

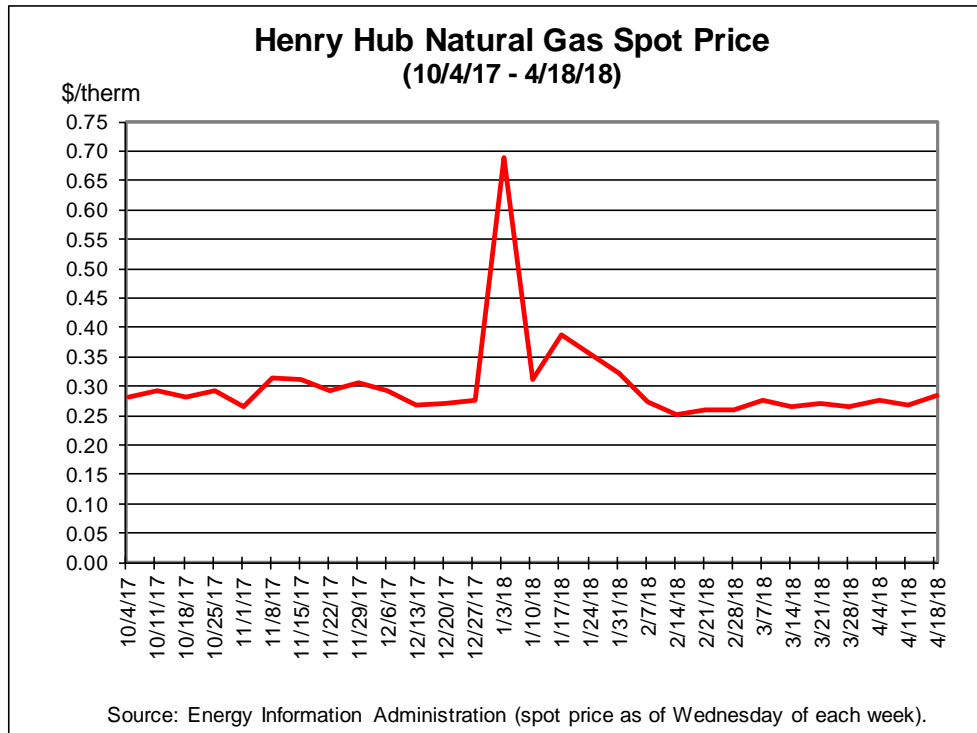
WHOLESALE NATURAL GAS MARKET ASSESSMENT

Wholesale Natural Gas Futures Prices as of April 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 April 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, or less, during May 2018 (see Henry Hub Spot Price figure). Recent natural gas spot prices are down at least 7 percent from 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 March 2018 was about \$0.27 per therm, relatively unchanged from February 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

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* (April 2018) at 2.

As of April 13, 2018, natural gas in storage stood at 1,299 billion cubic feet (“Bcf”). The working gas in storage is down about 38 percent from the same period a year ago, and is down by over 26 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 April 2018 is 43.67 cents (\$0.44) per therm, compared with 55.74 cents (\$0.56) per therm for the same period a year ago—down about 22 percent. The PGC for April 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 April 19, 2018, the National Oceanic and Atmospheric Administration (“NOAA”) indicated that its outlook for May 2018 favors above normal temperatures for the Southwest and the lower half of Florida.⁵ Below normal temperatures are likely for the Northern High Plains—primarily Montana and North Dakota. The expected weather for May should be generally neutral 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.⁶ Reports from all 12 Federal Reserve Districts indicated that economic activity continued to expand at a moderate pace in March and early April. Outlooks generally remained positive, but concerns in various sectors including manufacturing, agriculture, and transportation expressed concern about the newly imposed and/or proposed tariffs. Household spending rose in most regions, with gains noted for non-auto retail sales and tourism, but mixed results for vehicle sales. Residential construction and real estate activity expanded further, although low home inventories continued to constrain sales in several Districts. Widespread employment growth continued, with most regions characterizing growth as modest to moderate, but labor markets across the country remained tight, restraining job gains in some Districts. Reports of labor were most often cited in high-skill positions, including engineering, information technology, and health care, as well as in construction and transportation. Businesses were responding to labor shortages in a variety of

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/>.

