

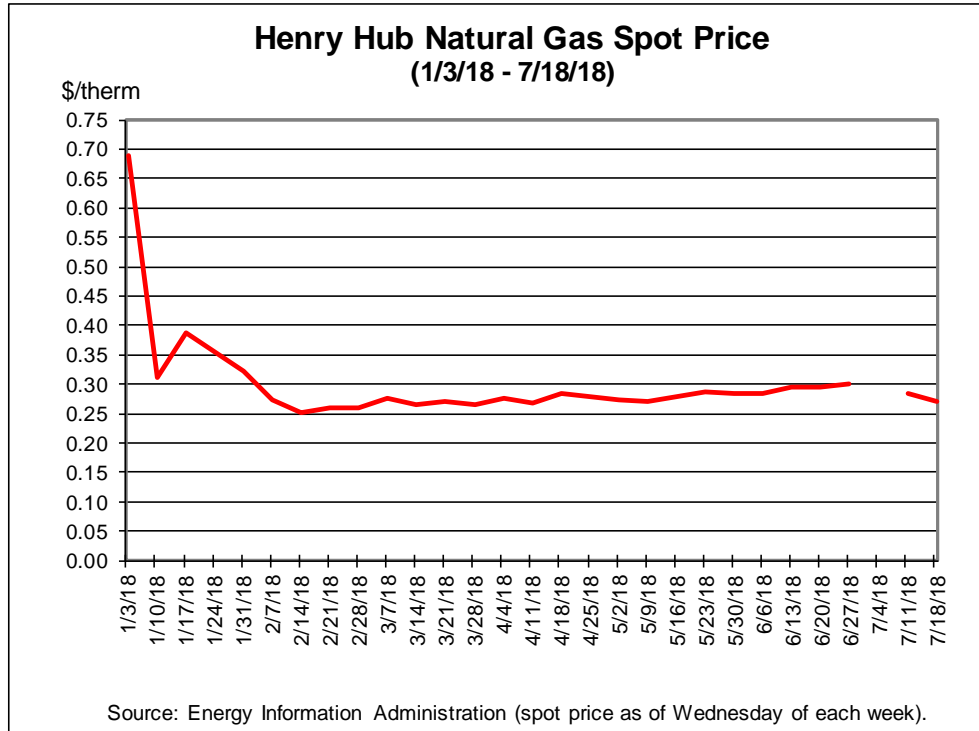
WHOLESALE NATURAL GAS MARKET ASSESSMENT

Wholesale Natural Gas Futures Prices as of July 5, 2018

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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 July 5, 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 August 2018 (see Henry Hub Spot Price figure). Recent natural gas spot prices are around 5 percent lower 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 June 2018 was about \$0.30 per therm, up from \$0.28 per therm in May 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 \$0.30 per therm in 2019.³ As of July 13, 2018, natural gas

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* (July 2018) at 2.

in storage stood at 2,249 billion cubic feet (“Bcf”). The working gas in storage is down about 24 percent from the same period a year ago, and is down by roughly 19 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 July 2018 is 42.05 cents (\$0.42) per therm, compared with 61.17 cents (\$0.61) per therm for the same period a year ago—down about 31 percent. The PGC for July 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 2018 favors above normal temperatures for the northwestern portion of the nation, southern areas of Texas, Louisiana, and Florida, and the Northeast.⁵ The expected weather for August may be somewhat neutral on natural gas prices.

As noted in a previous Outlook, on May 24, 2018, NOAA’s Climate Prediction Center released its forecast for the 2018 Atlantic Hurricane Season. NOAA indicates that there is a 75 percent chance of a near-normal to above-normal season. In particular, NOAA predicts a 70-percent likelihood of 10 to 16 named storms, of which 5 to 9 could develop into hurricanes. About 1 to 4 of the potential hurricanes could 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 July 23, 2018, there have been 3 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 Reserve’s Beige Book provides anecdotal information on current economic conditions from various regions—twelve Federal Reserve Districts—in the nation.⁷ The report

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.

