

## New York adopts CO2 emissions limits for new, repowered plants

by [Kelly Harrington-Andrejasich](#)

The New York State Department of Environmental Conservation on June 28 adopted regulations that set CO2 emissions standards for new and repowered generating plants and require review of the impact of new or repowered plants on “environmental justice communities.”

The regulations were called for under a power plant siting law signed by Gov. Andrew Cuomo in summer 2011. The law, commonly referred to as Article 10, applies to electric generation facilities of at least 25 MW

and sets up a one-stop permitting process through a siting board. It also introduced CO2 emissions standards and environmental justice into the power plant siting process.

DEC Commissioner Joe Martens said the first-of-its-kind environmental justice regulations will help populations disproportionately affected by high asthma hospitalization. The CO2 emissions regulations will ensure that new and expanded power plants will incorporate cleaner and more efficient technologies, he said.

“By preventing new high-carbon sources of energy, this performance standard will serve to further minimize the power sector’s contribution to climate change, which poses a substantial threat to public health and the environment in New York,” he said in a news release.

The environmental justice regulations establish a framework to analyze environmental justice issues tied to the siting or expansion of major electric generating facilities.

During the siting of major electric generating facilities, the regulations require

Continued on p 18

### In this Issue ●

[Click on headline to advance to story](#)

**PUCT votes to raise ERCOT market price caps to \$4,500/MWh**

**Colo. fires impact Colorado Springs Utilities, but Xcel Energy largely unaffected**

**Fitch: Construction of new coal-fired plants ‘unlikely’ after greenhouse gas court ruling**

**Sierra Club: Coal plants need ‘risk premium’ to reflect growing costs**

**Pembina Institute argues against loosened regulations on Canadian coal plants**

**Industry: Proposed fine particulate matter standard more onerous than EPA says**

**To Market Story ●**

**To Market Report ●**

## Gaz Métro acquisition of CVPS finalized; Vt. utilities prep for October combo

by [Amy Poszywak](#)

With Gaz Métro LP’s acquisition of Vermont utility Central Vermont Public Service Corp. officially completed, the companies have begun work to combine the utility’s operations with Gaz Métro’s other Vermont subsidiary, Green Mountain Power Corp.

Pursuant to the transaction agreement, CVPS and Green Mountain Power will be consolidated into one utility based in Rutland, Vt., where CVPS had been based, with the Green Mountain Power as the surviving name. The official legal combination of the two is expected to occur in October,

though a spokeswoman for Green Mountain Power said June 28 that the two subsidiaries have already started the integration process.

“What this means is that we can really roll up our sleeves now and get to work bringing the two companies together and making the changes that are going to save our customers hundreds of millions of dollars out into the future,” spokeswoman Dorothy Schnure said. “But beginning today we’re going to begin essentially operating as one company.”

Continued on p 16

## NERC CEO: West is complex, but September 2011 blackout ‘shouldn’t have happened’

by [Kerry Bleskan](#)

At the first annual meeting of the Western Electricity Coordinating Council since the cascading Sept. 8, 2011, blackout, members were told that things have to change.

During several different sessions at the June 25-27 meeting in Portland, Ore., North American Electric Reliability Corp. officials detailed trouble spots in operational practices and made recommendations for changes that could cost the reliability coordinator a great deal of money and manpower. WECC has already implemented some of

the changes pursuant to a joint NERC-FERC report released in May.

NERC President and CEO Gerry Cauley said further changes to WECC’s reliability coordination functions may be needed. He said the event, which caused blackouts in Southern California, Arizona and parts of Mexico’s Baja peninsula, was not the largest outage in recent years but deserves to rank in importance with the disastrous 2003 Eastern blackout.

“What troubles me about this event is that it shouldn’t have happened,” Cauley said. “The things that were laying there waiting to happen should never have happened. We have to challenge why we did not see these things.” He plans to convene an independent review of the outage that would include an evaluation of whether NERC standards are effective.

“This is a good chance for us to demonstrate, along with FERC, that the important thing is to get the problem fixed and not to turn it into a big compliance issue,” he said.

### NERC’s specific concerns

Cauley wants to add a few things to the joint report and said he will send WECC a letter soon outlining his specific concerns. Some of them amplify problems already called out in the report, such as a lack of data sharing and the assumption that system elements under 100 kV can be excluded from the bulk electric system, and WECC already has fixes under way for several of the issues.

Others may be institutional, Cauley said, and he advised WECC members to take a hard look at the organization itself. “Reliability starts with a common sense of purpose and mission among entities, really getting above competitive or trust or other issues that might get in the way. It doesn’t happen by itself, it doesn’t happen because of self-interest,” he said.

“I think you in WECC are unique in the level of complexity that the reliability coordinator sees,” he said. “You have to have active monitoring responsibility pretty far down into the system. Reliability coordinators need active monitoring ability and need to be in a position to step in when they see something wrong, especially in a disaggregated, decentralized system like you have in the Western Interconnection.”

WECC needs to look at the next step, he said, ensuring a clear line of authority and willingness to exercise it. “There should be an expectation that the [reliability coordinator] will issue a directive if necessary to fix a reliability problem,” Cauley said. “If you’re exceeding limits on a regular basis, you should be expecting the RC to call.”

The organization also may need to revamp the way it uses committees for decision-making, he said. “There’s an opportunity at WECC to look at the committee structure, where everybody is acting in their own interest, and see if that is really getting at the right answers,” he said. “Sometimes decisions are hard, and sometimes with a large committee coming to a table it’s hard to make reliability decisions.”

### ‘Proliferation’ of remedial action schemes

Cauley flagged remedial action schemes as one of his major concerns. As WECC CEO Mark Maher noted earlier in the three-day meeting, WECC is reviewing more than 300 of the schemes as part of its outage response effort. “My concern is just with the proliferation of [remedial action schemes], with the sheer complexity,” Cauley said. “In an upset system that’s flopping around,” he said, additional complexity makes it far more difficult to predict overall system conditions. “We need some better analytics on the front end.”

Meeting attendees noted that remedial action schemes allow the use of much more system capacity than would otherwise be available. A reduction in the number of schemes could create expensive capacity needs, cutting many line ratings in half, commenters said. Cauley responded that he suspects there might be an overreliance on remedial action schemes but that he is proposing risk and engineering analyses “to take a look at the costs and tradeoffs. ... I am not proposing that we reduce the number of [remedial action schemes] or have some target in mind.”

Now Featured on  SNL

## Duke/Progress: What the combined company would look like

By Neil Powell

Assuming Duke Energy Corp. and Progress Energy Inc. meet their targeted July 1 closing date for their proposed merger, they would create a company with a market capitalization of a little more than \$48 billion and regulated electric utility operations in six states.

Between January 2011, when the deal was announced, and August 2011, each company’s stock price tracked on par with the SNL Electric Company Index. Stock prices bumped higher after the companies in September 2011 reached separate settlements with utilities regulators in North Carolina and South Carolina. Under the settlements, Duke Energy will pay retail customers its allocation of \$650 million in savings the company would recognize from the merger and continue to give local communities financial support.

As of June 21, Progress and Duke stock prices had risen almost 33% and 28%, respectively, since the announcement of the merger, compared to a 21% increase in the SNL Electric Company Index

<http://www.snl.com/interactivex/article.aspx?ID=15172453>

*If you experience difficulties or have any questions, please e-mail us at [support@snl.com](mailto:support@snl.com) or call us at 888-275-2822*

### Changes coming?

One member said there seems to be “regulatory and ideological creep” toward the regional transmission operator/independent system operator model and asked Cauley, “Should we just give in?”

No one at NERC has a pro-RTO agenda, Cauley said. “I will say that there are synergies, both reliability and economic. I personally think there are benefits, but we are not advocating it,” he said. “But as long as you have the decentralized system you have now, with 30-plus balancing areas, it’s a pretty intense RC function.”

Discussion at the meeting was low-key, despite strong feelings for and against more integrated markets in the region. The chair of WECC’s board of directors, Marsha Smith, said her goal for the September meeting is for the group to strategically decide what changes it will and will not make. The ambition, she said, is to arrive at a consensus decision on an “end state, where WECC will be in three to five years.”

WECC is tracking the multitude of regional investigations into the possibility of establishing an energy imbalance market, or EIM, but is not conducting its own research anymore, said Michelle Mizumori, WECC’s operations and market interface managing director. At the urging of members who responded to an earlier cost-benefit analysis, WECC stepped back to tally the proceedings by other groups.

“It is important that we are not an advocate or an opponent” to an EIM, Mizumori said. “We are a neutral party to supply information.”

Most of those investigations are still in the discussion phase, participants said at the WECC meeting. The Western Governors’ Association has brought together regulators and regulatory staff from 13 states, said Doug Larson, executive director of the Western Interstate Energy Board.

Larson said the group is focusing on the costs and benefits to consumers. It commissioned an analysis of an EIM's operational benefits, a straw man market design, and cost estimates from the Southwest Power Pool Inc. and the California ISO on how much it would cost to start and run an imbalance market. An analysis of effects on individual balancing authorities is expected in July.

The state regulators will meet with industry representatives in late summer or early fall to discuss positions and the work thus far, Larson said. "We hope this will not be just another informational meeting but will instead be a candid discussion of where to go," he said.

Twenty-two utilities are participating in a coalition effort in the Northwest Power Pool called the Members' Market Assessment and Coordination Committee. Frank Afranji, director of transmission and reliability services at Portland General Electric Co., said the idea was to recruit senior executives to participate, "to avoid having to fight the fight upward," and to start by figuring out governance, because that is where previous efforts for regional markets have stumbled.

"This is driven by executives who think the status quo is unacceptable," Afranji said. And while FERC is not mandating a Western RTO, it is "tightening the ratchet" on coordination, he said. Even talking about an EIM makes some stakeholders think it is a foregone conclusion, he said, so the committee is splitting its efforts between analyzing a possible EIM and analyzing market tools that could "enhance the bilateral market that we have now."

Members chipped in to establish an initial budget of almost \$1 million to fund work through the end of the year. "By the end of the year we should have a good idea where we're going and what we're doing," Afranji said.

#### COMPANIES REFERENCED IN THIS ARTICLE:

[California ISO](#)

[Portland General Electric Co.](#)

[Southwest Power Pool Inc.](#)

 [Misc: Southwest Power Pool Inc.](#)

 [Presentation: CAISO](#)

 [E-mail this story.](#)

## PUCT votes to raise ERCOT market price caps to \$4,500/MWh

by [Everett Wheeler](#)

In a move designed to increase investment incentives to build generation in Texas' power grid, the Public Utility Commission of Texas voted June 28 to raise the Electric Reliability Council of Texas Inc. systemwide offer cap, or SWOC, to \$4,500/MWh, effective August 1, 2012.

In a June 27 memorandum to her fellow commissioners, PUCT Chairman Donna Nelson outlined several reasons to act this summer.

"The lead time for [building] electricity generation of any substantial size is several years," Nelson said.

ERCOT projects dwindling reserve margins over the next decade, and Nelson noted that the "figures do NOT include the retirement of any plants necessitated by actions of the Environmental Protection Agency. Such retirements would obviously further reduce the reserve margin in Texas and place Texans at greater risk of rolling outages."

Analysts at the Brattle Group recommended that ERCOT look at how it determines its target reserve margin, noting that ERCOT's reliability standards are more stringent than those of neighboring RTOs. In her memo, however, Nelson expressed the need to stay committed to stringent reliability standards.

"I believe that it would be folly for us to rely on rolling outages to incent the building of electric generation; instead, we must establish scarcity pricing based on the probability of load shed, with the end result of avoiding outages. Although it may be sound economic policy to signal the need for increased electric resources by allowing rolling outages, it is very bad public policy," she said.

During the June 28 PUCT open meeting in Austin, Commissioner Kenneth Anderson Jr. expressed reservations about acting to raise price caps too soon. He said he remains concerned that load-serving entities have not had sufficient time to adjust their hedging strategies and the move could have a detrimental effect on large commercial and industrial customers.

Nelson sought to placate some of those fears in her June 27 memo, noting that Texas' deregulated market has brought down retail rates for consumers since 2001.

POR

#### Contact information:

**Editorial:** E-mail: [energynews@snl.com](mailto:energynews@snl.com) Phone: +1.703.373.0150 Fax: +1.703.373.0159

**Subscription Support:** E-mail: [subscriptions@snl.com](mailto:subscriptions@snl.com) Phone: +1.434.951.7749 Fax: +1.434.293.0407

**Subscription Sales:** E-mail: [salesdept@snl.com](mailto:salesdept@snl.com) Phone: +1.434.951.7797 Fax: +1.434.817.5330

**Advertising:** E-mail: [sgoldberg@snl.com](mailto:sgoldberg@snl.com) Phone: +1.434.951.7829 Fax: +1.434.817.5330

"If you adjust the rates for inflation (28% since 2001), the rates available on the Power to Choose website on Tuesday, June 26, 2012 are much lower than the regulated rate in effect in 2001 before the advent of the fully competitive retail and wholesale markets. The one-year, fixed rate offering by Pennywise (a Reliant product offering) of 7.6 cents per kWh in the Oncor area of Texas is 39% less than the regulated rate in 2001; and the one-year, fixed rate offering by Brilliant Energy in the CenterPoint area is 35% less than the regulated rate in 2001. Competitive markets work," Nelson said.

Anderson had previously expressed concern about a "change in law" provision that might allow retailers to increase rates for fixed-rate products as a result of the increased price cap, but he admitted that after reading stakeholder comments and studying the issue further, he saw it as less of a concern.

Analysts had complained that a lack of definitive action was a drag on power prices. Nelson said the primary reason to act was to "foster a climate of regulatory certainty."

"I believe that a number of market participants invested in capacity in our market this year at least in part because of our decision to publish this rule increasing the SWOC. Generators brought plants out of mothball because of the publication of this rule and the signals it sent to the market. I do understand and appreciate the concerns expressed regarding timing, but I believe those concerns are far outweighed by the immediacy of the problem we are addressing," Nelson said.

"While we of course always have the authority not to adopt a published rule, in this case I believe the same rationale that supported publication of the rule, encouraging additional generation capacity and demand response for this summer and sending signals for longer term investment, also supports its adoption," Nelson concluded in her memo.

At the open meeting, Nelson was joined by Commissioner Rolando Pablos in approving the rule. Noting that the market has a "huge expectation" that price caps would be increased during the summer, Anderson did not vote against the rule but instead abstained.

But while Anderson has been more cautious in his short-term approach, he said he believes price caps should be set higher in the future. The move to raise price caps to \$4,500/MWh is the first in a series of steps to address resource adequacy in the ERCOT market. PUCT and ERCOT will host a July 27 workshop where stakeholders can ask questions of representatives from the Brattle Group regarding their study of the ERCOT market.

