Energy Policy Update

Energy and Environmental News

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ARIZONA

Alternative Fuel Pump in CG

Compressed natural gas station open to public at Golden Eagle Distributors

[Casa Grande Dispatch, Aug. 22] Another alternative fuel option should be available in Casa Grande today when Golden Eagle Distributors Inc. opens its new compressed natural gas fueling station to the public. The Trillium CNG pump, on Golden Eagle's property at 1000 N. Jefferson Ave., opens with a green ribbon-cutting ceremony at 8:30 a.m. The pump will be accessible 24 hours a day, seven days a week in an industrial area north of West Gila Bend Highway. Compressed natural gas contains mostly methane and costs about 50 percent less than gasoline or diesel fuel. It has 90 percent fewer emissions than gasoline and diesel, according to CNGNow.com. Golden Eagle began converting its delivery fleet in December 2011 with its 23 Tucson delivery trucks. Golden Eagle distributes Anheuser-Busch Companies products throughout much of Arizona. The switch came after several years of researching various alternative fuels.

Arizona Clamoring for Competition

[Fierce Energy, Aug. 22] Arizonans for Electric Choice & Competition (AECC) members and retail competition advocates Direct Energy, Noble Americas Energy Solutions and Constellation NewEnergy have filed comments with the Arizona Corporation Commission (ACC) urging the commission to move forward with opening Arizona's electricity markets to competitive suppliers. Currently, the Arizona Corporation Commission (ACC) continues to deliberate the re-opening of competitive electricity markets in the state. "As the discussion

around opening Arizona's electricity market intensifies, many are busy crying wolf over how competition will impact the state, primarily the incumbent utilities," said Greg Bass, Director of Western Regulatory Affairs, Noble Solutions. "The comments we filed with the ACC last week clearly articulate competition's value based on the facts and the experience of over a decade of retail choice in other states. We look forward to participating in a regulatory process that separates truth from fiction, one which we are confident will lead to the opening of the state's electricity market to retail competition." Seventeen states including Texas are open to retail electric competition. In fact, a recent J.D. Power survey revealed that customer satisfaction in the competitive Texas electricity market is at an all-time high and customers who participate in the competitive Texas market are more satisfied with their electricity prices than customers served by regulated utilities.

Arizona Launches Year-Long Smart Meter Study

[Energy Prospects West, Aug. 20] The Arizona Corporation Commission has directed the state Department of Health to study the health effects of smart meters. The study could take up to a year, and would include literature review, as well as field tests and an assessment of whether radio frequency emissions from the meters pose detrimental effects, according to staff. "Are utilities still installing smart meters while we are trying to find out if they are safe?" Commissioner Bob Burns asked during the ACC's Aug. 5 staff meeting. Commissioner Brenda Burns (no relation) said utilities will not install them if customers don't want them, and if a customer wants a smart meter removed, the utilities will remove it, and that situation will continue during the study period.

ASU Research Team Lands $2 Million for Electric Vehicle Research

[Phoenix Business Journal, Aug. 21] An Arizona State University research team will receive $2 million to develop multi-functional cells for electric vehicles. The ASU project is one of 22 projects in 15 states that will receive a portion of $36 million from the U.S. Department of Energy's Advanced Research Projects Agency-Energy to develop transformational electric vehicle energy storage systems. The ASU team, which includes Cody Friesen, associate professor in the School for Engineering of Matter, Transport and Energy in Ira A. Fulton Schools of Engineering, will develop an "innovative, formable battery that can be incorporated as a structural element in the vehicle.

Energy Compromise Good for Thirsty State

[East Valley Tribune, Aug. 18] With much at stake for Arizona, a group of very different interests recently gathered to best determine how to provide certainty for our energy future while balancing the environmental impacts on national parks in the Southwest — in particular the Grand Canyon. At the heart of the issue they faced is the Navajo Generating Station (NGS), a large, coal-fired power plant located on the Navajo Nation just outside of Page that not only generates electricity for millions of people but also provides the energy the Central Arizona Project (CAP) needs to bring water from the Colorado River to the people of southern and central Arizona. Faced with an Environmental Protection Agency proposal to install additional emission-control equipment to NGS at a cost of up to more than $1 billion, Salt River Project and other owners of the plant, as well as CAP, accepted an invitation from the EPA to investigate other Best Available Retrofit Technology (BART) as alternatives for NGS. Together with the Environmental Defense Fund, U.S. Department of Interior, Navajo Nation, Gila River Indian Community and Western Resource Advocates, a Technical Working Group (TWG) was formed and a compromise was reached that both preserves air quality at our state's national parks and protects the interests of Arizona's citizens who rely on the plant for low-cost and reliable energy around-the-clock. Depending on how ownership of the plant is resolved going forward, the proposal calls for the plant to shut down one of its three units in 2020 or reduce emissions by an equivalent amount between 2020 and 2030 — a significant decrease in emissions either way. Importantly, the agreement also delays the costs associated with implementing costly additional environmental controls at the plant until 2030. That's good news for electricity consumers and also a great benefit to CAP water customers.

