

Memo

To: California Energy Report Subscribers
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Re: Monthly Energy News Report for October, 2006

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CALIFORNIA

New Solar Website

A new state website from the California Public Utilities Commission (PUC) and the California Energy Commission has been established:

www.GoSolarCalifornia.ca.gov.

GoSolarCalifornia is a one-stop information center for new or existing home owners, businesses, schools, public buildings, farms, and others to learn about solar power and how to Go Solar! The website offers information on solar energy, incentives offered by the state for the installation of solar power; how to easily apply for incentives; and, basic information on solar energy.

October Was Energy Awareness Month

Did you miss it? Did you even hear about it? The theme this year was "Energy Independence Depends on US - Choose Wisely, Use Wisely." The theme, set by DOE's Federal Energy Management Program (FEMP), emphasizes the impact that our energy choices and use can have on securing U.S. energy independence.

Sempra, State Settle

Sempra Energy said it would pay customers of its San Diego Gas & Electric Co. subsidiary nearly \$6 million and would give the utility a discounted option to buy a Nevada power plant as part of a broad settlement that ends a state lawsuit and two investigations into the company's actions during California's 2000-01 energy crisis.

State Atty. Gen. Bill Lockyer and the California Public Utilities Commission sued the San Diego holding company in November, accusing Sempra of failing to disclose a conflict of interest among its subsidiaries and of misleading state officials about its ability to provide natural gas supplies to SDG&E customers.

During the energy crisis, an unregulated Sempra subsidiary sent large quantities of natural gas to customers in Mexico and then didn't have enough pipeline capacity to deliver the needed supplies to its sister company, SDG&E, the lawsuit contended. The shortfall forced SDG&E to cut gas supplies to large customers for 17 days during the power market meltdown — disrupting service, raising energy prices and forcing power plants to use more-polluting fuels.

Sempra agreed to pay \$5.7 million to SDG&E over two years beginning in 2009. The utility would use the money to reduce the cost of buying power for its 1 million electricity customers. The agreement grants SDG&E an option in 2011 to buy — at book value — a 480-megawatt power plant in Boulder City, Nev., that is owned by sister company Sempra Generation. Sempra said the plant cost \$280 million to build in May 2000, but its book value would be an estimated \$180 million.

Under the agreement, regulators and Lockyer agreed to drop the lawsuit and end two related inquiries by the utilities commission. The settlement already has been approved by the PUC and by the San Diego County Superior Court judge who presided over the civil case. If SDG&E opts to buy the Nevada plant, it would have to win approval from state and federal regulators.

The state still has a lawsuit pending that accuses Sempra of illegal trading schemes in 2000-01 and has ongoing disputes with the company over a long-term power contract and possible consumer refunds related to the crisis.

Going After the Big Ones

Ventura county officials decided to study whether builders of large homes should be forced to meet new lower energy standards. The Board of Supervisors asked county planners to study the alternatives, including a Marin County law requiring large new homes to consume no more energy than a 3,500-square-foot home does.

Supervisor Steve Bennett, who proposed the study, told the board that growing numbers of Southern Californians are able to afford expansive homes, sometimes called "McMansions," on 10-acre lots. He has described them as offering six-car garages, guest houses and swimming pools. Citing global warming and the need for countries to develop their own sources of energy, Bennett said the study was merited.

Local jurisdictions can set tighter standards than the state's, but they are subject to approval by the California Energy Commission.

Table Scraps Into Energy

A new digester that converts table scraps into methane and hydrogen was unveiled at Davis. The plant uses between eight and 10 tons of food waste a day, feeding tanks of microbes that, in turn, excrete hydrogen and methane. At full capacity, the plant can produce enough electricity for 10 average California households a day. Called a Zhang digester after its inventor, the digesting process converts between 60 and 90 percent of organic solids to biogas. It's also the first commercial digester that yields both methane and hydrogen in separate stages.

The California Integrated Waste Management Board estimates that 22 million tons of wet organic waste is produced in the state each year. That could be used to generate 895,000 kilograms of hydrogen gas a day -- the daily equivalent of 1,363,000 gallons of gasoline.

The digester still has to prove it can go from 8 tons a week to the 25 tons a day required for general commercial feasibility.

The inventors hope restaurants, institutions and others in the food business will see value in diverting waste from the landfill, using it instead to produce energy. A system of \$1 million or so can pay for itself in three to five years.

