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This Week

Energy Agencies Avoid Gov's Budget Ax

Energy agencies appear to be on safe ground, avoiding California's high tide of red ink.

The proposed budgets for state energy agencies were left largely intact in the governor's recent budget blueprint. Some energy agencies even may see small increases, including the California Public Utilities Commission.

Energy is a multi-billion dollar industry. Its regulating agencies are funded largely by special funds from ratepayer pockets —not California's general fund that is $20 billion in the red.

That governor's proposed 2010-2011 budget for the CPUC is $1.4 billion—with a small portion, about $200 million, covering staff costs. This year's budget is $1.2 billion. The commission would see 30 new positions, with a work force of 1,024 under the state chief's first cut at next year's tumultuous spending plan for California.

Much of the money in the CPUC budget comes from investor-owned utility ratepayers for pass-through programs, representing approximately $1.2 billion of the proposed budget. Less than half the amount—$505 million—would come from customer surcharges on natural gas use for energy efficiency. A telecommunication pass through program represents the other $700 million, according to a CPUC staff member.

Proposed funding for new positions at the CPUC in the next fiscal year would cover eight to handle federal stimulus funded programs—with four in the electricity area. The energy division would see 13 new positions, with seven dedicated to renewable energy work. Another two positions would be for new staff in the Division of Ratepayer Advocates.

The California Energy Commission's total budget would decline from $814 million this year to $420 million next year. That, however, still would be up from the agency's $202 million budget in fiscal 2008-09.

Most of the reduction in the Energy Commission's upcoming budget would stem from it spending down one-time federal economic stimulus funding and cuts the governor would make in research and development.

For instance, funding for the CEC's Public Interest Research, Development and Demonstration Fund would fall from $129

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million to $75 million next fiscal year. Funding for natural gas research programs would decline from $42 million to $24 million. Federal stimulus money spending would decline from $299 million this year to a projected $57 million next year.

Staffing would fall slightly from 635 to 623 people, with a decrease of about two positions in the commission's regulatory and planning function, which includes power plant licensing.

The governor's budget proposal for the California Air Resources Board—which is in charge of enforcing the state's global warming law, AB 32—has no major changes, except for reduced spending on air quality work at ports.

One significant funding change at the Air Board is that businesses are to begin paying emissions fees to fund the AB 32 program.

"AB 32 implementation is to be self-supported with fees collected after the budget is adopted," said CARB executive director James Goldstene. "This year is an important year for board."

The levy is projected to help bump the agency's regulatory fee income next fiscal year to $159 million from $95 million this fiscal year. Under the budget, the Air Board would use $21.3 million of the new money to repay loans it has drawn from the state's Beverage Container Recycling Fund to carry out AB 32 work for the past few years.

Stimulus funds.

The Air Board is spending down funds to help companies replace old diesel trucks that haul containers from the state's ports with cleaner models.

The Air Board would pick up four staff members to handle rulemaking disclosure requirements, bringing its total workforce to 1,269. Other programs are largely unchanged from the current year.

The Department of Water Resources' energy division budget would drop, but that reflects the expiration of energy contracts it has managed since the 2000-01 energy crisis. The California Energy Resource Scheduling proposed budget is $3,688,840 compared to an estimated $4,064,444 being spent during the current fiscal cycle

CERS' personnel years for next year are on par with this year's.

To deal with the state's $19.9 billion budget chasm, in part the governor proposes cutting $1.6 billion out of state agency staff salaries to replace the furloughs that have hampered the work at the energy agencies and others.

—Elizabeth McCarthy & William J. Kelly

CA Ratings Sink

Standard and Poor's Rating Agency continued to give California's ratings the thumbs down. The Golden State was given an *A*- rating and negative outlook January 13.

Also not looking so rosy is Arizona, getting an *AA*-, according to S&P.

In contrast, states long considered to be perennially in the financial doldrums received higher marks than Califronia from S&P this week. For example, Louisiana received an *AA*- and Mississippi *AA*.

—E. McC.

Old School

Circuit briefly thought to try podcasts, but that was *so* five years ago. There's tweets, but it's challenging to fit complex energy information in 140 characters. Facebook finds friends, not technology. Blogs and bloggers—few have decades of experience in energy journalism. We could be wrong, and if so, please email us. We believe our high-level policy audience wants clear, easily accessible information that best serves our subscribers' jobs as well as the public. Graphic PDF downloads are available from our website as well as intra-office distribution. You can print it out and take it with you on a train, a carpool, or a plane. You can also read our articles and editorials online. It's solid information in a solid form.

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GUEST JUICE

Backyard Renewables

By Steve Weissman & Ethan Elkind

People like to live and work where the sun shines. Why not maximize the power that can be generated closer to demand?

The Golden State does a good job promoting the smallest and the largest sources of renewable power. The California Solar Initiative devotes billions of dollars to small-scale rooftop solar, while state utilities probably lead the world in signing deals for massive central-station solar and wind farms.

But let's not forget all those large spaces close to load that could support sizable solar and (sometimes) wind installations. Consider all of the highly-disturbed land bordering freeways or along the State Water Project, the tops of the thousands of urban water reservoirs, or the rooftops of public buildings, warehouses, or big box stores.

