Northeast Natural Gas Winter Outlook

October 2013

KEY POINTS

- The natural gas supply situation is strong, nationally and in the Northeast. A secure supply balance and high storage levels are resulting in generally moderate commodity prices, which should contribute to stable heating bills this winter.

- Natural gas has consistent benefits in terms of deliverability, reliability, cost-effectiveness and environmental advantages.

- Natural gas utilities have programs in place to advise their customers on ways to help prepare for, and manage, their heating bills this winter. These include budget billing, efficiency and conservations tips, and advice on eligibility for energy assistance funds for low-income customers and others.

- A challenge remains this winter for New England for the “non-firm” capacity sector of the market. About 50% of power plants in the region are fueled by natural gas, but the electric power market has not secured matching pipeline delivery capacity. Adding more gas infrastructure is a priority.

Strong Supply Situation Leading to Stable Winter Outlook

The natural gas supply situation for the U.S. and the Northeast is stable and secure. Storage for the approaching winter is at high levels and U.S. production output remains robust.

As a result, the commodity price for natural gas has been consistently stable throughout 2013, in the $3.70 per MMBtu range. While this is higher than the very low commodity price average in 2012, the natural gas price remains well below that of other fuels, and is resulting in projections for stable if slightly higher heating bills this winter for customers. The biggest variable, as always, remains the winter weather.

This paper by the Northeast Gas Association (NGA) outlines the recent market developments shaping natural gas costs, discusses what local natural gas utilities in the Northeast U.S. are doing to assist customers, and identifies some steps that customers can take to manage home heating bills. [Note: NGA’s analysis is based on publicly reported data; NGA does not project actual figures for wholesale or retail markets.]

Natural Gas Wholesale Prices Have Been Moderate and Relatively Low This Year

A stability in commodity prices has characterized the U.S. natural gas wholesale market in recent years. As of October 28, the daily average commodity price nationally was $3.57 per million Btu (MMBtu), compared to $3.38 at the same point last year. The U.S. Energy Information Administration (EIA) is projecting that the average natural gas commodity price for all of 2013 will be in

the range of $3.71 per MMBtu.  

Stable Heating Bills Projected for Gas Utility Customers This Winter

It is still early to predict the final impact on customer bills for natural gas home heating this coming winter, but the bills are projected to be relatively stable if slightly higher than last winter. EIA is projecting that average expenditures for homes in the Northeast with natural gas this winter will be higher this year compared to last, reflecting variations in weather and pipeline capacity. On October 1, 2013, the American Gas Association (AGA) stated that U.S. consumers should expect modest price increases this winter.

The local gas utilities work throughout the year to purchase a reliable, diverse and cost-effective supply of natural gas in advance of the winter heating season.

U.S.—and Northeast—Natural Gas Production Has Been Robust

In terms of U.S. supply reserves, the news is positive: an era of abundant supplies has arrived, led by recent shale gas developments, starting in Texas and now in the Appalachia region as well. The Northeast U.S., long accustomed to being "at the end of the pipeline," now finds itself located next to - and indeed on top of – one of the largest natural gas basins in the U.S.

Advances in drilling technology, such as horizontal drilling and hydraulic fracturing, have enabled natural gas producers to begin accessing the U.S. shale gas resource in a significant way. In 2013, according to U.S. EIA, the U.S. is poised to be the largest producer of natural gas in the world. Production in the Marcellus region of Pennsylvania and West Virginia alone has grown 30% over the last year, and exceeded 12 billion cubic feet per day (Bcf/d) in summer 2013.

These new supplies are having a positive impact, resulting in lower commodity prices and greater U.S. supply security. Moving the new production to market via pipelines is an industry priority and market need. As will be discussed below, several major pipeline additions will be in place in the New York City area market by this winter.