New Geothermal Plant at Geysers

Western GeoPower Corp. announced plans to build a 25.5 MW geothermal power plant in the southwest region of the Geysers Geothermal Field in Northern California. Western GeoPower acquired the 421-acre leasehold for the steam field in June, followed this month by an adjacent lease covering an additional 140 acres. The leases grant the rights to develop the site's geothermal resources, which will be used to supply the plant.

Pacific Gas & Electric had run a 62 MW geothermal plant, known as Unit No. 15, at the site between 1979 and 1989. The plant shut down because the facility used up the available steam resource. Reservoir pressure has recovered due to increased injections of reclaimed water from Sonoma County.

Electricity Supply Not Keeping Up

The annual report from the North American Electric Reliability Council (NERC), released on October 16, says that over the next 10 years demand for electricity in the United States is expected to grow three times faster than supply. Over the next two to three years, demand for electricity in Texas, New England, the Mid-Atlantic area and the Midwest is expected to outstrip the supply required to ensure reliability on peak

days. Similar shortages will confront Western Canada as soon as 2008 and other portions of the Northeast, Southwest and Western U.S. a few years later.

In its first report since the organization's duties were expanded by Congress, the grid organization, known as NERC, said U.S. demand will increase by about 20% from 2006 to 2015, outstripping investment in new electrical supply. The pace of growth in Canada, while slower, also is cause for concern.

NERC counts 67,000 megawatts of resources in the works in the U.S. versus 141,000 megawatts of expected demand growth by 2015, leaving a shortfall of about 81,000 megawatts, an amount equivalent to 160 large power plants. Available resources are expected to fall below safe levels in many parts of the U.S. and Canada, such as New England, the Rocky Mountain region and Texas, in the next two to three years.

The report said 50,000 megawatts of generating plants are poorly utilized -- either aged units taken out of service or newer plants that have been unable to line up contracts, making them nearly useless.

NERC is pushing for more-comprehensive resource planning and it is attacking tools that it considers flawed. For example, grid officials create annual forecasts that are built around "normal weather" patterns. This past summer, consumer demand set records in most parts of the U.S., reaching levels not expected for years and worrying grid officials. The increase came on top of unusual demand during the summer of 2005 that was 6% higher than in 2004, according to the U.S. Energy Information Administration.

Where available resources are thinning, NERC may push state utility regulators to do more to promote investment. If investment isn't sufficient, the federal government could exercise new powers, conferred in the 2005 Energy Policy Act, to site major transmission projects.

The SMUD Takeover

Thus far I've refrained from writing about the proposed SMUD takeover of PG&E customers in Yolo County. It is an illustrative fight, so I have provided a summary here.

Elected representatives of Yolo County last year asked SMUD to help them leave PG&E. In May of 2005, SMUD agreed to begin the process of annexing the communities of Davis, Woodland and West Sacramento into its service area. It is now on the ballot for November 7. For the takeover to go forward, the move has to be approved by voters on both sides of the Sacramento River. Yolo County voters have to approve two measures and Sacramento County one. If all three ballot measures are approved, SMUD will need to purchase PG&E's electric system, 137 miles of electricity lines, poles and transformers.

But this is a David going after Goliath. In 2002, when San Franciscans were voting on public power, PG&E spent \$3 million to defeat the insurgency. In Yolo, PG&E already has spent more than \$9 million to hold onto 77,000 customers, or \$117,000 per customer.

For Yolo County, SMUD is an attractive alternative. SMUD is locally controlled. Its meetings and books are open to the public. And since SMUD is not-for-profit, none of its customers' money goes to paying hefty dividends to shareholders, or officers (remember the \$81 million in bonus' paid PG&E officers just prior to the bankruptcy filing?). And PG&E's rates are currently about 30-percent higher than SMUD's rates.

PG&E has been giving a lot more attention, and cash, to Yolo County. The Pop Warner football league got a \$5,000 donation from PG&E for kids' football uniforms. PG&E spent \$10,000 on Christmas lights and decorations for West Sacramento. The company also gave \$100,000 to the Davis school district to help build a new athletic field for Davis High School.

