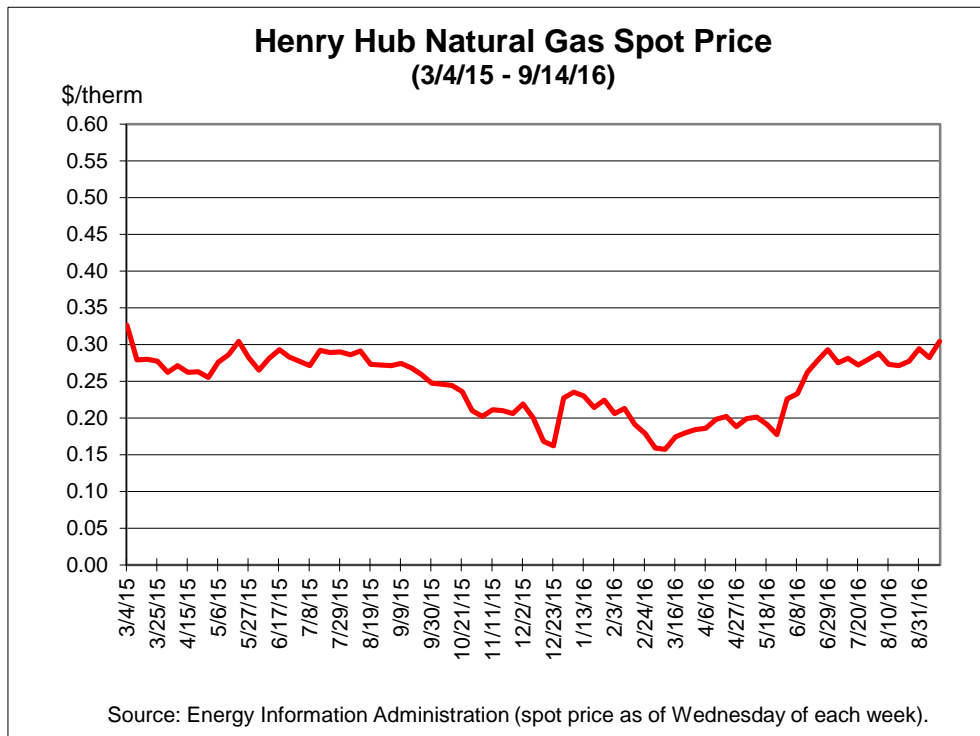


**WHOLESALE NATURAL GAS MARKET ASSESSMENT**  
**Wholesale Natural Gas Futures Prices as of September 2, 2016**

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**Outlook for Wholesale Natural Gas Prices**

This report presents the Office of Technical and Regulatory Analysis’ (“OTRA”) assessment of wholesale natural gas supply and prices for September 2016.<sup>1</sup> OTRA’s current assessment of the natural gas market suggests that wholesale natural gas prices may remain around \$0.30 per therm during September 2016 (see Henry Hub Spot Price figure). Recent natural gas spot prices are up at least 5 percent compared to prices for the same period a year ago.



The Energy Information Administration (“EIA”) indicates that the average Henry Hub natural gas spot price for August 2016 was about \$0.28 per therm, unchanged from the average for the previous month of July.<sup>2</sup> In its Short-Term Energy Outlook (“STEO”) for September 2016, EIA indicates that **“[a] hot summer and production declines have put some upward pressure on natural gas prices, although prices remain low enough to support significant natural gas-fired generation. EIA expects natural gas prices to gradually rise through the**

<sup>1</sup> This assessment is based on information collected from various sources. Projecting future conditions is a difficult task at best, so these comments are subject to change as new information becomes available.

<sup>2</sup> EIA, *Short-Term Energy Outlook* (September 2016) at 7.

**forecast period. Forecast Henry Hub natural gas prices average [\$0.242 per therm] in 2016 and [\$0.287 per therm] in 2017.”<sup>3</sup>** Natural gas prices averaged \$0.263 per therm in 2015.

