

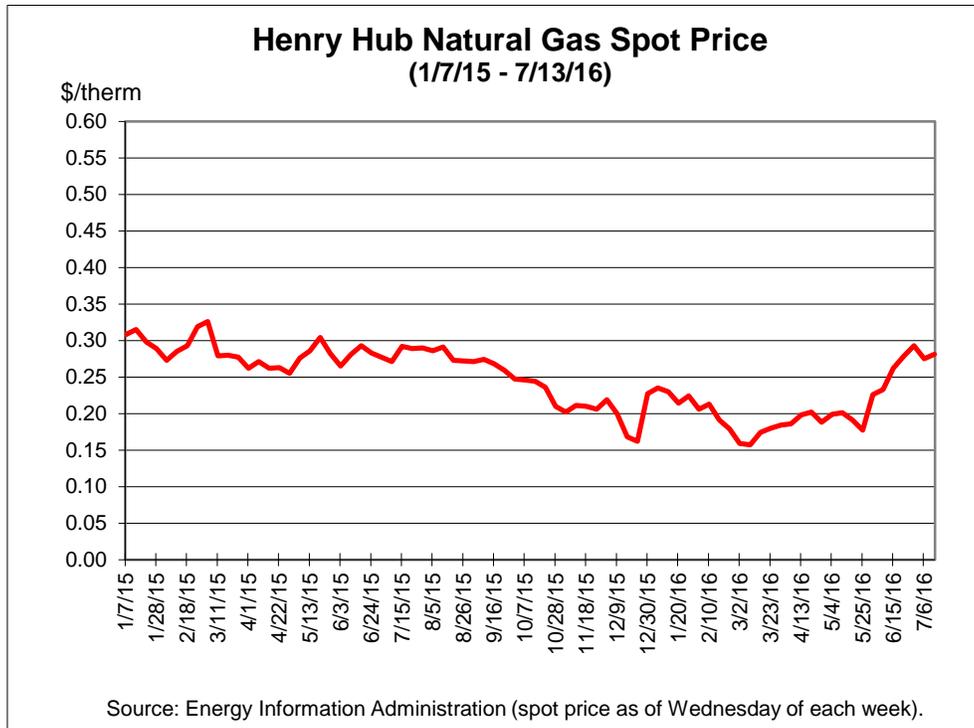
WHOLESALE NATURAL GAS MARKET ASSESSMENT

Wholesale Natural Gas Futures Prices as of July 5, 2016

by Roger Fujihara
Office of Technical and Regulatory Analysis

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 July 2016.¹ OTRA's current assessment of the natural gas market suggests that wholesale natural gas prices may remain less than \$0.30 per therm, or less, during July 2016 (see Henry Hub Spot Price figure). Recent natural gas spot prices are about the same as prices from the same period a year ago.



The Energy Information Administration ("EIA") indicates that the average Henry Hub natural gas spot price for June 2016 was about \$0.26 per therm, up from average of \$0.19 per therm for the previous month.² In its Short-Term Energy Outlook ("STEO") for July 2016, EIA indicates that it **"expects natural gas prices will gradually rise throughout the forecast period but remain lower than they were last summer. Forecast Henry Hub natural gas prices average [\$0.24 per therm] in 2016 and [\$0.30 per therm] in 2017."**³ Natural gas prices averaged \$0.263 per therm in 2015.

¹ 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.
² EIA, *Short-Term Energy Outlook* (July 2016) at 8.
³ Ibid at 8 and 9.

As of July 8, 2016, natural gas in storage stood at 3,243 billion cubic feet (“Bcf”). The working gas in storage is up 19 percent from the same period a year ago, and is up by about 22 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 higher 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”).⁴ The PGC for July 2016 is 51.50 cents (\$0.52) per therm, compared with 46.01 cents (\$0.46) per therm for the same period a year ago—up 12 percent. The PGC for July 2016 is up 8 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 June 30, 2016, the National Oceanic and Atmospheric Administration (“NOAA”) indicated that its outlook for August generally calls for above normal temperatures across most of the nation.⁵ The expected weather for August should be somewhat positive for natural gas prices.

As reported in the last Outlook, on May 27, 2016, NOAA released its 2016 Atlantic Hurricane Outlook. In particular, NOAA indicates that indicates that a near-normal hurricane season is most likely. The outlook calls for a 45% chance of a near-normal season, a 30% chance of an above-normal season, and a 25% 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: 10-16 named storms, which includes Alex in January; 4-8 hurricanes, which includes Alex in January; and 1-4 major hurricanes (rated at Category 3 or above, with a maximum sustained wind speed of at least 111 miles per hour). As of July 14, there have been four named storms—including Hurricane Alex in January 2016 and Tropical Storms Bonnie, Colin, and Danielle, which developed in May 2016 and June 2016, respectively. 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, 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.