No distraction.

The opportunities for big distributed generation could reduce the pressure to construct new long-distance transmission lines and overcome many of the environmental challenges facing projects destined for sensitive desert habitat. The kind of installations that would work closer to cities would also be less likely to strain shrinking water supplies. And because they would require the approval of fewer agencies, these big distributed projects could potentially complete the journey quicker from concept to operation.

The first step is to achieve greater understanding of the potential for large-scale renewable power development in our backyards and close to load. At a minimum, we should seek to measure more accurately the size of this potential resource. Assemblyman Bob Blumenfield (D-San Fernando Valley) agrees—at least as far as looking at Caltrans property. He introduced AB 1030 to initiate such a study, but the bill has been stalled in the Senate Appropriations Committee since last August.

Big distributed projects, however, face other critical barriers as well. Financing presents the key hurdle, as businesses struggle to cover the high upfront costs of renewable technology. Developers also may be reluctant to invest under the assumption that the price of renewable technology will continue to decline. And, many public agencies lack a sense of urgency about pursuing these projects.

At a recent workshop held in Berkeley, state agency officials, big business representatives, renewable energy manufacturers, and academics from the University of California, Berkeley, and University of California, Los Angeles, schools of law identified the biggest obstacles to more decentralized generation on our large buildings and spaces along the grid. Workshop participants offered ways to overcome these barriers, the key ones being the following:

- Expanding and improving the "feed-in tariff" program, which requires utilities to provide cash payments over several years to renewable energy producers who sell their energy back to the grid. California currently sets a payment rate that is too low to stimulate investment. A rate that reflects the reasonable cost of production could provide a predictable revenue stream and further stimulate the state's renewable energy market.
- Expanding the state's "net metering" program, which gives renewable energy producers a retail credit for energy they produce that offsets their electricity bill. The program has been so successful that utilities are nearing a legislatively imposed cap on the amount of electricity that can come from this program. The cap needs to be raised, or simply removed. The state could also increase the size limit for eligible projects and expand "virtual net metering" to allow tenants in more types of buildings to receive retail credit for renewable power generated on site.
- Insisting that state and local agencies fuel their facilities with renewable energy where feasible. In addition, bolstering efforts like AB 1030—which directs that the renewable potential of state properties be mapped. Without a legislative mandate, many agency leaders may hesitate to invest resources in renewable technology.
- Giving top priority to bringing more near-load clean energy production on-line. A second initiative, on the scale of California's Renewable Energy Transmission Initiative (RETI) process, could focus exclusively on identifying opportunities for large distributed generation as an option in addition to remote central-station projects.

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GUEST JUICE . . . *continued from page 3*

With these policies, California's viable renewable energy options could grow and help achieve the state's immediate renewable energy goals. As we wait for remote utility-scale facilities to come on-line, we should not let these long-term efforts distract us from the near-term opportunities in our own backyard.

Steve Weissman is the Associate Director of the Center for Law, Energy and the Environment at the UC Berkeley School of Law; Ethan Elkind is the Bank of America Climate Change Research Fellow at the UC Berkeley and UCLA Schools of Law and author of the report "In Our Backyard: How to Increase Renewable Energy Production on Big Buildings and Other Local Spaces."

Utility Shutoff Moratorium Shuts Off

Hundreds of ratepayers across the state who were behind on their bills had their energy service disconnected after a utility-imposed moratorium ended.

California's four major investor-owned utilities instituted the shut off moratorium just before the holiday season.

It's unknown exactly how many customers have had their service discontinued for non-payment since the freeze ended. All four utilities contacted said they generally don't compile data on disconnections until the end of each month. However, Pacific Gas & Electric reported that it had disconnected power to 200 customers alone the day after the moratorium expired, which was January 5.

Tough climate.

The utilities announced the unusual step of halting power shutoffs during a December 16 California Public Utilities Commission meeting. The soaring number of people who have had their gas and electricity disconnected was a main topic (*Circuit*, Dec. 18, 2009).

SoCal Gas, PG&E, Southern California Edison, and San Diego Gas & Electric all agreed to the moratorium.

For Edison, the moratorium on shutoffs started December 15 and is still in effect. It promises not to cut off customers before January 21. Sempra Energy-owned utilities SDG&E and SoCal Gas stopped turning off service between December 21, 2009 and January 3, 2010.

PG&E's halt of shutoffs lasted from December 16 to January 4. PG&E also instituted a moratorium on service deposits required for reconnection of service. The deposit moratorium, which began December 16, lasts through March 2011.

Utility spokespeople insist that the moratoriums were not given due to regulatory pressure, but because of a desire to assist those who have been hit hard by the current tough economic climate.

"It was definitely to make sure that families stayed warm during the holiday season," said Sempra spokesperson Raul Gordillo.

"We really wanted to ensure that all customers could stay warm," echoed PG&E spokesperson Nicole Liebelt.

Mindy Spatt, spokesperson for The Utility Reform Network, however, called the moratoriums a "band-aid" that doesn't solve the long-term problem.

"We want mandatory protections for consumers, mandatory policies put in place to prevent shut-offs," she said. Among the policies that she said TURN would like to see put in place are affordable payment plans for customers and more emphasis on energy conservation.