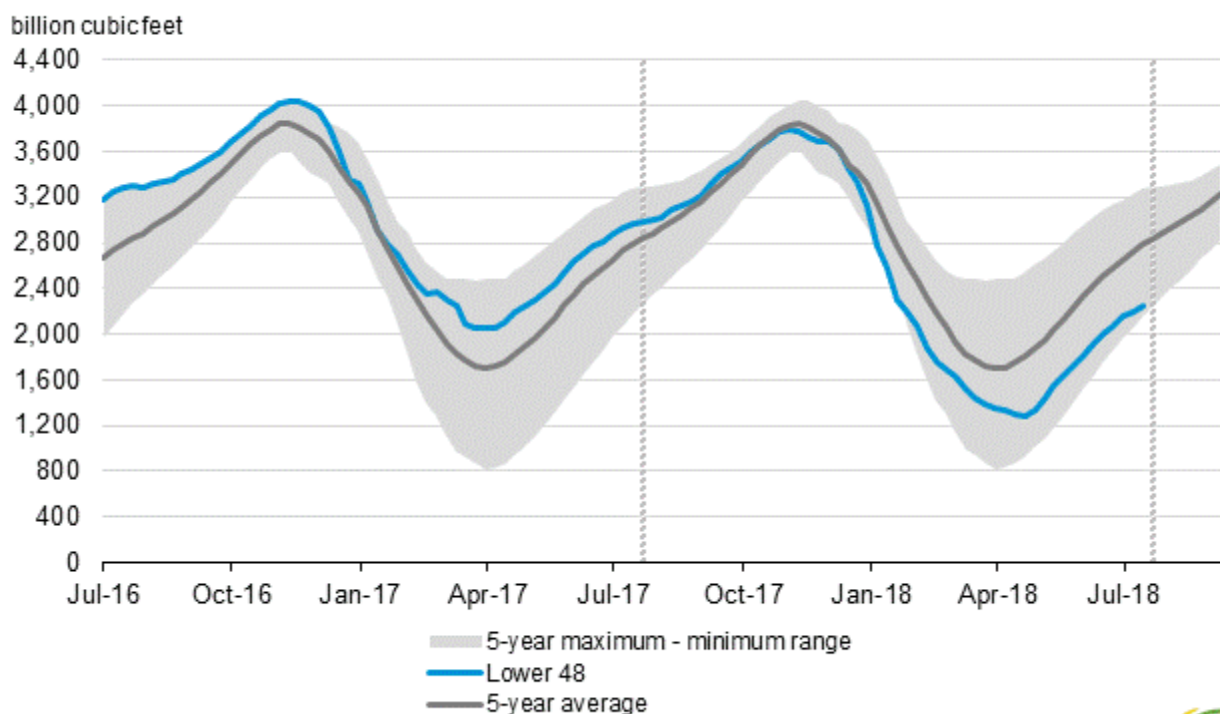
⁷ Beige Book (released July 18, 2018).

was based on information collected on or before July 9, 2018 and indicates that economic activity continued to expand across the U.S., with 10 of the 12 regions reporting moderate or modest growth. Manufacturers in all Districts expressed concern about trade tariffs and many regions reported higher prices and supply disruptions that they attributed to the new trade policies. All Districts reported that labor markets were tight and many said that the inability to find workers constrained growth. Consumer spending was up in all regions. Contacts in several Districts reported slow growth in existing home sales but were not overly concerned about rising interest rates. 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 2,249 Bcf as of July 13, 2018, a net increase of 46 Bcf from the previous week. Stocks were 710 Bcf lower than the same period a year ago—down 24.0 percent—and down 535 Bcf from the 5-year average of 2,784 Bcf—a decrease of 19.2 percent.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 2013 through 2017. The dashed vertical lines indicate current and year-ago weekly periods.

Source: EIA, *Weekly Natural Gas Storage Report* (released July 19, 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 EIA, *Weekly Natural Gas Storage Report* (released July 19, 2018).

the third week of April.⁹ Based on EIA’s forecast of rising production, natural gas inventories are expected to increase at the five-year average rate of growth during the current injection season (April–October) to reach 3.5 trillion cubic feet by October 31, which would be 9 percent lower than the five-year average for the end of October.¹⁰ 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 July 2018 Short-Term Energy Outlook (“STEO”), EIA notes that **“dry natural gas production will average 81.3 Bcf/d in 2018, an 11% increase from 2017 levels. In 2019, production is expected to rise by another 4%, averaging 84.5 Bcf/d for the year. The expected growth in natural gas production is largely in response to improved drilling efficiency and cost reductions, as well as higher crude oil prices that contribute to higher associated gas production from oil-directed rigs. Forecast natural gas production growth is supported by planned expansions in liquefied natural gas (LNG) and pipeline exports. The United States was a net exporter of natural gas in the first quarter of 2018, with net exports averaging 0.5 Bcf/d. Rising LNG exports and pipeline exports have contributed to a shift from the United States being a net importer of natural gas as recently as the first quarter of 2017.... U.S. net natural gas pipeline imports from Canada decreased from 2016 to 2017, in part because of the increasing U.S. exports to Canada, particularly from the U.S. Northeast. This decrease in net imports is expected to continue as the Rover and NEXUS pipelines begin to deliver additional supplies of low-cost natural gas from the Appalachia basin to the markets in the U.S. Midwest (previously served by Canadian natural gas) and eastern Canada.”**¹¹

