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From: Bloomberg BNA
Sent: Thur 8/17/2017 8:22:35 PM
Subject: Aug. 17 -- Daily Environment Report - Afternoon Briefing

Daily Environment Report

Afternoon Briefing - Your Preview of Today's News

An Eclipse Is What the U.S. Power Sector's Been Waiting For

Posted August 17, 2017, 01:23 P.M. ET

By Naureen S. Malik, Christopher Martin and Mark Chediak

Turns out the solar eclipse, set to plunge parts of the U.S. into total darkness on Aug. 21, will offer exactly what the power sector's been looking for: a completely predictable stage for experiments.

It's not often that power grid operators, utilities and electricity generators get such precise and advance notice about more than 12,000 megawatts of solar power supplies set to suddenly drop off their systems. And some are looking forward to it—as a means of testing plants, software and markets refined in recent years in anticipation of the day when renewable energy becomes the world's dominant source of power.

The way David Shepheard, managing director at consultant Accenture Plc, sees it: The eclipse is the "forecastable dress rehearsal" for the grid of the future. It'll be the perfect test, he says, "for operating the grid when the sun doesn't shine and the wind doesn't blow."

Here's a closer look at what utilities, power generators and grid operators will be watching as the eclipse plays out:

Perfecting Forecasting

Charlie Gay, director of the U.S. Energy Department's SunShot Initiative, expects the eclipse to provide instant validation for power forecasting models being developed. The department is working with the National Renewable Energy Laboratory and grid operators to improve software controls that balance supply and demand as the continent goes dark.

"It gives us a test for the models," he said. Using satellite data and maps of solar plant locations, the group expects to be able to match forecasts with what actually occurs before, during and after the eclipse.

Grid operators including PJM Interconnection LLC and Southwest Power Pool are similarly using the eclipse to measure exactly how much rooftop solar is on their systems and improve their supply models for the next eclipse in 2024.

Sizing Up Software

The proliferation of so-called smart meters, energy management equipment and software has helped provide power-line operators better data on the homes and businesses they supply. Some utilities can now control their customers' air conditioners using remote devices, helping them curb demand during extreme weather.

The need for such software and technology has only grown as rooftop solar panels increasingly turn consumers into mini-generators. "Smart" inverters can now help balance the voltage and frequency coming from solar panels.

Grids and utilities "are quite frankly becoming tech companies" in their need to crunch big data to operate more efficiently, and this eclipse "is a little bit like Y2K," said Austin Whitman, director of regulatory affairs at FirstFuel Software Inc. in Boston.

The event is going to give grid operators a chance to fine-tune their toolkit for dealing with big wind and solar fluctuations, the Energy Department's Gay said. Battery storage may end up playing a bigger role because it offers more flexibility, Accenture's Shepheard said.

Backing Up Solar

Utilities including PG&E Corp. and Edison International will also be relying on natural gas-fired power plants and hydropower resources to pick up the slack when the moon blocks the sun and solar power's wiped out.

The event is coming at an opportune time for California to flex its hydropower muscle. Snow is melting and hydro is plentiful. The flood of quick supplies is what the state is hoping to dispatch to fill a 6,000-megawatt void of solar energy.

In North Carolina, a part of which will see total darkness during the eclipse, Duke Energy Corp. expects about 2,000 megawatts, or 80 percent, of utility-scale solar farms to go offline. The utility will treat it like a "gradual sunset," said spokeswoman Tammie McGee, estimating that as much as 1,200 megawatts of gas generation will help pick up the slack. The so-called energy imbalance market, formed by a group of utilities and California's grid operator to trade power in real-time across much of the western U.S., will also be put to the test. Berkshire Hathaway Energy's NV Energy utility in Nevada said it'll rely on this regional system, capable of dispatching power every five minutes, to help balance supply swings and set aside 400 megawatts in reserves.

Power Surge?