The study recommends that ERCOT's price cap should eventually reach \$9,000/MWh and outlines other market tweaks, such as a mechanism that would gradually increase the price cap as the market approaches shortage conditions, that would give resources more time to react to increasing prices. At the earliest, further price cap increases would go into effect in 2013.

For a detailed look at ERCOT market prices, go to [SNL Commodities](#).

#### COMPANY REFERENCED IN THIS ARTICLE:

[Electric Reliability Council of Texas Inc.](#)

 [Industry Document: Memorandum](#)

 [E-mail this story.](#)

## Colo. fires impact Colorado Springs Utilities, but Xcel Energy largely unaffected

by [Jeff Stanfield](#)

Colorado Springs Utilities had to shut off natural gas service June 26 to about 4,200 natural gas customers and 800 electric customers after a wildfire swept through neighborhoods in the foothills of the central Colorado city on the edge of Pike National Forest.

"It has been a rough few days that's for sure," utility spokeswoman Nikki Richardson said June 28.

All of the customers had to be evacuated due to the fire, so the utility responded to requests from Incident Command, a coordinated disaster response effort of federal, state and local governments, to shut off utility service to those homes, Richardson said.

By late June 28, electricity to about 200 of those customers was restored after they were allowed to return to their homes, but 600 customers were still out, she said.

Gas service to about 2,100 customers was shut off early June 26 after Colorado Springs Utilities reduced gas line pressure as a precaution and then responded to the Incident Command request. Later on June 26, gas service to about the same number of additional customers was also shut off, she said.

Structures were lost in the fire, Richardson said, but she did not have any utility equipment damage reports. "We are still monitoring the situation," she said. "It changes very quickly."

The *Denver Post* reported June 28 that at least 300 charred homes in the Mountain Shadows neighborhood of Colorado Springs after the fire swept near the U.S. Air Force Academy and forced evacuation of thousands of residents.

CNN reported June 28 that calmer winds and lower temperatures could help bring the 18,000-plus acre Waldo Canyon Fire under control, but that more than 1,000 fire fighters had contained only about 5% of it.

Meanwhile, Black Hills Energy-Colorado Gas, said in a news release that it interrupted gas service to customers in Cascade, Colo., in response to the wildfire as a safety precaution in response to coordination with local, state and federal authorities. In a June 28 email, Black Hills spokeswoman Amy Estes said service was also interrupted to evacuated customers in Crystola, Colo.

"We continue to monitor the wildfire and will work with local authorities to safely manage natural gas service to all of our customers as appropriate given the unpredictable nature of the fire," Estes said. "Other interruptions could occur as we monitor the situation."

In the news release, Black Hills Energy-Colorado Gas General Manager Susan Bailey said employees have been working at the scene since the fire started June 23. After authorities deem it safe, utility workers will go door to door to relight pilot lights on gas equipment and appliances and turn meters back on for residents who can return to their homes, the Black Hills Corp. subsidiary said.

Xcel Energy Inc. spokesman Gabriel Romero said his company, which serves much of Colorado, has not had to shut any electric or gas service. "We've been watching the fires in areas we serve, but they have not been in areas where we have transmission or gas service," he said.

# 2012 | IEEE Power & Energy Society General Meeting



**JULY 22-26, 2012**  
**SAN DIEGO, CALIFORNIA, USA**

**The Manchester Grand Hyatt, San Diego, CA, USA**

## *New Energy Horizons – Opportunities and Challenges*

The host utility is San Diego Gas & Electric. This year's conference technical theme is, *New Energy Horizons – Opportunities and Challenges*. Highlighting the meeting program are these topics organized into a number of Super Sessions including:

- Opportunities and Challenges of Integrating Wind, Solar and Other Distributed Generation and Energy Storage
- Smart Grids and Electric Vehicles
- Innovations in Communications for Power Systems
- Nuclear Power
- Managing Power Systems Under Changing Conditions

The meeting will attract upwards of 2,500 professionals from every segment of the electric energy industry. The meeting will feature a comprehensive technical program with paper presentations, poster and panel sessions, a number of technical tours, a student program and companion activities. Watch for conference updates at: [www.ieee-pes.org](http://www.ieee-pes.org)



## Planning Your Visit

San Diego is California's second largest city and the United States' eighth largest. Within its borders of 4,200 sq. miles, San Diego County encompasses 18 incorporated cities and numerous other charming neighborhoods and communities, including downtown's historic Gaslamp Quarter, Little Italy, Coronado, La Jolla, Del Mar, Carlsbad, Escondido, La Mesa, and Chula Vista.

The city is renowned for its idyllic climate, 70 miles of pristine beaches and a dazzling array of world-class family attractions. Popular attractions include the world-famous San Diego Zoo, and San Diego Zoo Safari Park, Sea World San Diego and LEGOLAND California. San Diego offers an expansive variety of things to see and do, appealing to guests of all ages from around the world. Visit: [www.sandiego.org](http://www.sandiego.org)

Sponsored by:



Hosted by:



A Sempra Energy company

However, in a June 26 news release, Xcel Energy said it was taking steps to help ensure its system continued to provide power without significant interruption because of the heat wave. "We're monitoring around-the-clock and have extra crews on stand-by and in the field to repair or replace equipment as safely and quickly as possible," the company said.

**COMPANIES REFERENCED IN THIS ARTICLE:**

[Black Hills Corp.](#)

**BKH**

[Black Hills Energy](#)

[Colorado Springs Utilities](#)

[Xcel Energy Inc.](#)

**XEL**

 [PR: As temperatures rise, Xcel Energy prepares for high demand](#)

 [PR: BLACK HILLS ENERGY – COLORADO GAS INTERRUPTS SERVICE TO CASCADE AS A SAFETY MEASURE IN RESPONSE TO WALDO CANYON WILDFIRE](#)

 [E-mail this story.](#)

## Fitch: Construction of new coal-fired plants 'unlikely' after greenhouse gas court ruling

by [Darren Epps](#)

Commenting on a federal appeals court decision to uphold greenhouse gas regulations, Fitch Ratings said June 28 that the rule will limit the use of coal for electricity generation and "severely" constrain the construction of future coal-fired power plants.

Older, smaller coal-fired plants — particularly in the Midwest — will struggle to meet U.S. EPA regulations, Fitch said, and might face premature retirement.

"Future construction of coal-fired plants is unlikely given these rules and a myriad of others due this year and next," Fitch said.

The U.S. Court of Appeals for the District of Columbia Circuit's decision June 26 came one day before the U.S. Energy Information Administration reported that natural gas equaled coal's share of U.S. net generation in April for the first time on record. Alpha Natural Resources Inc. on June 28 became the latest coal company to reduce production, closing two West Virginia mines and a preparation plant.

Along with natural gas, nuclear resources also could benefit from the controversial greenhouse gas ruling, Fitch said.

"The effects on bondholders is expected to vary based on issuer-specific factors, including power supply mix relative to the region, state environmental initiatives, rate flexibility, recourse to regulated cost recovery, and the owner's debt, leverage, and capital structure, among others," Fitch said.

**COMPANY REFERENCED IN THIS ARTICLE:**

[Alpha Natural Resources Inc.](#)

**ANR**

 [E-mail this story.](#)

## Sierra Club: Coal plants need 'risk premium' to reflect growing costs

by [Matthew Bandyk](#)

Financiers of new coal-fired projects, both in the U.S. and internationally, should establish a new "risk premium" to price the growing costs of coal and the resulting increased likelihood of project failure, the Sierra Club said in a new report, released June 28.

The study, written by Bruce Buckheit, former director of the U.S. EPA's air enforcement office, saves its most damning analysis for international markets, particularly the developing world.

But the U.S. is not far behind in rising coal costs. The Sierra Club report said financial institutions should assume that "domestic coal costs will rise to international coal prices" over the next 10 years. "Unlike China and India, the U.S. has experienced a rapid development of low-cost unconventional natural gas supplies that has led to substantially lower wholesale electricity prices and greatly reduced demand for coal," the report said.

The report cited U.S. Energy Information Administration predictions that the price of coal will be increasing instead of flat because cost savings from technological improvements will be outweighed by increases in production costs.

The implication for new U.S. coal plant projects, Buckheit said, is that more will be pushed to the brink of cancelation. "Over the past decade, in the U.S. and elsewhere, plant costs have increased by up to 100 percent over initial estimates proposed during the construction," he wrote.

As an example of what is to come, the report discussed <!—SNL Instn KeyInDocs=-140049 Name="Great River Energy"—> and its 99-MW coal-fired Spiritwood project in North Dakota. The company announced months ago that it would not make the plant operational this year. "In the absence of a sufficient market for the electricity for the plant, the operator found it cheaper to close the plant until a market develops, even though it must repay bondholders for the investment costs while the plant is closed," the report said.

Much of coal's decline has come at the gain of natural gas. The EIA recently found that coal and natural gas had about the same share of total U.S. net generation for the first time since at least 1973. While the Sierra Club admits that the gas boom is responsible for much of the report's findings, the group explicitly distanced itself from any endorsement of natural gas generation.

The report noted that gas has its own environmental problems. "Climate modeling is also demonstrating that wholesale coal-to-gas switching does not reduce total emissions enough to bring global temperature increases resulting from those emissions within safe levels," it said.

Some Republicans are predicting that the EPA and environmental groups will shift their focus from coal to a "war on natural gas."

**COMPANY REFERENCED IN THIS ARTICLE:**

[Great River Energy](#)

 [Industry Document: Locked-in: The Financial Risks of New Coal-fired Power Plants in Today's Volatile International Coal Market](#)

 [Industry Document: New Report Shows Days of Cheap, Affordable Coal-Fired Power Are Over](#)

 [E-mail this story.](#)

## Pembina Institute argues against loosened regulations on Canadian coal plants

by Susan Nelson

In a plea to the Canadian government not to weaken proposed federal regulations on coal-fired power plants, the Pembina Institute, a think tank that advocates for sustainable energy solutions, released a report highlighting what it says are the social and economic consequences of less restrictive emissions rules.

The Canadian government in August 2011 issued draft regulations that are due to take effect July 1, 2015, and would apply to new coal-fired power plants. They would limit the plants' emissions to an average of no more than 375 tonnes of CO2 per GWh per year, comparable to CO2 emissions from a natural gas-fired, combined-cycle plant. Existing power plants that have surpassed a "useful life" of 45 years would have to meet this standard, as well. The new standard would not apply to existing coal-fired power plants less than 45 years old.

Final versions of the regulations have yet to be issued, and the Pembina Institute said in its report that there are some efforts under way to "weaken" the regulations.

Among those efforts are extending the "useful life" definition to 50 years instead of 45 and increasing the maximum allowable emissions rate, called the "performance standard," to 425 tonnes of CO2 per GWh.

If these changes were to happen, the equivalent action would be an additional 105 million tonnes of emissions between 2015 and

2030, Pembina said in the report, "The High Costs of Cheap Power," released June 14.

Even the proposed regulations, let alone less restrictive regulations, are not sufficient to help meet a targeted reduction of Canada's greenhouse gas emissions to 17% below the 2005 level by 2020, the report said.

"Existing coal power in Canada emits over 1,050 tonnes of CO2 for every GWh produced — more than twenty times the [greenhouse gas] intensity of the average of all other electricity sources in Canada," Pembina said.

Pembina enumerated the costs of coal-fired power generation in terms of economic, environmental and health risks. Health risks include a range of illnesses such as asthma and lung cancer. Environmental costs include air and water pollution. Economic costs are higher utility rates. It cited the U.S. Energy Information Administration estimating the levelized cost of electricity produced by new coal plants in 2020 to be about 11 cents per kWh.

Of particular concern to Pembina was the possibility that a loophole will be given to Maxim Power Corp. to bring its proposed 500-MW expansion of its H.R. Milner power plant into operation under current regulations. The company has been assured that if the plant begins operations by July 2015, the current regulations would apply, but it is not clear whether Maxim can meet that date.

"We're waiting for clarity on carbon legislation," Michael Mayder, Maxim CFO and vice president for finance, said June 27. "Then we'll lock in on a service date." The company plans to "wait and see what happens," he said.

## Regulatory Research Associates

An SNLEnergy Company

### RRA Financial Focus provides strategic overviews of energy utilities

The **Financial Focus Company Report**, a **Regulatory Research Associates** exclusive, provides detailed analysis of an individual company included in the RRA Index. RRA publishes a new report each week. Topics covered include:

- Company's strategy, including a discussion of capital expenditure plans
- Regulatory issues and the tenor of the regulatory environments the company faces
- Recent financial performance
- Company's exposure to non-regulated businesses.

Recent RRA Company Reports include:

- [IDACORP](#)
- [FirstEnergy](#)
- [Pepco Holdings](#)
- [PNM Resources](#)
- [NISOURCE](#)
- [NextEra Energy](#)

### Special Report: Capital Expenditure Update

Capital spending in the U.S. energy sector staged a recovery in 2011 and is heading considerably higher in 2012. [Read this new RRA Company Report](#) for information on how much companies are spending and where those expenditures are targeted.

For more information on RRA Research available from SNL Energy, contact SNL Support: [support@snl.com](mailto:support@snl.com); 888.275.2822.

The Milner plant is in Alberta, one of the three provinces in which about half of the electricity produced comes from coal-fired power plants. The other two are Nova Scotia and Saskatchewan. Ontario plans to shut down its remaining coal-fired plants by 2014, and when that occurs, Alberta and Saskatchewan will have more than 85% of Canada's coal-fired electricity generation, the report said.

Seven of the 10 largest single sources of greenhouse gas emissions in Canada are in Alberta. Also, seven of the 10 sources are power plants. The largest single source of greenhouse gas emissions in Canada, according to the report, which used 2010 figures from Environment Canada, is TransAlta Corp.'s 1,566-MW Sundance power plant, which has four operating units that began operation between 1976 and 1980. The two oldest units at Sundance, units 1 and 2, which produced 560 MW together, were shut down in late 2010.

#### COMPANIES REFERENCED IN THIS ARTICLE:

[Maxim Power Corp.](#)

MXG

[TransAlta Corp.](#)

TA

 [Industry Document: New Report Examines Impacts of Coal-fired Power in Canada](#)

 [E-mail this story.](#)

## Industry: Proposed fine particulate matter standard more onerous than EPA says

by [Jonathan Crawford](#)

The tighter fine particulate matter standard the U.S. EPA issued June 15 is many times more costly and stringent than the agency has claimed and could lead to more areas in nonattainment of air quality levels, industry observers said at a June 28 congressional hearing.

The EPA, in response to a court order, proposed tightening the National Ambient Air Quality Standards, or NAAQS, for fine particulate matter to a level within a range of 12 to 13 micrograms per cubic meter for the annual limits, down from the current annual standard of 15 micrograms per cubic meter.