Converting to Natural Gas from Other Fuels is on the Rise

While natural gas is the leading home heating fuel in the U.S. as a whole, it still has room to grow in the Northeast U.S. In New England for instance, natural gas heats just over one-third of all homes in the six-state region. Prices of all fuels can vary and fluctuate over time, but the consistent benefits of natural gas are leading numerous homeowners and businesses to appreciate the value of natural gas systems. These benefits include reliability, ease of delivery, cleanliness, lower environmental impacts (over 30% less CO2 emissions compared to oil), and cost-

![Average Consumer Expenditures for Heating Fuels, $, 2007-2013](image)

This graphic based on data from the U.S. Energy Information Administration (EIA) compares the residential heating fuel expenditures of natural gas (blue) and heating oil (red) in recent years. Natural gas has been well below oil in recent years, and forecast to be much lower again this winter. Source: EIA, October 8, 2013.
effectiveness. The spot commodity price of natural gas compared to that of oil shows a wide divergence—natural gas is less than 1/4th the price of oil.

Conversions and new installations continue onto the system, particularly in light of the lower cost of natural gas compared to other heating fuels. **Natural gas bills are projected to be over 30% lower than heating oil this winter.** Natural gas prices have been consistently below heating oil in recent years, and the outlook for this winter is for gas to continue to be the lowest heating fuel option (see chart on previous page). States in the Northeast continue to explore ways to increase access to natural gas for citizens and businesses.

**Multiple Factors Impact Natural Gas Prices**

What are the factors that go into the price of natural gas?

The American Gas Association (AGA) has summarized it concisely: “The price paid for natural gas by consumers depends on the price of the gas commodity itself, and the cost of transporting that gas from production areas to customers.”

There are many factors that can affect the market price of natural gas:

- Seasonal natural gas demand
- Weather
- Gas storage levels
- Alternative fuel prices
- Producer economics
- Market structure
- Pipeline capacity and costs
- Futures markets
- Market psychology.

**The Weather Remains a Key Factor in Supply & Price Fluctuations**

Perhaps the greatest factor in determining the ultimate supply and price dynamic remains the weather.

How cold the winter is determines to a great extent how volatile the price for the natural gas commodity might be over a period. As the U.S. FERC recently observed: “Weather is the key wildcard going into the winter and is the main driver of natural gas demand and prices.”

The weather can have a major impact, generally short-term, on local demand and supply points.

**Significance of Infrastructure Additions**

In recent years, the Northeast region has made regular additions to its supply and delivery network, generally in the form of new compression and storage. Prior to this winter, several new pipeline enhancements will go into service in the region, expanding pipeline deliverability from the Marcellus production fields in Pennsylvania to Northeast markets, notably New York City. Other infrastructure enhancements are under development in the region as well to bring fast-
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There are steps that customers can take today to help manage their energy bills. Contact your local gas utility for suggestions on:

- Budget billing;
- Efficiency and conservation tips;
- Eligibility for low-income assistance.

Look on NGA’s web site for links to the gas utilities in the region:
www.northeastgas.org/ldc_members.php/

Utility Bill Components

The price of the natural gas commodity at the wellhead makes up generally the largest share of the total price a residential customer pays. Other costs include commodity costs of other supply sources, interstate pipeline capacity (or transportation) costs and charges for the LDCs’ transportation service.

The gas utility, or LDC, passes on the actual commodity cost to customers; the LDC does not make any margin from the purchasing of the gas commodity and reselling it to retail customers. It is a direct pass-through, subject to regulatory oversight. The residential customer’s bill is regulated by the state public utility/public service commission (PUC, PSC, DPU or BPU).

The American Gas Association (AGA) states: “Changes in the prices paid by utilities for gas, whether based on fuel prices, the spot market, or the comparative price of other fuels, do not have an immediate impact on residential gas customers because of the structure of regulation and the industry. This is true for several reasons”:

- Utilities’ gas supply portfolios are diversified among spot purchases, long-term contract gas, storage gas, peak-shaving gas and other sources;
- State regulation of gas cost recovery generally tends to spread out short-term increases or decreases over time.

