

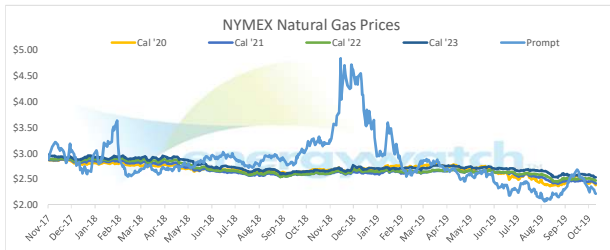
Week Ending: 11/21/2019

Weekly Update:

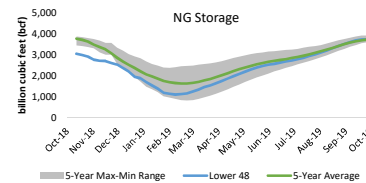
Widespread below-average temperatures throughout most of U.S. led to this season's first natural gas withdrawal. The EIA projected a withdrawal of 90 Bcf but resulted in a 94 Bcf withdrawal due to increased demand for heating. Colder temperatures are expected to persist in the lower 48 states, which will slowly increase prompt month gas prices. Immediately after the release of the storage report, prices jumped up about 3 cents per MMBtu, eventually settling down to \$2.56/MMBtu. Power prices in the Northeast were mixed after last week's significant jump. The biggest jump was Zone J On Peak Day Ahead as prices were trading around \$5/mWh higher than last week at just over \$30/mWh. PJM's Western Hub prices remained in the low \$30s/mWh range for another week and Mass Hub closed \$20/mWh lower than last week's price of \$59/mWh.

For those looking to procure a contract in PJM for electricity, note that the ISO will be releasing the transmission costs by utility within the next few weeks. For those in PSE&G territory in NJ, your transmission rate could increase by \$10/mWh or more depending on your NITS tag. Depending on the language of your contract, some suppliers will have the right to pass through any incremental charges because of this update.

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.

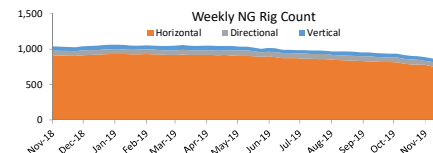


Natural Gas Storage Week Ending 11/15/2019	
Current Week Stocks (bcf)	3,638
Previous Week Stocks (bcf)	3,732
Implied Net Change (bcf)	-94
Expected Net Change (bcf)	-90
Variance (bcf)	-4
Year-Ago Stocks (bcf)	3,241
Variance vs Prev. Year (%)	12.2%
5-Year Average (bcf)	3,730
Variance vs 5-YR Avg (%)	-2.5%

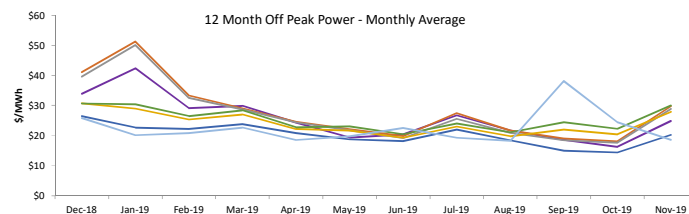
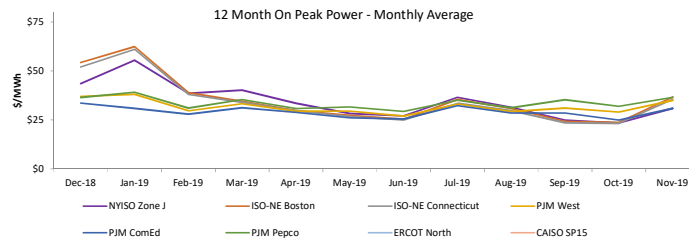


	\$/MMBtu	W-o-W Δ	Y-o-Y Δ
Prompt Month	\$2.567	-1.4%	-41.0%
12-Month	\$2.425	-1.7%	-26.0%
24-Month	\$2.445	-1.1%	-17.8%
Cal 19	\$2.636	-0.1%	-16.6%
Cal 20	\$2.431	-1.7%	-8.5%
Cal 21	\$2.464	-0.4%	-5.7%
Cal 22	\$2.486	0.2%	-5.4%

Week Ending:	11/15/2019	W-o-W Δ
Oil Rigs	674	-5.1%
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	41		-3	0	24
Chicago	43		4	0	22
Columbus	43		1	0	22
Dallas	68		13	3	0
Denver	40		4	0	26
Detroit	40		2	0	25
Hartford	41			0	24
Houston	67		6	2	0
Indianapolis	43		1	0	22
Las Vegas	54		0	0	11
Los Angeles	58		-2	0	7
Miami	70		-4	5	0
Minneapolis	42		10	0	23
New York City	45		-2	0	20
Philadelphia	47		1	0	18
Phoenix	63		0	0	2
Salt Lake City	44		6	0	21
San Diego	62		1	0	3
San Francisco	60		5	0	5
Seattle	45		0	0	20
St. Louis	48		3	0	17
Washington D.C.	48		3	0	17



2014 - 2019 YTD Locational Marginal Pricing (LMPs)