As of September 15, 2016, natural gas in storage stood at 3,499 billion cubic feet (“Bcf”). The working gas in storage is up 6 percent from the same period a year ago, and is up by about 9 percent compared to the 5-year average.

Commodity prices, together with the costs Washington Gas Light (“WGL”) incurs for storage, peaking, and balancing, have resulted in a lower retail price than what was experienced last year. Specifically, the costs WGL incurs to acquire and deliver natural gas to customers are reflected in WGL’s retail commodity price, called the Purchased Gas Charge (“PGC”).<sup>4</sup> The PGC for September 2016 is 43.68 cents (\$0.44) per therm, compared with 48.20 cents (\$0.48) per therm for the same period a year ago—down 9 percent. The PGC for September 2016 is down 15 percent from the previous month.

The major factors that contribute to this outlook are described below. These factors include the weather, the economy, the storage situation, the supply situation, and national security.

## **Weather**

Weather variations always have an effect on natural gas price formation. As of September 15, 2016, the National Oceanic and Atmospheric Administration (“NOAA”) indicated that its outlook for October generally calls for above normal temperatures across much of the nation, with the highest probabilities for the areas in the Southwest and New England.<sup>5</sup> Near or below normal temperatures may be possible for the South Central portion of the nation. The expected weather for October should be somewhat positive for natural gas prices.

On August 11, 2016, NOAA released its updated 2016 Atlantic Hurricane Outlook. In particular, NOAA indicates that a near-normal or above-normal hurricane season has increased to 85% (compared to 75% in May). The outlook calls for a 50% chance of a near-normal season, a 35% chance of an above-normal season, and a 15% chance of a below-normal season. NOAA states that this is a more challenging hurricane season outlook than most because it is difficult to determine whether there will be reinforcing or competing climate influences on tropical storm development. NOAA calls for a 70% probability for each of the following ranges of activity during the 2016 hurricane season: 12-17 named storms, which includes Alex in January; 5-8 hurricanes, which includes Alex in January; and 2-4 major hurricanes (rated at Category 3 or above, with a maximum sustained wind speed of at least 111 miles per hour). As of September 15, there have been eleven named storms and four hurricanes—one of which developed into a major hurricane. The Atlantic hurricane season generally runs from June 1 through November 30. Any significant storm-related disruption to the energy infrastructure—in the Gulf of Mexico,

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<sup>3</sup> Ibid at 7.

<sup>4</sup> The current Purchased Gas Charge reflects current market conditions and current collections. The current cost of gas (including commodity, demand, and other cost adjustments) reflects the seasonal market. Alternative suppliers’ newer fixed price offers should generally reflect the PGC benchmark, with anticipated price changes as well, over the next twelve months.

<sup>5</sup> NOAA at <http://www.cpc.ncep.noaa.gov/>.

for example—will tend to contribute to upward pressure on natural gas prices. Thus far, there have been no significant impact on the energy infrastructure.

## **Economic Conditions**

National economic factors also contribute to the formation of wholesale natural gas prices. The Federal Reserve’s Beige Book provides anecdotal information on current economic conditions from various regions—twelve Federal Reserve Districts—in the nation.<sup>6</sup> Reports from the twelve Districts suggest that national economic activity continued to expand at a modest pace during the reporting period of July through late August. Most regions reported a modest pace of overall growth. Contacts across the twelve Districts generally expect moderate economic growth in coming months. Overall consumer spending was little changed in most regions, and auto sales declined somewhat but remained at high levels. Manufacturing activity rose slightly in most Districts and activity in residential real estate markets grew at a moderate pace, but the pace of sales was constrained in a few regions by shortages of available homes. Commercial real estate activity expanded further. Labor market conditions remained tight in most Districts, with moderate payroll growth noted in general. Upward wage pressures increased further and were moderate on balance, with more rapid gains reported for workers with selected specialized skill sets. Thus, at present, the current state of economic activity may still be relatively neutral for natural gas prices.

