

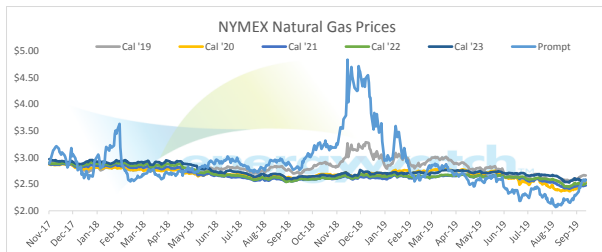
Week Ending: 9/12/2019

Weekly Update:

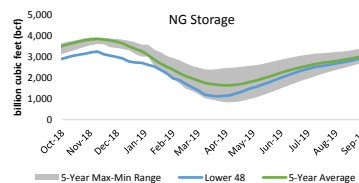
The October natural gas contract traded on the NYMEX closed on Thursday at \$2.574/MMBtu after reaching a high of \$2.585/MMBtu earlier in the day. The forward calendar strips remain flat. The Transco Zone 6 trading hub for NYC saw a 40-cent increase from last Wednesday's price of \$1.90/MMBtu to this past Wednesday's price of \$2.30/MMBtu (EIA). Storage levels increased by 78 bcf, which was slightly lower than the expected 81 bcf increase. The total 3,019 bcf in storage is 2.5% lower than the 3,096 bcf five-year average and 15% higher than the 2,626 bcf seen this same week last year.

"Weather forecasts are projecting more heat for the eastern half of the U.S. over the next 10 days, which is helping power burn demand stick around longer than normal. So far this month, we are on track to reach the hottest September on record if these temperatures persist" (Direct Energy). We expect winter weather forecasts to be released in about a month or so. Even though storage levels are significantly higher than they were last year, the market will still react if the forecast shows colder than normal winter temperatures.

Natural gas pricing plays a key role in electricity power pricing due to the increasing reliance on natural gas fired generators as nuclear, coal, and oil generation is retired and mothballed. As the marginal unit of generation, gas prices are directly correlated to power pricing (more so in some regions such as NYC vs. others such as PJM). We keep an eye on natural gas market fundamentals in order to provide insights into forward power pricing for our clients. Gas production has grown and surpassed any speculation that production would not be able to keep up with demand due to LNG and Mexican exports.

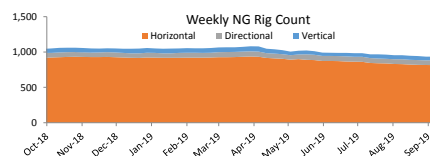


Natural Gas Storage Week Ending 9/6/2019	
Current Week Stocks (bcf)	3,019
Previous Week Stocks (bcf)	2,941
Implied Net Change (bcf)	78
Expected Net Change (bcf)	81
Variance (bcf)	-3
Year-Ago Stocks (bcf)	2,626
Variance vs Prev. Year (%)	15.0%
5-Year Average (bcf)	3,096
Variance vs 5-YR Avg (%)	-2.5%

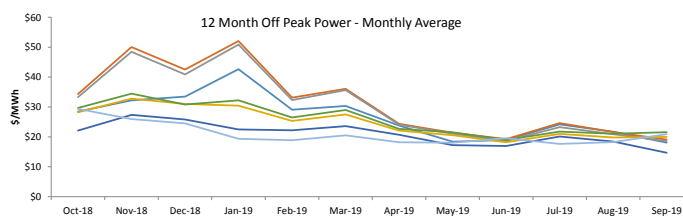
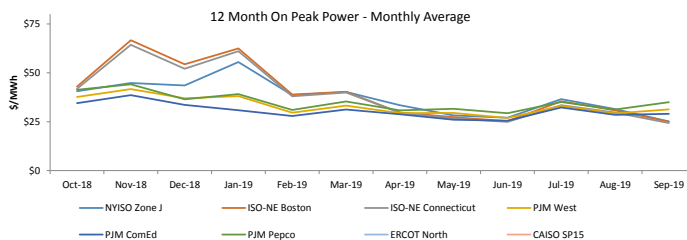


	\$/MMBtu	W-o-W Δ	Y-o-Y Δ
Prompt Month	\$2.574	1.6%	-9.1%
12-Month	\$2.563	0.7%	-6.7%
24-Month	\$2.524	0.5%	-6.3%
Cal 19	\$2.666	0.3%	-1.7%
Cal 20	\$2.535	0.6%	-3.3%
Cal 21	\$2.474	0.2%	-4.6%
Cal 22	\$2.508	0.5%	-3.5%

Week Ending: 8/30/2019		W-o-W Δ
Oil Rigs	738	-0.5%
Gas Rigs	160	-1.2%
Vertical	48	-4.0%
Horizontal	783	-0.1%
Directional	67	-4.3%



	Avg. Temp	Past 10 Weeks	Departure From Normal	CDD	HDD
Boston	73		6	8	0
Chicago	75		8	10	0
Columbus	80		13	15	0
Dallas	84		5	20	0
Denver	65		-1	1	2
Detroit	76		12	11	0
Hartford	71		0	7	1
Houston	85		4	21	0
Indianapolis	81		12	17	0
Las Vegas	82		-3	17	0
Los Angeles	71		3	6	0
Miami	85		4	21	0
Minneapolis	62		-2	0	3
New York City	77		6	13	0
Philadelphia	78		7	13	0
Phoenix	90		0	26	0
Salt Lake City	59		-9	0	6
San Diego	71		0	6	0
San Francisco	68		4	3	0
Seattle	66		4	2	0
St. Louis	84		12	19	0
Washington D.C.	81		11	16	0



2014 - 2019 YTD Locational Marginal Pricing (LMPs)