According to California Public Utilities Commission data, utilities disconnected service to 288,000 low-income households in the state during 2009, compared with 245,000 in 2008. The large majority of those customers, however, quickly paid to have their power reconnected.

According to a study by the Division of Ratepayer Advocates, disconnections among low-income residents were up 19 percent statewide in 2009 over the year prior.

SDG&E and SoCal Gas did not see an increase in disconnections last year compared with 2008, Gordillo said. He credited it partly to outreach efforts and more focus on energy conservation.

Edison saw an 11 percent increase in disconnects for low-income customers last year, according to the Division of Ratepayer Advocates. Spokesperson Vanessa McGrady said that Edison data show that 500,000 of the utility's 11 million customers have trouble paying their bills, but that about 200,000 of them qualify for the California Alternate Rates for Energy (CARE) program. CARE offers income-qualified customers a discount of 20 percent off their monthly electric bill.

PG&E spokesperson Liebelt said that in the past year, about 180,000 more of the utilities roughly 5 million customers have begun participating in the CARE program.

Although the state's four big investor-owned utilities may have taken a step back in recent weeks from collecting overdue bills, one of the state's largest municipal utilities has moved in the opposite direction.

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Panel Eyes CO_2 Auction $ for General Fund

California could end its budget crisis by auctioning carbon emissions allowances to power generators, utilities, oil companies, and other large industries each year, an advisory committee to the California Air Resources Board said this week.

The prospect was broached January 11 as the influential Economic and Allocation Advisory Committee—announced by the governor last year—issued its final report recommending how the state should set up a carbon cap-and-trade program. The system would be set up under the aegis of AB 32, the state's greenhouse gas reduction law.

"It obviates the need to increase taxes and money would come to the general fund," said Larry Goulder, panel chair.

"Obviates taxes."

Goulder spoke in favor of using auction proceeds to augment the state's finances instead of targeting all of the money to cutting greenhouse gases.

The panel recommended the Air Board establish a carbon cap-and-trade program under which all rights to emit carbon would be auctioned annually. The proceeds, which could total $20 billion a year, would flow to the state. The recommendations come as the state grapples with a projected $19.9 billion shortfall over the next 18 months.

Governor Arnold Schwarzenegger quickly heralded the committee's work, but stopped short of endorsing the use of carbon auction proceeds to fill the state's budget hole.

"I continue to believe the best program will be one that returns value to the people through tax cuts, rebates, or dividends," he stated.

Assemblymember Dan Logue (R-Chico) blasted the committee's recommendation and criticized the panel's membership for its lack of business representation.

"That's kind of like going in and robbing a bank and going out and giving the money to homeless people," said Logue, who is seeking to qualify a measure for the November ballot to suspend AB 32 until the state's economy improves. "It's just a tax, another way for the state to control the economy and industry."

Senator Fran Pavley (D-Agoura Hills) could not be reached for comment on the committee's recommendation. She chairs the Select Committee on Climate Change and AB 32 Implementation and has been an active supporter of programs to cut greenhouse gas emissions

The general fund scenario is detailed in the panel's report, which recommends the state use 75 percent of auction revenue to provide benefits to state residents. Benefits could come in the form of either a direct payment each year from the state, tax relief, or prevention of future tax increases. The panel also recommended that some of the proceeds be used for emissions cutting investments and to offset the projected higher cost of energy under a cap-and-trade program for low-income households.

"This alternative," noted the committee in its report, "effectively substitutes auction revenue for other taxes as a way of meeting the state's spending needs."

The panel noted that Sacramento officials "are currently discussing budget balancing measures that would increase marginal tax rates" or impose new levies. "Allowance value could be used to avoid some of these tax increases, thus avoiding the extra costs to California."

Panel member Richard Frank told reporters that rolling carbon emissions auction proceeds into the general fund would require legislative action, but he thinks Sacramento lawmakers may be receptive.

To close the massive budget gap, Schwarzenegger January 8 proposed $8.5 billion in cuts. But the governor also proposed revenue augmentations, including $4.5 billion in alternative funding and shifting some money between accounts to meet key state priorities. The governor also pledged to seek $6.9 billion in new federal funding for the state.

Meanwhile, to stave off cuts, Democrats are seeking new sources of revenue. Pavley, for instance, is reviving a proposal to levy a fee on oil extraction in the state. Other Democrats are pursuing a higher levy on cigarettes.

A carbon emissions allowance auction could help the state in the long-run as it grapples with a projected ongoing deficit through 2013-14. However, it is unlikely to help in the short-term.

Air Board deputy executive officer Kevin Kennedy said that the agency's board would adopt cap-and-trade rules this fall, but not run the first statewide auction for emissions allowances until the fall of 2011. That would be in fiscal year 2011-12.

—William J. Kelly

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IT'S THE CAPITOL!

Bill to Halt AB 32 Fizzles

Legislation to stall the state's global warming law, AB 32, failed to pass out of its first committee hearing. The Assembly Natural Resources Committee January 11 voted down AB 118 on a 6-3 vote along partisan lines.

The debate focused on whether AB 32 was a job creator or job killer.