Power bulls could meanwhile enjoy a rally in wholesale electricity prices due to solar's sudden slide. The eclipse will start curbing solar a little after 9 a.m., just when the work week is ramping up and demand is taking off. According to energy data provider Genscape Inc., the event may extend the typical period of high power prices in California by about two hours.

Prices will probably retreat as soon as the moon starts moving past the sun and solar farms return, Genscape said. And the market impact in Texas, the Midwest and the East Coast will be limited because the region's home to smaller concentrations of solar.

Those within the path of the shadow may feel a 10-degree Fahrenheit drop in temperatures, probably not enough to affect gas demand, according to WTRG Economics. "But power companies will be busy for a half hour or so trying to balance the load," the energy research firm said in a report.

Voltage Swings

Transmission operators have spent years adapting to growing volumes of renewable power coursing through U.S. power lines. So they're not anticipating outages as a result of voltage fluctuations. Utilities from California to North Carolina have also been preparing for months to avoid sudden voltage losses.

"One of the advantages of being a national leader in the amount of solar energy connected to the grid is that our operators are experienced with dealing with fluctuations in solar power production due to weather conditions," said Paul Grigaux, vice president of transmission substations and operations for Edison's Southern California Edison utility.

And solar's decline doesn't just affect high-voltage transmission lines. Utilities in California and New Jersey, where large concentrations of households have installed solar panels on their rooftops, will have to deal with fluctuating voltage levels on local power lines.

While Duke plans to follow the same procedures it always follows during sudden outages, McGee noted that the magnitude of this event "is fairly unprecedented."

—With assistance from Sophie Caronello.

GE, Tesla to Outfit 50 Home Depot Stores with Solar Panels

Posted August 17, 2017, 02:01 P.M. ET

By Christopher Martin

General Electric Co.'s Current unit and Tesla Inc. will install solar systems on 50 Home Depot Inc. stores and sell the power output to the retailer.

The solar rooftops will generate enough electricity to reduce each store's demand from local utility grids by about one third, Atlanta-based Home Depot said in a statement Thursday. It's part of a company plan to get 135 megawatts of clean energy at its stores by 2020.

Home Depot will buy the output from each of the systems under power purchase agreements in New York, New Jersey, Connecticut, California and Washington, D.C. Six locations will also get battery storage from Tesla. Terms weren't disclosed.

Blackstone's New Pipeline Asset Is Wreaking Environmental Havoc

Posted August 17, 2017, 9:36 A.M. ET

By Naureen S. Malik and Catherine Traywick

In the energy business, it's one of the biggest projects going today: construction of a 710-mile pipeline to transport natural gas from America's most prolific shale deposit in the eastern U.S. to consumers in the Midwest and Canada. Even Blackstone Group LP has agreed to take a sizable stake.

But it holds another, more dubious, distinction. The Energy Transfer Partners LP pipeline has racked up more environmental violations than other major interstate natural gas pipelines built in the past two years, according to a Bloomberg analysis of regulatory filings during that period. And that's all since U.S. regulators approved the $4.2 billion project in February.

"Not only is it a situation where there are probably more incidents and more headlines than any other pipeline, on a project basis it's a magnitude that we haven't seen in years," said Kyle Cooper, director of research with IAF Advisors in Houston.

In Ohio, Energy Transfer has been cited for damaging protected wetlands and improperly disposing of wastewater, among other things. In West Virginia, a state regulator temporarily ordered the company last month to cease and desist activities after it inadvertently polluted streams.

And in Washington, the Federal Energy Regulatory Commission halted horizontal drilling on certain segments of the pipeline, following a massive 50,000-barrel spill of diesel-tainted drilling fluid.

The Rover pipeline, running from the Marcellus shale deposit, is Energy Transfer's biggest project since its controversial Dakota Access oil pipeline. Chief Executive Officer Kelcy Warren said July 31 that he was "baffled" by regulators' allegations. That same day, his company reached a deal to sell a 32 percent stake in the Rover unit to Blackstone for about $1.57 billion in cash. It's expected to close in the fourth quarter. Blackstone spokeswoman Paula Chirhart said the firm declined to comment.