## **Storage**

EIA reports that the working gas in storage was 3,499 Bcf as of September 9, 2016, a net increase of 62 Bcf from the previous week. Stocks were 184 Bcf higher than the same period a year ago—up 5.6 percent—and up 299 Bcf from the 5-year average of 3,200 Bcf—an increase of 9.3 percent.<sup>7</sup> EIA indicates that “[d]espite lower-than-average storage injections, EIA forecasts natural gas inventories to be 4,042 Bcf at the end of October 2016, which would be a record-high level for that time of year.”<sup>8</sup> Thus, the current storage picture suggests some downward pressure for natural gas prices.

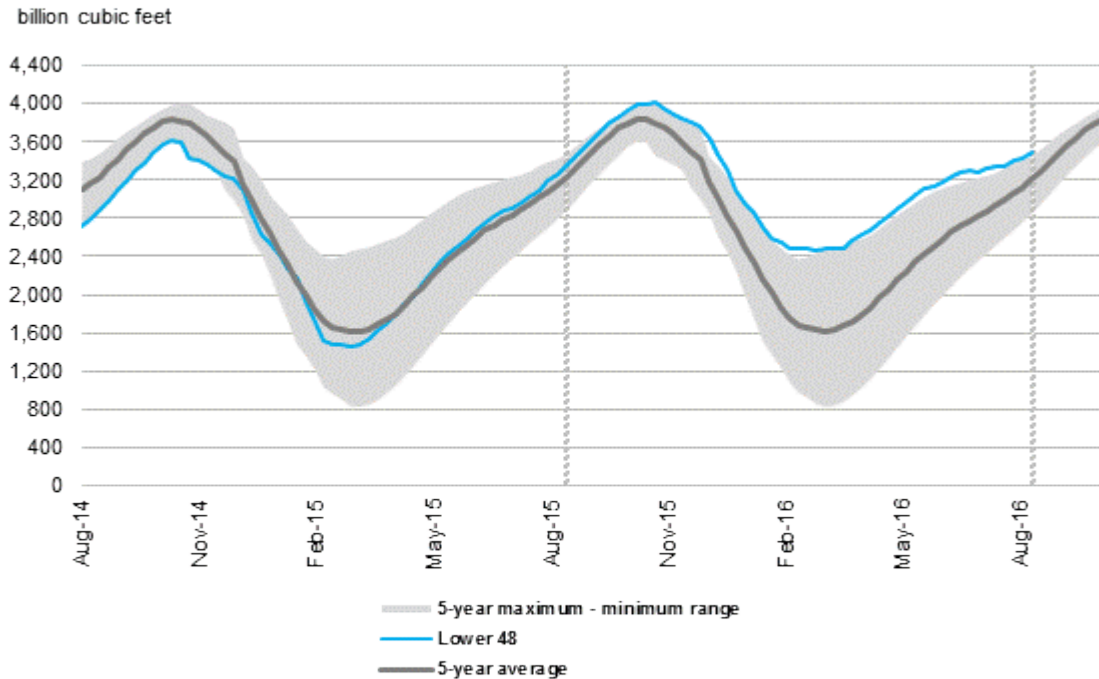
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<sup>6</sup> Beige Book (released September 7, 2016).

<sup>7</sup> EIA, *Weekly Natural Gas Storage Report* (released September 15, 2016).

<sup>8</sup> EIA, *STEO* (September 2016) at 7.

Working gas in underground storage compared with the 5-year maximum and minimum



Source: U.S. Energy Information Administration

Note: The shaded area indicates the range between the historical minimum and maximum values for the weekly series from 2011 through 2015. The dashed vertical lines indicate current and year-ago weekly periods.  
Source: EIA, *Weekly Natural Gas Storage Report* (released September 15, 2016)