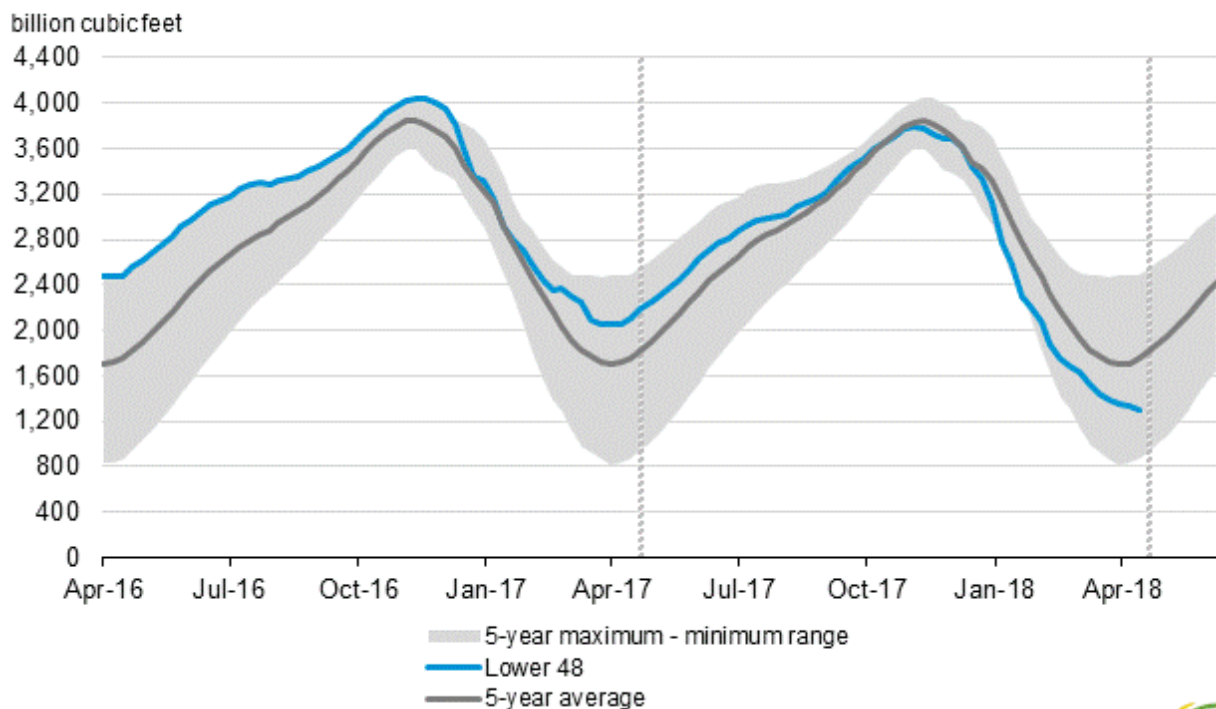
⁶ Beige Book (released April 18, 2018).

ways, from raising pay to enhancing training to increasing their use of overtime and/or automation, among other strategies. Upward wage pressures persisted but generally did not escalate; most regions reported wage growth as only modest. Prices increased across all Districts, generally at a moderate pace.⁷ 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 1,299 Bcf as of April 13, 2018, a net decrease of 36 Bcf from the previous week. Stocks were 808 Bcf lower than the same period a year ago—down 38.3 percent—and down 449 Bcf from the 5-year average of 1,748 Bcf—a decrease of 25.7 percent.⁸ The natural gas storage refill season typically begins on April 1, however, continued colder-than-normal temperatures throughout most of the Lower 48 states have resulted in withdrawals from storage into mid-April.⁹ Based on a forecast of rising production, EIA forecasts that natural gas inventories will increase by more than the five-year average rate of growth during the injection season (April–October) to reach almost 3.8 trillion cubic feet on October 31, which would be about 2 percent lower than the previous five-year average.¹⁰ Thus, the current storage picture should be neutral for natural gas prices.

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 April 19, 2018)

⁷ Ibid.

⁸ EIA, *Weekly Natural Gas Storage Report* (released April 19, 2018).

⁹ EIA, *Natural Gas Weekly Update* (released April 19, 2018).

¹⁰ EIA, *Short-Term Energy Outlook* (April 2018) at 2.

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 April 2018 Short-Term Energy Outlook ("STEO"), EIA notes that **"U.S. dry natural gas production averaged 73.6 billion cubic feet per day (Bcf/d) in 2017. EIA forecasts dry natural gas production will average 81.1 Bcf/d in 2018, establishing a new record. EIA expects natural gas production will rise by 1.7 Bcf/d in 2019. Growing U.S. natural gas production is expected to support both growing domestic consumption and increasing natural gas exports in the forecast."**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 \$0.44 per therm for April 2018 is unchanged from the previous month, and is down 21.7 percent compared to the same period a year ago.¹³ The May 2018 PGC (assuming that the commodity market adjustment factor is zero) may be around \$0.43 per therm, based, in part, on the expectation that near-term NYMEX futures prices trade between \$0.25 and \$0.28 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).