"Rover will be built in compliance with all safety and environmental regulations, and in some instances we will exceed those requirements," Energy Transfer spokeswoman Alexis Daniel said in response to Bloomberg's violation tally.

—With assistance from David Carey.

China's Blue Skies Target May Make for Winter Gas Crunch

Posted August 17, 2017, 10:02 A.M. ET

By Aibing Guo, Jing Yang, and Dan Murtaugh

Chinese President Xi Jinping's government beat expectations in its drive to help clear the nation's notoriously smoggy skies by burning less coal and oil in favor of cleaner natural gas.

Now that success may be too much, too soon.

Gas consumption rose 15 percent in the first half of the year, including a 27 percent jump in June,

as industrial customers shift toward the fuel and as distributors add more residential users. That surge during the traditionally low-demand part of the year raises the possibility that the country may find itself short of gas when winter hits, according analysts at Jefferies Group LLC and SCI International.

"China could be setting itself up for a nasty winter gas shortage," Laban Yu, a Hong Kong-based analyst at Jefferies, said this month in a research note. "We believe gas prices will have to increase, especially in winter months, to balance supply and China's regulation-induced demand surge."

China's drive to use more natural gas and renewables has seen coal's share of the energy mix drop to just below 60 percent during the first half of the year, according to the National Energy Administration. It accounted for 64 percent in 2015, and the government is aiming for 58 percent by 2020.

China's natural gas demand will rise to 620 billion cubic meters a year by 2030, China National Petroleum Corp. said in an Aug. 16 report. The country used 206 billion cubic meters last year, according to the National Development and Reform Commission.

Natural gas use tends to fall into two categories: recurring demand from activities like power generation and industrial plants, and seasonal demand for powering air conditioners in summer and heating homes in winter. For China, which has hundreds of millions of people living in colder northern cities like Beijing, Tianjin, and Harbin, consumption peaks in the winter.

But demand this year is booming in the middle of summer. Imports in July jumped by 55 percent over the previous year and are up by almost 21 percent for the entire year, according to the General Administration of Customs. That's on top of a 8.8 percent increase in domestic output during the first seven months of the year, according to the National Bureau of Statistics.

'Big' Increase

In 2015 and 2016, seasonal demand meant December consumption was double that during July. China Petrochemical Corp., one of the country's leading liquefied natural gas importers and known as Sinopec Group, is expecting "big" year-on-year increases in the winter and spring, Shanghai Securities News reported last week, citing comments from the company after its midyear work conference.

The government will likely push energy companies to ramp up imports and production and ensure that new terminals are online to meet winter demand, said Liu Guangbin, a gas analyst at Shandong based SCI International. Energy firms may use the surge in buying to bolster requests to the government to raise regulated domestic prices, he said.

"I expect the gas supply shortage this winter to be more severe than the situation in the previous two years due to sharp increase in demand from industrial users amid the government's coal-to-gas switching policy," he said.

Neither the National Development and Reform Commission, the nation's top economic planner, nor the NEA responded to faxed requests for comment.

More LNG

The growing global LNG market will help the country meet any surge in demand this winter, said Liu Ming Hui, executive chairman of China Gas Holdings Ltd., which distributes natural gas to homes

and businesses. Other distributors, such as ENN Energy Holdings Ltd. and Guanghui Energy Co., have started importing LNG themselves to supplement supplies they typically bought from China's big state-owned energy firms.

LNG has made up almost 51 percent of China's natural gas import supply during the first half of the year, up from 48 percent last year and 44 percent in 2015, according to Bloomberg calculations using data from the General Administration of Customs.

China's gas prices are set by regulators, and they're among the highest in the world by a major gas consumer. The main city-gate price in June was 1,876.1 yuan per thousand cubic meters, which equated to about $7.73 per million British thermal units.