"The bottom line is that this is not the time to experiment but a time to step away from the issue to allow our economy to heal," the bill's author, Assemblymember Dan Logue (R-Chico), said before AB 118's defeat.

Job creator or killer?

Logue is also the lead author on a ballot initiative seeking the same aim as AB 118—arresting AB 32's implementation until the unemployment rate drops dramatically. He told *Circuit* that he believes the measure will qualify for the November ballot this fall.

The current jobless rate is 12.3 percent in California. Logue's bill wouldn't allow AB 32 to go into effect until the state's unemployment level was 5.5 percent for a year (*Circuit*, Jan. 8, 2010).

The measure would have an "extreme chilling effect on new jobs, jeopardize the supply chain and ruin all efforts associated with AB 32," said Reed Addis, Conservation Strategy Group legislative director, representing CAL-START. "California is a first mover," he added.

Committee chair Nancy Skinner (D-Oakland) acknowledged the hardships faced by the unemployed, including those lined up in support of AB 118. But she noted that AB 32's implementation to date is limited to upcoming reporting requirements for utilities and other large carbon emitters.

Subsequently, the panel passed a committee bill, AB 1504, directing the Department of Forestry to report on whether its forest management practices comply with AB 32's greenhouse gas reduction requirements. The forest inventory review, due in March 2012, is to be independently pier reviewed.

"The assessment will help the state gather high quality information on its forestry inventory," including the amount of carbon captured and held by trees, said Paul Mason, director, Pacific Forest Trust. "Forests can be part of our problem or a solution."

AB 1504 passed the committee 6-2.

A resolution by Assemblymember Wes Chesbro (D-Arcata) requires Congress to create a comprehensive plan to fund states to help them address climate change impacts, including adapting to an altered climate. The joint resolution, AJR 26, specifically aims to put California at the head of the line seeking federal funds expected to be available under a federal carbon cap-and-trade bill.

The resolution passed 6-2.

—Elizabeth McCarthy

WHAT THEY'RE SAYING . . .

"In the name of jobs and economic recovery, I'm going to oppose AB 118." Assemblymember **Jared Huffman** (D-San Rafael).

"The focus should be on whether the federal government has taken action." **Dorothy Rothrock**, California Manufacturers & Technology Association vice president.

"*Over 200 new companies have started since AB 32.*" **Reed Addis**, Conservation Strategy Group legislative director.

Utility Shutoff Moratorium . . . *continued from page 4*

Earlier this month the Los Angeles Department of Water & Power board agreed to step up the muni's efforts to collect overdue bills by contracting with a debt collection company.

The move came in a city hard hit by the recession, with unemployment above 13 percent.

—Mark Edward Nero

CRITICAL PEAK PRICING

Critical peak pricing automates energy rates and prices. It is another strategy for getting large and small energy users to shift their energy use from times of wide-spread high energy demand to times of lower demand. Under critical peak pricing schemes, a set period of time is selected—usually from May-October—during which ratepayers pay higher rates on a select number of days and hours of high demand in exchange for very low off peak rates. Ratepayers who agree to the price structure are expected to back off load during peaks.

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IT'S THE CAPITOL!

Economic Analysis Bill Gets Ousted

A bill that would integrate environmental review and economic analysis failed to pass the Assembly Environmental Safety & Toxic Materials committee 4-2. The bill, AB 1107, is supported by industry and opposed by environmentalists.

"It ensures a standardized approach across [the California Environmental Protection Agency]," Assemblymember Sam Blakeslee (R-San Luis Obispo) told the panel.

Democratic panel members were not convinced.

The bill is a second attempt at adding economic analysis to the current state environmental impact analysis. The trick, according to Assemblymember Wes Chesbro (D-Arcata), committee chair, is to get the same review for social policies like environmental justice, cultural sensitivity, and environmental nuances that are difficult to "monetize" as for economic impacts, which are assigned dollar values at the outset.

Monetize.

Industry, particularly agriculture, supported integrating economic analysis with environmental review.

Blakeslee said that environmental nuances would be considered.

Environmental representatives believe that an economic analysis can be "manipulated," according to Bill Allayud, Environmental Working Group California director of governmental affairs.

While the bill did not pass committee, many acknowledged that it is destined for reawakening.

Chesbro asked that the bill's supporters meet to work out differences before bringing it back to committee.

—J.A. Savage

City Asks CPUC to Halt PG&E's Community Aggregation Hurdle

San Francisco's attorney general this week called on the California Public Utilities Commission to create regulations to prevent Pacific Gas & Electric from what he called undermining the state's Community Choice Aggregation program.

In a petition filed January 11 with the CPUC, city attorney Dennis Herrera says he is responding to efforts by PG&E to "kill consumer choice." He declared that PG&E is doing so through a committee that's campaigning for a proposed constitutional amendment that would require a two-thirds vote instead of a simple majority to establish an aggregation program.

"Choice."

Community aggregation programs, which were legislatively authorized in 2002, allow local governments to buy blocks of power to sell to residents, essentially making cities and counties private utility competitors.

In the petition, Herrera says that a direct mailer sent to San Franciscans last month by a PG&E-supported political committee campaigning for the "California Taxpayers Right to Vote Act" "savaged" the city's consumer choice plan. He added that the utility's recent abandonment of its years-long neutrality on the issue of community aggregation is unfair.