First Solar Agrees to Sell Energy to City in California

[Bloomberg, Aug. 20] First Solar Inc. (FSLR), the largest U.S. solar-panel manufacturer, agreed to sell power to the City of Roseville, California, from the Lost Hills photovoltaic facility that it's developing in the state. Construction of the plant may begin next year and the 10-year power-purchase agreement will take effect in 2015, the Tempe, Arizona-based company said today in a statement. Roseville agreed to purchase 325,000 megawatt hours of power for $24 million over 10 years, First Solar said in the statement. In its first year the Lost Hills plant, in Kern County, will produce enough power for at least 11,000 homes, the company said. The

agreement will help the city reach the state's requirement that 33 percent of its energy come from renewable sources by 2020, Michelle Bertolino, Roseville's electric utilities director, said in the statement.

GOP Congressmen Take On EPA in AZ Power Plant Fight

[Phoenix Business Journal, Aug. 23] The fight over a coal-fired power plant in northern Arizona near the Utah border continues. Four Republican Arizona congressmen are criticizing the Obama administration and Environmental Protection Agency over its efforts to impose tougher regulations on Navajo Generating Station. The plant is owned and managed by Tempe-based Salt River Project and provides electricity to other Western utilities and even the federal government.

Mesa Extends Solar Incentive Program

[Phoenix Business Journal, Aug. 20] The city of Mesa has extended its solar incentive program for city customers until June 30, 2014. The Mesa Energy Resources Department will give up to $100,000 in incentives to qualified city of Mesa Electric Utility customers who install a solar photovoltaic system on their property. The solar incentive program pays 50 cents per watt and is on a first-come, first-served basis based on application acceptance. Residential customers can receive $2,500 for up to five kilowatts, and business property owners can get $15,000 for up to 30 kilowatts. Mesa will receive the associated renewable energy credits and environmental benefits in exchange for the incentive payment. The city also will offer a variation of net metering, which buys back energy when the customer's solar system produces more solar energy than they consume. The net metering program is reviewed every June.

Opposition Grows Against APS Solar Rate Hike

[Verde Independent, Aug. 17] Clarkdale Town Council Members Voted Tuesday To Oppose Two Arizona Public Service Proposals That Would Increase Rates For Rooftop Solar Customers. The Town Joins Cave Creek, Renewable Energy Activists, And Republican Barry Goldwater Jr.'s Advocacy Group, Tell Utilities Solar Won't Be Killed, In Pushing Back Against The Rate Hike. APS Claims Non-Solar Customers Are Unfairly Carrying The Financial Burden Of Maintaining The Power Grid Through Fees That Are Automatically Included In Their Rates, But That Solar Customers Do Not Pay. The Council Decided To Send A Letter To The Arizona Corporation Commission, The Elected Body Considering The Proposals, Stating Increased Rates, While Perhaps Necessary In The Long Term, Would Eliminate Most Of The Incentives That Encourage Customers To Install Distributed Energy Systems.

Putting a Spotlight on Natural Gas Issues in the Southwest

[Energy Prospects West, Aug. 20] Arizona's new master energy plan, now being drafted, will put a spotlight on the growing reliance on natural gas and the need to address issues related to its transportation and storage. Arizona Gov. Jan Brewer's energy office is overseeing a process to write the first new energy plan in 23 years. A draft is expected to come out in September, to be followed by public meetings in Phoenix, Tucson, Yuma and Flagstaff. Four work groups met over the spring and summer to look at the present and future of energy in the Grand Canyon State. The Business, Regulation and Workforce group, chaired by Arizona Corporation Commissioner Gary Pierce, projected at its final meeting in July that Arizona would have a 15- to 20-percent increase in peak electricity load over the next 10 years. The group concluded that regulations in California and the deregulation discussions now before the ACC would affect the extent to which Arizona builds new generation and that Arizona's energy export opportunities would increase because of the need for renewables' integration, demand growth in California and plant retirement.

Railway Named Part of EPA Program

[Herald/Review, Aug. 17] Benson — The U.S. Environmental Protection Agency has designated San Pedro & Southwestern Railroad (www.argtrans.com) as a partner in EPA's SmartWay Transport Partnership program. The Benson, Ariz.-based short line was recognized August 7 for its success improving both fuel efficiency and environmental performance by reducing greenhouse gas emissions and air pollution.

RUCO To Discuss Deregulating Arizona Electric Markets

[Phoenix Business Journal, Aug 26] The Residential Utility Consumer Office is going to take up deregulating Arizona's electric generation industry next week, and it's likely going to be a lively discussion. RUCO is the group tasked with gathering up stakeholders and making recommendations to the Arizona Corporation Commission on issues affecting ratepayers. This meeting, scheduled for 9:30 a.m. Tuesday, is set to draw a

lot of people with an interest in deregulation. It also will be a full-day affair.

Solar Losing Out As Vivint Not Coming to Arizona and Sunpower Pulling Back

[Phoenix Business Journal, Aug. 22] Solar proponents in Arizona have long said scaling back on incentives and programs at the state level to propagate the industry was like death by a thousand paper cuts. Enter Vivint Solar Inc., the Utah-based installer and energy services company that has told Arizona officials it would love to come to the state to set up a shop with hundreds of jobs, but frankly, the state isn't exactly enticing. All those changes, with lower incentives and the Arizona Corporation Commission looking at the methods by which solar system owners are compensated for the excess power they produce, led the company to say "thanks but no thanks" to Arizona, according to Brendon Merkley, the company's chief operating officer. "It had the hidden message that (the state) was looking at net metering and solar in general in the state," he said. The company, which has about 750 employees, was planning to open installation operations similar to California-based SolarCity, but it has abandoned those plans, Merkely said.