LNG Surge

A surge in LNG production, led by new facilities in Australia, boosted global output to a record in July, according to JP Morgan Chase & Co. New plants will ensure that there's ample supply for Chinese buyers, even as they are expected to increase imports this winter by 30 percent from last year, said Zhi Xin Chong, a Singapore-based analyst with Wood Mackenzie Ltd. Prices for spot LNG will probably only rise to the $7-to-$8 per million British thermal units level this year, compared to a peak near $10 last year, he said.

"We probably won't see the same sort of spike like last year," he said. "The new supply coming on to the market is already beginning to affect prices."

China's Menswear Maker Swaps Stitching for Lithium Batteries

Posted August 17, 2017, 9:30 A.M. ET

By Bloomberg News

Ten years ago, Ningbo Shanshan Co. was primarily a maker of menswear turning out shirts, casual wear and business suits from its base of Ningbo, an industrial hub in China's Zhejiang province. Not anymore.

This week, the company announced that it will spend 3.81 billion yuan ($570 million) on a new energy-storage project in China's northern city of Baotou, bolstering its growing interest in the research, development and manufacture of lithium-ion batteries.

The move is the latest by the Chinese company to become a bigger player in the market for storing electricity for everything from electronic vehicles to laptop computers. It underscores an accelerating shift for a company that got almost all its sales from apparel in 2006.

Shanshan is "a serious player in the battery material business, so it's not a surprise" to see its new plan, said I-Chun Hsiao, a Tokyo-based analyst from Bloomberg New Energy Finance. "There's an oversupply in batteries in the short term."

The industry, he said, will see enough demand to boost manufacturing capacity by more than fourfold from 2021 to 2030. Chinese companies have about 57 gigawatt-hours of lithium-ion manufacturing capacity, with another 78 gigawatt-hours announced, according to Bloomberg New

Energy Finance data.

The shift has been good for Shanshan investors. Its shares have gained about 45 percent in Shanghai trading this year, outpacing the Shanghai Stock Exchange Composite Index's 5 percent increase. Citic Securities Co.initiated coverage of the stock with a buy recommendation on Wednesday, predicting Shanshan will trade at 26.5 yuan within a year, a 25 percent increase from the close on Aug. 15.

Shanshan fell as much as 1.9 percent on Thursday in Shanghai.

Shanshan's newest project each year will be able to produce 100,000 metric tons of anodes—a component in lithium-ion batteries, according to a statement on the Shanghai stock exchange on Tuesday. Construction will begin in October and is expected to be completed by June 2019.

The new investment adds to Shanshan's purchase last month of 1.8 billion yuan of shares in China Molybdenum Co. in a private placement as part of its push to secure the raw materials use to produce cathodes.

Battery materials accounted for almost 75 percent of Shanshan's revenue last year. That's up from 39 percent in 2011 and a far cry from virtually nothing in 2006 when it got 93 percent of its sales from making apparel, according to company filings.

Company Transformation

The transformation to battery material manufacturing has helped rejuvenate the company's earnings. Net income rose about 51 percent in the first half from the same period a year earlier to 339 million yuan mainly because of its battery materials business, the company said on Tuesday. Annual revenue has more than tripled in the past 10 years.

Besides anodes, Shanshan also produces other battery components such as cathodes and electrolytes. The company is expanding into more aspects of electric vehicle manufacturing, including battery system integration, vehicle design, research and development and charging pole construction.

Saudi Arabia Calls for Pollution Monitors on Industrial Chimneys

Posted August 17, 2017, 03:32 P.M. ET

By Matthew Kalman

Saudi Arabia has ordered about 7,000 industrial plants to install networked monitoring systems to measure greenhouse gas emissions in real-time as part of its effort to reduce air pollution and improve public health, according to the Ministry of Environment, Water and Agriculture.

Emissions sensors installed in chimneys will broadcast air quality data to a network of nationwide monitoring stations connected to a central control unit and database linked to the ministry's Center for Environmental Information, Meteorology & Early Warning for Weather & Pollution. The center then will issue daily reports and an electronic map showing real-time air quality data, according to the center.

