

Energy Insights -- March 2014 Briefing on Energy Issues and Trends

ViewPoint of Bill Mohl, President, Entergy Wholesale Commodities: "Leadership Needed in N.E. Energy Markets"

The energy landscape in the Northeast is reaching a critical juncture - the record high price spikes in consumer electricity bills this winter reveal market infrastructure deficiencies that need to be addressed. Without changes, this region will head off an energy cliff with great economic and environmental consequences.

The New England state governors recognized the need for change with their recently announced "regional cooperation on energy infrastructure issues." They point to the need for a "reliable, affordable and diverse energy system" and call for "strategic investments in our region's energy resources and infrastructure."

However, in establishing energy investment priorities for the region, the important role that existing nuclear power plays appears to have been overlooked. Existing nuclear power plants in New England and neighboring states are a cost-effective and zero-carbon resource that is critical for a reliable, affordable and diverse base-load electric supply.

These nuclear plants are safe and routinely operate at above 90 percent of their capacity and provide a third of the region's electricity. Continued supply from these plants should not, however, be taken for granted. Unfortunately, the uncertainty created by current rules in the region's wholesale power markets is undermining the investment climate needed to keep these plants in operation. The upcoming shutdown of Vermont Yankee is directly attributable to the current wholesale market conditions.

The reality is the wholesale power markets in New England are truly not competitive and do not properly

In This Issue:

ViewPoint: "Leadership Needed in N.E. Energy Markets"

Rising Natural Gas Prices Increase Wholesale Electricity Prices in New England

Study Finds Adding Natural Gas Capacity Would Save New England Electricity Consumers \$1.5 Billion a Year

NRC Highlights Safety Enhancements Three Years After Fukushima

Heating Fuel Expenditures Rise This Winter

Increase in Wood as Main Source of Household Heating

reward existing clean sources of generation. This situation makes it very difficult for these existing generators to justify the capital investments needed to sustain future operations. As a result, these valuable plants may be forced to close, causing consumers to pay higher power prices for replacement plants.

To avoid such a scenario, market design strategies must provide investors with reasonable certainty that true competitive conditions will prevail in the long run. For example, energy, capacity and ancillary services markets need to work together to provide the correct financial incentives to support the long-term viability of generation resources and the markets in general.

Unfortunately, despite numerous attempts by the ISO and stakeholder groups, there is no consensus on comprehensive changes that will ensure long-term sustainability. The time is now for political and regulatory leadership in New England to work together to develop the long-term strategies needed to create a climate that ensures market rules will reward reliable, diverse, clean and predictably priced sources of power. Otherwise, the resulting consequences in the form of higher carbon emissions and even higher electricity prices will impact everything from regional economic development and employment, to air quality and electric reliability.

The time is now for real change that will serve the Northeast well, not only for today, but for many tomorrows.

Source: *Boston Business Journal*, Editorial, March 21, 2014.

Rising Natural Gas Prices Increase Wholesale Electricity Prices in New England

According to preliminary figures from ISO New England, the operator of the region's bulk power system and wholesale electricity markets, natural gas prices pushed New England's wholesale electricity prices up by 55% in 2013.

The average price of wholesale electric energy rose to \$56.06 per megawatt-hour (MWh) in 2013, up from 2012's historic low price of \$36.09/MWh. Natural gas is the predominant fuel used to generate the region's electricity, at about 46% of total generation in 2013, so wholesale power prices tend to track the price of natural gas.

In recent years, the price of natural gas has declined

significantly in New England and nationally with increasing production of natural gas from the Marcellus shale field in New York and Pennsylvania, but the lower prices have resulted in higher demand.

The capacity of pipelines servicing New England is proving insufficient to serve the increasing demand for natural gas to heat homes and businesses and to generate electricity. Pipeline constraints have pushed up the average spot price for natural gas in New England to the highest in the country. Until new infrastructure alleviates these pipeline constraints, prices for natural gas and wholesale electricity are likely to remain volatile.

Source: ISO New England, Inc. "2013 Wholesale Electricity Prices in New England Rose on Higher Natural Gas Prices", media release, March 18, 2014.

Study Finds Adding Natural Gas Capacity Would Save New England Electricity Consumers \$1.5 Billion a Year

The Maine Governor's Energy Office, the Public Utilities Commission, and the Office of Public Advocate released a study confirming the urgent need for additional natural gas pipeline capacity into New England, to lower the region's escalating electricity prices.