ALTERNATIVE ENERGY AND EFFICIENCY

Natural Gas Could Be A Bridge Fuel to $1 Solar

[Financial Post, Aug. 22] Natural gas could be the dominant power source for the next two decades in the western United States, even under the most aggressive climate scenarios, before making way for solar, findings from the University of California Berkeley suggest. The Berkeley study examined the impact of cheap solar power, as envisaged by the so-called "sunshot" initiative launched two years ago by former U.S. Energy Secretary Steven Chu. It did not directly analyse or comment on whether natural gas could play the role of a transition fuel. But the results support the idea that nat gas can work as a bridge between high-carbon coal and cheap solar power in areas with abundant sunshine, as policymakers build up renewable energy capacity and supporting infrastructure while driving deep cuts in carbon emissions. There are two important caveats, however, to such a conclusion. First, scientists have yet to agree to what extent shale gas production emits the powerful greenhouse gas methane, which may add to the carbon emissions from burning the fossil fuel. Second, new gas-fired power plants have a lifespan running for decades, risking a long-term "lock-in" of fossil fuel use.

ORNL, National Grid Get Nearly $1M for Natural Gas Heat Pump

[Fierce Energy, Aug. 20] The U.S. Department of Energy will fund 12 projects to develop innovative heating, cooling and insulation technologies, as well as open source energy efficiency software, to help homes and commercial buildings save energy and money. These projects will receive an approximately $11 million Energy Department investment, matched by about $1 million in private sector funding.

Panda Power Builds 859 MW Natural Gas Power Station

[Energy Manager Today Staff, Aug. 19] Panda Power Funds intends to build, own and operate a 859 MW combined-cycle power plant in an industrial-zoned area of Brandywine, Md., the company has announced. Once complete, the Panda Mattawoman natural gas-fueled generating station (pictured) will be able to supply the power needs of approximately 859,000 homes in the Greater Maryland / Washington DC metropolitan area. The facility is expected to contribute approximately $1.2 billion to the area's economy during construction and the plant's first 10 years of operation. The developers say that the plant's use of "advanced emissions-control technology," will make it one of the cleanest, most efficient natural gas-fueled power plants in the nation.

Three Thousand Teams Enter EPA's Battle of the Buildings

[Energy Manager, Aug. 21] This week, the EPA launched its 4th annual Energy Star National Building Competition in which teams from more than 3,000 buildings across the country are competing to see who can most reduce their buildings' energy use. Competitors measure and track their buildings' monthly energy consumption using the EPA's Energy Star online energy measurement and tracking tool, and work over the year to cut energy waste through improvements that range from equipment replacement to changes in occupant behavior. Midpoint "weigh-in" results for the "biggest energy losers" will be posted in December, with the winner announced in April 2014. The competition specifically targets wasted energy in commercial buildings and motivates businesses to improve energy efficiency, reduce harmful carbon pollution, and save money, in line with President Obama's Climate Action Plan, which calls for buildings to cut waste and become

at least 20 percent more energy efficient by 2020. The contest has gotten more popular compared to its first year in 2010, when 14 buildings competed, to this year, when 3,200 buildings entered the challenge. The EPA says that last year's competitors cut their energy costs by more than $50 million and reduced annual greenhouse gas emissions equal to the electricity used by more than 43,000 homes.

ENERGY/GENERAL

A Nuclear Reactor Competitive with Natural Gas

General Atomics has applied for DOE funds to commercialize a nuclear reactor that could lower electricity costs by 40 percent.

[MIT Tech Review, Aug. 19] A novel type of reactor could cut the cost of nuclear power by as much as 40 percent, making it far more competitive with fossil-fuel power plants. Designed by General Atomics, a San Diego–based company, the reactor could also be safer than existing reactors and reduce nuclear waste by 80 percent. General Atomics has been working on the reactor for five years. Now it is trying to win several hundred million dollars in funding from the U.S. Department of Energy, which the company says would be crucial to commercializing the technology. At least one other new design aims to substantially reduce the cost of nuclear power, but it's from a startup with limited funding (see "Safer Nuclear Power, at Half the Price"). In the United States, where natural gas is cheap, the main thing keeping utilities from building nuclear plants is their expense. While some other new reactor designs lower the up-front cost of nuclear power, they don't necessarily lower electricity costs (see "Can Small Reactors Ignite a Nuclear Renaissance?"). Estimates from the Energy Information Administration suggest that if the General Atomics design cuts the cost of electricity by 40 percent as the company claims, new nuclear power plants would be economically competitive with natural-gas plants. John Parmentola, senior vice president of the Energy Group at General Atomics, says the new reactor will be safer than many conventional ones. In the case of a power failure, it is designed to shut down and cool off without the need to continuously pump in coolant. This is accomplished in part by using ceramics that can withstand very high temperatures without melting.

