Natural Gas Market Indicators

American Gas Association

September 14, 2016

Reported Prices – the NYMEX natural gas futures contract for October 2016 began its early September journey in the high $2.80s per MMBtu. Prices then *fell* only to *rise* once again to $2.93 by September 13—a roller coaster ride of which we have become familiar. Crude oil prices started just below $46 per barrel for West Texas Intermediate and nearly $48 plus for Brent. In contrast to natural gas, crude markers first rose at the beginning of the month but have since fallen back. The winter heating season forward average for natural gas has fallen to about $3.20 per MMBtu, perhaps reflecting market confidence in expected supplies. Winter weather, and even merely forecasts, can change that however.

Weather – warmer-than-normal conditions for the nation as a whole have persisted for 16 straight weeks from late May 2016 to early September. In fact, three of the four weeks of August were more than 30 percent warmer than normal based on measured cooling degree days and the week ending September 10 was a remarkable 62 percent warmer. Based on NOAA data, the months April, May, June, July and August were all warmer than normal. Now that's a trend. Regionally the trend has persisted also with every census region of the country warmer than normal, cumulatively, and New England a whopping 75 percent warmer since May 2016.

Working Gas in Underground Storage – so let's take stock. Working gas was about 3.44 Tcf to begin September 2016. A little less than 1,000 Bcf has been injected during about 150 days for an average daily injection rate of less than 7 Bcf per day. If that rate of injection was to continue until early November 2016, about 3.9 Tcf of gas would be in storage for the coming winter heating season—a robust position by any measure. However, a rate of 7 Bcf per day or less is weak compared to history. In October 2015, nearly 14 Bcf per day was injected during some weeks—twice the aforementioned volume. As fall develops and temperatures cool, it is reasonable to expect less gas on the demand margin will go to power generation than has been the case this summer. Could the storage balance this year challenge last year's record? Maybe.

Natural Gas Production – to begin September, about 10 percent of Gulf of Mexico gas production and nearly 20 percent of oil production was temporarily shut-in as a precaution with the passing of Tropical Storm then Hurricane Hermine, which made landfall along the north Florida gulf coast. Even so, total US gas production has remained above 71 Bcf per day on average during the month, according to Bentek Energy, LLC. Domestic gas production in the lower-48 states has averaged 71.6 Bcf per day in September, which is only 1.3 Bcf per day less than September 2015.

Shale Gas – a recent announcement by Apache Corporation points to a new oil and gas resource play in Texas. The company announced discovery of 75 Tcf of natural gas and 3 billion barrels of oil in place in the Delaware basin, primarily in Reeves County. Apache is calling the new play the Alpine High and notes that the area sports 4,000-5,000 feet of stacked pay. The company has drilled 19 wells to date and expects 2,000 to 3,000 more may be needed to develop the play fully. Optimizing

hydrocarbon recovery through technology and resource development planning while containing costs will be important factors in building production for the area.

Rig Count – the current count of active rotary rigs is as high any time during the past seven months, mostly on increases in oil directed drilling. For the week ending September 9, oil rigs were up seven to 414. Natural gas operations ticked up slightly as well, reaching 92 rigs operating—an increase of four over the prior week. Both rig counts are lower than one year ago, however, with oil operations 37 percent lower and natural gas down 53 percent.

Pipeline Imports and Exports – feed gas to serve LNG exports has remained strong in September at an average of 1.2 Bcf per day as pipeline exports to Mexico have netted 3.7 Bcf daily, making net LNG and pipeline exports nearly 5 Bcf per day for the month. Imports from Canada are also 5.3 Bcf per day as the US begins to cool off from the warmer than normal summer, which Canadian suppliers served during power generation surges.

LNG Markets – what does the Trans-Pacific Partnership mean for the energy sector? Bloomberg New Energy Finance took up this question in a recent research note, asking themselves what the free trade agreement between 12 Pacific Rim countries might imply for natural gas trade. The partnership has not yet come into force and US ratification of the agreement remains uncertain. BNEF sees incremental LNG exports to TPP member countries and possible displacement of traditional suppliers like Qatar. Other recent LNG news includes issues surrounding the Alaska LNG Project and the fact that the three producer partners BP, ExxonMobil and ConocoPhillips are reluctant to spend additional funds on a project that recent evaluations say is uneconomic. The state of Alaska has stepped up to say that it would continue the project by taking the lead role but the future of the project seems uncertain.

Natural Gas Market Summary – many analysts are on the $3.00 plus bandwagon for natural gas acquisition prices in 2017. If so, that would still be a great consumer value and help producers, also. AGA, of course, makes no pricing predictions but instead offers observations. Prices may rise above $3 per MMBtu in 2017 and sustain themselves if the demand for natural gas and the supply resources dictate. As has been the case for several years, it is the demand portion of that relationship that seems to be the most perplexing. Will sustained demand growth for natural gas occur in any sector other than the power generation market and exports? And, is power adding just another seasonal component to the natural gas market or are there structural changes in primary energy consumption that will not retreat—natural gas substituting for coal, as an example. More observations will be made in coming months in order to more fully understand these critical questions.