

Natural Gas Market Indicators



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Reported Prices – crude oil rose to its highest level since 2014 with the latest increment of upward movement attributed in part to events in Syria and more broadly in the Middle East. As of April 12, Brent stood at \$71.85 per barrel, and West Texas Intermediate was \$66.70. With politics and tweets influencing oil commodity prices, it is perhaps refreshing to realize that natural gas futures at Henry Hub have stubbornly remained in the \$2.60s per MMBtus in recent days, an illustration that the North American gas market remains largely insulated from geopolitical events—at least for now.

Weather – even though the last three weeks of March were colder than normal for the country, the six-month period October 2017 through March 2018 ended up 6.2 percent warmer than normal based on gas-weighted heating degree days. This deviation still falls short of October 2016 to March 2017, which was more than 18 percent warmer. In fact, the past three winter heating seasons have been warmer than normal. One must go back to the 2013-14 winter (polar vortex) to find a significantly colder-than-normal winter heating season for the lower-48 states. According to data from the National Oceanic and Atmospheric Administration, cumulatively heating degree day data since October shows every region of the continental US to have been warmer than normal, with the warmest conditions in the West South Central, Mountain, and Pacific regions.

Working Gas in Underground Storage – even with a cool end to March and what seemed to be a late start to Spring for much of the country, inventories during the last four days of March posted small net *injections* into underground storage, according to S&P Global. Net withdrawals from underground storage have not exceeded triple digits per week since mid-February. Withdrawals slowed to only 29 Bcf for the week ending March 30; inventories fell another 19 Bcf for the week ending April 6. At 1,335 Bcf for underground storage inventories, volumes are running 35.2 percent behind this time last year and 21.9 percent behind the five-year average. Every region of the country individually is at a deficit to the five-year average and inventories compared to last year as well.

Natural Gas Production – two weeks after a record-setting production day, a new high has been set again as S&P Global reported 78.9 Bcf US dry gas production on Monday, April 9, 2018. Lower-48 dry gas production for the first two weeks of April has averaged 78.2 Bcf per day, which is a substantial 7.0 Bcf per day higher than in April 2017. The largest share of recent production increases has tended to originate from the Utica, Marcellus, Haynesville, and Permian shales. Also during the first quarter of 2018, the Energy Information Administration published expectations for continued increases in 2018 that will take domestic daily production above 80 Bcf by year-end and even above 85 Bcf per day by December 2019.

Shale Gas – rail transportation is picking up the slack for oil transport as liquids production in the Permian basin appears to be outrunning pipeline takeaway capacity. It is a familiar story as

infrastructure often trails the development of the resource as production increases even in an area used to hydrocarbon development. Part of the story in the Permian is associated gas, which is coming on strong too. Some analysis has indicated negative pricing for natural gas in the area because of the lack of gas takeaway capacity. Flaring and certainly venting methane to the atmosphere are less and less popular with regulators in states where this dynamic is occurring. An oil producer might need to pay to have the gas moved to produce oil.

Rig Count – US drilling activity has passed the 1,000-rig threshold as of April 6, the first time rig counts were in four-digit territory since April 2015. Combined oil- and gas-directed rigs in operation now total 1,003, with an 80-20 oil-to-gas split. Horizontal drilling rigs now account for 88 percent of all activity, the highest ever recorded in Baker Hughes' data.

Pipeline Imports and Exports – imports from Canada are averaging 5.8 Bcf per day this April, which is 0.9 Bcf higher than the average in April 2017. At points farther south, US is flowing about 4.2 Bcf per day of pipeline gas to Mexico—0.1 Bcf per day higher month over month in 2017. Finally, it's worth noting that combined export-related demand broke through the 8.0 Bcf for the first time on April 8, representing 8.5 percent of total US natural gas consumption for the day.

LNG Markets – commissioning operations have transitioned to normal commercial service at Cove Point LNG beginning March 31. The Gemmata LNG carrier was back from Britain and sitting off Virginia Beach on April 1 presumably to make the sail up the Chesapeake Bay for another cargo. East coast LNG exports are underway. Total feedgas for LNG export hit 3.8 Bcf per day in early April (contributing to the 8 Bcf of total exported-related demand reported earlier); this month, LNG feedgas has averaged 3.5 Bcf per day, up 60 percent year over year. Interestingly, sendout volumes from LNG import terminals have contributed about 0.7 Bcf per day on average to supplies this April.

Natural Gas Market Summary – we exit the winter heating season noting the following. One: Non-export demand for US natural gas is 91 Bcf on average since January, a 10 percent increase year over year, bolstered by colder weather but also upward trends in power generation and industrial gas consumption. Two: With an additional 1.5 Bcf per day of export-related demand, total US gas consumption has been 98.4 Bcf since January—just a shade under 100 Bcf, which is remarkable. Three: Supplies are booming as dry gas production continually hits new daily records. EIA, in its Short-Term Energy Outlook, projects more than 80 Bcf of dry gas produced daily by year end. Four: New infrastructure is going into the ground. New pipelines may expand Appalachian take-away capacity alone by 14 Bcf per day by the end of 2019. These projects will be critical in relieving upstream constraints in rapidly expanding production areas like the Northeast and West Texas.

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