## Supply

Flexibility in the nation’s domestic production has helped to soften upward price pressure, especially with the continued development of natural gas in shale formations. In the September 2016 STEO, EIA indicates that it forecast **“production increases in the second half of 2016 and through 2017 in response to forecast increases in prices and in liquefied natural gas (LNG) exports. Forecast natural gas production rises by 0.6% in 2016 and by 3.0% in 2017. Natural gas pipeline exports to Mexico have risen in 2016. EIA expects that growth to continue because of growing demand from Mexico’s electric power sector and because of flat natural gas production in Mexico. Gross pipeline exports are expected to increase by 0.7 Bcf/d in 2016 to an average of 5.6 Bcf/d before declining slightly in 2017. EIA projects that LNG gross exports will rise to an average of 0.5 Bcf/d in 2016, with the startup of Cheniere’s Sabine Pass LNG liquefaction plant in Louisiana, which sent out its first cargo in February 2016. Sabine’s second train is currently in the commissioning process. EIA projects that gross LNG exports will average 1.5 Bcf/d in 2017, as Sabine Pass ramps up capacity. With expected growth in gross exports, net imports of natural gas decline from 2.6 Bcf/d in 2015 to 0.2 Bcf/d in 2017. The United States is expected to become a net exporter of natural gas beginning in the second quarter of 2017.”**<sup>9</sup>

<sup>9</sup> EIA, *STEO* (September 2016) at 7.

## **National Security**

As noted in previous reports, we see little danger to the natural gas supply.<sup>10</sup> Most of the U.S. supply is secure, in that it is generally domestically produced or imported from Canada.

## **Future Natural Gas Prices**

The PGC rate of roughly \$0.44 per therm for September 2016 is down 15.2 percent from the previous month, and is down 9.4 percent compared to the same period a year ago.<sup>11</sup> The October 2016 PGC (assuming that the commodity market adjustment factor is zero) should be around \$0.47 per therm, based, in part, on the expectation that near-term NYMEX futures prices continue to trade between \$0.26 and \$0.31 per therm, among other things. OTRA's assessment of natural gas prices may be significantly different from actual market prices if: (i) there are significant variations in weather-related factors, (ii) crude oil prices change significantly, (iii) other substantial disruptions to the energy market occur, or (iv) certain cost-related assumptions are significantly different.

As always, investments in energy efficiency and conservation measures are important ways toward reducing energy consumption and lowering energy bills. Ratepayers are encouraged to invest in measures such as insulation, weather stripping, or replacing an old inefficient water heater and/or furnace. Finally, for those residential consumers whose budgets are severely challenged, arrangements for assistance should be made as soon as possible in anticipation of need. Contact either the District Department of the Environment's Energy Office or the D.C. Public Service Commission's Office of Consumer Services for advice and/or solutions as well as programs such as the Washington Area Fuel Fund (888-318-9233).

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<sup>10</sup> The Department of Homeland Security ("DHS") issued its last bulletin on June 15, 2016. The National Terrorism Advisory System, or NTAS, replaces the color-coded Homeland Security Advisory System.

<sup>11</sup> The commodity market adjustment factor for the September 2016 PGC was \$0.00 per therm, resulting in the adjusted PGC (excluding the commodity market adjustment factor ("CMAF")) being equal to \$0.4368 per therm.

