Natural Gas Market Indicators

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Reported Prices – global oil prices have given back nearly all the gains following the attack on two oil installations in Saudi Arabia on September 14. Oil prices are trading lower as markets absorb information and adjust to new operational realities. West Texas Intermediate, at $55 per barrel of crude oil, is nearly $8 per barrel lower than the high price set in the aftermath of the attack. Brent Crude has fallen to under $61 per barrel. Meanwhile, natural gas futures prices have given back gains from the middle of September. Futures contracts for November 2019 delivery at Henry Hub trade at $2.35 per MMBtu on September 30.

Weather – Tropical Storm Imelda formed on September 17. After moving onshore, Imelda eventually became the fifth-wettest tropical cyclone on record in the lower-48 United States. Imelda's rainfall in Southeast Texas and the Houston metro area led to flooding and severe disruptions and impacts to human life. In terms of energy, no off-shore natural gas production was reported shut-in. However, onshore outages and disruptions at refineries and petrochemical plants along the Gulf Coast led to an interruption of some energy and product supplies. NOAA's cooling degree data shows US temperatures for the week ending September 28 were 31.4 percent warmer than 2018 and 76.9 percent warmer than the 30-year normal. Cumulatively, temperatures are 19.1 percent above (warmer than) the 30-year normal since the beginning of cooling degree day season.

Working Gas in Underground Storage – this week marks the first three-digit injection since the week ending June 14, 2019. Inventories of working gas increased 102 Bcf for the seven days ending September 20. At 3,205 Bcf, underground storage totals trail the five-year average by only 1.4 percent. Stocks are now 16.1 percent or 444 Bcf higher than last year at this time. Looking back over the refill season, average injections at 11.9 Bcf per day since April have well exceeded the past five-year average for that period of 9.2 Bcf per day. With approximately four weeks remaining in the typical injection season, working gas storage is on pace to exceed the five-year average.

Natural Gas Production – US production set a new record of 91.9 Bcf per day on September 29. Texas production also reached a new high of 23.2 Bcf per day on Sunday, driven by higher output in the Permian and Kinder Morgan's Gulf Coast Express Pipeline (GCX) being placed into service, according to preliminary data from Bentek Supply and Demand. September average dry production for the lower-48 at 90.5 Bcf is 5.5 Bcf per day above this month last year.

Shale Gas – the EIA's *Drilling Productivity Report* shows that oil production is growing in many of the major shale regions. The Permian, Niobrara, Bakken, and even Appalachia all show expected increases in oil or liquids production for October 2019. The Permian is quickly approaching 4.5 million barrels per day of oil production, according to the EIA report. Every one of these regions, plus

Haynesville, have seen increases in natural gas production as well. Among these regions, the Permian leads the pack with a forecasted increase of 229 MMcf per day of natural gas production for October 2019 from one month earlier.

Rig Count – the number of US gas rigs in operation fell by two for the week ending September 27, 2019, which represents a net loss of seven since the last *Market Indicators*. Gas rigs are now down 43 units or 23 percent from year-ago levels. Oil-directed rigs in the US fell six for the same week, down 150 or 18 percent from the same week in 2018. Total rigs in operation in the United States now sit at 860 units.

Pipeline Imports and Exports – imports from Canada are down as the shoulder season brings with it less aggregate demand. Daily natural gas pipeline imports from Canada registered 4.2 Bcf in September 2019, which is 0.1 Bcf per day or 3 percent below the volume imported in September 2018. In contrast, pipeline exports to Mexico were up 0.3 Bcf per day to 5.3 Bcf per day this September compared to one year ago.

LNG Markets – on September 19, the Federal Energy Regulatory Commission issued a certificate order that conditionally authorized Eagle LNG Partners to operate a small LNG export terminal in Jacksonville, Florida, according to S&P Global. The terminal will be designed to serve the maritime industry and Caribbean natural gas demand. Eagle LNG will have a capacity of 132 MMcf with three liquefaction trains, one LNG storage tank, and a marine load-out facility and dock. Unlike larger LNG terminals that load LNG into tankers designed to carry the fuel, Eagle LNG would ship in containers by truck, rail, or ship. Meanwhile, total US LNG exports feedgas is up 98 percent for September 2019 from last year to 6.2 Bcf per day.

Natural Gas Market Summary – the EIA International Energy Outlook 2019 released in September projects that world energy consumption will rise by nearly 50 percent from 2018 to 2050. Nearly 90 percent of projected energy growth—and uncertainties in the projections—will come from non-OECD countries driven by growing economies, population growth, and access to marketed energy supplies. Among the EIA's major findings are that global natural gas and petroleum consumption is rising in Asia faster than supply is growing, potentially shifting trade patterns and infrastructure investment. Also, importantly, the EIA projects that renewables displace petroleum as the most used primary energy source in the 2040s, a reflection of economics and policy driving renewable energy consumption and growth in electricity demand. Underlying these projections is the continued strength of the US natural gas market. EIA projects that North America becomes a net energy exporter and will help serve the rise in natural gas demand in Europe and increasingly in Asia.