Gehrlicher Solar America Corporation Completes Phase 1 of 7.2 Megawatt Photovoltaic System for UniSource Energy Services

[Business Wire, Aug. 19] Springfield, N.J. – Gehrlicher Solar America Corp. announced today that it has completed building Phase 1 of a 7.2 MWp solar park for UniSource Energy Service (UES) in Rio Rico, Arizona. Phase 1 is 4 MW solar array. Phase 2 will be completed in December 2013 and commissioned in January 2014. When fully operational, the ground-mounted system will supply power to about 91,000 UES customers in Mohave and Santa Cruz counties, producing 13,110,680 kilowatt hours of clean solar power annually, eliminating 10,197 tons of carbon dioxide (CO_2) which equals the tailpipe CO_2 from approximately 2,000 automobiles. Employing a proprietary Gehrlicher Engineered Solution (GES) set, the company is responsible for the design, engineering and construction of the solar project located on 37.5 acres. A GES assures long-term power yield providing an optimized, individualized solution for the specific location while making efficient and low cost use of the technology components. The UES-owned Rio Rico generation facility consists of 24,400 fixed-tilt solar modules and four inverters. Gehrlicher chose Southwest Energy Solutions to perform the electrical portion of the work on the system.

Helping Pemex Help Mexico

Mexican President Enrique Peña Nieto's proposal to allow foreign firms to partner with the state-owned oil company is a win-win.

[Los Angeles Times, Aug. 22] Mexico's president, Enrique Peña Nieto, unveiled a proposal this month to reform the country's state-owned oil and gas monopoly Petroleos de Mexico, or Pemex. The plan, which requires a constitutional amendment, would allow foreign firms to partner with Pemex for the first time since 1938, when then-President Lazaro Cardenas nationalized the industry. It's a plan worth pursuing. The proposal has enormous implications for Mexico's growing and yet still-troubled economy. The waters off Mexico contain one of the largest oil and natural gas reserves in the world, but Pemex has yet to realize their potential because it lacks the technology and money to drill in deeper waters. One result is that the country's oil production is declining, alarming to a government that relies on revenue from oil to make up about a third of the national budget. Inviting foreign firms to help shoulder the costs of deep-water exploration in exchange for a share of the profits would surely help lift Mexico's economy and boost sagging oil production for years to come. But not without costs. Continued dependence on oil will contribute to climate change, and deep-water

drilling carries special perils, as Americans were reminded in 2010 when an oil rig in the Gulf of Mexico exploded, killing 11 workers and fouling thousands of miles of coastline.

White House Council of Economic Advisers and Energy Department Release New Report on Resiliency of Electric Grid During Natural Disasters

[Energy.gov website, Aug. 12] WASHINGTON – The White House Council of Economic Advisers and the U.S. Department of Energy today released a new report that assesses how to best protect the nation's electric grid from power outages that occur during natural disasters. This week marks the tenth anniversary of one of the worst power outages in the United States, during which tens of millions of Americans were affected across parts of Ohio, Michigan, Pennsylvania, New York, Vermont, Massachusetts, Connecticut, and New Jersey. The *Economic Benefits of Increasing Electric Grid Resilience to Weather Outages* report finds that grid resilience is increasingly important as climate change increases the frequency and intensity of severe weather and estimates the economic impact of power outages on the nation's economy. The President's Climate Action Plans calls for upgrading the country's electric grid to help make electricity more reliable, save consumers money on their energy bills, and promote clean energy sources.

INDUSTRIES AND TECHNOLOGIES

A Nuclear Reactor Competitive with Natural Gas

General Atomics has applied for DOE funds to commercialize a nuclear reactor that could lower electricity costs by 40 percent.

[MIT Tech Review, Aug. 19] New nuclear power plants are far costlier than natural-gas plants. A novel type of reactor could cut the cost of nuclear power by as much as 40 percent, making it far more competitive with fossil-fuel power plants. Designed by General Atomics, a San Diego–based company, the reactor could also be safer than existing reactors and reduce nuclear waste by 80 percent. General Atomics has been working on the reactor for five years. Now it is trying to win several hundred million dollars in funding from the U.S. Department of Energy, which the company says would be crucial to commercializing the technology. At least one other new design aims to substantially reduce the cost of nuclear power, but it's from a startup with limited funding (see "Safer Nuclear Power, at Half the Price"). In the United States, where natural gas is cheap, the main thing keeping utilities from building nuclear plants is their expense. While some other new reactor designs lower the up-front cost of nuclear power, they don't necessarily lower electricity costs (see "Can Small Reactors Ignite a Nuclear Renaissance?"). Estimates from the Energy Information Administration suggest that if the General Atomics design cuts the cost of electricity by 40 percent as the company claims, new nuclear power plants would be economically competitive with natural-gas plants.

