

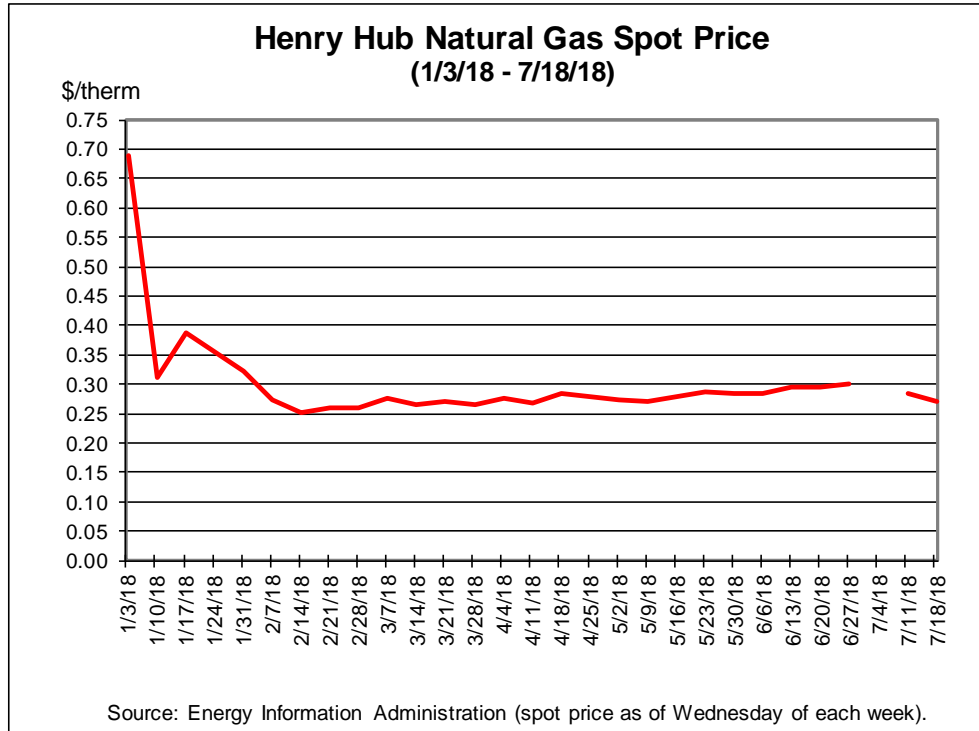
WHOLESALE NATURAL GAS MARKET ASSESSMENT

Wholesale Natural Gas Futures Prices as of August 3, 2018

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 August 3, 2018.¹ OTRA's current assessment of the natural gas market suggests that wholesale natural gas prices may remain around \$0.30 per therm during September 2018 (see Henry Hub Spot Price figure). Recent natural gas spot prices are at least 1 percent higher than prices for the same period a year ago.



Data from the Energy Information Administration ("EIA") indicates that the average Henry Hub natural gas spot price for July 2018 was about \$0.28 per therm, down from \$0.30 per therm in June 2018.² EIA expects natural gas prices, on average, to be fairly stable over the forecast period despite new natural gas export capabilities and growing domestic natural gas consumption—with electric power generation being a leading contributor. Henry Hub natural gas prices averaged about \$0.30 per therm in 2017 and the forecasted price is expected to average \$0.30 per therm in 2018 and \$0.31 per therm in 2019.³ As of August 3, 2018, natural

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, *Natural Gas Weekly Update* (various issues).
³ EIA, *Short-Term Energy Outlook* (August 2018) at 2.

gas in storage stood at 2,354 billion cubic feet (“Bcf”). The working gas in storage is down about 22 percent from the same period a year ago, and is down by roughly 20 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”).⁴ The PGC for August 2018 is 42.05 cents (\$0.42) per therm, compared with 62.97 cents (\$0.63) per therm for the same period a year ago—down about 33 percent. The PGC for August 2018 was unchanged 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 July 19, 2018, the National Oceanic and Atmospheric Administration (“NOAA”) indicated that its outlook for August through October 2018 favors above normal temperatures for the western portion of the nation and the Northeast.⁵ The expected weather for September may be somewhat neutral on natural gas prices.

