

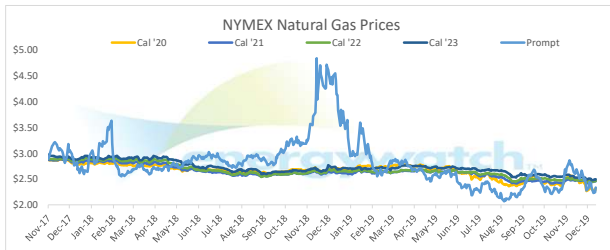
Week Ending: 12/13/2019

Weekly Update:

Natural gas inventories experienced it's largest withdrawal of the season so far. Inventories decreased by 107 Bcf, much more than what the market had anticipated at 93 Bcf. The same time last year resulted in a 132 Bcf drop. Inventories are still in great shape, only -0.03% lower than the 5-year average. Prompt month gas prices immediately traded upwards to \$2.30/MMBtu before settling down to \$2.27/MMBtu. Cal 2020 NYMEX gas prices are now trading below \$2.30/MMBtu as well. Calendar year 2021/2022/2023 gas strips are all trading around \$2.45/MMBtu.

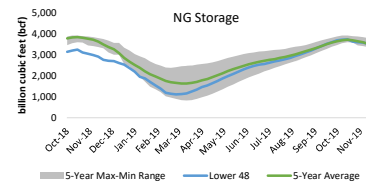
Electricity prices in the Northeast were a mixed bag this week. Prices in NY and New England both increased throughout the week while prices in PJM decreased. On Peak power prices at PJM West Hub hovered close to \$40/mWh, while both NY and ISONE on peak prices were both over \$100/mWh due to a sharp drop in temperatures. Once the colder than normal weather dissipates, prices should return back to the \$30-\$40/mWh range. Even though the winter months are not a traditionally opportune to hedge future contracts, prices for both electricity and natural gas remain attractive for the upcoming months.

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 parts of 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.

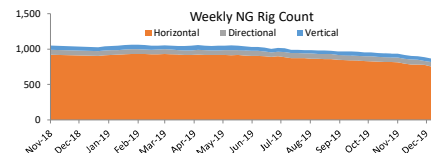


	\$/MMBtu	W-o-W Δ	Y-o-Y Δ
Prompt Month	\$2.273	-1.8%	-36.9%
12-Month	\$2.309	-0.1%	-23.8%
24-Month	\$2.363	-0.6%	-17.6%
Cal 20	\$2.309	-0.1%	-14.5%
Cal 21	\$2.418	-1.2%	-7.5%
Cal 22	\$2.412	-1.6%	-9.2%

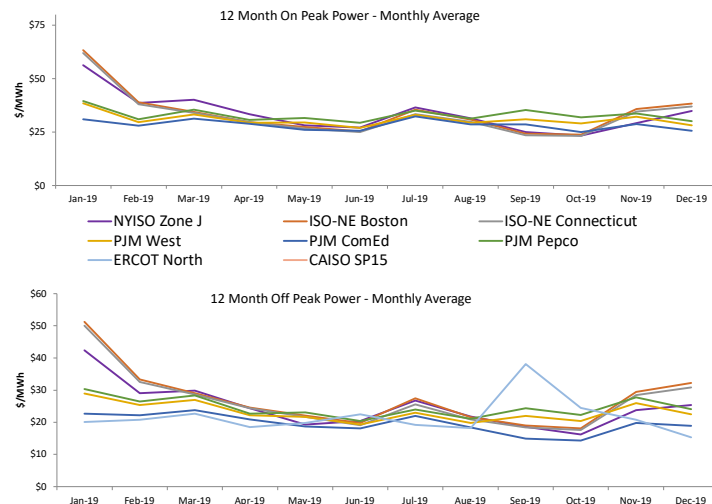
Natural Gas Storage Week Ending 12/13/2019	
Current Week Stocks (bcf)	3,411
Previous Week Stocks (bcf)	3,518
Implied Net Change (bcf)	-107
Expected Net Change (bcf)	-93
Variance (bcf)	-14
Year-Ago Stocks (bcf)	2,793
Variance vs Prev. Year (%)	22.1%
5-Year Average (bcf)	3,420
Variance vs 5-YR Avg (%)	-0.3%



Week Ending: 12/13/2019		W-o-W Δ
Oil Rigs	667	-6.1%
Gas Rigs	129	-10.4%
Vertical	51	-1.9%
Horizontal	752	0.4%
Directional	57	5.6%



	Avg. Temp	Past 10 Weeks	Departure From Normal	CDD	HDD
Boston	26		-3	0	39
Chicago	22		-8	0	43
Columbus	19		-12	0	46
Dallas	44		-3	0	21
Denver	31		2	0	34
Detroit	21		-7	0	44
Hartford	23			0	42
Houston	46		-8	0	19
Indianapolis	21		-12	0	44
Las Vegas	44		-5	0	21
Los Angeles	57		1	0	9
Miami	72		1	7	0
Minneapolis	13		-12	0	52
New York City	26		-7	0	39
Philadelphia	28		-5	0	37
Phoenix	55		3	0	10
Salt Lake City	30		-1	0	35
San Diego	54		-3	0	12
San Francisco	54		4	0	11
Seattle	45		2	0	20
St. Louis	31		-9	0	35
Washington D.C.	30		-3	0	35



2014 - 2019 YTD Locational Marginal Pricing (LMPs)