Critics said that tucked in the EPA's proposal is a controversial requirement that a new set of monitors be placed near roads in each air quality area. Another provision calls for attainment levels to be determined by each area's single worst-case monitor, instead of using the current practice of area-wide averaging.

"Given that it is highly likely that most near-road monitors will have higher PM 2.5 readings than community-oriented monitors, this change is likely to make the proposed NAAQS much more stringent than EPA has estimated," said Anne Smith, a senior vice president of NERA Economic Consulting who specializes in environmental risk assessment and environmental policy. The hearing was called by Rep. Ed Whitfield, R-Ky., chairman of the House Energy and Commerce Committee's Subcommittee on Energy and Power, who has been critical of the standards because of the potential negative economic impact they could have.

Smith's conclusions were echoed by Jeffrey Holmstead, a partner at Bracewell & Giuliani LLP specializing in environmental law, who also served as the assistant administrator for the EPA's Office of Air and Radiation in the George W. Bush administration. Holmstead, in written testimony, said the two provisions in the agency's proposal "may dramatically increase" the costs of the rule as well as make it "much more stringent than EPA suggests."

Areas that are designated as in nonattainment essentially have a ban on the construction of new industrial or manufacturing facilities due to new permitting requirements.

The EPA has cast the rules as requiring minimal, if any, additional actions by industry, including power plants, as a raft of new regulations come down the pike, namely the Mercury and Air Toxics Standards, or MATS, and the currently stayed Cross-State Air Pollution Rule. The agency said as few as six counties across the nation are expected to need to take new measures to come into attainment with the limits. MATS is also known as the utility MACT rule.

The EPA's estimates did not jibe with testimony provided by Brad Muller, vice president of marketing at the Charlotte Pipe and Foundry Co.

"The new standards will put many regions out of attainment, and manufacturers considering a place to build a plant and/or expand production will not be able to obtain the permits in non-attainment areas," he said. "The proposed new rule will come at a significant economic cost and [result in] lost investments in some areas of the country. EPA should have retained the current standards as part of the new proposal."

Muller said Charlotte Pipe and Foundry had to scrap its plans to build a state-of-the-art foundry in a rural part of North Carolina after it found that it could not meet a permitting requirement for condensables — fine particulate matter that converts into a gas under the heat of emissions — in the fine particulate matter emissions standard.

He said the EPA has failed to give sufficient attention to the economic impact, as well as the related health effects from unemployment, that such regulations may impose. Had Charlotte Pipe and Foundry's plan gone forward, he said it would have created 1,802 new jobs and contributed nearly \$400 million in employee compensation and almost \$70 million in tax benefits over the initial four-year period alone.

Industry groups are also quick to point out that the existing standards are already resulting in significant progress. Between 2001 and 2010, national concentrations of annual and 24-hour standards have declined by 24% and 28%, respectively. It was partly for this reason that they lobbied heavily to have the EPA, in its proposal, retain the current standards for public commenting. The EPA declined, proposing a standard more aligned with the Clean Air Scientific Advisory Committee, a group that provides independent advice to the EPA administrator on the technical bases for the EPA's NAAQS.

Supporters said tightening the limits is overwhelmingly justified as it stands on body of strong evidence, is based on decades of intensive, peer-reviewed research, and is backed by a broad consensus in the scientific community, including leading groups like the American Heart Association, the World Health Organization and the American Lung Association.

"The American Thoracic Society supports EPA adopting a much stronger standard for fine particulate matter (PM2.5), first on the grounds that revision of the standard will be protective of human health, and second on the grounds that the scientific evidence accumulated by EPA is sufficient and compelling to justify a move to a more protective standard at this time," said witness Tee Guidotti, a medical doctor and environmental health scientist speaking on behalf of the American Thoracic Society.

Particulate matter is considered the deadliest pollution covered by the Clean Air Act and the standards for the pollutant are among the most critical for environmental and public health advocates. Due to their small size, fine particles can penetrate deeper into the heart



and lungs, ultimately leading to heart attacks, strokes and respiratory ailments that result in premature deaths.

[Industry Document: Opening Statement of the Honorable Ed Whitfield](#)

[Industry Document: Statement of Jeffrey R. Holmstead](#)

[Industry Document: Prepared Statement of Anne E. Smith](#)

[Industry Document: Testimony of Collin O'Mara](#)

[Industry Document: Testimony of Peter A. Valberg](#)

[Industry Document: Testimony of Tee Guidotti](#)

[Industry Document: Testimony of Marc Herbst](#)

[Industry Document: Testimony of Brad Muller](#)

[E-mail this story.](#)

## House appropriations passes EPA budget, blocks new source emissions spending

by [Kathleen Hart](#)

The House Appropriations Committee on June 28 approved a \$28 billion fiscal-year 2013 Interior and Environment Appropriations bill that reduces the U.S. EPA's budget by 17% and prohibits spending on new source emissions standards for coal plants.

The appropriations bill, which funds the EPA, the U.S. Department of the Interior, the Forest Service, and various independent and related agencies, represents a cut of \$1.2 billion below the fiscal 2012 funding level and \$1.7 billion below President Barack Obama's budget request. The bill was approved by the full committee on a vote of 26-19.

House Republicans said the legislation is intended to address what they view as "the overreach of federal agencies, such as the EPA, that mandate overly burdensome regulatory hurdles that hinder job creation and inhibit the ability of American businesses to grow and thrive."

The committee passed an amendment to the bill that prohibits funding for the EPA to impose greenhouse gas "New Source Emissions Standards" on fossil-fueled electric power plants. The amendment was adopted on a vote of 27-18.

"This bill addresses threats to our natural resources and wildlife, bolsters public safety, and nurtures economic growth and domestic energy production," House Appropriations Committee Chairman Harold Rogers, R-Ky., said in a June 28 news release. The bill "wisely places a limit on big-government excess — cutting funding for programs and agencies that stifle economic growth rather than encourage it," Rogers contended.

"While the bill makes significant spending reductions across many agencies and programs, it also prioritizes funding to address the needs of several key accounts, such as wildfire suppression, national parks, and Native American programs," added Rep. Mike Simpson, R-Idaho, chairman of the Subcommittee on Interior, Environment and Related Agencies. "Wherever I go, the biggest complaint I hear about the federal government is how the EPA is creating economic uncertainty and killing jobs. This bill includes provisions to address some of these issues."

The full committee approved an amendment that prohibits funding for the EPA to finalize a new greenhouse gas emissions standard

for cars after model year 2017. The amendment was adopted on a vote of 26-18.

On a voice vote, the full committee approved an amendment that adds report language to the legislation criticizing the EPA for delaying state regional haze implementation plans, and directing the agency to report on the progress of its actions on these plans.

The committee also approved an amendment that prohibits funding for the EPA to impose additional financial assurance requirements on hardrock mining companies. The amendment was adopted on a vote of 27-19.

In releasing the bill, the committee said that overall, the legislation reduces funding for climate change activities by \$101 million, or 29%, below the 2011 level.

Obama proposed a fiscal-year 2013 budget of \$8.34 billion for the EPA, representing a reduction of \$105 million from the enacted level for the 2012 fiscal year. Several EPA programs were eliminated in Obama's budget, resulting in cost savings of about \$50 million. However, the EPA said the eliminated programs were either completed or can be implemented through other federal and state efforts.

[Industry Document: Appropriations Committee Approves the Fiscal Year 2013 Interior-Environment Appropriations Funding Bill](#)

[E-mail this story.](#)

## NRG asks ERCOT for permission to mothball 2 Texas gas units

by [Matthew Bandyk](#)

NRG Texas Power LLC is asking the Electric Reliability Council of Texas Inc. for permission to mothball two units at its Sam Bertron natural gas-fired plant by Oct. 1, an NRG Energy Inc. spokesman said June 28.

ERCOT sent out a notice June 27 that NRG had told the grid operator it intends to suspend operations at units 3 and 4 of the Bertron plant in 90 days. That move triggers a period in which ERCOT must determine if the units are needed for reliability. It will be accepting comments on this decision through July 10.

According to NRG spokesman David Knox, the decision to mothball the plant was the result of an annual analysis in which the company determines which units are most economic to run and for how long.

But Bertron 3 and 4 could be back operating within a year. "We mothball very carefully so we can bring it back if needed," Knox said. The units actually returned to service just last month from a mothballing period that lasted about six months. In October 2011, ERCOT determined that Bertron 3 and 4 might be needed for reliability, and that more analysis was needed to be done before the plants could suspend operations.

According to Knox, ERCOT ultimately did allow the mothballing to proceed, and operations at the units were suspended last winter. Bertron units 1 and 2 were brought back to service in February, he said.

NRG still could change its mind about its current plans for mothballing Bertron 3 and 4 in October, depending on how long the Texas summer heat lasts. "Obviously, the weather conditions could dictate something different," Knox said. The company has no plans to mothball units 1 and 2 at this time.

According to the SNL database, units 3 and 4 each have a capacity of 230 MW.

#### COMPANIES REFERENCED IN THIS ARTICLE:

[Electric Reliability Council of Texas Inc.](#)

[NRG Energy Inc.](#)

NRG

[NRG Texas Power LLC](#)

[✉ E-mail this story.](#)

## TransCanada reassures shareholders cost of Bruce nuke repairs will not affect earnings

by [Susan Nelson](#)

TransCanada Corp., a partner in the Bruce Power consortium that operates the Bruce A and Bruce B nuclear plants, reassured shareholders June 28 that the failure of the restart of Bruce A unit 2 will not have a material impact on the company's 2012 earnings.

A day earlier, on June 27, Bruce Power said it had submitted a force majeure claim to the Ontario Power Authority because of the unexpected shutdown of unit A-2.

The unit A-2 turbine was damaged May 18 during restart procedures following a multiyear, multibillion-dollar refurbishment and was shut down immediately. Bruce Power has not said when it expects the damage to be repaired or the unit to restart.

"Assessment of damage to Unit 2 is almost complete," TransCanada said June 28. "Bruce Power has the materials they need to complete the repairs and that work is currently under way. We expect that an updated restart time frame for Unit 2 will be made in the coming weeks."

The companies' comments were prompted by articles in *The (Toronto) Star* newspaper. On June 27, *The Star* reported that Bruce Power was about to "take a big hit to its revenues" because, if the two Bruce A units not currently in service are not operating as of July 1, the rate Bruce Power will be paid for the output from the two units that are operating will change from a contracted price to the spot market rate, which is currently lower than the contracted price.

*The Star* cited a paragraph in TransCanada's first-quarter 2012 earnings statement: "In accordance with the terms of the Bruce Power Refurbishment Implementation Agreement (BPRIA), Bruce A receives Contingent Support Payments (CSP) from the OPA equal to the difference between the fixed prices under the BPRIA and spot market prices through July 1, 2012, after which all of the output from Bruce A will be subject to spot market prices until both Units 1 and 2 have achieved commercial operations."

Both TransCanada and Bruce Power said they expect the power authority to accept the force majeure claim. "Therefore, effective July 1st, the price of power would remain the same," Bruce Power said in a statement.

Bruce Power also said the price consumers pay is not just the spot market price, called the Hourly Ontario Energy Price, but rather that price plus what is known as the "global adjustment." Those two figures combined are currently about C\$75/MWh, Bruce Power said, and the price paid for the output of the operating Bruce A units is C\$68/MWh.

Bruce Power reiterated that it has assumed all capital cost project risk for the Bruce A refurbishment more than C\$3.4 billion. TransCanada owns 49% of Bruce A and 32% of Bruce B, and said its net capital cost for the refurbishment is C\$2.4 billion.

Other partners in Bruce Power are Cameco Corp.; BPC Generation Infrastructure Trust, a trust established by the Ontario Municipal Employees Retirement System; the Power Workers' Union; and the Society of Professional Engineers.

#### COMPANIES REFERENCED IN THIS ARTICLE:

[Bruce Power](#)

[Cameco Corp.](#)

[TransCanada Corp.](#)

TRP

[Quarterly Report: TransCanada Corp. \(TRP\)](#)

[PR: TransCanada Statement Regarding Bruce Power Force Majeure](#)

[PR: Bruce Power Update – Toronto Star News Story](#)

[✉ E-mail this story.](#)

## Abound Solar to declare bankruptcy after borrowing \$70M in DOE funds

by [Andrew Engblom](#)

The U.S. Department of Energy said June 28 that Abound Solar Inc., a U.S.-based solar panel manufacturer, will soon file for bankruptcy protection, adding another company to the list of loan guarantee recipients that have run into financial trouble.

In a blog post published June 28, the DOE said the company borrowed \$70 million through the department's loan guarantee program, which exploded into controversy in September 2011 with the failure of a \$535 million guarantee offered by the government to Solyndra Inc.

Abound was originally offered a \$400 million loan guarantee, the DOE said, but the government halted disbursements on the loan in September 2011 when the company was unable to meet certain financial milestones.

"Because of the strong protections we put in place for taxpayers, the department has already protected more than 80% of the original loan amount," the DOE said in the blog post written by department spokesman Damien LaVera. "Once the bankruptcy liquidation is complete, the department expects the total loss to the taxpayer to be between 10% and 15% of the original loan amount."

LaVera said Abound Solar, a manufacturer of thin-film photovoltaic modules, found itself unable to compete after the cost of solar panels dropped. A core benefit of Abound's cadmium telluride thin-film PV technology is that it uses less polysilicon than traditional crystalline silicon technology, but the cost of that raw material has dropped.

"When the floor fell out on the price of solar panels, Abound's product was no longer cost competitive," LaVera said in the blog post. "While disappointing, this outcome reflects the basic fact that investing in innovative companies — as Congress intended the department to do when it established the program — carries some risk."

The DOE, in the post, added that while solar manufacturers have struggled, only 4% of the loan guarantee portfolios funds went to such companies. About 35% went for solar generating projects, which benefit from falling solar panel prices.

In February, Abound said it was ceasing production of its first-generation solar module in order to accelerate production of its next-generation module, which it said would result in the temporary reduction of 180 jobs at its Colorado facilities.

#### COMPANIES REFERENCED IN THIS ARTICLE:

**Abound Solar Inc.**

**Solyndra Inc.**

 [Industry Document: Abound Solar Announces Plan to Accelerate Production of its Next Generation High-Efficiency Modules](#)

 [E-mail this story.](#)

## Conn. fuel cell maker files lawsuit over Bloom Energy deal in Delaware

by [Kelly Harrington-Andrejasich](#)

A Connecticut fuel cell manufacturer and a Delaware resident are challenging in federal court a deal between Delaware and Bloom Energy.

Filed by Washington, D.C.-based Cause of Action on behalf of FuelCell Energy Inc. and Delaware resident John Nichols, the lawsuit claims that changes made to the state's Renewable Energy Portfolio Standards Act, or REPSA, were "motivated by economic protectionism" and that the act discriminates against out-of-state companies and burdens interstate commerce.