⁴ 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.

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

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.⁶ Reports from the twelve regions indicate that economic activity continued to expand at a modest pace across most regions from mid-May through the end of June. Labor market conditions remained stable as employment continued to grow modestly since the previous report and wage pressures remained modest to moderate. Inflation pressures remained slight. Household spending was generally positive but with some signs of softening. Manufacturing activity was mixed but generally improved across Districts. Real estate activity continued to strengthen, and banks reported overall increases in loan demand. Districts reporting on overall growth expect it to remain modest. Thus, at present, the current state of economic activity may still be relatively neutral for natural gas prices.

Storage

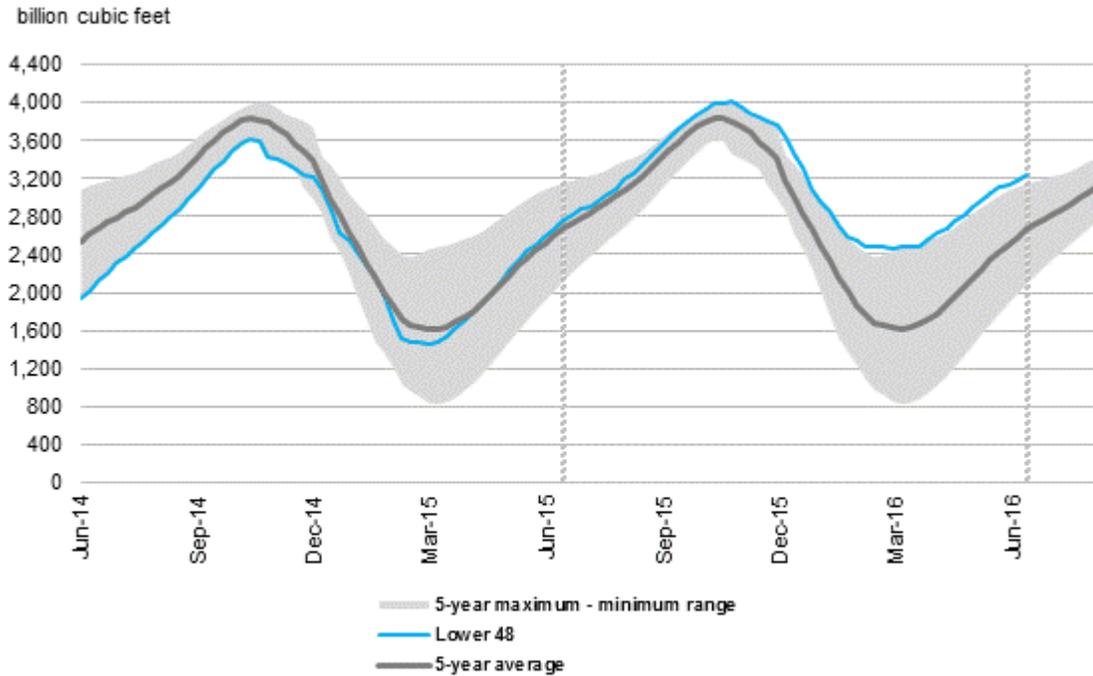
EIA reports that the working gas in storage was 3,243 Bcf as of July 8, 2016, a net increase of 64 Bcf from the previous week. Stocks were 507 Bcf higher than the same period a year ago—up 18.5 percent—and up 586 Bcf from the 5-year average of 2,657 Bcf—an increase of 22.1 percent.⁷ EIA indicates that working gas stocks **“in March ended at 2,492 Bcf, the highest end-of-withdrawal-season level on record. During May and June, injections have been somewhat lower than the previous five-year (2011–15) average. As of July 1, natural gas inventories were at 3,179 Bcf. Even with lower-than-average storage injections, EIA forecasts natural gas inventories to be 4,022 Bcf at the end of October 2016, which would be the highest level on record for that time of year.”**⁸ Thus, the current storage picture suggests some downward pressure for natural gas prices.

⁶ Beige Book (released July 13, 2016).

⁷ EIA, *Weekly Natural Gas Storage Report* (released July 14, 2016).

⁸ EIA, *STEO* (July 2016) at 8.

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 July 14, 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 July 2016 STEO, EIA indicates that it **“expects production to rise through 2016 and 2017 in response to forecast price increases and increases in liquefied natural gas (LNG) exports. Overall, EIA expects natural gas production to rise by 1.0% in 2016 and by 2.4% in 2017. Natural gas pipeline exports to Mexico have risen this year, and 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 before falling by 0.2 Bcf/d in 2017 to an average of 5.3 Bcf/d. EIA projects 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. EIA projects gross LNG exports will average 1.3 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, and the United States is expected to become a net exporter of natural gas during the second half of 2017.”**⁹

⁹ EIA, *STEO* (July 2016) at 8.