On August 9, 2018, NOAA’s Climate Prediction Center released its updated forecast for the 2018 Atlantic Hurricane Season. NOAA now indicates that there is only a 40 percent chance of a near-normal to above-normal season. NOAA currently predicts a 70-percent likelihood of 9 to 13 named storms, of which 4 to 7 could develop into hurricanes, with only 2 of the potential hurricanes anticipated to become major hurricanes (Category 3 or higher), with winds of 111 miles per hour or more. An average hurricane season typically yields 12 named storms, of which 6 become hurricanes, including 3 major hurricanes.⁶ As of August 9, 2018, there have been 4 named storms, two of which developed into hurricanes. 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—can contribute to upward pressure on natural gas prices.

Economic Conditions

National economic factors also contribute to the formation of wholesale natural gas prices. The Federal Open Market Committee (“FOMC”) maintained its target range for short-term interest rates at a still relatively low 1-3/4 to 2 percent.⁷ **“Information received since the**

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/>.

⁶ Ibid.

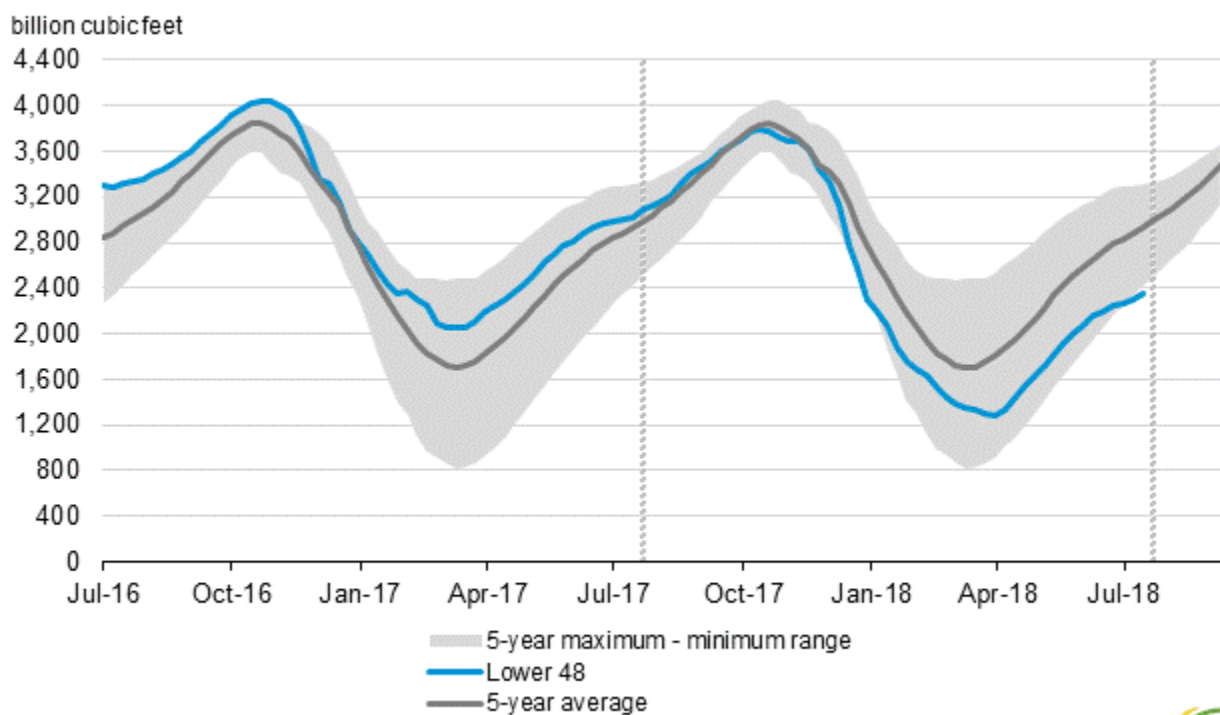
⁷ Statement of the Federal Open Market Committee (released August 1, 2018).