"The California Public Utilities Commission exists to police giant utilities, to assure that their monopoly advantages aren't abused to exploit consumers or frustrate the policy objectives of our state lawmakers," Herrera said. "Yet that is exactly what has happened since PG&E locked CCA into its crosshairs."

Specifically, the city attorney's petition requests that the CPUC prohibit utilities from engaging in marketing to retail customers regarding a community aggregation program or programs; and prohibit utilities from soliciting opt-out requests or dictating the opt-out mechanism, except when requested to do so by a community program.

The commission should also investigate PG&E's violations of California law and Commission rules in its anti-community aggregation marketing efforts, the petition states.

Herrera also asked for an expedited process for community aggregation programs to obtain temporary injunctive relief against utilities alleged to have violated their obligations toward such programs.

"It is critical for state regulators to move quickly and decisively to tighten regulations," according to Herrera.

PG&E spokesperson Joe Molica said that the utility has every right to take the actions it has thus far.

"We will continue to communicate with our customers on issues we support," he said. "We support the coalition,

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CEC to Vet Solar Here or There

The California Energy Commission January 13 unanimously voted to approve a rulemaking to develop and adopt new regulations for a solar offset program. The move opens up a formal proceeding where interested parties may vet their positions under regulatory review.

Under Senate Bill 1, the Million Solar Roofs law, the commission is required to allow home developers and sellers to forego the requirement of offering solar energy systems as an option on some projects by offsetting the amount of solar electricity on other projects.

Rosenfeld & Berkeley lab.

Also during the meeting, the commission approved issuing a $2 million loan to Chula Vista to upgrade street lighting.

The South San Diego County city plans to convert 4,600 street light fixtures from high pressure sodium lamps to induction lamps. The change is expected to save the city about $200,000 annually and result in the reduction of the equivalent of about 859,000 tons of greenhouse gases, Energy Commission energy specialist Karen Perrin said.

The loan, which has a simple payback of a little over 10 years, comes from the commission's federal American Recovery and Reinvestment Act funds.

Additionally during the January 13 meeting, the commission approved a $2.5 million loan to Yolo County to go toward the installation of an 835 kW air conditioning photovoltaic tracking system.

This project is projected to result in an annual $236,250 savings in reduced energy costs for the county, said commission electrical engineer Adel Suleiman.

Under the agreement, the loan has a simple payback of about 10.5 years. The money for it comes from the commission's Energy Conservation Assistance Account program.

The commission also signed off on a $1.75 million contract with Lawrence Berkeley National Laboratory to develop methods for retrofitting low-income apartments and to quantify the energy and indoor environmental quality benefits.

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New CEC Members

Following California Energy Commissioner Art Rosenfeld's final meeting after a decade of service, the governor announced his replacement. Anthony Eggert, currently the California Air Resources Board's science and technology advisor, is the appointee.

Filling the seat left vacant by Julia Levin's recent resignation is energy consultant Bob Weisenmiller (***Circuit***, Jan. 8, 2010).

The commission "plays a vital role in helping meet the aggressive environmental goals my administration is committed to achieving, through streamlining the permitting of renewable energy projects to help break ground quicker and create jobs while maximizing the billions of dollars in federal treasury grant funds for renewable energy projects," Governor Arnold Schwarzenegger stated January 13. He added that his two commission appointees "will help California take another step on the path toward meeting our goal of 33 percent renewable energy by 2020."

Eggert worked on climate and energy policy in the University of California, office of the president in 2007 prior to joining the Air Board.

Weisenmiller cofounded the energy consulting company MRW and Associates. He worked at the Energy Commission for four years, including as director of policy and program evaluation from 1980 to 1982.

Both commissioners must be confirmed by the Senate within 12 months.

—E. McC.

CPUC, PG&E . . *continued from page 7*

we support their efforts."

In addition to requiring a two-thirds vote by the public on establishing community aggregation, the Right to Vote Act would also require a two-thirds vote before a local government could expand power service to new territory or new customers.

Because of this, some municipal utilities and other parties have denounced the measure, calling it a plot by PG&E to stifle competition. That includes the Sacramento Municipal Utility District, whose board voted unanimously last August to take an official position against it. Other opponents of the measure include public officials in Glendale and Burbank and two Los Angeles County cities that operate public utilities.

On January 12, the California Secretary of State's office announced that the Right to Vote Act, now known as the "New Two-Thirds Requirement for Local Public Electricity Providers Act," had gathered enough valid signatures to qualify for the June 8 statewide ballot.

— Mark Edward Nero

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Regulators Seek Limits on Energy Trading

In an unusual public meeting, the Commodities Futures Trading Commission vetted a "proposed energy speculation position limits rule" that would affect only large traders January 14. According to staff, most affected by any new rule challenging how much a single trader could corral in the market would be those who deal in gasoline and oil. Staff noted that only one natural gas trader would be affected, and did not divulge the name of that trader.

"It's not price, it's concentration of markets," said CFTC chair Gary Gensler. He said the proposal is an attempt to ensure a diverse number of speculators in the market.

"Diverse speculators."