The plaintiffs argue Delaware's REPSA was modified in 2011 to accommodate a deal with Bloom Energy, which is building a manufacturing facility at a former Chrysler factory site in Newark, Del. The act discriminates against FuelCell Energy and other out-of-state renewable energy companies, the lawsuit said.

"The REPSA does this by creating a discriminatory qualification scheme, by requiring [Delmarva Power & Light Co.] to extract a 'tariff' from its Delaware ratepayers to subsidize patronage of Bloom, and by incentivizing Delmarva to meet 'renewable energy portfolio standards' using energy generation by fuel cells that are both manufactured and operated in Delaware only by qualified in-state fuel cell manufacturers (those hiring specified number of employees) — excluding fuel-cell firms in the interstate renewable-energy markets," the lawsuit said.

Delmarva Power is a subsidiary of Pepco Holdings Inc.

The lawsuit also claims that Nichols will have to pay a higher price for electricity than if renewable energy were purchased in the interstate market.

Filed in the U.S. District Court for the District of Delaware on June 20, the lawsuit names Gov. Jack Markell; William O'Brien, executive director of the state Public Service Commission; and PSC members Jaymes Lester, Joann Conaway, Dallas Winslow and Jeffrey Clark.

According to the lawsuit, REPSA violates the dormant Commerce Clause in several ways, including that it "is motivated by economic protectionism and has the purpose and effect of shielding a politically-favored, in-state crony company from competition and forcing

a unique class of Delaware residents (Delmarva ratepayers) to subsidize its patronage."

#### COMPANIES REFERENCED IN THIS ARTICLE:

**Bloom Energy**

**Delmarva Power & Light Co.**

**FuelCell Energy Inc.**

**Pepco Holdings Inc.**

**FCEL**

**POM**

 [Misc: FuelCell Energy \(FCEL\)](#)

 [E-mail this story.](#)


## Patriot Energy Services to revive 19-MW Maine biomass plant

by [Laura D'Alessandro](#)

Patriot Energy Services LLC agreed to purchase a shuttered 19-MW biomass plant in Greenville, Maine, according to a June 27 announcement.

Patriot Energy said it will purchase the Greenville Steam Power Plant, which is ready to restart despite having been shut down for nearly a year. The plant was completely retrofitted in 2006 for more than \$7 million to meet environmental standards and was closed in 2011 for "unknown reasons," Patriot said.

Patriot CEO Steven Johnson said the company plans to rename the plant Shannon, implement a training program for ecology students in renewable energy business practices, and hire back the plant's former employees. The plant is expected to reopen in mid-August.

 [Industry Document: Patriot Energy Services LLC to Purchase the Greenville Biomass Power Plant in Greenville Maine](#)

 [E-mail this story.](#)

## La. PSC approves Entergy's choice of MISO as transmission coordinator

by [Kerry Bleskan](#)

The Louisiana Public Service Commission on June 28 approved Entergy Corp.'s choice of the Midwest ISO to serve as its independent coordinator of transmission, or ICT, starting later this year.

The approval applies to Entergy Louisiana LLC and Entergy Gulf States Louisiana LLC. Entergy's current contract for the services, with the Southwest Power Pool Inc., expires at the end of November. That is about a year before Entergy plans to integrate into MISO, grid operator spokesman Andy Schonert said, so MISO will fill the role of ICT in the meantime.

MISO said the contract for reliability coordination, long-term planning and oversight of the power procurement process will save Entergy about \$4 million. MISO's independent market monitor, Potomac Economics, will oversee operations.

The contract will give MISO and Entergy a chance to work together before Entergy's subsidiary utilities hope to join MISO, said Todd Hillman, the grid operator's executive director of Entergy integration and market development. "While this is separate from Entergy's decision to join MISO, it provides us the opportunity to become more

familiar with the company's transmission system and make recommendations to improve reliability," he said.

The Louisiana PSC conditionally approved Entergy's membership in MISO in May, provided that other states allow the other Entergy subsidiaries to join MISO too.

#### COMPANIES REFERENCED IN THIS ARTICLE:

[Entergy Corp.](#)

ETR

[Entergy Gulf States Louisiana LLC](#)

[Entergy Louisiana LLC](#)

[Midwest ISO](#)

[Southwest Power Pool Inc.](#)

[✉ E-mail this story.](#)

## MISO may need to consider more demand response as coal fleet shrinks

by [JP Finlay](#)

As U.S. EPA rules combine with market factors to force utilities and power plant owners inside the Midwest ISO to make significant changes to their generation fleets, the grid operator may turn to demand response, according to a MISO official.

Mike Barber, demand response adviser for MISO, spoke June 28 at the Association for Demand Response & Smart Grid's National Town Meeting in Washington, D.C., and pronounced MISO open for demand response business.

"We've been long on capacity for some time and given recent EPA regulations that may change in a short time," Barber said. "From an energy standpoint we may open up the opportunity for a lot more demand response. The door is wide open."

Within MISO, more than \$30 billion worth of changes and retrofits of coal plants are necessary for compliance, and all options will be considered, he said. MISO also is in the process of bringing a significant amount of wind energy on its grid, he said, another opportunity for demand response given the intermittency of wind. One concern Barber raised was with the reliance of demand response in emergency situations.

Similar questions about demand response participation were voiced by Paul Wattles, senior analyst of market design at the Electric Reliability Council of Texas Inc. Wattles joined Barber on a panel of regional grid operators to discuss demand response across the U.S.

Wattles explained that in ERCOT, most contracts are short-term, and in turn there is limited access to demand response resources because of the long-term investment required. The Texas grid faces similar problems with finding investment for new generation, he said.

But Wattles said the advanced metering infrastructure in ERCOT is built for demand response and smart grid success. "It's up to the market to come in and build the frame. We've got the foundation of the house built," he said, pointing to smart meter installations by investor-owned utilities across the state.

Christine Wright, a senior policy analyst at the Public Utility Commission of Texas, said much work has gone into enabling customers to engage in demand response and use smart grid functions, and the remaining steps are for customers to engage.

Demand response results in the Northeast can be seen with different levels of success, according to officials from the New York ISO and ISO New England Inc. In New England, officials are focused

on implementing FERC changes, said Henry Yoshimura, director of demand resource strategy at ISO New England. In 2005, there was 500 MW of demand response on the New England grid. In 2012, that number jumped to 3,600 MW, he said.

Opportunities exist to increase demand response in New York with small-commercial electric customers, said Jim Gallagher, senior manager for strategic planning at the NYISO. New York contains a standard portfolio of demand response, he said, with a mix of emergency and economic function. State regulators also have acted aggressively toward dynamic pricing, which could boost demand response participation, he added.

#### COMPANIES REFERENCED IN THIS ARTICLE:

[Electric Reliability Council of Texas Inc.](#)

[ISO New England Inc.](#)

[Midwest ISO](#)

[New York ISO](#)

[✉ E-mail this story.](#)

## MISO weighs in on capacity deliverability issues with PJM

by [Glen Boshart](#)

Citing the need to unleash potentially billions of dollars in consumer savings, the Midwest ISO has released a white paper describing existing barriers to capacity transfers between the MISO and PJM Interconnection LLC regions and detailing proposed solutions.

FERC had asked for comments (AD12-16) on the issue, and MISO said it hopes the white paper "will increase understanding of the problem and assist parties interested in filing comments by providing a description of the issue and MISO's proposed solution."

Capacity sales from MISO to PJM have been far below the capability of the transmission system, even though PJM capacity prices have been about \$30 per kW-year above those in MISO and despite the lack of physical transmission system constraints between the two RTOs.

A December 2011 report by two Brattle Group consultants studied the reasons behind the relatively low capacity sales and found that boosting such sales could save consumers billions of dollars per year. However, the report was preliminary in nature and the consultants said further study was needed.

Meanwhile, MISO has seen the issue as a more serious problem than has PJM, and accordingly asked FERC to order the two grid operators to work together to develop procedures to ensure that capacity can be delivered between their markets. MISO also suggested that PJM should be directed to work with it to amend their joint operating agreement, or JOA, to address what MISO describes as administrative and "artificial capacity deliverability barriers."

PJM, however, urged FERC not to grant MISO's request, citing ongoing stakeholder discussions on the matter and disputing the existence of artificial barriers to cross-border capacity sales. PJM also said it has not been convinced about the necessity of adding a capacity portability provision to the JOA and expressed concern that a MISO proposal in that regard may not ensure that enough firm service is available to facilitate more cross-border sales.

Moreover, PJM reported that it allowed MISO to present its proposal to PJM stakeholders despite its concerns that MISO's capacity market structure is too different from the one in place in PJM to offer

sufficient benefits from MISO's proposal. The stakeholders' response was underwhelming, according to PJM, with most concluding that the plan needed more work and that MISO had failed to show that a problem requiring changes to PJM's markets even exists.

FERC nevertheless agreed to take comments on the issue, and MISO's white paper details that RTO's concerns and its proposed solutions.

### The white paper

MISO insisted that since the two RTOs treat internal and external resources differently when evaluating a resource's deliverability to load for capacity market purposes, a barrier is created that restricts access to potentially economic capacity resources in the neighboring RTO footprint. Potomac Economics, MISO's independent market monitor, agrees, the white paper asserted.

Noting that an earlier study concluded that more than 95% of the generation in the combined MISO/PJM footprint was deliverable to load within that footprint, MISO proposed to use the JOA to remove institutional and other barriers to deliverability. In particular, MISO insisted that one RTO's access to capacity resources in the other RTO is restricted by the requirement to procure cross-border point-to-point transmission service, as well as the RTOs' use of different processes to evaluate transmission requests.

MISO therefore said it wants to extend the availability of network or a similar service across the MISO/PJM seam and to establish a single methodology for evaluating transmission capability across that seam.

Another key aspect of the MISO proposal would be to establish eligibility criteria and performance requirements for generation resources offering capacity into the other RTO, such as allowing only capacity resources that are available for an entire planning year to be eligible for cross-border capacity commitments.

The white paper also would require the exchange of information related to transfer limits and resource qualification, modeling of locational constraints, maintenance of a market participant's ability to use bilateral transactions and existing point-to-point transmission service, and development of procedures for when and how each RTO can call on capacity resources inside the other RTO.

MISO acknowledged that the white paper should be used by PJM and all stakeholders as a straw proposal that can serve as the basis for drafting a final proposal.

### COMPANIES REFERENCED IN THIS ARTICLE:

[Midwest ISO](#)

[PJM Interconnection LLC](#)

 [Regulatory Filing: MISO](#)

 [E-mail this story.](#)

## Nev. PUC denies NV Energy's request to cut distributed solar incentives

by [Jeff Stanfield](#)

The Public Utilities Commission of Nevada voted 3-0 on June 27 to deny NV Energy Inc.'s request to cut its solar incentives for distributed systems of residential and small business customers by a percentage of project costs so that more customers could share in the limited funding available. However, cuts could still be forthcoming in a future rewrite of regulations.

NV Energy subsidiaries Nevada Power and Sierra Pacific Power sought approval of their annual incentive program plans for customer-sited solar installations as well as for customer-sited wind and small hydropower demonstration projects in program year 2012-2013.

NV Energy wanted to limit individual solar incentive payments to 50% of verified project costs for participants in private residential and small business property installations and 50% for school and public property installations when third private parties are involved, according to the PUC's draft order (Docket No. 12-02001), which was approved with few changes. Otherwise, NV Energy's proposed limit would have been 75% for projects on public property based on invoices of participants, according to the order.

The company said the reduction in incentives would stretch program dollars. The NV Energy subsidiaries each have a three-year statutory spending cap of \$78.26 million per utility, but July 1 starts the last program year through June 30, 2013, for which the cap applies and the demand threatens to max out the available uncommitted funds.

To give the utilities more maneuvering room under the cap, the commission agreed that NV Energy is not obligated to pay expired incentives and may do so only if more than sufficient funds are available to ensure payment for unexpired reservations. If money is available, expired reservations should be paid on a first-come, first-served basis, the PUC said.

In a separate, but related rulemaking docket, the PUC issued a draft order (Docket No. 11-06028) May 16 proposing new regulations to lower incentive payments rates in the Solar Energy Systems Incentive Program and the wind and hydro demonstration programs. A workshop is slated for July 10 on the rulemaking to adopt the new regulations.

Also, the PUC proposed that an applicant would have 12 months from the issuance of a notice confirming a specific incentive amount has been reserved for the applicant's approved project. The solar system must be purchased, installed and capable of producing electricity on or before the expiration date listed in the notice, according to the draft order.

The commission also proposed in the rulemaking proceeding to reduce solar rebate levels automatically in steps over the duration of the program, from a 2009-2010 baseline of \$2.50 per watt to \$1.25 per watt for residential and small business customers. Reductions in rebates for school, public and other property would also be made. The steps would extend at least two program years beyond the statutory cap on spending, but the PUC hopes the legislature passes new distributed generation legislation to allow the programs to continue.

In the annual incentive program proceeding, the Bureau of Consumer Protection proposed to cut incentives to an equilibrium point where solar program no longer attracts more applications than the program's available capacity. The bureau suggested \$1.25 per watt for residential and small business payment and \$3 for school and public property projects.

Now, program participants must wait in line for funding. The PUC said NV Energy's lottery system proposal should be vetted in a rulemaking for allocating capacity in over-subscribed categories.

Meanwhile, the commission decided NV Energy should reallocate some unused capacity to ensure the school property category has support for projects larger than 50 kW.

Commissioner Rebecca Wagner said the distributed generation incentive programs are a work in progress, but to a degree have been successful. The PUC rejected the bureau's proposal for a cost-benefit analysis for project screening and instead will consider performance-based incentives once a consultant completes its report. The commission said it is considering adopting performance-based incentives in the near future for wind installations too.

## Wind program yields little energy

For the wind program the PUC decided to keep incentive levels the same for turbines sited on agricultural property, even for refurbished turbines, and denied NV Energy's request to limit incentives to 50% of verified project costs on private properties and to 75% for wind projects on school and public property

However, the commission cut the company's proposal to pay for 2 MW of new capacity in the new program year, and instead reduced it to 1 MW as an interim measure pending hoped for new legislation to better define wind project eligibility requirements.

Commissioner David Noble said the purpose of the wind demonstration program is to determine what works or what could be improved. The wind program "hasn't worked as well as everyone had hoped, especially looking at the capacity factor for various installed facilities," he said.

Of 55 projects installed in 2010 and before, only two projects had capacity factors of 10% or more, Noble said, noting that according to Nevadans for Clean Affordable Reliable Energy, or NCARE, "the incentive levels have unintentionally encouraged the installation of wind turbines in poor wind areas where it makes no sense and I think that's pretty clear."

He noted the order includes new requirements for siting wind turbines in an effort to get the capacity factor above 10%. However, legislation that would have provided guidance for wind siting and funding requirements was vetoed in the last session for other reasons, said Noble, who added that he expects the legislature and governor to provide policy direction next year. "So I look at this [order] as just a bridge for the wind program right now," he said.