Federal Open Market Committee met in June indicates that the labor market has continued to strengthen and that economic activity has been rising at a strong rate. Job gains have been strong, on average, in recent months, and the unemployment rate has stayed low. Household spending and business fixed investment have grown strongly. On a 12-month basis, both overall inflation and inflation for items other than food and energy remain near 2 percent. Indicators of longer-term inflation expectations are little changed, on balance.”⁸ 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 2,354 Bcf as of August 3, 2018, a net increase of 46 Bcf from the previous week. Stocks were 671 Bcf lower than the same period a year ago—down 22.2 percent—and down 572 Bcf from the 5-year average of 2,926 Bcf—a decrease of 19.5 percent.⁹

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 2013 through 2017. The dashed vertical lines indicate current and year-ago weekly periods.

Source: EIA, *Weekly Natural Gas Storage Report* (released August 9, 2018)

The natural gas storage refill season typically begins on April 1, but continued colder-than-normal temperatures throughout most of the Lower 48 states resulted in withdrawals from storage during the first three weeks of April—the first time that EIA’s Weekly Natural Gas Storage Report, which began in 1994, reported that net withdrawals from storage continued into

⁸ Ibid.

⁹ EIA, *Weekly Natural Gas Storage Report* (released August 9, 2018).

the third week of April.¹⁰ EIA notes that “[t]he average rate of net injections into storage is **18% lower than the five-year average so far in the 2018 refill season. If working gas stocks match the five-year average rate of injections of 10.0 Bcf/d for the remainder of the refill season, inventories will total 3,243 Bcf on October 31, which is 317 Bcf lower than the five-year low of 3,560 Bcf.**”¹¹ The current storage picture may support some upward pressure on natural gas prices.

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 August 2018 Short-Term Energy Outlook (“STEO”), EIA notes that **“dry natural gas production will average 81.1 Bcf/d in 2018, up by 7.5 Bcf/d from 2017 and establishing a new record high. EIA expects natural gas production will rise again in 2019 to 84.1 Bcf/d.... Increasing natural gas production in the United States and the completion of new pipelines that carry U.S. natural gas to demand centers in Mexico contribute to the expected increase. In June, two new pipelines in Mexico were placed in service that will distribute natural gas from the United States to destinations in Mexico.”**¹² EIA goes on to say that **“[d]espite the record-high natural gas power burn and relatively low natural gas inventory levels, record-high natural gas production growth could be keeping prices from rising. EIA estimates that U.S. dry natural gas production reached 81.8 Bcf per day (Bcf/d) during July 2018, a year-over-year increase of 8.4 Bcf/d (11%). March through July saw the largest year-on-year increases in natural gas production on record, as drilling productivity improvements contributed to accelerated production growth.”**¹³

National Security

As noted in previous reports, we see little danger to the natural gas supply.¹⁴ 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 \$0.42 per therm for August 2018 is unchanged from the previous month, and is down 33.2 percent compared to the same period a year ago.¹⁵ The September 2018 PGC (assuming that the commodity market adjustment factor is zero) may

¹⁰ EIA, *Short-Term Energy Outlook* (July 2018) at 12.

¹¹ EIA, *Natural Gas Weekly Update* (release August 9, 2018).

¹² EIA, *STEO* (August 2018) at 1 and 2.

¹³ *Ibid* at 8.

¹⁴ The Department of Homeland Security (“DHS”) recently issued an advisory bulletin on May 9, 2018. However, this appears to repeat the expired advisory bulletin from November 9, 2017, which highlighted the continuing threat from homegrown terrorists, many of whom are inspired online to violence by foreign terrorist organizations. The bulletin went on to indicate that an informed, vigilant, and engaged public remains one of the greatest assets to identify potential homegrown terrorists and prevent attacks. The National Terrorism Advisory System, or NTAS, replaces the color-coded Homeland Security Advisory System.

¹⁵ The commodity market adjustment factor for the August 2018 PGC was -\$0.03 per therm, resulting in the adjusted PGC (excluding the commodity market adjustment factor (“CMAF”)) being equal to \$0.4505 per therm.

remain around \$0.45 per therm, based, in part, on the expectation that near-term NYMEX futures prices trade between \$0.27 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).