Instigating the proposal is both the California 2000-01 energy crisis and the collapse of Amaranth gas trading in 2006. Amaranth was charged with manipulating the gas market in 2006. It lost over $6 billion at the time. In August 2009, the remains of the company settled with the federal government for $7.5 million in fines.

The proposed rule would "not allow a trader to obtain large positions on one side of the market and not have an offsetting position that settles [the position] on another day," said Steve Sherrod, CFTC acting director, division of market oversight.

The agency is attempting to increase regulation of over-the-counter derivatives. Those trades are often used by energy traders and hedgers to cushion their markets against the vagaries of actual energy deliveries, supply, and weather concerns.

—J.A. Savage

Vote Sought to Take EPA Out of Climate Enforcement

A second attempt by Senator Lisa Murkowski (R-AK) to deny the U.S. Environmental Protection Agency the ability to enforce reductions in global warming gases is pending. Murkowski stated she plans to use a vote of "resolution of disapproval" to take away EPA's enforcement authority. The senator tried to use the same tactic September 24, 2009, but was rebuffed by Democratic legislators.

Endangerment.

The members of the Democratic Caucus on the Senate Environment and Public Works Committee signed a letter January 11 opposing Murkowski's plan to overturn the Environmental Protection Agency's global warming "endangerment" finding.

Until, and if, Congress acts against the EPA enforcement ability, the agency plans to use its authority to limit greenhouse gas emission. While the EPA claims the ability to use enforcement power, legislation to enact a specific global warming law at the federal level was passed by the House last year and is now going through Senate negotiations.

Congress returns January 19. Murkowski was in Afghanistan this week.

—J.A. Savage

CEC to Vet Solar . . *continued from page 8*

Funding for the contract will come from the Energy Commission's Public Interest Energy Research program.

The vote to approve was 3-0, with commissioner Art Rosenfeld abstaining. Rosenfeld did not explain why he did not vote. Later, a staffer said it was because Rosenfeld, whose tenure on the commission ended this week, would be working with the lab in the future.

The first 30 minutes of the meeting were devoted to saying farewell to Rosenfeld, who sat in on his last meeting after 10 years on the commission.

"As an energy commissioner, he has brought unparalleled expertise to the commission while working with policymakers at all levels of government to develop a more coherent policy on efficiency and guarantee a more reliable electricity future for California," said Governor Arnold Schwarzenegger.

Rosenfeld was also praised by his fellow commissioners. Jim Boyd called him "the godfather of energy efficiency," adding he had "incredible arm-twisting power."

Rosenfeld said that although his term on the commission has expired, he had no intention of fading off into the sunset. He said he would remain active and involved in energy issues.

— Mark Edward Nero

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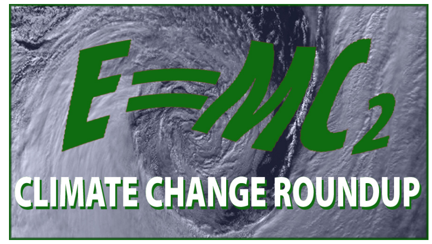

Rough Modeling

An upcoming California Air Resources Board analysis gives only a rough idea of the **economic impacts** of the agency's plan for carrying out the state's climate protection law, according to an advisory panel.

That's because of the many uncertainties that could influence the cost of carbon and energy. They include impacts from weather to economic ups and downs, not to mention the cost and feasibility of future technologies assumed under the plan.

That was the assessment by Jim Bushnell, a member of the Economic & Allocation Advisory Committee, who has been working with the Air Board as it re-analyzes the potential economic impact of its plan for enforcing the law, AB 32. He shared his views at the panel's January 11 meeting.

Bushnell said the Air Board has been modeling a number of different scenarios to deal with the uncertainties, but its model will not be able to show how the plan would affect different income strata and geographic areas in the state.

The Air Board analysis is expected in mid-February. The agency decided to redo the economic study after the Legislative Analyst, Apollo Alliance, and other groups criticized it when its board adopted the AB 32 plan in 2008 (*Circuit*, Dec. 5, 2008).

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The nation's first **low-carbon fuel standard** went into effect January 12, 2010, following its approval by the California Office of Administrative Law. The standard developed by the California Air Resources Board, seeking a 10 percent reduction in carbon output of transportation fuels by 2020, was in response to an executive order issued by the governor in January 2007 to help meet the greenhouse gas reduction targets under AB 32, the state's climate protection law. The standard applies to transportation fuels, including electricity, natural gas, gasoline, diesel, and others.

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Governor Arnold Schwarzenegger traveled to Silicon Valley January 12 to herald the opening of a pilot-scale biochemical production facility that is beginning to make n-butanol out of wood waste. The plant, opened by Cobalt Technologies in Mountain View, is using a proprietary chemical process to make butanol from lumber and paper mill waste.

Butanol can substitute for oil in making paints, adhesives, and plastics, reducing greenhouse gas emissions. It also can be used as a gasoline additive. On a lifecycle basis, its **greenhouse gas emissions are 85 percent lower** than gasoline, according to the company. It burns cleaner too, producing less smog than ethanol, noted Rick Wilson, Cobalt president.

