



News Tracker:

-Natural gas spot prices were mixed this Report Week (Wednesday, October 12 to Wednesday, October 19). The Henry Hub spot price fell from \$3.17 per million British thermal units (MMBtu) to open the Report Week to \$3.14/MMBtu to close the Report Week.

-According to Baker Hughes, for the week ending Friday, October 14, the natural gas rig count increased by 11 to 105. The number of oil-directed rigs rose by 4 to 432. The total rig count climbed by 15, and now stands at 539.

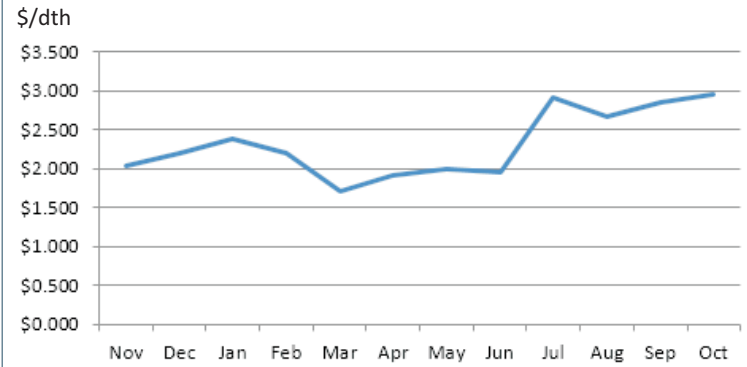
-Weekly net natural gas injections into storage remain below historical norms. Net injections into storage for the storage week ended October 14 totaled 77 Bcf, compared with the five-year (2011-15) average net injection of 84 Bcf and last year's net injections of 87 Bcf during the same week.

During the past three weeks, net injections into storage have totaled 236 Bcf, the highest three-week tally of the 2016 refill season. The 2016 refill season remains on pace to be the only refill season, aside from 2012, not to post a single week that exceeds 100 Bcf threshold that typically is exceeded at least two times during the refill season. Working gas stocks total 3,836 Bcf, which is 185 Bcf more than the five-year average and 46 Bcf more than last year at this time. Working gas stocks remain poised to end the 2016 refill season at near record levels. If net injections match the five-year average for the remainder of the refill season, working gas stocks will total 3,991 Bcf on October 31. This storage level exceeds the all-time end of refill season high of 3,929 Bcf in 2012. In 2015, working gas stocks totaled 3,926 Bcf at the end of October, before reaching the highest reported level ever of 4,009 Bcf on November 20, 2015. Temperatures in the Lower 48 states averaged 63°F during the storage week, 4°F higher than the normal and 1°F lower than last year at this time

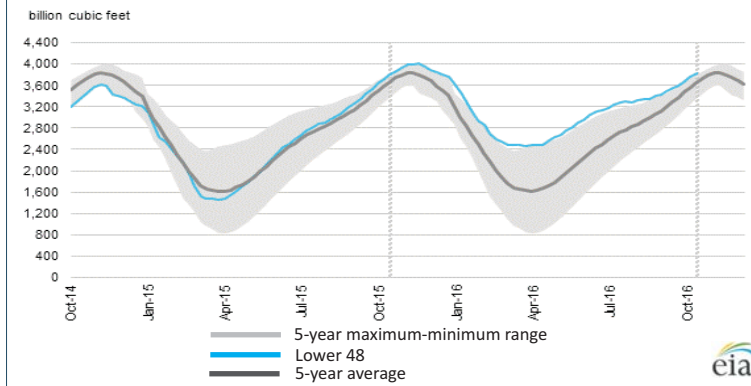
- Total U.S. consumption of natural gas fell by 1% compared with the previous Report Week, according to data from PointLogic. Power burn was flat, averaging 25.6 Bcf/d week over week. However, this average masks large variations that occurred during the week: power burn increased by more than 6 Bcf/d from Friday to yesterday. Industrial sector consumption decreased by 1% week over week. In the residential and commercial sectors, consumption declined by 2%. Natural gas exports to Mexico decreased 1%.

Excerpted from eia

Monthly NYMEX Natural Gas Settle Price: Nov 2015 - Oct 2016:



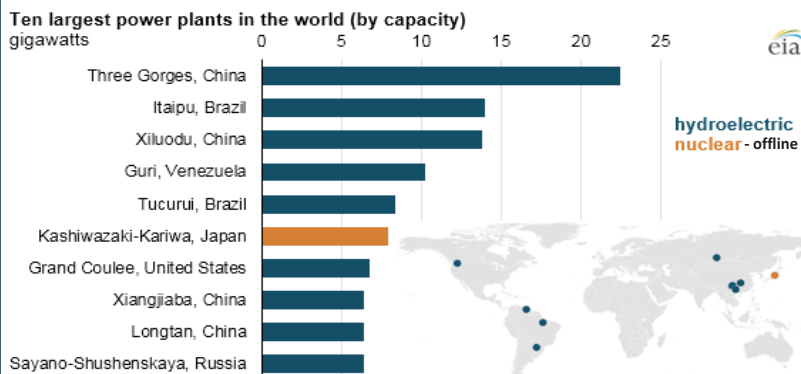
Working nat. gas in underground storage as of October 14, 2016



Forward 12-month NYMEX natural gas strip price - Nov16-Oct17:

Process Load-weighted \$3.370/dth (w/w = +\$0.058)
 Typical Heat Load-weighted \$3.431/dth (w/w = +\$0.048)

World's nine largest operating power plants are hydroelectric facilities:



An estimated 62,500 power plants are operating around the world, with a total installed generating capacity of more than 6,000 gigawatts (GW) in 2015. The nine largest operating power plants in the world by capacity are all hydroelectric power plants. Four of the world's ten largest power plants are located in China, and all four of those plants began operating in the past 13 years. The world's largest dam, Three Gorges, is located on the Yangtze River and has a capacity of 22.5 GW. Hydroelectric power is the second-largest source of electricity in China, after coal, and accounted for 20% of the country's total generation in 2015. Brazil's Itaipu Dam is located on the Parana River and has a capacity of 14 GW. Although the Itaipu Dam is the second-largest power plant in terms of capacity, it ranked first in the world in generation, producing 89.5 billion kilowatthours (kWh) in 2015, compared to Three Gorges's output of 87 billion kWh. Differences in seasonal flows of the Yangtze and Parana rivers account for differences in the output of the Three Gorges and Itaipu Dams, respectively. The Kashiwazaki-Kariwa nuclear power plant in Japan is the largest nuclear plant in the world and the sixth-largest power plant of any type in the world. However, Kashiwazaki-

Kariwa is among the many nuclear plants in Japan that were shut down in the aftermath of the accident at Fukushima in 2011 and has yet to file for a restart application. The Grand Coulee Dam is the seventh-largest power plant in the world and the largest dam in the US. It supplies power to eleven states (Washington, Oregon, Idaho, Montana, California, Wyoming, Colorado, New Mexico, Nevada, Utah, and Arizona), as well as Canada. The capacity of large hydroelectric plants is generally based on the capacity and the number of turbines installed, rather than on the volume of water in the reservoir behind the dam.

“Education is an admirable thing, but it is well to remember from time to time that nothing that is worth knowing can be taught.” -Oscar Wilde¹