Saudi Arabia has the highest recorded air pollution in the world, due mostly to its heavy fossil fuel emissions from the oil industry, and is closely followed by Gulf neighbors Kuwait, Qatar, Bahrain, and the United Arab Emirates, according to data from the World Health Organization and International Energy Agency.

"Being an intensively industrialized region, monitoring air emissions from the various industries is very vital for the protection of the human's health and the surrounding environment," said Abdulaziz Al-Shaibani, chairman of the Department of Geosciences at King Fahd University of Petroleum and Minerals in Dhahran. "The main goal of the initiative is to restrict the volume of gas emissions for the industrial stacks in the major industrial cities within the Kingdom. We are not aware of monitoring efforts that are enforced on any industrial sector within the kingdom."

The monitoring network, which will be enforced through legislation, will be a crucial first step toward achieving the vision of the government's $72 billion National Transformation Program, Khalil bin Mosleh Al-Thaqafi, president of the Saudi General Authority for Meteorology and Environmental Protection, a unit of the Environment Ministry, said . The program aims to end Saudi Arabia's dependence on hydrocarbon revenues by 2030.

"We are not sure exactly of the cost [of installing and maintaining the monitors], but it will probably be on the range of a few hundred thousand to a million Saudi riyals per industry for the installation and maintenance of the monitoring units," Al-Shaibani said.

While all industry sectors will have to adhere to the networked monitoring systems order, Saudi Arabia's oil industry generates a large part of the country's carbon emissions.

Aramco, BP PLC, Royal Dutch Shell, and Exxon Mobil, which all have large petrochemical plants in Saudi Arabia, did not respond to requests for comment from Bloomberg BNA. Chevron referred inquiries to the Saudi authorities.

The head of a large sustainable energy company, as well as environmental researchers, welcomed the monitoring plan.

"Really pleased to see this initiative as the impact of unacceptable levels of carbon and other particulates not only contributes to climate change, but also to harmful health impacts on the people who live in the area of these industrial facilities," Paddy Padmanathan, president and chief executive officer of ACWA Power International, told Bloomberg BNA in an Aug. 15 email.

"It's very positive to see this initiative, which will help characterize and monitor emissions from industrial facilities, and determine their role in air pollution," said Isobel Simpson, an environmental researcher at the University of California, Irvine, who has studied Saudi air quality.

Blackout Could Pressure Taiwan Leader to Reconsider Energy Policy

Posted August 17, 2017, 11:24 A.M. ET

By Stephen Stapczynski

A blackout in Taiwan Aug. 15 that struck about 6 million households may force President Tsai Ing-wen to reconsider her anti-nuclear stance and open the country's electrical grid to outside investment.

The island's energy security and the feasibility of Tsai's plan to phase-out atomic reactors by 2025 and reduce coal-fired generation is coming under greater scrutiny, BMI Research said in an Aug. 16 note. So far Tsai hasn't backed down on promises to shut the country's remaining nuclear power stations, but public pressure could determine the extent to which policies change, according to Gloria Hsu, a professor at National Taiwan University.

While the disruption was caused by human error that resulted in about 9 percent of Taiwan's generation capacity going offline, the outage highlighted the country's limited number of power plants. The reliability of that supply, generated and distributed by state-run companies, is crucial to the success of Taiwan's semiconductor industry that had sales of about $71 billion in 2015 and supplies companies including Apple Inc.

"The government may be forced to reconsider its anti-nuclear stance," said Joseph Jacobelli, an analyst at Bloomberg Intelligence. "Market liberalization could be seriously advanced as Taiwan desperately needs private investment in its power infrastructure."

Taiwan plans to separate Taiwan Power Co., known as Taipower, into separate entities to handle power generation and transmission and distribution, according to electricity act amendments passed in January. But that effort is far too little and the government should should focus on more "rational and less populist" energy policies, said Jacobelli.

Tsai posted an apology on Facebook and included a reiteration of her determination to push forward with phasing out nuclear power in favor of renewable energy.

—With assistance from Yu-Huay Sun, Chinmei Sung, and Dan Murtaugh.