The company plans to open a larger demonstration-scale facility, likely to be located next to a lumber or paper mill, by 2012, Wilson said. Then it plans to roll out commercial-scale plants that could create up to 1,300 new jobs apiece. Currently the company employs about 50 people, plus uses local businesses for goods and services.

Wilson said each full-scale commercial plant would produce about 35 MW of power and 50 million gallons a year of butanol. At first the company plans to sell the butanol in the chemical market. Then, after ratcheting up its production capacity, Cobalt would sell it in the fuel market as a gasoline blendstock. A 12 percent blend would qualify gasoline as a low carbon fuel under the state's low carbon fuel standard, according to Cobalt.

Unlike enzymatic processes for making fuel and chemicals out of cellulose—which can take days to break down the biomass material—Cobalt says it has devised a proprietary chemical process that breaks down woody material in about 15 minutes. Aside from butanol, the process also produces lignan, which Cobalt plans to burn to make electricity. A leftover residue can serve as fertilizer.

* * * * *

The 2nd Annual Carbon Trading Summit participants are to be met January 17 by **activists protesting** carbon cap-and-trade developments. Leading the protests is Reverend Billy of the Church of Life After Shopping, an outspoken critic of carbon trading, consumerism, and more who delivers his critique with the fire and brimstone of a televangelist

—William J. Kelly & Elizabeth McCarthy

Leakage

Regulators trying to limit greenhouse gas emissions are concerned about preventing "leakage." It occurs when a company moves its operations out of a state, such as California, or to another nation, where greenhouse gases don't face similar controls. Leakage also can occur when a factory in a regulated state or nation shuts down and a competitor in an unregulated state or nation picks up its market share, producing the same product and exporting it into the regulated geographic area. In both cases, regulators consider the associated greenhouse gas emissions to have "leaked" outside of their regulatory system.

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CLEANTECH

Mesh Networks & Smart Meters

As utilities install smart meters, a top concern is how to optimize communications with the devices mounted on customer premises amid a wide array of competing systems.

"It's a bit like the wild West out there right now," says Nat Parker, Mosaic clean tech sector specialist in Portland, Oregon. But a recent survey by Mosaic, the trends analysis arm of Pacific Crest Securities, shows the market for communications systems may be ready to narrow down a bit.

That survey showed the top choice for utilities when it comes to transmitting data back and forth to smart meters is mesh network technology. The second preference is point-to-point radio frequency technology. WiMAX is third.

In California, investor-owned utilities are using mesh networks as they install more than $5 billion worth of smart meters. Southern California Edison and Pacific Gas & Electric, for instance, are employing the technology, along with San Diego Gas & Electric, although SDG&E also is using WiMAX, noted Ben Schuman, Pacific Crest senior research analyst.

Southern California Gas is considering point-to-point technology for its gas meters, according to Schuman, though the California Public Utilities Commission is interested in having the company piggy back its smart gas meter communications onto SCE's mesh network, since the two utilities serve the same customers in many areas.

The Mosaic survey also showed that as utilities build a smart grid the functionality of communications is their chief concern, even more important than the smart meters themselves.

That's because it takes communications to optimize the usefulness of smart meters. Ultimately, optimization means that utilities must use three different levels of communications.

First is the wide area network. That communicates concentrated information to and from several sources over potentially long distances. It's analogous to telephone system trunk lines. Wide area network service is readily available on a capacity lease basis.

Second, and now the key focus, is building the local area networks needed to communicate between trunk lines and the millions of meters being put into the field.

Further down the road, utilities look to building home area networks to enable remote control of energy using devices on the customer side of smart meters.

As these three levels of communications networks are assembled, utilities are expected to be able to read smart meters automatically and collect data on customers' use. They also aim to shed peak load by remotely controlling individual energy using devices on the customer side of the meter.

Today the focus is simply on getting data back and forth between utilities and smart meters. Analysts estimate the communications technology needed for this purpose typically represents about 10 to 15 percent of the cost of installing smart meters.

$500M.

In California that could mean in excess of $500 million.

When it comes to accomplishing the job, each candidate technology has its pluses and minuses. Here's a quick breakdown of how the three leading contenders work:

- **Mesh networks** communicate data from smart meter to smart meter in a local area network to a collection point where it then travels to a utility over a wide area network.
- **Point-to-point** technology functions similar to today's cell phone system, with each meter sending and receiving data from a central transceiver, perhaps a mile or so away, before entering a wide area network data stream routed to the utility.
- **WiMax** provides extremely high capacity data transmission service on a point-to-point basis with signals capable of traveling miles before entering a high capacity communications pipeline.

Here's why mesh networks appear to be best, according to Schuman. First, they are highly reliable due to their redundancy. Second they are relatively quick to install since no Federal Communication System license is required. Third they perform well in hilly areas.

On the other hand, point-to-point systems may be less expensive, but they require Federal Communications Commission licensing and, like cell phones, can lose

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Mesh Networks & Smart Meters . . *continued from page 11*

connectivity in hilly terrain, noted Schuman.

WiMax allows transmission of large volumes of data, but that may be "overkill" for the limited communication that occurs between a utility and a smart meter, said Schuman. The analyst noted, though, that some utilities are interested in the technology because the additional capacity might be useful some day.