The Yes! Campaign is just beginning to spend its campaign money. In the most recent campaign filings, supporters of Measure L in Sacramento recorded just under \$500,000. Those coffers since have increased, thanks to late contributions totaling \$250,000 from Eleni Tsakopoulos, of the influential family of developers. Because SMUD is a public agency, it can't spend any ratepayer money on political campaigns. There are no such rules holding PG&E back.

In its pleadings to the CPUC, the PG&E notes that it has been bedeviled by attempted public-power takeovers in Sacramento, San Francisco and San Joaquin (apparently the clue bus left and PG&E wasn't on it). In a pending proceeding before the California Public Utilities Commission, PG&E included a \$2 million a year line item for "customer retention."

SMUD filed a complaint with the CPUC over political messages being played for customers who have questions about their bill. Callers to PG&E's customer-service line were being greeted with a message that they might be "forced to obtain service from SMUD at what we believe will be higher rates," and then directed to the PG&E's anti-annexation political Web site.

ENVIRONMENT

Texas' New Generation Will Negate California GHG Reductions

A dozen new coal-fired power plants proposed in Texas could wipe out all the benefits California envisions with its new global warming laws.

A.B. 32, caps the state's emissions over the next five decades, with an ultimate limit in 2050 that requires an 80 percent reduction below 1990 levels. The other law says California can only purchase long-term power contracts from energy suppliers that meet strict new greenhouse gas limits, essentially banning coal that doesn't also sequester its CO₂ emissions.

The Energy Department's National Energy Technology Laboratory counts 154 new coal plants on the drawing books across the country by 2030 -- with Texas edging ahead of Illinois for potential new capacity.

While it takes Texas to negate us, Kansas is negating the Northeast. The Sierra Club recently complained that Sunflower Electric Power Corp.'s 2,100-megawatt project proposed for western Kansas would produce an estimated 18 million metric tons to 20 million metric tons of CO₂ per year. That is almost as much CO₂ entered into the atmosphere as the 24 million metric tons that seven Northeastern states aim to cut from coal plants by 2020 through a cap-and-trade program known as the Regional Greenhouse Gas Initiative. That one plant is close to eliminating all of the progress proposed by the 7 Northeastern states.

AQMD Sued

A lawsuit by a coalition of community groups and environmentalists alleges the South Coast Air Quality Management District violated state laws when it approved

rules in September that allow new power plants to use emission credits formally reserved for existing facilities such as hospitals and fire stations. The suit seeks to block construction of six new power plants planned in Southern California.

While asserting that the power plants will worsen air quality in the area, the lawsuit questions why AQMD is allowing placement of the plants near low-income communities.

Good Time To Buy Shares in Solar?

Shares of solar-energy companies in the U.S. and Asia have fallen about 25% to 50% in recent months as declining oil prices have cooled interest in renewable-energy stocks. But analysts who see long-term growth potential in the \$10 billion global solar-equipment industry say the recent pullback is creating a buying opportunity.

The prospects for solar power may be particularly strong in Asia, which is rapidly becoming a production hub for photovoltaic cells. Analysts say Asian expertise in high-tech manufacturing, combined with low production costs, could turn some companies into industry powerhouses in coming years. Japanese electronics giants Sharp and Kyocera and China's Suntech Power Holdings are among the world's largest producers of photovoltaic cells. But a number of smaller Asian companies, many of them based in Taiwan, are experiencing rapid growth. Analysts say some smaller companies to watch include Taiwan's Motech Industries, E-Ton Solar and Sino-American Silicon Products, as well as Hong Kong-listed China Solar Energy Holdings.

The global solar-equipment industry has seen 30% annual growth in the past five years, according to Citigroup -- which initiated coverage of the solar sector last week with "buy" ratings on three U.S. solar stocks. Demand for solar panels is expected to boom in the next few years as dozens of countries approve new subsidies, tax breaks and other incentives to promote use of renewable energy sources.

Analysts say demand for solar products is increasingly driven by governmental concerns about global warming. As governments look for ways to reduce dependence on heavily polluting sources such as fossil fuels, they have launched a wave of subsidies on solar products, which analysts say will sustain demand in coming years. Earlier this year, for example, China pledged to spend \$200 billion on renewable energy over the next 15 years. In January, the California Public Utilities Commission launched the California Solar Initiative, which aims to have one million solar roofs in operation by 2017. Some 40 countries, including Spain, Italy and France, now have "feed in" tariffs that require utilities to buy back excess power generated by solar panels on residences and businesses. Such incentives could bring the costs of solar power in line with other forms of electricity and produce annual growth rates of 20% to 30% over the next few years, according to Citigroup.

