

Natural Gas Market Indicators



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Reported Prices – equity markets took a dip in early February as did oil and natural gas commodity prices. That was reported in the last *Market Indicators*. Since then West Texas Intermediate crude has rebounded to near \$63.60 per barrel and Brent is above \$67. Henry Hub futures for natural gas have remained in the \$2.60s per MMBtu, not bouncing back as aggressively as oil during the last week of February.

Weather – in the 20 weeks between the beginning of October 2017 and mid-February 2018 the nation saw 14 weeks of warmer than normal temperatures in the lower-48 states and six weeks of colder than normal conditions. The aggregate deviation from the norm has been 6.7 percent warmer than normal with all regions warmer, particularly the Mountain and Pacific regions. Every month of the current winter heating season has been significantly or slightly warmer than normal, also.

Working Gas in Underground Storage – the storage withdrawal of 124 Bcf for the week ending February 16 was larger than last year's volume at this time but lower than the five-year average of 145 Bcf. Still, current inventories at 1,760 Bcf are trailing last year by 25.7 percent and the five-year average by 19 percent. So, will there be enough gas in storage to manage requirements for the balance of the winter heating season? Almost certainly, yes. For the past five winter seasons net withdrawals from underground storage in aggregate during the last six weeks (mid-February to the end of March) have been less than 300 Bcf to about 700 Bcf. How much is ultimately withdrawn is weather and temperature dependent, of course.

Natural Gas Production – information from S&P Global points to significant increases in production for the Marcellus shale in multiple counties in Pennsylvania, including Wyoming County, which has only recently joined the significant production picture for the state. S&P Global notes that Chesapeake Energy is fracking wells with higher volumes of sand per foot of pay in the county and getting good results. Production actually increased 73 percent in December 2017 year-over-year with the new technique in place. But more traditional producing areas like Washington County in southwest Pennsylvania also increased production 33 percent year-over-year to 3.2 Bcf per day. Additionally, with its merger with Rice Energy in 2017 EQT has become the largest producer in PA at nearly 3 Bcf per day but is also now the largest natural gas reserves holder in the United States with nearly 20 Tcf noted in their recently published 2017 annual Form 10-K. EQT passed ExxonMobil as the country's largest natural gas reserves holder. Reflecting some of what is described above, dry natural gas production year-to-date in 2018 is running 5.9 Bcf per day higher than that of one year ago for the lower-48 states.

Shale Gas – the most recent accounting of year-end proved reserves (2016) published by the Energy Information Administration (February 2018) showed growth in natural gas of about 5 percent – much

of it due to shale gas, of course. In fact, the share of proved reserves as a part of total reserves (now 341 Tcf) grew from 54 percent in 2015 to 62 percent of the 341 Tcf by year-end 2016.

Rig Count – rig counts were up by three rigs to 978 for the week ending February 23, 2018. Domestic rig activity though higher for both oil and gas operations than one year ago have been below 1000 rigs operating since early April 2015. Some analysts would argue that 1000 rigs or more are not necessary to sustain or even grow domestic production with the clear advances in completion technology over the past decade. As has been the case for some time, oil rigs dominate the activity comprising 80 percent of the total and have done so in this latest cycle of drilling stats since mid-January 2016.

Pipeline Imports and Exports – imports from Canada averaged 5 Bcf per day during February, which is slightly below the year-to-date average of 5.4 Bcf per day and also 0.1 Bcf below the average in February 2017. On the export side of the ledger, the US is flowing about 4.4 Bcf per day of pipeline gas to Mexico – 0.4 Bcf per day higher than one year ago.

LNG Markets – exports of LNG from Sabine Pass are rapidly approaching 1 trillion cubic feet since February 2016 with top destinations including Mexico (19 percent of all exports from February 2016 to December 2017), South Korea and China. Volumes of cumulative exports of LNG to Asian countries like South Korea and China are rapidly overtaking Mexico as the top destination for US sourced gas. In addition, the Cove Point LNG facility in Maryland is getting closer and closer to its first export cargoes under 20-year contracts to supply gas to Tokyo Gas in Japan and GAIL Ltd. in India. Feedgas to Sabine Pass has averaged 2.9 Bcf per day in February, which is 45 percent higher than this time last year.

Natural Gas Market Summary – even with natural gas storage inventories 25 percent below the five-year average, when coupled with flowing production 6 Bcf per day higher than one year ago, gas futures are pointing to relative price stability with contracts below \$3.00 per MMBtu through 2021. Of course, this will change but it is remarkable given the two-week cold spell the last week of December and the first week of January this winter and the current storage inventory level. Essentially, the 6 Bcf per day of additional production over last year is being demanded by seasonal heating loads when cold, power generation requirements on the coldest days, also, and pipeline exports to Mexico along with LNG trade. As the market transitions to the next storage injection season in April, strong flowing supplies will end up filling the increment by which storage inventories trail recent volumes. What a dynamic natural gas market we enjoy.

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