The U.S. EIA has noted:

“Residential customers see less [price] variation because their bills reflect monthly average prices, which do not fluctuate as much as daily prices. Also, many residential customers stabilize their monthly bills by participating in yearly budget plans provided by their local gas distribution companies.”

State Regulatory Oversight and Coordination Contributes to Customer Protection

State public service / public utility commissions have oversight over the distribution costs of natural gas utilities. Utilities submit cost of gas adjustments to the commissions during the year as appropriate, to reflect different seasonal costs of the gas commodity. If the cost of gas itself rises or
falls over a given period, that variation is reflected in the cost of gas adjustment provision. State oversight provides an additional measure of consumer protection.

Steps for Customers on Ways to Prepare to Manage Winter Heating Bills

There are steps that customers can take to manage their energy bills.

Customers are encouraged to contact their local gas utility for suggestions on budget-billing and bill payment plans. A budget-billing option allows customers to equalize monthly payments. For example, a customer’s annual bill can be estimated based on past energy use and then divided into equal monthly payments. The local utilities also offer tips and have programs in place to help customers reduce their bill through energy-efficiency and conservation measures.

Energy bills are a particular concern for lower-income citizens, who are the most vulnerable to energy costs. They are encouraged to contact their utility to find out how to apply for state and federal energy assistance programs. In addition, many social service agencies and charitable organizations accept energy assistance applications for the winter heating season. A list of providers can be obtained by contacting your local utility.

Importance of Low-Income Home Energy Assistance Program (LIHEAP)

The Low-Income Home Energy Assistance Program – or LIHEAP – has been particularly important to the Northeast region. LIHEAP remains essential, particularly in this difficult economic and jobs climate. The federal appropriation level for the current fiscal year is projected to remain relatively low, given ongoing federal budget constraints.

Value of Energy Efficiency

Energy efficiency remains a cornerstone of energy policy in the region. Utilities have made considerable investments over the years in offering their customers more efficient equipment and technologies. And efficiency gains have been achieved. About one-third of all natural gas efficiency investments in the U.S. come from the 8 Northeast states. AGA notes that average natural gas use per residential customer has declined by about one-third since 1980.

Infrastructure Enhancements and Accelerated Replacement

Accelerated repair and/or replacement of older natural gas distribution system components is an issue of focus for local utilities and regulatory agencies. As the utilities strive to build their systems to meet growing market demand, they also are working to replace older system components to increase efficiency, safety and environmental integrity. It’s a priority area for the LDCs.

A Word About Transportation Contract Arrangements and the Ongoing Power Sector Challenge in New England

In reviewing winter gas supply, it is important to remember the distinction between “firm” and “non-firm” gas supply transportation contract arrangements, especially as it relates to the power generation sector.
Natural gas is provided under contract terms between a supplier and a customer. The contract terms are considered “firm” or “non-firm”/“interruptible.” Service to residential customers, for example, is firm.

Larger commercial or industrial customers, such as a power generator, on the other hand, have the option of contracting for either firm or interruptible transportation service, or buying gas delivered at their facility from a third-party that holds the transportation capacity.

Interruptible transportation service includes in its contract terms the possibility of interruption under certain operational and market conditions. Those customers who elect to take interruptible service in any form often have alternative fuel capability for their operation.

In New England, where about 50% of power generation is linked to natural gas, concern has been growing over the mismatch between power generator demand and contracted pipeline delivery capacity. The rising demand for natural gas within the region’s electric market has not been sufficiently matched by a commitment to securing adequate reliable natural gas supplies and firm pipeline capacity contractual obligations. The electric power sector has not participated sufficiently in terms of investments in securing natural gas supplies for their generating units.