"A Review of Natural Gas Capacity Options" was commissioned pursuant to the Omnibus Energy Act passed in Maine last year. The omnibus bill directed the Maine PUC to evaluate the costs and benefits of additional natural gas pipeline capacity into New England. The study's release is timely, particularly in light of the extraordinarily high prices for natural gas delivered to New England this winter, prices which continue to drive high electricity prices throughout the region.

In the report, consultant Sussex Economic Advisors describes the dramatic impact that New England's inadequate pipeline capacity has on electricity prices, and concludes that "incremental natural gas pipeline capacity into the New England region would place downward pressure on the regional natural gas price indices and, therefore, benefit customers who use those price signals in transactions (e.g., electricity generators)."

In particular, the study shows that a reduction of the

"basis differential" by 75% (i.e., the price difference between the Marcellus shale, where gas is produced, and gas delivered to New England) would save New England electricity customers more than \$1.5 billion a year (and would save Maine electricity customers more than \$120 million a year). The study also observes that, in areas where new pipeline has been built or proposed to alleviate congestion, prices have fallen substantially.

The Sussex study will help inform those involved in the regional initiative announced by the New England governors in December 2013, and in evaluating actions that Maine might take under the Omnibus Energy Act. The report can be found on the Maine PUC's home page.

Source: Maine Public Utilities Commission. "Study Indicates Imperative for Natural Gas Infrastructure to Lower Maine's High Electricity Prices", media release, March 2014.

NRC Highlights Safety Enhancements Three Years after Fukushima

U.S. Nuclear Regulatory Commission Chairwoman Allison Macfarlane said that the agency and the nuclear energy industry have made substantial progress to enhance the safety of U.S. nuclear plants by applying lessons from the Fukushima reactor accidents.

The NRC staff's post-Fukushima work has focused on enhancing the ability of U.S. nuclear power plants to cope with unexpected events. Since the accident in Japan, the industry developed a strategy called "FLEX" which adds more portable backup safety equipment at diverse locations around every nuclear power plant site and at two regional response centers. The objective is to ensure the capability for indefinite cooling for the reactor and used nuclear fuel pools through a combination of installed plant systems and equipment, portable on-site equipment and off-site resources.

NRC will next focus its efforts on how the agency can become a more efficient and effective regulator. The NRC's initiative on the cumulative effects of regulation will look at the challenges the industry faces when confronted with multiple, complex regulatory requirements that must be implemented in the same time frame. NRC staff is scheduled to provide recommendations to the commission next year.

Source: Nuclear Energy Institute. "NRC Highlights Safety Enhancements 3 Years after Fukushima, With a Focus on Cumulative Impact", media release, March 13, 2014.

Heating Fuel Expenditures Rise This Winter

According to the U.S. Energy Information Administration, average expenditures for heating U.S. households has increased compared to last winter. Expenditures for households heating with propane are expected to be 54% higher this winter, 7% higher for households using heating oil, 10% higher for households using natural gas and 5% higher for those using electricity.

Between the beginning of October and the end of February, U.S. average heating degree days were 13% higher than last winter and 10% above the 10-year average. The Northeast was 13% colder than last winter, the Midwest and South were both 19% colder, while the West was 5% warmer.

Source: U.S. Energy Information Administration, "Heating Fuel Expenditures Rise This Winter", March 12, 2014.

Increase in Wood as Main Source of Household Heating

Wood as a main heating source in homes has gained popularity in many areas of the country, but most notably in the Northeast. All nine states in the New England and the Middle Atlantic Census divisions saw at least a 50% jump from 2005 to 2012 in the number of households that rely on wood as the primary heating source.

In total, about 2.5 million households (2.1%) across the country use wood as the main fuel for home heating, up from 1.9 million (1.7%) in 2005. An additional 9 million households (7.7%) use wood as a secondary heating fuel.

Heating stoves are the most common equipment used by households that rely on wood as the primary source of heat and fireplaces are the most common choice for secondary wood heating. Most households still burn split logs, although wood pellet use has been rising in recent years. And while households in higher income brackets are more likely to use wood, those at lower income levels who burn wood consume more on average.

Source: U.S. Energy Information Administration, "Increase in Wood as Main Source of Household Heating, Most Notable in the Northeast", March 17, 2014.

About the New England Energy Alliance, Inc.

The New England Energy Alliance is a coalition of energy companies advocating to ensure the availability, reliability and affordability of future energy supplies which are vital to the region's economic growth and prosperity. Formed in 2005, the Alliance works to balance public debate about solutions to New England's energy infrastructure by providing information on the region's energy needs and the resources, technologies and policies needed to meet those needs.

Please visit www.newenglandenergyalliance.org for more information on the Alliance.