Noble said the PUC's order finds insufficient evidence that the incentive levels are too high. "But I think the combination of incentive levels and lack of criteria has led us to the situation where we have a lot of installed capacity that hasn't produced much of anything," he said, referring to energy production.

The refurbished turbines should not be completely paid for through the program, Noble said. But he did not have a specific alternative other than setting a lower incentive level for refurbished compared to new turbines.

Wagner said the incentive levels should be explored in a rulemaking as she did not have enough information to propose a reduced incentive for refurbished turbines.

Noble then proposed to reduce the allocation of new capacity for refurbished turbines. The commission decided to limit the amount of the 1 MW that would be released for agriculture wind sitings so 250 kW of the 1 MW would go to property ownerships other than agriculture.

As for the hydropower demonstration program, while the Legislature set a goal in 2011 of 5 MW of capacity by 2016, less than 1 MW has been installed, Noble said.

Wagner said there is only one installer of hydro systems now and expressed hope that more would compete. After some debate the commission set a 1.5-MW allocation of new capacity for water power for the year.

### COMPANY REFERENCED IN THIS ARTICLE:

**NV Energy Inc.**

**NVE**

 [Regulatory Filing: NV Energy \(NVE\)](#)

 [Regulatory Filing: NV Energy \(NVE\)](#)

 [E-mail this story.](#)

## SustainX refines its compressed air storage technology, plans full-scale demo in early 2013

by [Steve Muller](#)

SustainX Inc., the developer of a unique isothermal compressed air energy storage system, has settled on a crankshaft engine-based compression and expansion system, or CAES. The company plans to commission a 2-MW prototype system at its Seabrook, N.H., headquarters in the first half of 2013.

There are many electrochemical batteries in the advanced energy storage marketplace today, but they are all focused on short-duration applications due to the limitations of battery technology, SustainX Vice President for Business Development Richard Brody said in an interview earlier in June.

"However, if you look at the estimates for where the market for energy storage will be, the big opportunities are in bulk storage — many megawatts for many hours," he said. "The only technologies that serve that market now are either hydropower pumped storage or conventional gas turbine-based CAES with underground storage, but both of these are geographically or geologically limited.

"We see our solution as the only viable advanced energy storage technology that's coming along that has the capacity to address these markets," he said. The SustainX technology offers multimegawatt power and multi-hour duration, he explained. Furthermore, unlike with batteries, performance will not degrade over time. SustainX designs its system for a 20-year lifetime, and the components and processes used are well understood and low-risk, Brody said.

Also, the SustainX system is intended to store compressed air in standard pipeline-type pipes and pressure vessels and is not dependent on the underground geology of a potential site.

"We feel that we have a disruptive, game-changing technology here, and that we will be one of the first technologies to enable bulk storage on a more sizable basis," Brody stated.

### Technology development

"Traditional CAES is less an energy storage technology than a way to have a higher-efficiency simple-cycle gas turbine," Brody said. "We don't need to burn gas because we capture the energy of compression through our isothermal process and are able to add the heat back to the system through exactly the same process operating in reverse."

The company claims that this process attains a thermodynamic efficiency of almost 95%, compared to a little more than 50% for the conventional diabatic process.

Brody said that one of the main issues SustainX had to resolve was the mechanism for the compression and expansion cycles. The company first looked at a hydraulic system but determined that a hydraulic unit did not scale well in terms of efficiency or cost.

A crankshaft engine works more efficiently at the optimal speeds for the SustainX process. The company has decided to use a MAN turbo-diesel crankshaft for the bottom half of its system and will install its own compression and expansion cylinders on top.

Brody pointed out that the MAN engine represents a mature technology that has proven extremely reliable. He said this family of engines powers 80% of the world's commercial shipping fleet.

SustainX is designing the prototype, or "alpha," with a power rating of 1.5 MW to 2 MW. Brody said the unit will be installed in the company's headquarters so that its engineers will have ready access to it.

The unit will be a combination of proprietary parts, standard parts and modified standard parts. Some parts will be produced in-house, but Brody stressed that becoming a full-scale manufacturer is not part of SustainX's business plan.

The unit will be assembled on site, which Brody said is typical for large-scale electrical equipment. Earlier plans called for a 1-MW unit housed in a standard trailer, but SustainX since decided to concentrate on a larger unit.

The alpha unit will mainly be operated to assess its performance during compression and expansion and will not be used to demonstrate long-term storage. Compressed air will be stored in pressure vessels on site.

### Future plans

With lessons learned from the alpha unit, SustainX intends to begin field projects in 2014. Brody said the company's initial strategy is to find strategic partners willing to help bring the product to market by supporting the costs of the first installations.

"My job is to identify where it is we want to do those projects and with whom," Brody said. "I'm looking at markets not just in the U.S., but in Europe and Asia, as well."

SustainX Director of Communications Gene Hunt added that the low natural gas price in the U.S. makes any non-natural-gas solution a tough sell in this country, and he expects the best opportunities to be overseas.

Earlier plans called for a collaboration with the AES Energy Storage LLC division of AES Corp. on a portable unit. Brody said AES remains interested in the technology and the two companies are still discussing a future demonstration project.

MAN diesel engines are produced by the MAN Diesel & Turbo division of the German firm MAN SE.

### COMPANY REFERENCED IN THIS ARTICLE:

**AES Corp.**

**AES**

 [Industry Document: Company Timeline](#)

 [E-mail this story.](#)

## Cato Institute study disputes science underlying EPA's endangerment finding

by [Jonathan Crawford](#)

In response to the U.S. EPA's proposed carbon dioxide emissions limits for new power plants, the libertarian Cato Institute submitted its own climate change report that rebuts the science undergirding the agency's authority to regulate greenhouse gases.

To justify regulating greenhouse gases, the EPA made an endangerment finding in which it determined that greenhouse gases may reasonably be anticipated to endanger public health and welfare. Its endangerment finding, which was deemed legally and scientifically valid by the U.S. Court of Appeals for the District of Columbia Circuit on June 26, depended at least in part on findings by a 2009 report, "Global Climate Change Impacts in the United States," by the U.S. Global Change Research Program.

The Cato Institute, however, disputed those findings in its "Addendum: Global Climate Change Impacts in the United States," arguing that the US-GCRP report suffered from an "overwhelming amount of misleading material," is incomplete and biased.

The Cato Institute maintained that its report, on the other hand, fills in the gaps to provide a much more accurate assessment of climate change in the U.S.

"Our review represents the most comprehensive scientific critique of the EPA endangerment finding on coal-fired plants ever written, and directly counters their claims on how climate change impacts the United States, using a much more exhaustive survey of peer-reviewed science than the EPA relied upon," Patrick Michaels, a senior fellow and a report co-author, said in a June 27 statement.

The Cato Institute found that while climate change is occurring in the U.S., the "impacts of observed climate change have little national significance," with "no significant" long-term change in U.S. economic output. When climate change does have an impact — such as on sea levels and crop and livestock production — the Cato Institute says that adaptation will take place.

The think tank concluded that both life expectancy and wealth are likely to continue to increase, "even under the most dire scenarios." And in the event that nations seek to institute policies to reverse or mitigate climate change, the authors contended it would have "little effect on global temperature."

The Cato Institute's findings are at odds with a number of studies that suggest climate change, and the attendant severe weather and sea level rise, could impose costs of billions of dollars on the economy. Severe weather alone has caused major damage to the electric grid and other infrastructure.

As for the integrity of the EPA's endangerment finding, the D.C. Circuit underscored the extensive and comprehensive evidence the EPA amassed in support of it, including the use of peer-reviewed studies by the Intergovernmental Panel on Climate Change, and evidence of historical estimates of past climate change and computer-based climate-model simulations.

The report was submitted in public commenting on the EPA's proposed greenhouse gas new source performance standard. Under that rule, all new fossil-fuel-fired power plants, regardless of fuel type, are required to meet an emissions rate standard of 1,000 pounds of CO<sub>2</sub> per megawatt-hour, which roughly reflects the performance of widely used natural gas, combined-cycle technology. Industry groups argue that the emissions standard is effectively a ban on new coal-fired power plants because to comply, units would need to employ carbon capture and storage, a technology regarded as largely unproven and prohibitively expensive.

Michaels said the EPA needs to take another look at the science given the advances in knowledge. "No static report can provide long-term guidance as to the nature of climate change and its impacts, as this field is constantly evolving under the weight of new scientific findings. Consequently, it is imperative that the EPA reassess the current scientific understanding on at least an annual basis," he said.

 [Industry Document: Bigger EPA Fight Still to Come](#)

 [Industry Document: Addendum: Global Climate Change Impacts in the United States](#)

 [E-mail this story.](#)

## Pembina Institute finds support for British Columbia carbon tax

by [Susan Nelson](#)

In a series of interviews with British Columbians from a range of occupations, the Pembina Institute, a Canadian think tank promoting sustainable energy solutions, found agreement that climate change is a serious threat to the environment and the economy and that carbon taxes are an important policy government can use to minimize the risks.

Because the carbon tax in British Columbia is reaching its highest and concluding level of C\$30/tonne of emissions as of July 1 and the provincial government has announced plans to review it, the Pembina Institute interviewed various stakeholders to see whether there is common ground among people with varying and potentially conflicting views on climate change and carbon taxes.

The tax, implemented in 2008 with a graduated scale to 2012, was placed on the purchase and use of fossil fuels in the province, such as gasoline, diesel, natural gas and heating oil, with revenues going to reduce corporate and income taxes and support low-income tax credits.

On June 27, the provincial government announced details of the review, saying it will cover all aspects of the tax, including revenue neutrality and effect on competitiveness of British Columbia businesses, particularly in the agriculture sector. The carbon tax has provided taxpayers C\$500 million more in tax reductions than it has raised in revenue, the government said.

"We remain committed to addressing climate change and are proud that B.C. is a North American leader," British Columbia Finance Minister and Deputy Premier Kevin Falcon said in a news release. "However, four years in, the revenue-neutral carbon tax remains the only one of its kind in North America and this is a good time to pause and examine how the carbon tax is affecting our economic competitiveness."

The Pembina report, "British Columbia's Carbon Tax: Exploring Perspectives and Seeking Common Ground," released June 25, was based on 39 interviews in the summer and fall of 2011 with people from government, mining, oil and natural gas, cement and concrete, academic, and environmental sectors, among others.

Nearly two-thirds of the people interviewed said the consequences for British Columbia of the carbon tax and related tax were "very positive" or "somewhat positive."

"[T]he vast majority of participants felt that it was too early to tell what the overall consequences were, and many also felt that the net environmental and economic impact for the province would be small given the current rate schedule," the report said.

"This research gives clear backing to the steps the province has already taken and points to several opportunities where steps forward would be broadly supported," Matt Horne, director of the Pembina Institute's climate change program and lead author of the report, said in a news release. Assisting in the report was the Energy and Materials Research Group at Simon Fraser University.

When asked whether the carbon tax alone was preferable to a combination of a carbon tax and a cap-and-trade system, most of the respondents preferred only one carbon pricing system, and industry was unanimous in wanting one price. The response from industry participants was: "Whatever the system government chooses, please pick one and don't double tax us," the report said.

Among large-industry respondents, the most responses to a question on a preferred carbon pricing approach was "don't know," with "just carbon tax" getting 26% and a combined "cap-and-trade and

carbon tax" getting 18%, with "just cap-and-trade" and "cap-and-trade or carbon tax" getting 10% each.

At one time, British Columbia was part of the Western Climate Initiative, which envisioned a common cap-and-trade system across several states and provinces, but British Columbia has not moved ahead with such a system. To date, only California and Quebec have agreed on a common cap-and-trade system, which is to begin in 2013.

Whatever the future of the carbon tax, Pembina recommended that the British Columbia government continue to research its impacts on and benefits for the economy and the environment. The tax in British Columbia is "the most ambitious carbon pricing system in North America [and] the successes and challenges should be documented so that B.C. can make necessary adjustments and other jurisdictions can learn from the province's experiences," the report said.

If the tax is continued, it should be for long enough that people have some feeling of certainty and predictability about it, the report said. When announcing a new tax, the government should explain how it will handle negative environmental or economic impacts.

The simplest approach the government could take for the future is to continue the carbon tax but broaden it to include emissions sources not currently covered, such as methane, the report said.

If the government were to decide to begin a cap-and-trade system, "the rules should be as simple and transparent as possible to alleviate concerns that the system will be subject to abuse," the report said, adding that if rules are not simple and transparent, then support for a climate policy in general would be undermined.

Many people surveyed by Pembina recommended that any new revenues from a carbon tax be used to support projects that reduce greenhouse gas emissions. They suggested investing in such areas as transit, public sector buildings and large industrial facilities. Helping to protect low-income British Columbians was the second-most-preferred option, the report said.

 [Industry Document: Carbon Tax Is Good for B.C. Say Business, Environmental and Community Leaders](#)

 [Industry Document: British Columbia's Carbon Tax](#)

 [Industry Document: Government of B.C. Seeks Input for Carbon Tax Review](#)

 [E-mail this story.](#)

## Gaz Métro *continued*

Schnure said full integration of the two companies' systems and processes will take years, but that teams from both companies have been working together for several months to establish best practices and make decisions on how to effectively operate as one.

Gaz Métro in July 2011 offered \$35.25 per share for CVPS, which shareholders approved in September 2011. Now that the deal is complete, CVPS and Green Mountain Power's combined operations will join Vermont Gas Systems Inc., which Gaz Métro has operated for some 25 years, under Gaz Métro subsidiary Northern New England Energy Corp.

The consummation announcement followed approval from Vermont regulators, who on June 15 said the combination of Green Mountain Power and CVPS would promote the general good of Vermont and would not obstruct, prevent or impair competition in the state's electric utility sector. The companies first filed for approval from the Vermont Public Service Board in September 2011. (Docket No. 7770)



Schnure said June 28 that Green Mountain Power was pleased with the decision from regulators, and said the board was very clear that it believed the merger would be good for Vermont and good for customers of both utilities.

“They were also very clear that they’re going to hold our feet to the fire; when we’ve promised to do something, they’re going to make sure we accomplish it,” Schnure said. “So we have a lot to do, and we’re ready to get going.”

The merger approval process in Vermont ended with CVPS and Green Mountain Power agreeing to transfer 38% of their combined ownership in Vermont Electric Power Co. Inc. to a public trust, which would ensure that ownership and control of the company, which manages the state’s transmission system, would remain with Vermont entities. The transfer of stock to the Vermont Low Income Trust for Electricity, or VLITE, will generate an annual dividend of \$1 million that the Vermont PSB directed in its order to “fund projects and initiatives that further the energy policies of the state of Vermont.”