# Wholesale Natural Gas Price/Supply Assessment Information

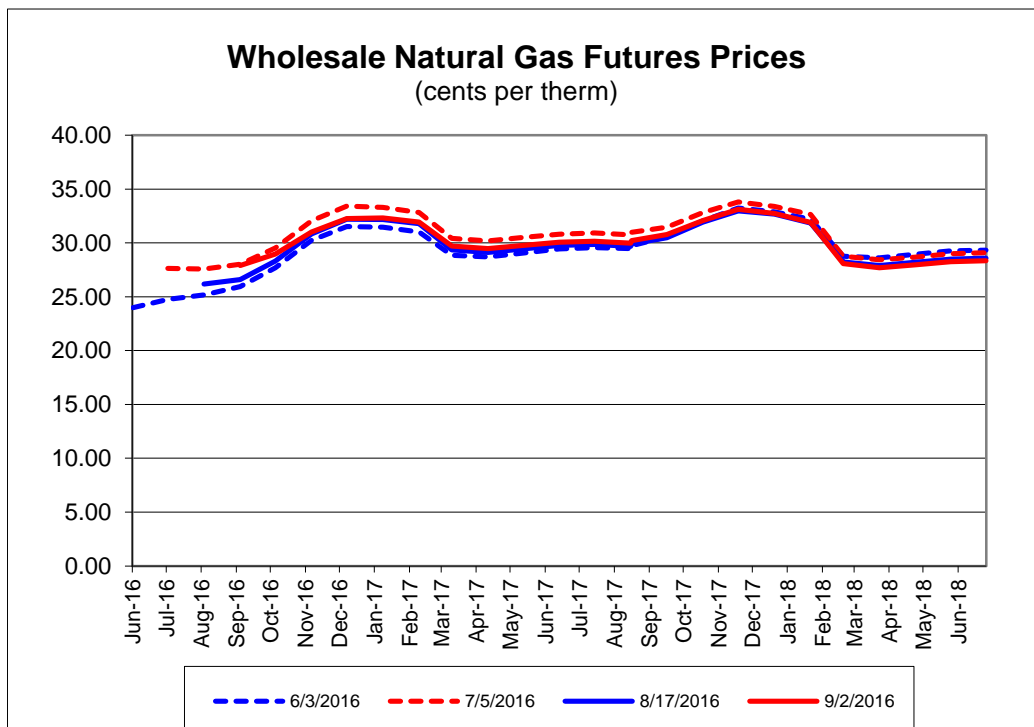
Current for September 2, 2016

## Price Information

Twelve Month NYMEX Strip Components  
9/2/16, cents per therm

Henry Hub Spot Market Price  
9/2/16, cents per therm

| <u>Current Month</u> | <u>Previous Month</u> | <u>Current Only Available</u> |
|----------------------|-----------------------|-------------------------------|
| Oct 16 27.92         | Oct 16 26.59          | 28.5                          |
| Nov 16 28.98         | Nov 16 28.32          |                               |
| Dec 16 31.01         | Dec 16 30.83          |                               |
| Jan 17 32.26         | Jan 17 32.20          |                               |
| Feb 17 32.34         | Feb 17 32.17          |                               |
| Mar 17 31.95         | Mar 17 31.78          |                               |
| Apr 17 29.72         | Apr 17 29.36          |                               |
| May 17 29.48         | May 17 29.12          |                               |
| Jun 17 29.78         | Jun 17 29.44          |                               |
| Jul 17 30.06         | Jul 17 29.76          |                               |
| Aug 17 30.15         | Aug 17 29.85          |                               |
| Sep 17 29.99         | Sep 17 29.69          |                               |



The current PGC for September 2016 is about \$0.44 per therm. Assuming, among other things, that near-term futures prices remain around \$0.26 to \$0.31 per therm, the PGC rate (excluding the commodity market adjustment factor) for October 2016 may be around \$0.47 per therm. However, given the uncertainty about the weather, as well as other factors, this assessment could easily change. The assessment for September 2016 is that wholesale prices may remain around \$0.30 per therm, resulting in wholesale prices that are at least 5 percent higher compared to year ago levels (see Market Conditions Summary).

### Weather Forecast

1. Current for next few days to one week:

<http://www.cnn.com/Weather/>  
<http://home.accuweather.com/>

2. National Oceanic and Atmospheric Administration Forecast for the Winter

<http://www.noaa.gov/>

3. U.S. Weather Service Atlantic Hurricane and Storm Reports

<http://www.nhc.noaa.gov/>

## Wholesale Natural Gas Market Conditions Summary September 16, 2016

| Factors               | Next Month | Summer Season |
|-----------------------|------------|---------------|
| Oil Prices            |            |               |
| Weather - Temperature |            |               |
| Weather - Hurricanes  |            |               |
| Economic Conditions   |            |               |
| Storage               |            |               |
| Natural Gas Supply    |            |               |
| National Security     |            |               |
| Overall               |            |               |

Code: Red - Upward Pressure

Blue - Downward pressure

Yellow - No Change

No color - Not Applicable  
N.A.