In recent years, New England has been experiencing higher gas pipeline utilization, less interruptible availability and less year-round operational flexibility, particularly in winter periods. (Note: Pipelines continue to perform extremely reliably, as designed and in accordance with FERC-regulated contractual commitments). As observed earlier, the New England region saw very high short-term price spikes in the spot market during some cold days in January and February 2013. This price spike did not affect utility gas customers, but did impact power generators and other large users in the “non-firm” category—and also indirectly affected the region’s electric customers, as power market prices jumped.

Challenges may exist again this winter during cold weather periods for those gas-fired generators and other “non-firm” users that have not secured capacity. As temperatures fall, operational flexibility also declines for those not prudently prepared under sufficient contractual arrangements. These issues are causing broader concerns about energy reliability in the region.

Natural gas has clearly become the preferred power generation fuel in New England and its role is only likely to grow in coming years. Unfortunately, the electric system model in New England does not appear to give electric generators the proper incentive to contract for firm pipeline gas transportation, to ensure supply availability and power market reliability.

The natural gas infrastructure in New England—in the form of new pipeline expansion projects—needs to be increased, to increase access to Marcellus area supplies. But the level and timing of this increase depends upon customer commitments. The pipelines serving New England have proposed new projects—such as Spectra’s “AIM Project,” Tennessee Gas Pipeline’s “Northeast Expansion,” and other projects by PNGTS and Iroquois Gas Transmission—but the first new infrastructure is not expected until 2016. (Note: Gas utilities have secured adequate supplies for their customers, and are participating in the planned new projects.)

NGA and the natural gas industry are working with electric market participants to assess and try to develop options to advance—and see implemented-solutions in the regional market to address this area of growing reliability concern to the New England energy system.

Safety
Safety is the industry priority. Be sure to have your heating systems maintained annually. Look for the “Gas Safety Public Awareness” link on the NGA web site for general safety information.

On the next page are a series of sources for further information on efficiency tips and customer heating assistance.
FURTHER INFORMATION ON EFFICIENCY TIPS &
CUSTOMER ASSISTANCE PROGRAMS

For further information, contact the following organizations, or visit their web sites.

**Local Distribution Companies:**
Contact your local natural gas utility by linking through the NGA web site. From www.northeastgas.org, go to the “Member Companies” link, and select the hyperlink to your local natural gas utility. The utility sites have information on specific programs that the companies offer, as well as, in many cases, links to other energy assistance agencies in their service areas.

**Northeast Gas Association**

**American Gas Association**
The American Gas Association represents more than 200 local energy utility companies that deliver clean natural gas throughout the United States. Visit www.aga.org.

**New York State Energy Research and Development Authority (NYSERDA)**
The New York State Energy Research and Development Authority (NYSERDA) has extensive information on energy efficiency and “smart energy” tips. Visit www.nyserda.ny.gov.

**National Energy Assistance Directors’ Association**
The National Energy Assistance Directors’ Association (NEADA) is the primary educational and policy organization for the state and tribal directors of the Low-Income Home Energy Assistance Program (LIHEAP). LIHEAP is a federal program providing formula grants to states to help low-income families pay their heating and cooling bills. Its site is: www.neada.org.

**GasNetworks**
Several natural gas utilities in the region have formed a collaborative that promotes natural gas energy efficiency and provides information to customers on energy-efficient equipment. The information is located at: www.gasnetworks.com.

**U.S. Department of Energy (DOE)**
The U.S. Department of Energy has a helpful web link providing energy-saving tips for homeowners and others. The information is located at: www.energysavers.gov.

**U.S. Energy Information Administration (EIA)**
The EIA is the statistical agency of the U.S. Department of Energy. Publications of particular interest include its “Short-Term Energy Outlook,” updated monthly, and its weekly “Natural Gas Market Update.” Its site is located at: www.eia.gov.

End-Notes:
3. Ibid
4. American Gas Association (AGA), October 1, 2013
5. U.S. Energy Information Administration (EIA), October 9, 2013