National Security

As noted in previous reports, we see little danger to the natural gas supply.¹⁰ 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 \$0.52 per therm for July 2016 is up 8.3 percent from the previous month, and is up 11.9 percent compared to the same period a year ago.¹¹ The August 2016 PGC (assuming that the commodity market adjustment factor is zero) should be around \$0.46 per therm, based, in part, on the expectation that near-term NYMEX futures prices continue to trade between \$0.25 and \$0.30 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).

¹⁰ The Department of Homeland Security ("DHS") issued a new bulletin on June 15, 2016. The National Terrorism Advisory System, or NTAS, replaces the color-coded Homeland Security Advisory System.

¹¹ The commodity market adjustment factor for the July 2016 PGC was \$0.07 per therm, resulting in the adjusted PGC (excluding the commodity market adjustment factor ("CMAF")) being equal to \$0.445 per therm. Last month, OTRA estimated a PGC, excluding the CMAF, of \$0.44 per therm.

Wholesale Natural Gas Price/Supply Assessment Information

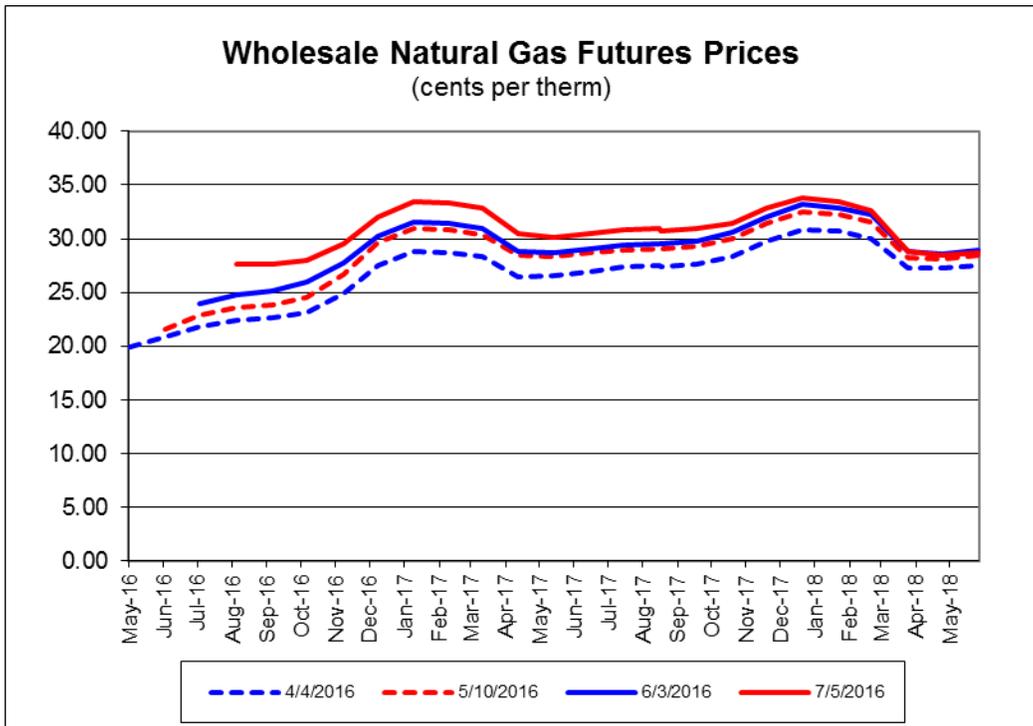
Current for July 5, 2016

Price Information

Twelve Month NYMEX Strip Components
7/5/16, cents per therm

Henry Hub Spot Market Price
7/5/16, cents per therm

<u>Current Month</u>	<u>Previous Month</u>	<u>Current Only Available</u>
Aug 16 27.64	Aug 16 24.76	28.2
Sep 16 27.58	Sep 16 25.17	
Oct 16 28.02	Oct 16 25.95	
Nov 16 29.55	Nov 16 27.70	
Dec 16 32.06	Dec 16 30.24	
Jan 17 33.41	Jan 17 31.52	
Feb 17 33.32	Feb 17 31.46	
Mar 17 32.84	Mar 17 31.01	
Apr 17 30.43	Apr 17 28.86	
May 17 30.19	May 17 28.72	
Jun 17 30.51	Jun 17 29.05	
Jul 17 30.82	Jul 17 29.45	



The current PGC for July 2016 is about \$0.52 per therm. Assuming, among other things, that near-term futures prices remain around \$0.25 to \$0.30 per therm, the PGC rate (excluding the commodity market adjustment factor) for August 2016 may be around \$0.46 per therm. However, given the uncertainty about the weather, as well as other factors, this assessment could easily change. The assessment for July 2016 is that wholesale prices may remain around \$0.30 per therm, or less, resulting in wholesale prices that are roughly the same 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 July 18, 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.