Chevrolet's Cheap Minicar, the Spark, Is a Surprisingly Strong Seller

[New York Times, Aug. 16] The tiny Chevrolet Spark from General Motors is about as bare bones as cars come these days, with hand-crank windows, no floor mats and one of the smallest engines of any car. Air-conditioning is optional. But to the surprise of even G.M. itself, which has traditionally struggled to sell small cars, the Spark has become an unlikely hit as many American buyers warm to a car that is cheap to buy and to operate. The Spark, made in South Korea, seats four, has room for groceries — and starts at $12,170, significantly less than the Fiat 500's starting price of $16,100. It's also inexpensive to run, getting about 35 miles to the gallon. In July, sales of the Spark increased 163 percent over the previous year, its introductory month, to a record 3,847, showing that a stripped-down minicar can succeed in a market crowded with costlier rivals like the Fiat 500 that have more features and technology. Its July sales outpaced the Fiat 500's 2,821, which was a 24 percent decline from a year earlier. Through July this year, Spark sales were 21,435, behind only the Fiat 500's 23,892 among minicars.

Refrigerated Trucks To Use Fuel Cell Technology

[ENN, Aug. 23] In order to transport our favorite ice creams, frozen foods, and fresh produce, certain trucks are equipped with powerful refrigeration systems often powered by small diesel engines. These engines are constantly running all the way from the manufacturers of these frozen goods to the market in order to keep these groceries frozen or cool. As a result, refrigeration trucks tend to use more energy and resources to run. In an effort to reduce some reduce emissions and use a quieter, more efficient alternative to these refrigeration units, researchers at the U.S. Department of Energy's Pacific Northwest National Laboratory are overseeing a project that will use an alternative energy source: fuel cells. A project using trucks whose

refrigeration units are powered by this clean technology will be conducted in Texas, California and New York. The fuel cells will do the work normally done by a small diesel engine, which keeps the cargo at the proper temperature while the trucks are making deliveries. Each of the four trucks will still be equipped with a main diesel engine that actually powers the truck.

Siemens Receives $400M Order for Advanced Power Plant in the USA

[Product Design & Development, Aug. 22] Siemens has received an order from the U.S. for the delivery of two power plant blocks for the Liberty combined cycle power plant in Pennsylvania. Siemens will deliver two H-class gas turbines, two steam turbines, two generators, two heat recovery steam generators as well as the electrical equipment and the control system. The EPC contractor is Gemma Power Systems LLC, a leading Engineering, Procurement, and Construction contractor in the U.S. The customer is an affiliate of Panda Power Funds. The order includes a long-term service agreement and has a total value for Siemens of approximately $400 million. With a combined cycle output of approximately 829 megawatts, Liberty will be one of the most advanced gas-fired power plants in the northeastern U.S. when it goes into commercial operation in 2016 and will be able to supply up to one million homes with clean power generated using domestic fuel. This order brings the total number of H-class gas turbines that Siemens has sold worldwide up to 24.

Wind Farms Take Root Out at Sea

[New York Times, Aug. 21] Bremen, GERMANY — In a warehouse district on the outskirts of Bremen in northwestern Germany is a big, well-lighted work space dominated by the massive top section of a wind turbine called a nacelle. It is here that Siemens, the German power systems giant, trains new employees and gives refresher courses on how to work safely on modern windmills that can rise 90 meters, or about 300 feet, and weigh more than 100 tons. On a hot August day, employees wearing hard hats and protective clothing were squeezing in and out of the multi-ton module, practicing evacuating injured colleagues using pulleys and harnesses. The training center, which pushes through around 2,500 people a year, is fully booked these days because Siemens is staffing up as it fills orders for building and operating offshore and onshore wind farms. The center, which now has eight trainers, plans to add an additional one this year and next year. We have to keep hiring," said Ralph Knödler, a trainer, because the wind business is getting "bigger and bigger." Although onshore wind is a larger business, offshore is growing faster, and the contracts often come with long-term maintenance deals, creating a need to recruit new service workers from the ranks of landlubbers. The turbines are formidably expensive and tricky to install and maintain, but countries blessed with ample sea breezes, like Britain and Germany, are coming to view them as a major part of their efforts to curb the emissions of carbon dioxide and other greenhouse gases that scientists say contribute to climate change.

LEGISLATION AND REGULATION

Sen. Heinrich Urges Federal Action on Sunzia Power Line

[Las Cruces Sun-News, Aug. 19] SANTA FE – U.S. Sen. Martin Heinrich went to bat Monday for the proposed 515-mile SunZia energy transmission line that would traverse much of New Mexico, including a section that is controversial because it is part of air space for White Sands Missile Range. In a letter to Sally Jewel, cabinet secretary of the Department of the Interior, Heinrich said if the SunZia project were scuttled "it will significantly damage New Mexico's prospects for large-scale renewable energy development." Heinrich, D-N.M., said the SunZia proposal had been delayed long enough, and that the federal government's credibility was on the line in resolving property use involving military installations and alternative energy suppliers. "... Another delay on this project threatens the credibility of the Department of Defense Siting Clearinghouse process. SunZia was selected as an early 'fast track' project for the nine-agency Rapid Response Team for Transmission and was intended to act as an example of how DOD and the Department of the Interior could work together to resolve energy siting conflicts quickly and collaboratively," Heinrich wrote. The U.S. Bureau of Land Management's preferred route follows the criteria of the Clearinghouse's letter of approval, Heinrich said. If an environmental study were reopened on SunZia, "other federal agencies and project sponsors will not be able to rely on the Clearinghouse in their own siting processes, rendering it irrelevant," Heinrich said. Tom Wray, project manager of SunZia, said the company would kill the $1.2 billion transmission line if its preferred route is not accepted by the Bureau of Land Management, part of the Department of the Interior. Wray, a former New Mexico state senator, said SunZia would have no choice because a new environmental review process for a revised route would take years, closing the financial

window for the project to be successful.

