

Natural Gas Market Indicators



October 28, 2016



Reported Prices – crude prices fell slightly the last week of October to \$49–50 per barrel for West Texas Intermediate and Brent. Could it be that the market is waiting to see if the OPEC players really do set lower production targets before the end of the year. For natural gas, where market influences are confined primarily to North America, prompt month pricing at Henry Hub, which had nudged up to \$3.20 per MMBtu is now below \$2.80. Again, it appears that the market is waiting and trying to determine (with relatively stable production and strong storage inventories) whether it will get cold. Early forecasts reference warmer than normal temperatures in significant portions of the country to begin the winter heating season. We'll see.

Weather – warm, warm, warm. Following in the steps of the summer just past, temperatures and heating degree days (or lack of them) continue to point to warmer than normal conditions nationwide in October. Heating degree data currently show conditions 49 percent warmer than normal through the first three weeks of October 2016 and warmer in virtually every region of the country.

Working Gas in Underground Storage – a federal interagency task force led by the Department of Energy (DOE) and the Pipeline and Hazardous Material Safety Administration (PHMSA) has offered 44 recommendations aimed at reducing the risk of repeating an underground storage incident like that which occurred at Aliso Canyon in October 2015. Principle among them is the notion of eliminating the risk of single source accidents that lead to leakage. How you do that without adding other risks to incident mitigation is not absolutely defined in the report, so additional interaction with industry and others seems inevitable. An Interim Final Rule (IFR) from PHMSA, which does allow for public comments, is anticipated by the end of this year and will be Phase 1 of a process of layering more federal regulatory authority over the underground storage industry. In Phase 1, American Petroleum Institute (API) Recommended Practices reports 1170 and 1171 pertaining to depleted reservoir and salt cavern storage will serve as a foundation for the rulemaking—something AGA and others support. Meanwhile, the California Air Resources Board released a final determination of methane emissions from the Aliso Canyon natural gas leak incident. The total amount of methane released was 99,650 metric tons of methane, which is equivalent to about 5.2 Bcf of methane (the amount of natural gas would be higher depending on the constituents of the gas stream). Looking at current inventories, working gas is in pretty heady territory at 3.9 Tcf by the third week of October. Perhaps a new record will be set over the next several weeks? Time will tell.

Natural Gas Production – according to Bentek Energy, the inventory of drilled but unconnected wells in the Northeast is falling rapidly as additional infrastructure and lower rig counts facilitate the changes. At more than 2,000 wells in 2015, the count has been reduced to about 1,200 with a decline of 154 wells in August alone. Domestic dry gas production has averaged 70.5 Bcf per day in October, which is 2.2 Bcf lower than the daily average in October 2015.

Shale Gas – the US Geological Survey has concluded that a 5.1 magnitude earthquake, which occurred in Oklahoma on February 13, 2016, was likely caused by deep well waste injection that had

increased about 700 percent during the past three years. What was different about this case was that the earthquake was centered about 12 kilometers from the injection site and highlighted the role of preexisting fault zones when these events occur.

Rig Count – the US rig count added 14 for the week ending October 21, according to Baker Hughes. At 108 gas rigs currently in operation, this marks the highest activity for gas drilling since the last week of January 2016. In fact, data for one-week prior (October 14) showed a gain of 11 gas rigs—the single highest weekly increase since October 2014. However, the aggregate level of gas activity is still well below the 2015 average of 226 rigs, so by that measure there is still some way to go for the gas rig count to recover.

Pipeline Imports and Exports – imports from Canada have averaged 5.7 Bcf per day in October, a gain of 0.5 Bcf per day from this month last year. Volumes have climbed above 6.0 on numerous days as the weather begins to cool. This crucial swing supply will help balance the market as natural gas demand fluctuates because of weather, imports, and electricity dispatch dynamics. Speaking of exports, October pipeline volumes to Mexico have averaged 3.6 Bcf per day. Feedgas for LNG exports is beginning to regain traction coming off a maintenance period (see next).

LNG Markets – Bentek LLC is reporting that Sabine Pass appears to have restarted operations as feedgas volumes to the facility rose. Volumes to the Louisiana export facility are still modest, hitting a month-to-date high of 325 MMcf/d—well below the 1.2 Bcf established earlier in the year. While export activities begin to ramp once again, import volumes hum along; LNG sendout from import terminals, namely in the Northeast, have been 0.3 Bcf per day in Late-October and have averaged the same volume year to date.

Natural Gas Market Summary – gas-directed drilling bumped up with price increases of \$3 per MMBtu and more. But now in late October natural gas pricing at Henry Hub is below \$3, again, and the market will look for reasons to sustain the earlier momentum. Storage inventories are strong, so the one ingredient missing to frame the coming winter is heating degree days. Will the winter for the majority of the country mean fewer (warmer than normal) or more than average heating degree days (colder than normal)? If it is cold, will it be sustained over large regions or hit and miss? Local gas utilities always plan for the possibility of reaching a peak design day and thus serving firm customers and others without interruption. Now Mother Nature will determine the targets to be managed with all of the resources currently in place to assure reliable, affordable service.

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