Ownership of Vermont Electric Power, or VELCO, is split among each of the state’s utilities by share of customers. The question of how VELCO’s ownership and governance will change post-merger has been a point of contention in the state’s review of the transaction since it was first announced.

The PSB approval also includes the agreement Green Mountain Power reached with the Vermont Department of Public Service that increased the benefits to Vermonters to \$177 million from \$144 million.

The deal closure was consistent with the companies’ expectations and CVPS’ comments in May, despite efforts from the state Legislature and opponents that could have delayed or derailed the combination.

Also on June 27, Valener Inc., which owns an approximately 29% interest in Gaz Métro, said it was pleased with the successful completion of the deal, and that it supports Gaz Métro’s growth initiative as it fits in with its overall business strategy.

“In regard to its acquisition of CVPS, Valener will contribute approximately \$75 million to Gaz Métro’s capital, equal to its interest in Gaz Métro, which will enable it to participate significantly in the growth of the latter’s activities,” Valener Chairman Pierre Monahan said in a news release.

#### COMPANIES REFERENCED IN THIS ARTICLE:

[Central Vermont Public Service Corp.](#)

[Gaz Métro LP](#)

[Green Mountain Power Corp.](#)


[Northern New England Energy Corp.](#)


[Valener Inc.](#)

[Vermont Electric Power Co. Inc.](#)

[Vermont Gas Systems Inc.](#)

VNR

 PR: [Gaz Métro completes acquisition of Central Vermont Public Service Corporation](#)

 PR: [VALENER ANNOUNCES THAT GAZ MÉTRO COMPLETES ACQUISITION OF CENTRAL VERMONT PUBLIC SERVICE CORPORATION](#)

 [E-mail this story.](#)

Understanding the

# Debt Capital Markets

SNL Center for Financial Education

**Understanding the Debt Capital Markets** covers the fundamentals of the debt capital markets and instruments. This two day program takes participants from the basics of corporate and bank capital structures through detailed discussions of the instruments in the market and how they are used.

Treasury, Corporate, Agency, Municipal and Sovereign securities are the initial part of the program. The course continues with corporate/commercial lending - different types of loans and loan commitments, risk mitigation through syndications, etc. The program’s final section covers securitization and structured finance.

#### When you leave, you will be able to:

- Articulate the key drivers, participants, products and features of the debt capital markets
- Describe the full range of debt finance instruments available for funding needs and the related risks of each instrument
- Navigate the corporate lending market - loans and loan commitments, loan pricing, risk, loan syndications
- Understand more complex instruments including securitization, structured finance, asset and mortgage-backed securities

#### When and Where

**June 26-27, 2012**

New York, NY

#### Registration

**Online:**

[www.snlcenter.com/dcm](http://www.snlcenter.com/dcm)

**Phone:** (434) 951-7786

**Fee:** \$2,195

#### Continuing education credits

- CFA Institute: 15 hours
  - CPE credits: 17.5 hours
- Complete details are available online

[www.snlcenter.com/dcm](http://www.snlcenter.com/dcm)

Follow us online:  

## New York CO2 limits *continued*

applicants to evaluate the significant and adverse disproportionate environmental impacts, if any, that may result from a facility's construction or operation.

Applicants will have to evaluate the cumulative impact on air quality; the demographic, economic and physical description of the community where the facility will be located, compared and contrasted to the county and adjacent communities; and the significant and adverse disproportionate environmental impacts of a proposed major electric generating facility, if any, resulting from its construction or operation. Applicants also will have to avoid, minimize or offset any significant adverse disproportionate environmental impacts to the maximum extent practicable.

The regulations establish CO2 emissions limits for proposed new major electric generating facilities that have a generating capacity of at least 25 MW, and for increases in capacity of at least 25 MW at existing facilities.

As the DEC previously proposed, the adopted regulation lets power plant developers choose to meet emissions limits using either an input- or output-based metric.

The regulations set a CO2 emission limit of 925 pounds per MWh (output) or 120 pounds per MMBtu (input) for most new or expanded baseload fossil fuel-fired plants, and 1,450 pounds per MWh (output) or 160 pounds per MMBtu (input) for simple-cycle combustion turbines. The DEC has the right to set case-specific CO2 emissions limits for certain power plants that fire non-fossil fuels. The regulations also require record-keeping, monitoring and reporting consistent with existing state and federal regulations.

The new regulations take effect July 12.

### Local authorities worry about lack of input

Meanwhile, a number of New York towns and counties have expressed concerns about the role of local authorities in the siting of power plants. In comments filed over the first few weeks of June, local governing bodies said changes in the law will "undermine our ability to guide these projects in a manner that is inclusive of our local constituents' concerns" and "is in the best interests" of the communities.

The New York State Board on Electric Generation Siting and the Environment issued for public comment proposed regulations to implement provisions of Article 10. Some parties have already filed comments.

The Oswego County, N.Y., Legislature said that while the law and the regulations do have beneficial provisions, some provisions unnecessarily infringe on home rule authority and severely limit local communities' influence and input into the siting of facilities that have significant local impacts.

"[T]he draft regulations raise serious concerns for the county and for local governments because they effectively remove the county and local governments from siting decisions and infringe upon home rule authority," the county legislature said.

Officials from Oswego and Madison counties and the town of Fenner each said local representation on the siting board is inadequate. Various communities have passed resolutions noting their concerns and objections and included them with their remarks.

"Though 2 of 7 seats on the siting board for projects are reserved for individuals representing the local communities, they cannot be made up of local elected officials (who are often the ones that have the most intimate knowledge of local issues), and would be selected by the PSC only to serve in an ad-hoc capacity," a letter from the Madison County Board of Supervisors said.


Ontario, N.Y., Supervisor Robert Kelsch, writing on behalf of the town, called for repeal of Article 10, saying the law will not serve the best interests of municipalities. "There are some instances where the interests of the larger group outweigh those of smaller jurisdiction," he said. "Article X is not one of them." (12-F-0036)

 [Industry Document: Resolution Opposing Article X](#)

 [Industry Document: Supplemental Comments of the Town of Malone](#)

 [Industry Document: The Town of Lyme Submits Comments in Opposition..](#)

 [Industry Document: The Town of Fenner Submits Comments in Opposition.](#)

 [Industry Document: Oswego County Legislature Submits Comments and Resolution in Opposition to the Draft Regulations.](#)

 [Industry Document: The Town of Cape Vincent Submits Additional Comments.](#)

 [Industry Document: Resolution](#)

 [Industry Document: Comments of Madison County](#)

 [Industry Document: Comments of the Town of Litchfield](#)

 [Industry Document: The Town of Stafford Board Submits Comments](#)

 [Industry Document: Town of Ontario Submits Comments](#)

 [Industry Document: Comments of the Town of Malone](#)

 [Industry Document: DEC Adopts Ground-Breaking Power Sector Regulations to Analyze Possible Environmental Impacts and Limit CO2 Emissions from Power Plants](#)

 [E-mail this story.](#)

## Market Story

### Heat, strong loads inspire more gains at East, Midwest spot power markets

by [Amanda Luhavalja](#)

Next-day power markets saw choppy moves at major market hubs across the country Thursday, June 28, with additional gains in the East and Midwest, as values were driven higher by hot weather and robust demand outlooks.

Following recent gains, the new front-month August natural gas contract settled Thursday at \$2.722/MMBtu, down 7.6 cents after the U.S. Energy Information Administration reported a slightly larger-than-expected 57-Bcf injection into natural gas storage for the week ended June 22.

On the nuclear front, NextEra Energy Inc.'s Point Beach 2 nuclear unit in Wisconsin was offline early Thursday, down from full power early June 27. According to an event report filed with the U.S. Nuclear Regulatory Commission, a manual reactor trip occurred due to indications of a 100% load rejection, the cause of which is not yet known.

Overall, however, generation is generally improving, with about 29,334 MW offline across the U.S., according to IIR Energy. By fuel, coal-based generation represented the largest share of the downed units, with about 14,000 MW offline. Gas-fired outages stood at about 3,929 MW, and nuclear outages totaled almost 8,900 MW, according to IIR.

#### East Coast power prices notch more gains on incoming heat wave

After rallying \$30 or more June 27, next-day power markets in the East and Midwest saw more upside traction Thursday as hotter weather moved in, driving strong cooling demand. Revised load outlooks indicate that demand in New England is expected to peak at 23,850 MW on Friday, up 3,700 MW from Thursday, while load in New York is likely to crest near 29,400 MW on Friday, rising more than 3,000 MW from Thursday.

With the expected uptick in demand Friday, spot power deals at the NEPOOL-Mass hub in New England were completed in the mid-\$60s to high \$70s, rising about \$13 on the day. New York Zone A parcels were dealt in the mid-\$50s to low \$60s, up roughly \$7 on the day, while New York Zone G parcels were reported in the low \$90s. In the mid-Atlantic, PJM West on-peak business was melded in the low \$80s to mid-\$90s, up about \$21 on the session.

Load in the PJM Mid-Atlantic region is called to peak at about 56,125 MW on Friday, surging about 8,000 MW from Thursday's peak level, while demand in the Western region is projected to crest at about 77,100 MW on Friday, down about 1,800 MW from Thursday.

#### Midwest power markets continue to shift higher on heat, strong load

In the Midwest, next-day power markets also continued to shift higher with the heat already in place and supporting robust cooling load across the region. At the PJM AEP-Dayton hub, on-peak power was priced in the low \$80s to mid-\$90s, for a daily gain of about \$21. Spot power packages in Indiana ran in the mid-\$60s to low \$70s, up 75 cents to \$1 on the day.

Looking at load, the AEP region in Ohio is looking for a demand peak near 23,600 MW on Friday, up about 500 MW from Thursday, while load in ComEd is seen reaching a high of 21,000 MW on Friday, down about 1,800 MW from Thursday but still holding at elevated levels.

#### ERCOT power prices continue to drop with moderating weather, demand

Power prices in Texas continued to retreat in the face of an ongoing moderation in temperatures from the triple-digit levels seen earlier this week. The ERCOT grid operator anticipates load in Texas will peak at about 60,127 MW on Friday, down more than 3,600 MW from Thursday and well off the 66,583 MW record high for the month of June set June 26 amid the scorching heat. ERCOT's all-time peak demand record was set Aug. 3, 2011, when electric use in the ERCOT region topped out at 68,379 MW.

At the spot markets, ERCOT on-peak power traded in the mid-\$30s, down more than \$25 on the session. Off-peak power in Texas ran in the upper teens near an index of about \$18.

#### West Coast power prices choppy to lower, with partial weekend inclusion

West Coast power markets were mixed but mostly lower Thursday, as deals were completed in the usual revised packages ahead of the weekend, which typically works to deflate values. Parcels were traded for the lower-load Friday and Saturday delivery days.

In California, heavy-load North Path-15 deals were transacted in the upper \$20s, down \$3 to \$4 on the session, while heavy-load South Path-15 parcels were traded in the low \$30s, slipping \$3 on the day.

In the Northwest, heavy-load business at Mid-Columbia was reported in the low to mid-teens, down \$1, while heavy-load packages at COB traded in the high teens to low \$20s, also falling about \$1 on the day. Light-load Mid-C was heard on either side of zero dollars.

In Northwest term trade, Mid-C July packages were quoted at \$18.50 to \$19, with August near \$24.75.

In the Southwest, where areas continue to experience sweltering temperatures, spot power prices were firm to higher. Heavy-load on-peak power deals at Palo Verde were transacted in the upper \$20s to mid-\$30s, flat on the session, and heavy-load Mead business was done in the mid-\$30s, up about \$3. Light-load deals in the Southwest ran in the mid- to upper teens.

*Market prices and included industry data are current as of the time of publication and are subject to change. For more detailed market data, including SNL power and natural gas index prices, visit our SNL Commodities pages.*

## Energy Pricing Trends

### Peak Electricity Index (Day Ahead prices for Delivery on Jun 29, 12)

Delivery Point	Volume Wgtd. Average (\$/MWh)	Change From Jun 28, 12 (\$/MWh)	Volume Wgtd. Average % $\Delta$		Trade (\$/MWh)			Trading Volume (MWh)	All Peak Hours Volume (MWh)
			1 Day	1 Year	Median	Low	High		
<b>MIDWEST</b>									
A.D.	70.00	6.00	9.38	60.92	-	-	-	-	-
Indiana	68.00	0.50	0.74	-	-	-	-	-	-
Michigan	69.00	-0.75	-1.08	97.14	-	-	-	-	-
Minnesota	61.00	-2.00	-3.17	90.63	-	-	-	-	-
N. Illinois (CE)	66.50	0.50	0.76	82.19	-	-	-	-	-
<b>NORTHEAST</b>									
NY Zone G	92.25	34.25	59.05	72.43	-	-	-	-	-
NY Zone J	101.00	42.25	71.91	71.91	-	-	-	-	-
NY Zone A	53.75	4.00	8.04	33.54	-	-	-	-	-
Nepool-Mass	70.33	12.83	22.31	45.01	74.00	63.00	74.00	150	2,400
Ontario	29.50	2.50	9.26	-9.23	-	-	-	-	-
PJM West	87.73	24.84	39.50	84.69	87.03	76.00	93.50	3,050	48,800
<b>OTC BROKER</b>									
Broker ERCOT-Hou.	35.50	-32.50	-47.79	-44.53	35.50	35.50	35.50	50	800
Broker ERCOT-North	37.79	-32.40	-46.16	-39.66	36.00	35.00	40.00	900	14,400
Broker ERCOT-South	35.00	-31.50	-47.37	-40.68	-	-	-	-	-
Broker ERCOT-West	34.00	-32.00	-48.48	-46.03	-	-	-	-	-
<b>SOUTH</b>									
ERCOT-Hou.	35.50	-32.50	-47.79	-44.38	35.50	35.50	35.50	50	800
ERCOT-North	37.29	-32.15	-46.30	-40.71	35.50	35.00	40.00	1,100	17,600
ERCOT-South	35.00	-31.50	-47.37	-41.01	-	-	-	-	-
ERCOT-West	34.00	-32.00	-48.48	-46.03	-	-	-	-	-
Entergy	40.00	5.00	14.29	-8.05	-	-	-	-	-
Fla. In-State	44.00	5.00	12.82	-17.76	-	-	-	-	-
Fla.-Ga. Bdr.	43.00	4.50	11.69	-18.48	-	-	-	-	-
Southern	48.00	11.00	29.73	14.29	-	-	-	-	-
<b>WEST</b>									
COB	20.67	0.38	1.87	-	19.00	18.50	24.50	75	1,200
Mead	35.00	1.39	4.14	-20.90	35.00	34.50	35.50	75	1,200
Mid-C	13.47	-0.72	-5.07	-	13.00	12.00	15.00	200	3,200
NP-15	27.50	-3.50	-11.29	-	-	-	-	-	-
Palo Verde	31.00	-0.50	-1.59	-	31.00	30.00	32.00	50	800
SP-15	30.50	-3.50	-10.29	-	-	-	-	-	-