¹¹ EIA, *STEO* (April 2018) at 1.

¹² The Department of Homeland Security ("DHS") issued its last advisory bulletin on 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 April 2018 PGC was \$0.02 per therm, resulting in the adjusted PGC (excluding the commodity market adjustment factor ("CMAF")) being equal to \$0.4167 per therm.

Wholesale Natural Gas Price/Supply Assessment Information

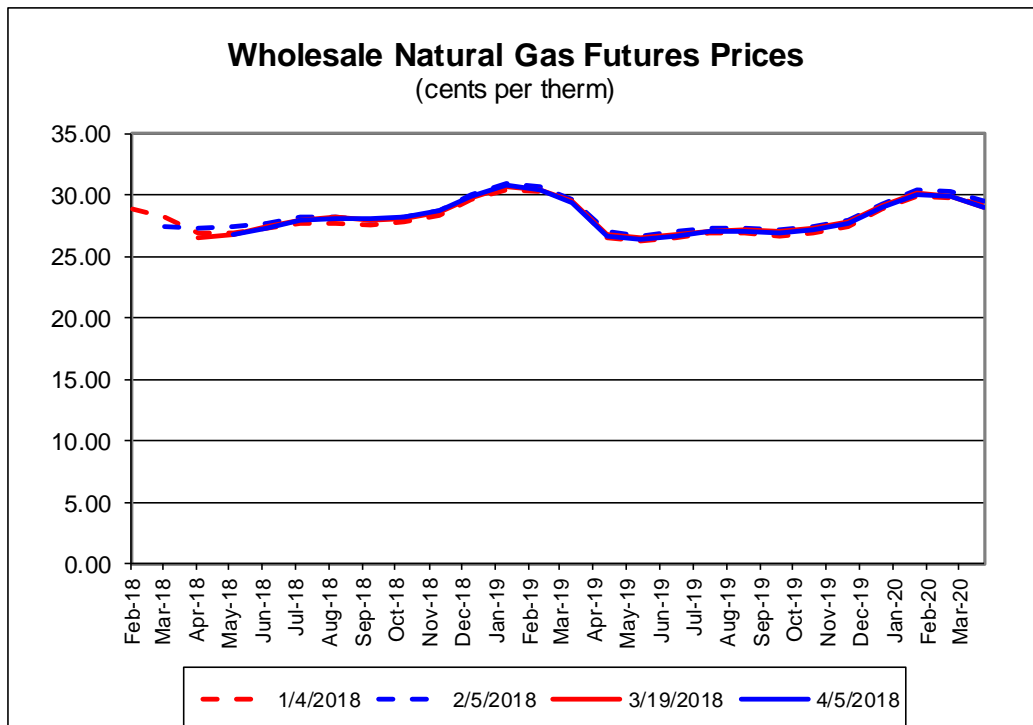
Current for April 5, 2018

Price Information

Twelve Month NYMEX Strip Components
4/5/18, cents per therm

Henry Hub Spot Market Price
4/5/18, cents per therm

<u>Current Month</u>	<u>Previous Month</u>	<u>Current Only Available</u>
May 18 26.75	May 18 26.78	27.7
Jun 18 27.29	Jun 18 27.36	
Jul 18 27.91	Jul 18 27.95	
Aug 18 28.12	Aug 18 28.13	
Sep 18 28.03	Sep 18 27.98	
Oct 18 28.17	Oct 18 28.10	
Nov 18 28.65	Nov 18 28.59	
Dec 18 29.91	Dec 18 29.80	
Jan 19 30.75	Jan 19 30.66	
Feb 19 30.42	Feb 19 30.36	
Mar 19 29.35	Mar 19 29.45	
Apr 19 26.67	Apr 19 26.83	



The current PGC for April 2018 is about \$0.44 per therm. Assuming, among other things, that near-term futures prices are around \$0.25 to \$0.28 per therm, the PGC rate (excluding the commodity market adjustment factor) for May 2018 may remain around \$0.43 per therm. However, given the uncertainty about the weather, as well as other factors, this assessment could easily change. The assessment for May 2018 is that wholesale prices may remain around \$0.30 per therm, or less, resulting in wholesale prices that are at least 7 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 April 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 - Not Applicable
 N.A.