014

- Nanomanufacturing – Current Closing Date for Applications: Sep. 15, 2014 Full Proposal Window: Sep.1, 2014 – Sep. 15, 2014 Full Proposal Window: Feb. 01, 2015 – Feb. 17, 2015
- Civil Infrastructure Systems – Sep. 15, 2014 Submission Window Date(s) (due by 5 p.m. proposer's local time): Full Proposal Window: Sep. 01, 2014 – Sep. 15, 2014 Full Proposal Window: Feb. 01, 2015 – Feb. 17, 2015
- Frontier Observatory for Research in Geothermal Energy (FORGE) – Close Date: Oct. 1, 2014
- Vehicle Technologies Alternative Fuel Vehicle Deployment Initiatives – Concept Paper Submission Deadline: Aug. 1, 2014 Submission Deadline: Oct. 1, 2014
- Deployment of Clean Energy & Energy Efficiency on Indian Lands #DE-FOA-0001021 – Full Application Submission Deadline: October 2, 2014.
- Energy for Sustainability – Current Closing Date for Applications: Nov. 5, 2014 Full Proposal Window: Oct. 01, 2014 – Nov. 5, 2014
- Small Business Innovation Research Program - Response due October 2, 2014
- SunShot "Race to the Roof" Initiative - Registration due October 31, 2014
- Energy, Power, and Adaptive Systems - Close Date: Nov. 3, 2014
- National Robotics Initiative - Response due Nov. 14, 2014
- NSF/DOE Partnership on Advanced Frontiers in Renewable Hydrogen Fuel Production Via Solar Water Splitting Technologies 2014-2016 - Close Date: Dec. 11, 2014
- Energy for Sustainability – Current Closing Date for Applications: Nov. 5, 2014
- Nuclear Energy University Programs - Fellowship and Scholarship – Response due November 30, 2015
- Advanced Fossil Energy Projects - Solicitation Number: DE-SOL-0006303 Expiration Date: Nov. 30, 2016
- Repowering Assistance Program - Ongoing
- Rural Business Enterprise Grants - Ongoing
- Rural Business Opportunity Grants - Ongoing
- Sustainable Agriculture Research and Education Grants - Ongoing
- Renewable Energy RFP's - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines
- U.S. Dept. of Agriculture - Rural Development Grant Assistance
- Green Refinance Plus - Ongoing