Some analysts who are less enthusiastic about solar power say subsidies are masking a long-term problem in the industry: Solar power isn't yet a cost-effective energy source because of the high cost of panels. Others point out that many energy companies in other industries receive government support.

1,200 MW of New Wind in CA?

Western Wind Energy Corp. has announced plans for an additional 1,200 MW of new wind-power development in California. The company has decided to focus

on 30 California sites with the capacity to produce 1,200 MW of power.

Western Wind Energy will focus on “diverse” regions, outside traditional wind-development areas such as Altamont, Tehachapi and San Geronio Pass. Western Wind Energy currently produces energy from over 500 wind-turbine generators located in Tehachapi and the San Geronio Pass. It has a 20-year contract with Southern California Edison for 120 MW of power from its WindStar One facility, as well as a 30-year contract with Edison for 120 MW of power from its Windridge facility.

Western Wind Energy cited the recent signing of SB 107, which codified a 20 percent by 2010 renewables portfolio standard for the state’s investor-owned utilities, as the reason for their new renewed interest in California.

NATURAL GAS/OIL

LNG Update

Sempra Energy Co.'s Costa Azul plant is already half-built. The terminal is on track to begin processing 1 billion cubic feet of natural gas daily as early as 2008. Sempra is aggressively pursuing more energy contracts with suppliers — enough to more than double the size of its processing plant — with plans to make the additional fuel available in 2010.

Two Australian companies, BHP Billiton and Woodside Energy Ltd., are seeking permits to build separate operations offshore near Malibu, each capable of processing about 800 million cubic feet of gas daily.

Sound Energy Solutions, a project by ConocoPhillips and Mitsubishi Corp., is seeking to build a plant with similar production capabilities in Long Beach Harbor. And Texas-based NorthernStar Natural Gas Inc. has filed a permit application to convert an offshore oil platform 13 miles from Oxnard into an LNG plant.

There are at least two dozen additional proposals to build LNG terminals in North America over the next several years. Currently, just four terminals operate in the United States — none on the West Coast.

Sempra seeks to benefit by being the first to supply imported LNG to fast-growing Baja California, which operates on a power grid more closely connected to the western United States than to most of Mexico. The region that includes Washington, Oregon, California, Nevada, Arizona and Baja California requires about 10 billion cubic feet of natural gas daily, but produces only about 700 million cubic feet.

In the first phase of the project, the Costa Azul plant will process 1 billion cubic feet of fuel daily, supplied by gas fields in Russia and Indonesia. Up to half the natural gas will be used in Baja California and the rest will move north into the U.S. Southwest. At full capacity, the expanded LNG terminal could process 2.5 billion cubic feet per day, the bulk of that would flow into California and the West. An expanded Costa Azul project could provide up to two-thirds of the natural gas needed for Southern California.

HUMOR

What He Says - What He Means

"I'm going fishing."

Really means: "I'm going to stand by a stream with a stick in my hand all day, while the fish swim by in complete safety."

"It's a guy thing."

Really means: "There is no rational thought pattern connected with it, and you have no chance at all of making it logical."

"Can I help with dinner?"

Really means: "Why isn't it already on the table?"

"Uh-huh." "Sure, honey." "Yes, dear."

Really means: Absolutely nothing. It's a conditioned response.

"It would take too long to explain."

Really means: "I have no idea how it works."

"We're going to be late."

Really means: "Now I have a legitimate excuse to drive like a maniac."

"Take a break, honey, you're working too hard."

Really means: "I can't hear the game over the vacuum cleaner."

"That's interesting, dear."

Really means: "Are you still talking?"

"Hey, I've got my reasons for what I'm doing."

Really means: "And I sure hope I think of some pretty soon."

"I can't find it."

Really means: "It didn't fall into my outstretched hands, so I'm completely clueless."

"You know I could never love anyone else."

Really means: "I am used to the way you yell at me and realize it could be worse."

"You look terrific."

Really means: "Please don't try on one more outfit. I'm starving."

"I'm not lost. I know exactly where we are."

Really means: "No one will ever see us alive again."