Wholesale Natural Gas Price/Supply Assessment Information

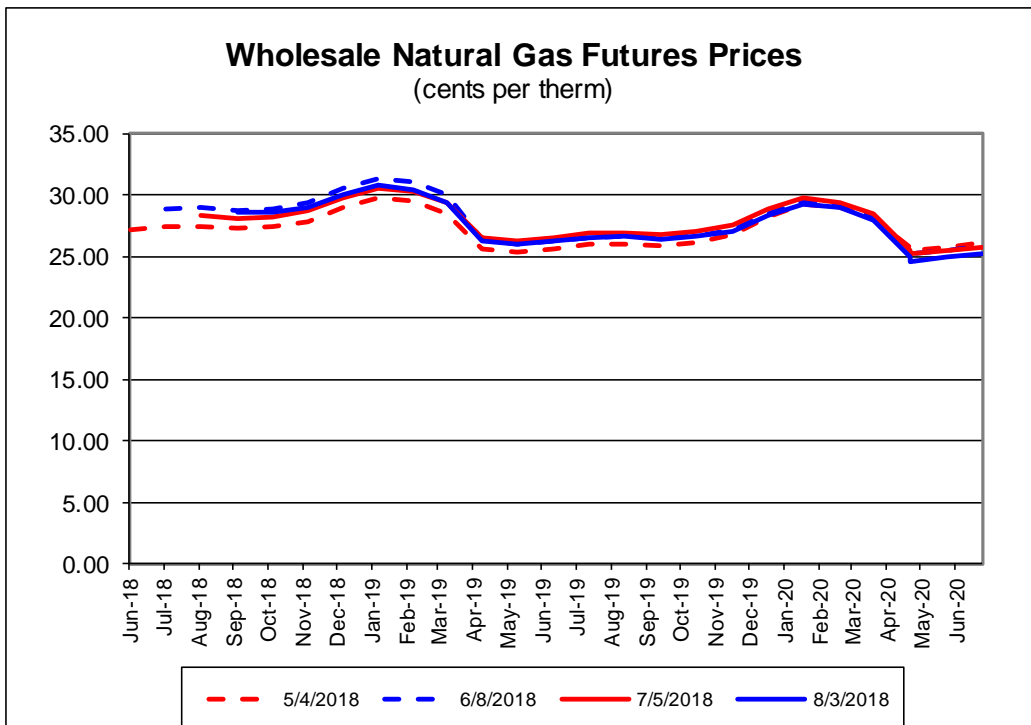
Current for August 3, 2018

Price Information

Twelve Month NYMEX Strip Components
8/3/18, cents per therm

Henry Hub Spot Market Price
8/3/18, cents per therm

	<u>Current Month</u>	<u>Previous Month</u>	<u>Current Only Available</u>
Sep 18	28.53	Sep 18 28.12	28.4
Oct 18	28.62	Oct 18 28.22	
Nov 18	28.98	Nov 18 28.70	
Dec 18	29.98	Dec 18 29.78	
Jan 19	30.82	Jan 19 30.59	
Feb 19	30.45	Feb 19 30.25	
Mar 19	29.41	Mar 19 29.32	
Apr 19	26.26	Apr 19 26.55	
May 19	25.95	May 19 26.28	
Jun 19	26.24	Jun 19 26.57	
Jul 19	26.57	Jul 19 26.87	
Aug 19	26.62	Aug 19 26.96	



The current PGC for August 2018 is about \$0.4205 per therm. Assuming, among other things, that near-term futures prices are around \$0.27 to \$0.30 per therm, the PGC rate (excluding the commodity market adjustment factor) for September 2018 may remain around \$0.45 per therm. However, given the uncertainty about the weather, as well as other factors, this assessment could easily change. The assessment for September 2018 is that wholesale prices may remain around \$0.30 per therm, or less, resulting in wholesale prices that are comparable 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 August 10, 2018

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 - N.A.
Not Applicable