USDA Funding Hundreds of Rural Renewable Projects

[Fierce Energy, Aug. 21] The U.S. Department of Agriculture's (USDA) is making investments of more than $21 million into energy projects nationwide to help agricultural producers and rural small businesses reduce their energy consumption and costs, use renewable energy technologies in their operations and/or conduct feasibility studies for renewable energy projects. The funding, available through USDA's Rural Energy for America Program (REAP), authorized by the 2008 Farm Bill is earmarked for 631 projects across the country. REAP helps producers purchase and install renewable energy systems, reduce energy costs and increase production efficiency. For example, a farm in Climax, N.C., will use the grant to install an energy-efficient geothermal system. A farm in Lillington, N.C., will use the grant to upgrade an anaerobic digester system to produce electricity from the farm's waste stream. A farm in Puerto Rico will use the grant to install a 23 kW photovoltaic system to replace 97 percent of the farm's energy consumption.

Western Water Woes: Feds Begin Colorado River Water Drought Measures

[Associated Press] After back-to-back driest years in a century on the Colorado River, federal water managers are giving Arizona and Nevada a 50-50 chance of having water deliveries cut in 2016. A U.S. Bureau of Reclamation operations plan made public Friday will for the first time slow the flow of water from the Lake Powell reservoir upstream of the Grand Canyon to the huge Lake Mead reservoir that provides almost all of Las Vegas' water. But a bureau official said Lake Mead won't reach a low point next year that would trigger cuts to Sin City's main drinking water supply. "What we've seen in the last two years are the worst consecutive years of inflow in the last 100 years," bureau Lower Colorado Regional Director Terry Fulp told The Associated Press. "We're going to slow Powell's decline. That will hasten Mead's decline," he said. "But next year, we can adjust again. The bureau that controls the levers at the Glen Canyon and Hoover dams said cities, states, farmers and Indian tribes will get their full Colorado River water deliveries next year — and probably in 2015. Fulp said a 2 percent chance of the Lake Mead level dropping in 2015 to the trigger point for a shortage declaration increases to 50 percent in 2016. Bureau officials and environmentalists have been raising alarms in recent months about demand outstripping supply on the river serving some 40 million people in seven states and cities including Los Angeles, Phoenix, Denver and Las Vegas.

WESTERN POWER

California's Electricity Use Remains Flat in Contrast With Rest of US

[Energy Manager Today, Aug. 19] California's electricity use has remained flat for the past four decades, while consumption has tripled in the rest of the United States, a result that could be caused by a combination of high prices, stringent energy efficiency regulations and unique demographics in the state. The average Californian uses about 33 percent less electricity at home than the average American living in the rest of the country, reported the Washington Post. Electricity use per capita in California doubled in the 1960s and has remained relatively flat ever since. Meanwhile, household use in the rest of the US has more than tripled, climbing past 12,000 kWh per person on average. A number of theories abound has to what has caused the disparity between California and the rest of the country. Stricter standards on appliances and home insulation, utility regulations that promote energy efficiency as well as some of the highest retail electricity prices in the country are considered factors in the disparity, reported the Washington Post.

El Paso Adds 32 Electric Vehicle Charging Stations

[El Paso Times, Aug. 22] The city is inviting the public to plug in their electric vehicles at 17 locations. Mayor Oscar Leeser joined Gerald Cichon, chief executive officer of the Housing Authority of the City of El Paso, and Marty Howell, the city's director of Economical Development and Sustainability, to commission 32 electric vehicle charging stations throughout the city. Some of the locations have more than one charging station, city officials said. The city, the University of Texas at El Paso, El Paso Community College and the housing authority used a $256,000 grant from the Texas State Energy Conservation Office's Transportation Efficiency Program to install the stations. The stations have been installed at 17 sites around the city including: Sun Metro terminals, the El Paso International Airport, the UTEP campus and housing authority communities. UTEP has 10 additional charging stations that are not a part of the state grant. Leeser said the charging stations will be a great service for residents who own electric cars.

WGA Urges Army Corps To Engage States In Rule-Making Process for Surplus and Storage Water At Reservoirs

[Western Governors' Association, Aug. 20] Western Governors have joined the Western States Water Council (WSWC) in asking the U.S. Army Corps of Engineers to work with states on rulemaking for the treatment of surplus water in Corps-managed reservoirs. The Western Governors' Association (WGA) expressed its concern about the Corps rulemaking process in a letter to **Jo-Ellen Darcy**, Assistant Secretary of the Army (Civil Works). Read the letter. WSWC, which represents 18 Western states on water policy, sent a similar letter to the Corps on Aug. 6. Specifically, the WSWC and WGA are concerned that an expanded definition of "stored water" in the Corps rulemaking process could make the natural flows of the river (water that would normally pass through a reservoir if not for a dam) subject to contracts and fees. Such a measure would fail to recognize state authority over management of surface water.

