

April 28, 2017

Reported Prices – futures prices for natural gas have held above \$3 per MMBtu since March 20 and are currently trading at \$3.25. Even that pricing point represents a bit of a slide, however, since prices had been as much as \$3.33 on April 6. Crude oil prices have slipped, also, moving down from over \$53 per barrel for West Texas Intermediate to about \$49 during this last week of April and just above \$51.30 per barrel for Brent.

Weather – the current 8-14 day outlook from the National Oceanographic and Atmospheric Administration (NOAA) shows temperature probabilities of below normal for the western Appalachians to the Rockies but above normal conditions for both the west and east coasts.

Working Gas in Underground Storage – net injections of natural gas in underground storage continue, even as working gas inventories exceed the five-year average by about 16 percent. For the week ending April 14, working gas increased 54 Bcf and for the first time so far this year demonstrated net additions in all five EIA reported regions during a single week. That was followed by a 74 Bcf build bringing national inventories to 2,189 Bcf. If history is any guide, inventories will increase weekly even by triple digit rates, particularly in May and June. This makes sense. More gas goes into storage on a weekly basis when physically the inventories are lowest and thus it is easier to push gas in and the excess production is available because the air-conditioning season and gas requirements to power generations have not ramped up yet. That said, you have to go back to 2015 to see net 100+ Bcf injections into storage remembering that in 2016 storage inventories were left even higher than they are today after an incredibly warm 2015-16 winter heating season.

Natural Gas Production – dry natural gas production has been firmly entrenched in the 70-71 Bcf per day range both in April and for the year-to-date in 2017. That means that production is down about 2.2 percent from this time last year and is, of course, part of the market balancing mechanism that has sustained Henry Hub prices at above \$3 per MMBtu for more than a month.

Shale Gas — a recent peer reviewed study from Duke University targeting the impacts of fracking on groundwater quality has pointed once again to the observation that in northern West Virginia fracking has not contaminated ground water. The Geochemistry of Naturally Occurring Methane and Saline Groundwater in an Area of Unconventional Shale Gas Development found that greater risks to ground water contamination are found in surface spills and, of course, safe operations can mitigate much of that threat. The study sampled 112 drinking water wells and compared them to 20 baseline wells, finding that to the extent that shallow aquifers showed signs of saline water or methane, it was naturally occurring and not the result of fracking.

Rig Count – the US rig count rose by 10 for the week ending April 21, bringing totals to 857 and recording the highest domestic count since early September 2015. Both oil- and gas-directed operations rose 5 rigs during the week. Current drilling rig counts in the US are 99 percent higher than one year ago.

Pipeline Imports and Exports – *imports* from Canada are down slightly compared to last year with volumes flowing at 5 Bcf per day in April (down from 5.4 Bcf per day in April 2016) and 5.3 Bcf per day year-to-date. Pipeline *exports* to Mexico dipped below 3 Bcf per day during the third week in April but has rebounded to 4.0 Bcf per day by month's end. Combined LNG and pipeline exports settled into a 5-6 Bcf per day position and with new export capacity for both pipelines and LNG planned appears primed to grow.

LNG Markets — a large state-run LNG venture in Alaska reached one regulatory milepost with a formal project application submitted to the Federal Energy Regulatory Commission this month. The Alaska Gasline Development Corporation (AGDC) is projected as a \$40 billion project including an 800-mile pipeline from the North Slope to Nikiski in south central Alaska where a three-train liquefaction plant would be located. Major producers stepped back from a planned LNG project of similar scale several years ago. Target start-up date for the state-driven project is somewhere in a 2023-25 timeframe. In addition, Golden Pass on the Texas side of Sabine Pass has received its authorization from the Department of Energy to export 2.2 Bcf per day of LNG to destinations including non-Free Trade Agreement countries — the first such authorization under the Trump Administration. In the meantime, *exports* from Cheniere's Sabine Pass facility (Louisiana) surpassed 50 Bcf for both January 2017 and February. Since February 2016, Mexico, China and Turkey have received the largest volumes of LNG from the gulf coast facility.

Natural Gas Market Summary – futures prices for natural gas have reliably stayed above \$3 per MMBtu for one month now. Elevated pricing support comes amid the third largest amount of gas left in storage in the past ten years, suggesting traders still see some market tightening as the summer approaches. Demand from exports has provided some of this support, and expectations for additional LNG export capacity from Sabine and then Cove Point later this year are likely factors. But natural gas is not the only commodity defining price stability or not. Oil prices had remained reliably above \$50 for months until just recently when West Texas Intermediate crude slipped below. Both commodities, oil and natural gas, are priced at a level that appears to be attractive to producers. Oil and gas rigs are now more than double the count from their respective lows established last year. The question, at least to this analyst, is how well the natural gas market is pricing in the expected future flows from new production? Will the market continue to tighten? Or will new production volumes surprise us all?

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