### Off-Peak Electricity Index (Day Ahead prices for Delivery on Jun 29, 12)

Delivery Point	Volume Wgtd. Average (\$/MWh)	Change From Jun 28, 12 (\$/MWh)	Volume Wgtd. Average % $\Delta$		Trade (\$/MWh)			Trading Volume (MWh)
			1 Day	1 Year	Median	Low	High	
<b>OTC BROKER</b>								
Broker ERCOT-North	18.00	-0.21	-1.15	-41.23	18.00	18.00	18.00	100
Broker ERCOT-South	18.00	-0.75	-4.00	-37.72	18.00	18.00	18.00	75
<b>SOUTH</b>								
ERCOT-North	18.00	-0.15	-0.83	-41.14	18.00	18.00	18.00	100
<b>WEST</b>								
Mid-C	-0.21	0.37	-63.79	-	-0.25	-0.25	-0.10	100

**Energy Pricing Trends** *continued*
**Gas Index (Day Ahead prices for Delivery on Jun 29, 12)**

Trading Hub	Volume Wgtd. Average (\$/mmBtu)	Change From Jun 28, 12 (\$/mmBtu)	Volume Wgtd. Average %△		Trade (\$/mmBtu)			Trading Volume (mmBtu)
			1 Day	1 Year	Median	Low	High	
<b>GULF COAST</b>								
ANR-Patterson (LA)	2.757	-0.119	-4.14	-36.34	2.740	2.730	2.800	71,800
Agua Dulce	2.731	-0.150	-5.21	-38.38	2.810	2.650	2.845	29,000
Carthage	2.781	-0.054	-1.90	-35.25	2.790	2.750	2.820	27,100
Col Gulf Mainline	2.766	-0.064	-2.26	-35.81	2.760	2.700	2.788	102,771
Col Gulf Onshore	2.761	-0.095	-3.33	-36.40	2.758	2.710	2.800	45,500
FGT Zone 2	2.838	-0.034	-1.18	-34.76	2.840	2.830	2.850	10,993
FGT Zone 3	3.223	-0.011	-0.34	-26.26	3.220	3.210	3.230	15,200
FGT Zone 1	2.820	-0.080	-2.76	-35.32	-	-	-	-
Henry Hub	2.806	-0.085	-2.94	-35.63	2.800	2.770	2.835	118,800
Houston Ship Channel	2.832	-0.031	-1.08	-36.01	2.835	2.830	2.960	107,500
Katy	2.802	-0.080	-2.78	-36.58	2.795	2.730	2.840	170,600
Moss Bluff	2.802	-0.085	-2.94	-35.78	2.800	2.790	2.813	35,000
NGPL Gulf Line	2.830	-0.090	-3.08	-34.52	-	-	-	-
NGPL Louisiana	2.870	-0.100	-3.37	-34.77	-	-	-	-
NGPL South TX	2.761	-0.021	-0.75	-35.78	2.750	2.745	2.785	31,900
Sonat	2.826	-0.061	-2.11	-35.08	2.820	2.680	2.850	110,500
Stingray	2.820	-0.050	-1.74	-35.02	-	-	-	-
TETCO M2	2.914	-0.042	-1.42	-35.43	2.910	2.910	3.010	72,000
TETCO M1 (24-inch)	2.830	-0.099	-3.38	-34.64	-	-	-	-
TETCO M1 (30-inch)	2.862	-0.059	-2.02	-34.58	2.860	2.830	2.880	225,049
TX Eastern (E. LA)	2.782	-0.070	-2.45	-35.84	2.783	2.780	2.800	37,300
TX Eastern (E. TX)	2.790	0.020	0.72	-32.66	2.790	2.790	2.790	2,200
TX Eastern (S. TX)	2.791	-0.086	-2.99	-34.14	2.750	2.730	2.800	28,200
TX Eastern (W. LA)	2.774	-0.092	-3.21	-36.23	2.775	2.760	2.785	26,100
Tennessee Zone 0	2.787	-0.069	-2.42	-35.44	2.780	2.700	2.815	125,013
Tennessee Zone 1	2.785	-0.073	-2.55	-36.02	2.780	2.638	2.820	284,100
Texas Gas (LA)	2.743	-0.083	-2.94	-36.91	2.763	2.615	2.775	85,464
Texas Gas (Zone 1)	2.769	-0.072	-2.53	-35.89	2.770	2.760	2.780	127,800
Transco Z 5	3.042	-0.050	-1.62	-33.87	3.030	2.980	3.080	116,400
Transco Z 1	2.794	-0.084	-2.92	-36.09	2.795	2.780	2.800	27,200
Transco Z 3	2.822	-0.053	-1.84	-35.28	2.828	2.680	2.870	171,093
Transco Z 4	2.853	-0.069	-2.36	-35.11	2.855	2.835	2.900	130,538
Transco Z2	2.812	-0.094	-3.23	-35.43	2.820	2.790	2.838	14,300
Trunkline (E. LA)	2.777	-0.093	-3.24	-35.58	2.768	2.740	2.795	4,500
Trunkline (W. LA)	2.709	-0.161	-5.61	-37.61	2.734	2.700	2.768	23,000
Trunkline Zone 1A	2.783	-0.037	-1.31	-35.64	2.780	2.778	2.790	42,600
<b>MID-CONTINENT</b>								
ANR-ML7	2.950	-0.015	-0.51	-35.02	2.950	2.950	2.950	28,000
ANR-SW	2.782	-0.058	-2.04	-34.43	2.783	2.780	2.785	5,000
Alliance	2.887	-0.098	-3.28	-35.09	2.880	2.875	2.970	96,600
Centerpoint East	2.843	-0.087	-2.97	-33.17	2.780	2.775	2.870	37,600
Centerpoint No/So	2.760	-0.080	-2.82	-35.06	-	-	-	-
Centerpoint West	2.737	-0.103	-3.63	-35.58	2.735	2.730	2.740	14,000
Chicago	2.869	-0.085	-2.88	-35.31	2.870	2.840	2.890	217,500
Cons Energy Citygate	2.898	-0.058	-1.96	-35.79	2.900	2.875	2.900	145,500
Delivery So. Star	2.802	-0.058	-2.03	-33.74	2.805	2.800	2.860	181,100
Emerson	2.851	-0.069	-2.36	-32.04	2.855	2.810	2.860	24,682
Enogex E Zone Pool	2.880	0.027	0.95	-32.71	-	-	-	-
Enogex W Zone Pool	2.840	0.040	1.43	-33.49	2.840	2.840	2.840	50,000
Michcon Detroit CG	2.890	-0.073	-2.46	-35.92	2.880	2.865	2.925	203,300
NGPL Amarillo	2.788	-0.072	-2.52	-35.31	2.788	2.785	2.790	20,000
NGPL Forgan, OK	2.787	-0.077	-2.69	-34.41	2.790	2.700	2.815	210,900
NGPL Tex/Ok	2.794	-0.056	-1.96	-34.98	2.800	2.765	2.810	219,300
NNG Demarc	2.839	-0.034	-1.18	-34.69	2.833	2.810	2.940	157,967
NNG Ventura	2.832	-0.050	-1.73	-34.43	2.830	2.800	2.850	292,973
Northern Mid-10	2.770	-0.030	-1.07	-34.67	-	-	-	-
ONG at Tulsa	2.744	-0.066	-2.35	-35.62	2.750	2.730	2.750	29,827
PEPL	2.777	-0.051	-1.80	-34.29	2.778	2.750	2.780	40,400
Rex East	2.885	-0.043	-1.47	-35.59	2.885	2.880	2.890	12,200

**Energy Pricing Trends** *continued*
**Gas Index (Day Ahead prices for Delivery on Jun 29, 12)** *continued*

Trading Hub	Volume Wgtd. Average (\$/mmBtu)	Change From Jun 28, 12 (\$/mmBtu)	Volume Wgtd. Average %Δ		Trade (\$/mmBtu)			Trading Volume (mmBtu)
			1 Day	1 Year	Median	Low	High	
<b>NORTHEAST</b>								
Algon Gates	5.141	-0.459	-8.20	8.03	5.150	4.870	5.300	54,800
Algonquin PA-NJ	4.933	-0.681	-12.13	2.01	4.950	3.030	5.050	30,600
Dawn, Ont.	2.949	-0.073	-2.42	-36.00	2.958	2.875	3.460	485,877
Dominion S	2.870	-0.034	-1.17	-35.10	2.870	2.830	2.890	216,273
Dominion N	2.880	-0.040	-1.37	-34.84	-	-	-	-
Iroquois Waddington	3.418	-0.114	-3.23	-29.34	3.410	3.175	3.475	134,200
Iroquois Z 2	3.482	-0.119	-3.30	-28.53	3.450	3.400	3.700	94,600
Lebanon	2.885	-0.061	-2.07	-34.96	2.890	2.835	2.950	114,132
Leidy	3.029	0.015	0.50	-34.83	3.030	3.000	3.050	77,900
Natl Fuel Gas NY-PA	4.100	-0.100	-2.38	-13.14	-	-	-	-
Niagara	2.950	-0.020	-0.67	-36.11	-	-	-	-
TCO pool	2.838	-0.056	-1.94	-36.01	2.843	2.800	2.855	228,300
Tennessee Zone 5	4.000	-0.750	-15.79	-14.05	4.000	4.000	4.000	55,123
Tennessee Zone 6	5.000	-0.715	-12.51	4.45	5.000	4.620	5.300	189,483
Tennessee at Dracut	4.900	-0.600	-10.91	2.51	-	-	-	-
Tetco M-3	3.088	-0.056	-1.78	-33.45	3.085	3.020	3.130	164,100
Transco Z 6 NY	3.306	0.129	4.06	-30.16	3.300	3.120	3.600	274,000
Transco Z 6 non-NY	3.049	-0.041	-1.33	-34.25	3.065	3.000	3.130	99,303
<b>WEST</b>								
AECO Storage Hub	2.128	-0.029	-1.34	-43.61	2.143	2.065	2.158	879,833
CIG, Rocky Mountains	2.690	-0.024	-0.88	-33.94	2.690	2.690	2.690	12,000
Cheyenne Hub	2.677	-0.093	-3.36	-36.26	2.660	2.640	2.730	59,300
El Paso - S Mainline	3.057	-0.002	-0.07	-31.90	3.060	3.020	3.060	239,600
El Paso - Waha Pool	2.768	-0.068	-2.40	-35.52	2.750	2.750	2.795	12,500
El Paso Bondad	2.674	-0.060	-2.19	-35.86	2.670	2.660	2.700	71,500
El Paso Permian	2.814	-0.045	-1.57	-34.63	2.820	2.750	2.870	101,200
El Paso SJ	2.742	-0.054	-1.93	-34.51	2.743	2.700	2.760	110,500
Empress	2.199	-0.066	-2.91	-37.78	2.208	1.973	2.250	271,438
Houston Pipeline	2.830	-0.100	-3.41	-36.16	-	-	-	-
Kern River	2.663	-0.122	-4.38	-34.73	2.660	2.650	2.670	18,500
Kern River Station	2.919	-0.064	-2.15	-34.11	2.915	2.910	2.930	51,600
Kingsgate	2.493	-0.042	-1.66	-40.17	2.470	2.460	2.530	68,700
NW Dom.-SJ Basin	2.585	-0.065	-2.45	-36.17	2.585	2.585	2.585	6,000
NW Opal, WY	2.690	-0.128	-4.54	-34.18	2.690	2.690	2.690	5,000
NW Stanfield, OR	2.530	-0.103	-3.91	-39.79	2.540	2.498	2.550	29,500
NW Sumas	2.423	-0.090	-3.58	-41.12	2.430	2.410	2.470	57,600
NW-S of Green River	2.595	-0.035	-1.33	-36.24	2.600	2.550	2.600	11,000
NoCal Border-Malin	2.670	-0.073	-2.66	-37.86	2.670	2.670	2.670	10,000
PG&E Gate	2.992	-0.074	-2.41	-34.97	2.990	2.980	3.000	229,500
PG&E South	2.872	-0.078	-2.64	-34.98	2.865	2.865	2.890	33,900
Questar	2.570	-0.050	-1.91	-35.85	-	-	-	-
Rex West	2.668	-0.142	-5.05	-34.93	2.670	2.600	2.700	25,000
SoCal Border	2.891	-0.060	-2.03	-35.02	2.890	2.830	2.900	56,900
SoCal Citygate	2.958	-0.008	-0.27	-33.69	2.960	2.925	2.970	113,500
TransW E of Thoreau	2.748	-0.065	-2.31	-34.65	2.750	2.700	2.765	101,600
Waha Hub	2.809	-0.064	-2.23	-34.93	2.810	2.730	2.830	75,600
West Coast Sta. 2	1.940	-0.053	-2.66	-43.32	1.943	1.850	1.960	87,000

Additional delivery points and other energy pricing information are available at <http://www.snl.com/interactivex/marketdata.aspx>.