Data also can be transmitted over power lines, but this has proven too expensive in the U.S., the analyst said, requiring utilities to install a concentrator on a pole for every five customers.

Candida Petite, chief operating officer of Sipco, a company that licenses mesh network technology, said that when Southern Co. installed some smart meters in the late 1990s it spent $20 to $30 a month to communicate with each one. She said that mesh networks have brought the monthly price of communication between a utility and individual meters down to about 2 to 3 cents a month.

—William J. Kelly

Shorts CIRCUIT

PG&E's ballot measure to require a vote for municipalization and community aggregation qualified for the June election, according to the Secretary of State. The measure would require a two-thirds majority vote of municipalities that intend to carve their own utilities out of current investor-owned utilities' territory, that intend to add new customers to an existing muni, or to create community aggregation. PG&E is the primary backer of the initiative, with about $3.5 million in funding.

A 6.5 Jan. 9 earthquake did not damage the shuttered Humboldt nuclear plant, nor its on-site high-level waste storage facilities, according to a Pacific Gas & Electric spokesperson. Gas lines were ruptured, according to reports. The 63 MW plant was closed in 1976. The utility claimed it was for a refueling outage at the time. The context, however, was that the plant was built within hundreds of yards of three earthquake faults off the Humboldt County coastline. While the plant is still being decommissioned, its radioactive parts, as well as waste, remain on site.

The San Onofre nuke's cooling was compromised from seawater debris. Reporting two weeks after the fact, the Nuclear Regulatory Commission noted that on Dec. 23 coolant from seawater was reduced to the nuclear plant's heat exchanger from what "appeared to have been caused by debris entering the system through a failed pump suction screen." The loss of coolant lasted about an hour, but, according to the agency, "Time to exceed the 160 degree Fahrenheit allowable pool temperature was estimated at over twenty three hours."

Diablo Canyon switches that regulate cooling prompted a special Nuclear Regulatory Commission meeting set for Jan. 26. The issue harkens back to Oct. 2008 when switches that are supposed to allow operators to remotely open cooling water valves were found misaligned. "If the valves could not be opened remotely, operators would be required to manually open them or use a different system to provide cooling water for the reactor," noted the NRC. The agency stated that the problem could impair "the operators' ability to respond in the event of a severe accident."

Standard & Poor's assigned its *AA-* rating to Southern California Public Power Authority's $218.1 million series 2010-1 revenue bonds (Milford Wind Corridor Phase I Project at 203 MW in Utah) Jan. 8. The bonds are issued on behalf of the electric systems of the Los Angeles Department of Water & Power, Burbank, and Pasadena. The outlook is stable, according to S&P. "The take-or-pay contracts with project participants unconditionally require the participants to pay operating costs and debt service on the project even if the project is not operating, which alleviates any potential concern with regard to the energy seller's creditworthiness," noted credit analyst Paul Dyson with S&P.

Google has not applied to trade on the California Independent System Operator wholesale power exchange. The Mountain View-based company, however, filed with Federal Energy Regulatory Commission for power marketer status late Dec. 2009, according to

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Shorts Circuit . . . continued from page 12

FERC. Google also is active in the state's "smart meter" program and legislation. The company expects to provide information on personal computers from smart meters to customers on energy usage and price. The comment period for the federal application is up this week.

First Solar acquired some solar projects being developed by Edison Mission Group, a unit of Edison International, *AP* reported Jan. 14. The company didn't release details, but said it would be getting utility-scale solar projects in California and the Southwest.

While the national farm bureau is reportedly attempting to ditch climate change legislation, its California counterpart is still attempting to implement AB 32. Allegedly, American Farm Bureau Federation lobbyists are against pending Senate legislation to reduce greenhouse gases. The California Farm Bureau, however, is not focused on national legislation and remains in the business of applying the state's greenhouse gas reduction law to agriculture, according to the state bureau.

Phase 2 of the Klamath River restoration agreement was reached this week. The agreement aims to tear down four hydroelectric dams to restore river runs and fish migration. The first phase was released in Sept. 2009. Once ratified by stakeholder officials, Congress must pass legislation authorizing the spending of $450 million to fund the plan from owner PacifiCorp. California also has to kick in another $250 million.

Riverside is offering a 40% tax break for "green" businesses. The one-year deal is an attempt to draw new industry to the Inland Empire city with its own public utility. Riverside sits about half-way between the solar and geothermal developments in the Mojave Desert and the load centers in urban Southern California.

CO_2 Equivalent & Global Warming Potential

Carbon dioxide—generally measured in tons—is the base unit for gauging the global warming potential of greenhouse gases. Other global warming gases, such as methane, perfluorocarbons, sulfur hexafluoride, or nitrous oxide, generally are measured in pounds but often are converted into tons of "carbon dioxide equivalent" based on their radiative forcing power in the atmosphere, that is, how much infrared radiation they absorb. On the global warming potential scale, carbon dioxide is rated at 1. A much more powerful greenhouse gas, sulfur hexafluoride, is rated at 22,800 over a hundred years. This means that 0.088 pounds of sulfur hexafluoride released into the atmosphere will cause the same amount of warming over 100 years as a ton of carbon dioxide. Thus, it is equal to a ton of carbon dioxide equivalent.

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