'World's Largest' Thin-Film Solar Plant Begins Operations

[PV Tech, Aug. 23] The 143MW Catalina solar park, once billed as the world's largest thin-film solar PV plant, has begun operations. Developer EDF Renewable Energy and engineering contractor Bechtel have confirmed that the Californian project is now live. "Projects like Catalina Solar underscore the meaningful role that stable policy at the national and state levels - specifically the Federal Investment Tax Credit and the California Renewable Portfolio Standard - can play in enhancing our nation's long-term energy security," said Ryan Pfaff, executive vice president, EDF Renewable Energy (EDF-RE). The plant uses 82MW of Solar Frontier CIGS panels and 61MW of First Solar modules. "Catalina Solar consists of over 1.1 million solar PV panels and is estimated to offset 250,000 metric tons of greenhouse gas emissions annually," said Mark Tholke, vice president West Region for EDF-RE. "The project has been an important source of direct and indirect economic activity in Kern County, including over 500 workers on-site during construction." EDF-RE sold the 364-hectares development to a consortium of GE Energy Financial Services, MetLife, Union Bank and Citi at the turn of the year. The company will continue to manage maintenance and operations at the site.

ARIZONA STATE INCENTIVES/POLICIES

ARIZONA COMMERCE AUTHORITY (ACA)

- Angel Investment Tax Credit Program - The main objective of the Angel Investment program is to expand early stage investments in targeted Arizona small businesses. The program accomplishes this goal by providing tax credits to investors who make capital investment in small businesses certified by the Arizona Commerce Authority (ACA). To view the list of businesses that have been certified under this program please click here.

  Income Tax Credit Provisions

  An investor seeking an income tax credit must document to the ACA the investment was made in either a qualified rural or bioscience company or any other qualified small business. For a qualified bioscience or rural company, the tax credit may total up to 35% of the investment amount over three years; for any other qualified business, the tax credit may total up to 30% over three years. If the tax credits exceed the investor's income tax liability, any unused tax credit amount may be carried forward for up to three taxable years as long as the investor timely claims the credits with Revenue.

  The ACA may authorize up to $20 million in tax credits to qualified investors beginning July 1, 2006 through June 30, 2016. The tax credits will be authorized on a first come, first served basis, which is established by the date and time the investor files an application with the ACA. Download the Angel Tax Credit Allocation Table Angel Tax Credit Allocation Table to view the remaining amount of tax credits available. For more detailed information please see below or direct questions to the Program Manager.

- Arizona Innovation Accelerator Fund - The Arizona Innovation Accelerator Fund Program is an $18.2 million loan participation program funded through the U.S. Department of Treasury's SSBCI and managed by the Arizona Commerce Authority. The goal of this program is to stimulate financing to small businesses and manufacturers, in collaboration with private finance partners, to foster business expansion and job creation in Arizona.

- Arizona Innovation Challenge - The Arizona Innovation Challenge is an investment in the minds of talented entrepreneurs in Arizona and around the world. The ACA will award $1.5 million to the most promising technology ventures that participate in the Challenge (awards may range from $100,000 to $250,000).

- AZ Fast Grant - Technology Commercialization Assistance - ***Next round of grants opening in mid November. This*** competitive grant enables Arizona-based technology companies to initiate the commercialization process. The grant will pay up to $7,500 to provide one or more of the following professional consulting services:
  - An expert review of the technology under development to determine if it already exists, is a good candidate for intellectual property protection and is likely to find an attractive market.
  - A commercialization feasibility study to identify showstoppers to commercialization before resources are spent commercializing a technology that is unlikely to succeed.
  - Other commercialization assistance such as training or preparation for the submission of a federal SBIR/STTR grant application or another acceptable means of technology commercialization.

- AZ Step Grant - Grant funding from the U.S. Small Business Administration (SBA) with matching funds contributed by the Arizona Commerce Authority (ACA) offering a number of services and tools to Arizona small businesses as they go global for the first time with sales or enter new, international markets.

- Commercial/Industrial Solar Energy Tax Credit Program - The primary goal of the Commercial/Industrial Solar Energy Tax Credit Program is to stimulate the production and use of solar energy in commercial and industrial applications by subsidizing the initial cost of solar energy devices. The program achieves this goal by providing an Arizona income tax credit for the installation of solar energy devices in Arizona business facilities. For more detailed information please see below or direct questions to the Program Manager.

- Healthy Forest - Harvesters, initial processors and transporters of small diameter timber, may receive: Transaction Privilege Tax Exemptions, Use Tax Exemption and New Job Income Tax Credits.

- Job Training Program offers job specific reimbursable grants for employers creating new jobs or increasing the skill and wage level of their current employees. Deadline: Year Round

- Renewable Energy Tax Incentive Program offers a refundable income tax credit and property tax reduction to companies in solar, wind, geothermal and other renewable energy industries who are expanding or locating a manufacturing or headquarters operation in Arizona. The tax credit is up to 10% of the total qualified investment amount and the property tax benefit can reduce a company's property taxes by up to 75%. Deadline: Year Round

- Research and Development Tax Credit is an Arizona income tax credit for increased research and development activities conducted in this state. Starting in 2010, a qualifying company may be eligible to claim a partial refund of its current year excess R&D credit. Applicants may apply at the end of their tax year but prior to filing a tax return with Revenue.