## SNL Gas Spark Spread

### DAY AHEAD PRICES FOR DELIVERY JUN 28, 12

Gas Location	Power Location	Gas Avg. (\$/mmBtu)	Power Avg. (\$/MWH)	Spark Spreads at Various Heat Rates (\$)					Implied Heat Rate
				7,000	8,000	10,000	12,000	14,000	
Henry Hub	Entergy	2.89	35.00	14.76	11.87	6.09	0.31	-5.47	12,106.54
TCO pool	Indiana	2.89	67.50	47.24	44.35	38.56	32.77	26.98	23,324.12
NW Sumas	Mid-C	2.51	14.19	-3.40	-5.91	-10.94	-15.97	-20.99	5,646.64
NNG Demarc	Minnesota	2.87	63.00	42.89	40.02	34.27	28.52	22.78	21,928.30
Chicago	N. Illinois (CE)	2.95	66.00	45.32	42.37	36.46	30.55	24.64	22,342.59
Algon Gates	Nepool-Mass	5.60	57.50	18.30	12.70	1.50	-9.70	-20.90	10,267.86
PG&E Gate	NP-15	3.07	31.00	9.54	6.47	0.34	-5.79	-11.92	10,110.89
Niagara	NY Zone A	2.97	49.75	28.96	25.99	20.05	14.11	8.17	16,750.84
Iroquois Z 2	NY Zone G	3.60	58.00	32.79	29.19	21.99	14.79	7.59	16,106.64
Transco Z 6 NY	NY Zone J	3.18	58.75	36.51	33.33	26.98	20.63	14.27	18,492.29
Dawn, Ont.	Ontario	3.02	27.00	5.85	2.82	-3.22	-9.26	-15.31	8,934.48
El Paso SJ	Palo Verde	2.80	31.50	11.93	9.13	3.54	-2.05	-7.64	11,266.09
Tetco M-3	PJM West	3.14	62.89	40.88	37.74	31.45	25.16	18.87	20,003.18
SoCal Border	SP-15	2.95	34.00	13.34	10.39	4.49	-1.41	-7.31	11,521.52

## Forward Power Deals (\$/MW)

### For the period Jun 28, 12

Electricity delivery point	Term	Volume wgt. average (\$/MWh)	Low trade (\$/MWh)	High trade (\$/MWh)	Trading volume reported (MW)
<b>PEAK</b>					
<b>Northeast</b>					
PJM West	Jul 01, 12-Jul 31, 12	53.64	46.50	73.75	450
PJM West	Jul 02, 12-Jul 02, 12	72.38	64.00	77.00	200
PJM West	Jul 02, 12-Jul 06, 12	55.83	52.00	62.75	650
PJM West	Jul 09, 12-Jul 13, 12	52.97	51.00	55.50	600
PJM West	Jul 16, 12-Jul 20, 12	52.96	52.75	53.00	300
PJM West	Jul 23, 12-Jul 27, 12	52.37	52.00	52.75	750
PJM West	Aug 01, 12-Aug 31, 12	47.53	46.75	48.35	500
PJM West	Dec 01, 12-Dec 31, 12	41.38	41.30	41.50	200
PJM West	Jul 01, 13-Aug 31, 13	52.15	52.15	52.15	50
<b>South</b>					
ERCOT-North	Jun 30, 12-Jun 30, 12	28.00	28.00	28.00	50
ERCOT-North	Jul 02, 12-Jul 06, 12	46.00	46.00	46.00	50
<b>OFF-PEAK</b>					
<b>Northeast</b>					
NY Zone G	Oct 01, 12-Dec 31, 12	32.00	32.00	32.00	100
PJM West	Jan 01, 13-Dec 31, 13	29.85	29.85	29.85	50
PJM West	May 01, 13-May 31, 13	27.00	27.00	27.00	50

## Nuclear Outage Report

### For the period Jun 28, 12

Unit	Operator	State	Current power level (%)	Previous power level (%)	Nameplate capacity (MW)
Byron PWR 1	Exelon Nuclear	IL	89	100	1,224.9
Point Beach PWR 2	FPL Energy Point Beach	WI	0	100	523.8
Salem PWR 1	PSEG Nuclear LLC	NJ	91	92	1,170.0

## Dominion Energy Index

Day	Date	Forecast or Actual Index	Above/Below Normal		Day	Date	Forecast or Actual Index	Above/Below Normal	
			△	△%				△	△%
<b>UNITED STATES</b>					<b>NEW ENGLAND</b>				
Wednesday	Jun 27, 12	39.2	2.6	7.2	Wednesday	Jun 27, 12	19.2	-9.3	-32.6
Thursday	Jun 28, 12	47.9	11.0	30.0	Thursday	Jun 28, 12	33.8	5.1	17.7
Friday	Jun 29, 12	51.7	14.6	39.3	Friday	Jun 29, 12	40.0	11.0	37.9
Saturday	Jun 30, 12	50.0	12.7	33.9	Saturday	Jun 30, 12	50.4	21.0	71.6
Sunday	Jul 01, 12	48.7	11.1	29.5	Sunday	Jul 01, 12	44.9	15.2	51.4
Monday	Jul 02, 12	47.7	9.8	25.8	Monday	Jul 02, 12	38.8	8.9	29.8
Tuesday	Jul 03, 12	46.6	8.4	22.0	Tuesday	Jul 03, 12	29.2	-1.1	-3.6
Wednesday	Jul 04, 12	45.3	6.7	17.4	Wednesday	Jul 04, 12	34.4	3.7	12.1
<b>GREAT LAKES</b>					<b>PACIFIC</b>				
Wednesday	Jun 27, 12	41.0	8.8	27.4	Wednesday	Jun 27, 12	21.0	-3.4	-14.0
Thursday	Jun 28, 12	53.4	21.0	64.7	Thursday	Jun 28, 12	25.6	1.0	4.0
Friday	Jun 29, 12	53.3	20.6	62.8	Friday	Jun 29, 12	23.4	-1.4	-5.8
Saturday	Jun 30, 12	40.1	7.0	21.2	Saturday	Jun 30, 12	21.3	-3.7	-14.8
Sunday	Jul 01, 12	44.9	11.4	33.9	Sunday	Jul 01, 12	22.7	-2.7	-10.5
Monday	Jul 02, 12	44.7	10.7	31.5	Monday	Jul 02, 12	26.5	0.8	3.1
Tuesday	Jul 03, 12	47.2	12.7	37.0	Tuesday	Jul 03, 12	27.1	1.2	4.6
Wednesday	Jul 04, 12	42.8	7.6	21.5	Wednesday	Jul 04, 12	27.5	1.3	4.9
<b>GREAT PLAINS</b>					<b>ROCKY MOUNTAINS</b>				
Wednesday	Jun 27, 12	57.1	18.4	47.4	Wednesday	Jun 27, 12	43.5	5.8	15.4
Thursday	Jun 28, 12	64.1	24.9	63.6	Thursday	Jun 28, 12	45.5	7.4	19.4
Friday	Jun 29, 12	60.7	21.1	53.4	Friday	Jun 29, 12	52.0	13.5	35.2
Saturday	Jun 30, 12	60.9	21.0	52.6	Saturday	Jun 30, 12	53.3	14.4	37.1
Sunday	Jul 01, 12	57.0	16.7	41.4	Sunday	Jul 01, 12	52.0	12.8	32.6
Monday	Jul 02, 12	59.2	18.5	45.6	Monday	Jul 02, 12	50.2	10.5	26.6
Tuesday	Jul 03, 12	57.5	16.3	39.6	Tuesday	Jul 03, 12	51.1	11.2	28.1
Wednesday	Jul 04, 12	57.2	15.5	37.1	Wednesday	Jul 04, 12	52.6	12.4	30.9
<b>LOWER MISSISSIPPI</b>					<b>SOUTH ATLANTIC</b>				
Wednesday	Jun 27, 12	56.6	10.3	22.3	Wednesday	Jun 27, 12	37.0	-6.8	-15.4
Thursday	Jun 28, 12	61.3	14.8	31.8	Thursday	Jun 28, 12	52.0	8.0	18.1
Friday	Jun 29, 12	65.9	19.1	40.8	Friday	Jun 29, 12	63.2	18.9	42.8
Saturday	Jun 30, 12	67.2	20.1	42.8	Saturday	Jun 30, 12	67.4	22.8	51.2
Sunday	Jul 01, 12	64.9	17.6	37.2	Sunday	Jul 01, 12	65.7	20.9	46.8
Monday	Jul 02, 12	62.5	14.9	31.4	Monday	Jul 02, 12	62.3	17.3	38.3
Tuesday	Jul 03, 12	58.1	10.3	21.5	Tuesday	Jul 03, 12	58.2	12.9	28.4
Wednesday	Jul 04, 12	57.3	9.3	19.3	Wednesday	Jul 04, 12	56.5	10.9	23.8
<b>MID-ATLANTIC</b>					<b>SOUTHWEST</b>				
Wednesday	Jun 27, 12	32.0	-2.6	-7.6	Wednesday	Jun 27, 12	48.5	5.6	12.9
Thursday	Jun 28, 12	45.8	10.9	31.0	Thursday	Jun 28, 12	48.4	5.3	12.3
Friday	Jun 29, 12	56.0	20.7	58.7	Friday	Jun 29, 12	48.2	5.0	11.5
Saturday	Jun 30, 12	56.7	21.2	59.5	Saturday	Jun 30, 12	44.2	0.9	2.1
Sunday	Jul 01, 12	51.0	15.1	42.3	Sunday	Jul 01, 12	43.2	-0.3	-0.6
Monday	Jul 02, 12	46.6	10.5	29.0	Monday	Jul 02, 12	45.4	1.8	4.0
Tuesday	Jul 03, 12	46.2	9.8	27.0	Tuesday	Jul 03, 12	45.7	1.9	4.3
Wednesday	Jul 04, 12	42.8	6.2	16.8	Wednesday	Jul 04, 12	45.5	1.6	3.6

The Dominion Energy Index, maintained by The Dominion Energy Services Corp., measures actual and forecast demand for heating and cooling energy. It is designed to be more precise than the current heating degree days and cooling degree days indexes. The first reading in each regional list is the actual energy demand measured the day the forecast is made. The forecast energy demand for the following week for a given region follows the actual reading in the table. "Normals" for each region for each day have been calculated using 30-year weather averages.



## NYMEX Natural Gas Futures

For the period Jun 28, 12

Contract	Prior Settle (\$/mBtu)	High (\$/mBtu)	Low (\$/mBtu)	Settle (\$/mBtu)	Change (\$/mBtu)
Aug-2012	2.798	2.846	2.659	2.722	-0.076
Sep-2012	2.809	2.860	2.673	2.734	-0.075
Oct-2012	2.869	2.920	2.735	2.792	-0.077
Nov-2012	3.076	3.135	2.967	3.023	-0.053
Dec-2012	3.331	3.388	3.240	3.288	-0.043
Jan-2013	3.476	3.535	3.394	3.430	-0.046
Feb-2013	3.490	3.537	3.409	3.442	-0.048
Mar-2013	3.466	3.515	3.394	3.419	-0.047
Apr-2013	3.435	3.483	3.357	3.393	-0.042
May-2013	3.464	3.501	3.387	3.425	-0.039
Jun-2013	3.500	3.538	3.430	3.461	-0.039
Jul-2013	3.545	3.588	3.474	3.507	-0.038
Aug-2013	3.563	3.578	3.493	3.525	-0.038
Sep-2013	3.566	3.578	3.496	3.528	-0.038
Oct-2013	3.604	3.625	3.533	3.567	-0.037
Nov-2013	3.728	3.731	3.671	3.694	-0.034
Dec-2013	3.941	3.946	3.865	3.908	-0.033
Jan-2014	4.053	4.062	3.997	4.021	-0.032

Changes in settlement price with zero volume mean the settlement price is implied. No actual trading took place for these contracts on the given day. Price is based on delivery at the Henry Hub in Louisiana, which serves markets throughout the U.S. East Coast, the Gulf Coast, the Midwest, and up to the Canadian border.

## SNL Daily OTC Coal and Emissions Assessments

Jun 28, 12 Product	Price (\$/ton)	Change (%)		Jun 28, 12 Product	Price (\$/credit)	Change (%)	
		1 day	1 week			1 day	1 week
<b>NYMEX Big Sandy</b>				<b>SO2</b>			
July 2012	54.65	-1.26	1.30	2010	0.78	0.00	0.00
Q3 2012	55.05	-1.13	1.42	2011	0.78	0.00	0.00
<b>CSX/Rail</b>				2012	0.78	0.00	0.00
July 2012	51.80	-1.33	-0.38	2013	0.77	0.00	0.00
Q3 2012	52.58	-0.96	0.38	2014	0.77	0.00	0.00
<b>PRB 8,800</b>				2015	0.76	0.00	0.00
July 2012	8.25	6.04	4.43	<b>NOx</b>			
Q3 2012	8.18	1.36	4.47	2012	8.13	0.00	0.00
<b>PRB 8,400</b>				<i>Data provided by Evolution Markets and Amerex Brokers</i>			
July 2012	6.25	-2.34	0.81				
Q3 2012	6.23	-1.58	2.98				

**SNL RECs Index**
**Week ending 06/22/12**

Product	Term	Price	Product	Term	Price	Product	Term	Price
CA RPS-REC Bucket 3	2011	0.80	MA Class I	2013	55.83	NJ Solar REC	2013	160.83
CA RPS-REC Bucket 3	2012	1.20	MA Class II WTE	2011	6.00	NJ Solar REC	2014	173.75
CA RPS-REC Bucket 3	2013	2.13	MA Class II WTE	2012	5.88	OH Adjacent Solar	2012	40.00
CT Class I REC	2011	50.00	MA Solar	2012	320.00	OH Contiguous REC	2011	1.38
CT Class I REC	2012	47.75	MA Solar	2013	200.00	OH Contiguous REC	2012	1.65
CT Class I REC	2013	39.25	MD Solar	2012	212.50	OH In-State Solar	2011	290.00
CT Class I REC	2014	30.00	MD Solar	2013	197.50	OH In-State Solar	2012	211.25
CT Class II REC	2012	0.41	MD Tier I	2012	2.91	OH Located REC	2012	3.08
CT Class II REC	2013	0.64	MD Tier I	2013	3.06	PA Solar REC	2012	22.50
CT Class III REC	2012	0.41	MD Tier II	2012	0.43	PA Solar REC	2013	27.50
CT Class III REC	2013	0.64	ME Class I	2012	42.50	PA Tier 1 REC	2011	2.73
DC Solar REC	2011	311.25	ME Class I	2013	35.00	PA Tier 1 REC	2012	2.93
DC Solar REC	2012	322.50	NH Class I	2012	52.00	PA Tier 1 REC	2013	3.02
DC Tier I REC	2012	2.94	NH Class II	2012	95.00	PA Tier 2 REC	2011	0.09
DE NEW REC	2011	3.00	NJ Class I REC	2012	2.95	PA Tier 2 REC	2012	0.11
DE Solar REC	2011	32.50	NJ Class I REC	2013	3.03	RI Existing REC	2012	0.78
MA APS	2012	19.38	NJ Class I REC	2014	3.14	RI NEW REC	2012	58.50
MA APS	2013	18.75	NJ Class II REC	2012	1.63	TX REC	2011	2.48
MA Class I	2011	60.13	NJ Class II REC	2013	2.00	TX REC	2012	2.65
MA Class I	2012	59.19	NJ Solar REC	2012	151.67	TX REC	2013	2.78

Data is compiled from a range of market indicatives and do not necessarily represent completed trades. CA and WA RPS figures do not contain data from Evolution Markets.

Data for SNL RECs index provided by:

Evolution Markets: <http://new.evomarkets.com/>

Tradition Financial Services: <http://www.tfsbrokers.com/>

Clear Energy Brokerage and Consulting: <http://www.clearenergybrokerage.com/>

Karbone: <http://www.karbone.com/>

Please contact data providers for more detailed or specific transaction data or REC markets not covered by SNL index.

Source: SNL Energy

©2012, SNL Financial LC. All Rights Reserved. Confidential Subject Matter. WARNING! SNL Power Daily with Market Report contains copyrighted subject matter and confidential information owned solely by SNL Financial LC ("SNL"). Reproduction, distribution or use of this newsletter in violation of this license constitutes copyright infringement in violation of federal and state law. SNL hereby provides consent to use the "email this story" feature to redistribute articles within the subscriber's company. Although the information in this report has been obtained from sources that SNL believes to be reliable, SNL does not guarantee its accuracy.