National Security

As noted in previous reports, we see little danger to the natural gas supply.¹² 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 July 2018 is unchanged from the previous month, and is down 31.3 percent compared to the same period a year ago.¹³ The August 2018

⁹ EIA, *Short-Term Energy Outlook* (July 2018) at 12.

¹⁰ Ibid.

¹¹ EIA, *STEO* (July 2018) at 11 and 12.

¹² 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.

¹³ The commodity market adjustment factor for the July 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.

PGC (assuming that the commodity market adjustment factor is zero) may 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

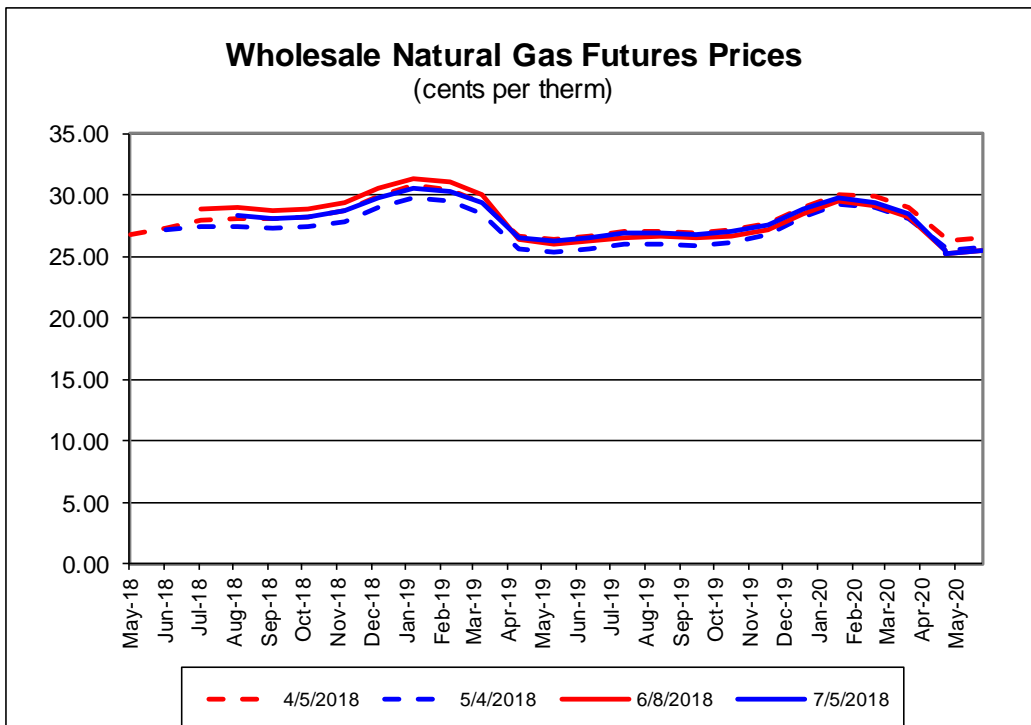
Current for July 5, 2018

Price Information

Twelve Month NYMEX Strip Components
7/5/18, cents per therm

Henry Hub Spot Market Price
7/5/18, cents per therm

	<u>Current Month</u>		<u>Previous Month</u>		<u>Current Only Available</u>
Aug 18	28.37		Aug 18	28.94	28.6
Sep 18	28.12		Sep 18	28.76	
Oct 18	28.22		Oct 18	28.90	
Nov 18	28.70		Nov 18	29.37	
Dec 18	29.78		Dec 18	30.47	
Jan 19	30.59		Jan 19	31.33	
Feb 19	30.25		Feb 19	31.02	
Mar 19	29.32		Mar 19	30.04	
Apr 19	26.55		Apr 19	26.37	
May 19	26.28		May 19	25.95	
Jun 19	26.57		Jun 19	26.22	
Jul 19	26.87		Jul 19	26.53	



The current PGC for July 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 August 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 August 2018 is that wholesale prices may remain around \$0.30 per therm, or less, resulting in wholesale prices that are at least 5 percent lower 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 23, 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