- Quality Jobs Tax Credit Program - Beginning July 1, 2011, this new program provides Arizona income tax credits for companies creating new jobs and investing in Arizona. The credit is valued at up to $9,000 over a 3-year period per each new employee and offers a 5-year carry forward provision for any unused tax credits. Eligibility qualifications are different for rural and metro areas.

- Bonds Administered by the Arizona Commerce Authority.

- Federal Programs

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- Pollution Control Tax Credit - Provides a 10 percent income tax credit on the purchase price of real or

personal property used to control or prevent pollution.

- Renewable Energy Production Tax Credit - An income tax credit awarded to utility-scale generation systems based on the amount of electricity produced annually for a 10-year period using solar or wind energy. Questions can be directed to Georganna Meyer (602-716-6927) or Elaine Smith (602-716-6924).

- **Sales Tax Exemption for Machinery and Equipment** - Exemptions are available for:
  1. Machinery or equipment used directly in manufacturing, see ARS 42-5159(B)(1).
  2. Machinery, equipment or transmission lines used directly in producing or transmitting electrical power, but not including distribution, see ARS 42-5159(B)(4).
  3. Machinery or equipment used in research and development, see ARS 42-5159(B)(14).

Questions can be directed to Christie Comanita (602-716-6791).

- Solar Liquid Fuel Tax Credit - Income tax credits are available for research and development, production and delivery system costs associated with solar liquid fuel. Questions can be directed to Georganna Meyer (602-716-6927) or Elaine Smith (602-716-6924).

- Database of State Incentives for Renewables and 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)

- U.S. Dept. of Agriculture - Rural Development Grant Assistance
- SBIR/STTR FY 2013 Phase II Release 3 – Response due September 4, 2013
- Advanced Manufacturing Technology Consortia (AMTech) Program – Optional Pre-applications should be received no later than Friday, September 6, 2013. Full applications must be received no later than 11:59 p.m. Eastern Time, Monday, October 21, 2013. Applications received after the deadline will not be reviewed or considered.
- Water Sustainability and Climate - Responses due September 10,2013
- FY2013 Economic Development Assistance Programs – Response due quarterly; September 13, 2013
- Manufacturing Technology Acceleration Center (M-TAC) Pilot Projects – Response due by September 23, 2013.
- Bio-refinery Assistance Program – Response due October 31, 2013
- Energy, Power, and Adaptive Systems – Response due November 1, 2013
- Electronics, Photonics, and magnetic Devices - Response due November 1, 2013
- SunShot Initiative - Responses due November 20, 2014
- Solid Waste Management Grant - Response due December 31, 2013
- Environmental Sustainability - Response due February 20, 2014
- Energy for Sustainability - Response due February 20, 2014
- Environmental Health and Safety of Nanotechnology - Response due February 20, 2014

- Particulate and Multiphase Processes- Response due February 20, 2014
- Thermal Transport Processes - Response due February 20, 2014
- SunShot "Race to the Roof" Initiative - Registration due October 31,2014
- Repowering Assistance Program – Ongoing
- Rural Business Enterprise Grants– Ongoing
- Rural Business Opportunity Grants– Ongoing
- Renewable Energy RFPs - Solicitations for Renewable Energy Generation, Renewable Energy Certificates, and Green Power – Various Deadlines

ENERGY-RELATED EVENTS

2013

- RUCO Electric Deregulation Workshop
  August 27, 2013 Phoenix, AZ

- Solar Heating & Cooling Summit
  August 28, 2013 Phoenix, AZ

- Carbon Nation – Free Film Screening
  September 11 & September 12, 2013

- Waste Conversion Technology Conference & Trade Show,
  September 15-17, 2013 San Diego, CA

- NASEO 2013 Annual Meeting
  September 15-18 Denver, CO

- 2013 SolarPACES
  September 17-20, 2013 Las Vegas, NV

- Energy Environment & Building Conference
  September 24-26, 2013 Phoenix, AZ

- GEA Geothermal Energy Expo 2013
  September 29-October 2 Las Vegas, NV

- Green Fleet Conference & Expo
  October 1-2 Phoenix, AZ

- Arizona Governor's Economic Development Conference
  October 2-4 Flagstaff, AZ

- Solar Decathlon 2013
  October. 3-13, 2013 Irvine, CA

- VerdeXchange Arizona 2013
  October 8, 2013 Scottsdale, AZ

- IGSHPA Conference & Expo
  October 9-10, 2013 Las Vegas, NV

- VERGE – Converging Energy, Information, Building & Transportation

October 14-17, 2013 San Francisco, CA

- Solar Power International
  October 21-24 Chicago, IL

- Border Energy Forum XX
  November 6-9 San Antonio, TX

- AWEA Wind Energy Fall Symposium
  November 6-8 Colorado Springs, CO

- GreenBuild International Conference and Expo
  November 20-22 Philadelphia, PA

- Ecobuild America 2013
  December 9-13 Washington, D.C.

2014

- Energy, Utility & Environment Conference
  February 3-5, 2014 Phoenix, AZ

- Green Biz Forum 2014
  February 18-20, 2014 Phoenix, AZ

- Green Building Lecture Series
  Granite Reef Senior Center Scottsdale, AZ