

Energy Market Report

Report Date: May 4, 2018 Report Week: April 25, 2018 to May 2, 2018

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News Tracker:

-Natural gas spot prices fell at most locations the Report Week of Wednesday, April 25 to Wednesday, May 2. The Henry Hub spot price fell from \$2.79 per million British thermal units (MMBtu) to \$2.73/MMBtu from start to finish of the Report Week.

-At the New York Mercantile Exchange (Nymex), the May 2018 natural gas futures contract expired Thursday, April 26 at \$2.821/MMBtu. The June 2018 contract price decreased to \$2.754/MMBtu, down 5¢ from open to close of the Report Week.

- Working natural gas storage begins refilling after an unprecedented series of April withdrawals. Net natural gas injections into storage totaled 62 Bcf for the week ending April 27, which is in line with the five-year (201317) average net injection of 69 Bcf and last year's net injections of 68 Bcf during the same week. Unusually cold weather for most of April resulted in net withdrawals from storage for the first three weeks of the month. This is the first time since at least 1993 that there have been three consecutive April withdrawals. Partly as a result of the prolonged withdrawal season, working gas stocks ended the storage week at 1,281 Bcf, which is 527 Bcf (28%) lower than the five-year average and 897 Bcf (40%) lower than last year at this time. Temperatures in the Lower 48 states averaged 55 degrees Fahrenheit (°F), 1°F lower than normal and 3°F lower than last year at this time. - Total U.S. consumption of natural gas fell by 9% compared with the previous report week, according to data from PointLogic Energy. In the residential and commercial sectors, consumption declined by 26% as temperatures warmed in the Northeast and Midwest. Natural gas consumption in both the industrial and power sectors decreased by 2% week over week. Natural gas exports to Mexico increased 2%.

-The natural gas plant liquids composite price at Mont Belvieu, Texas, rose by 42¢, averaging \$8.14/MMBtu for the week ending May 2. The price of ethane fell by 2%. The price of natural gasoline, propane, butane, and isobutane rose by 3%, 9%, 4%, and 13%, respectively.

-According to Baker Hughes, for the week ending Tuesday, April 24, the natural gas rig count increased by 3 to 195. The number of oil-directed rigs rose by 5 to 825. The total rig count increased by 8, and it now stands at 1021.

Fuel cell power plants are used in diverse ways across the United States:

At the end of 2016, the US had 56 large-scale fuel cell generating units greater than 1 megawatt (MW), totaling 137 megawatts (MW) of net summer capacity. Most of this capacity (85%) has come online since 2013. Fuel cells collectively provided 810,000 megawatthours (MWh) of electricity in 2016, representing 0.02% of total U.S. electricity generation. Fuel cell systems typically produce hydrogen gas from hydrocarbon fuels such as natural gas using thermochemical processes such as steam reforming. The hydrogen reacts with oxygen across an electrochemical cell similar to that of a battery to produce electricity and water. Although nearly 85% of fuel cell capacity in 2016 used natural gas, fuels such as landfill gas or biogas from the decomposition of sewage at wastewateeia atment plants were also used, potentially allowing the generation from fuel cells to qualify for renewable portfolio standards in certain states. Fuel cell power plants are sometimes used for backup power at small facilities such as hospitals. They can also be used to operate data centers for large private corporations that have



committed to consuming 100% of their electricity from renewable sources. Commercial and industrial sector fuel cell power plants are sometimes used in combined heat and power application, meaning they produce heat and steam in addition to electricity. Overall combined heat and power applications made up 26 MW of the 137 MW operating in 2016; the rest provided only electricity. In 2016, 36% of total U.S. fuel cell capacity was in California, which has a number of incentives for distributed generators such as fuel cells. Fuel cell generating units in Connecticut accounted for 27% of U.S. 2016 fuel cell capacity, and plants in Delaware accounted for 22%. Both states allow fuel cells with nonrenewable fuel to meet requirements for renewable portfolio standards. The remaining fuel cell power plants are located in North Carolina and Utah.

"We shall never know all the good that a simple smile can do." -Mother Teresa

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¹https://www.brainyquote.com/quotes/mother_teresa_125711?src=t_smile





Forward 12-month NYMEX natural gas strip price - Jun18-May19:

Process Load-weighted 2.816/dth - w/o/w = 0.046Typical Heat Load-weighted 2.877/dth - w/o/w = 0.046