

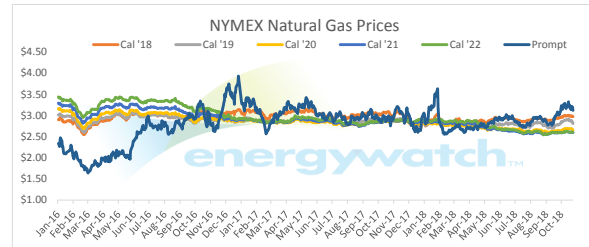
Week Ending: 10/25/2018

### Weekly Update:

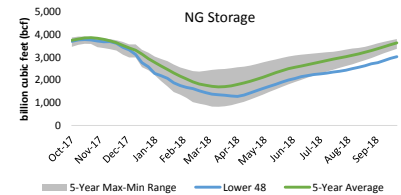
Front month natural gas futures closed on Thursday at \$3.202/MMBtu, 1.47% below last week's closing price of \$3.25/MMBtu. Natural gas stockpiles increased by 58 bcf which is just slightly higher than the expected 54 bcf injection. The total 3,095 bcf in storage is 3.6% below last year and 2.0% below the five-year average. High weather related demand has reduced the end-of-winter projected natural gas storage to 1,250 bcf. Cold weather could push it even lower and prices could rise drastically due to the market being unable to handle the high demand. Warmer weather could increase end of winter storage and have the opposite effect on prices but it isn't clear which way winter temperatures will move.

Natural gas prices at the Transco Zone 6 trading point for NYC increased from \$3.40/MMBtu last Wednesday to \$3.49/MMBtu this past Wednesday. The EIA has reported "a natural gas pipeline rupture in British Columbia has resulted in a sharp decline in U.S. natural gas imports from Canada, causing higher prices in the Pacific Northwest and logistical challenges for the pipeline network in the region." Natural gas spot prices at the Northwest Suma, which is at the British Columbia-Washington border, reached \$7.79/MMBtu on Monday. These prices were trading at a discount to Henry Hub prior to the pipeline burst on October 9<sup>th</sup> (EIA).

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 is expected to continue to grow, however, there is speculation that demand growth will outpace supply primarily due to LNG and Mexican exports and increased power burn, presenting upside risk to power pricing in the future.

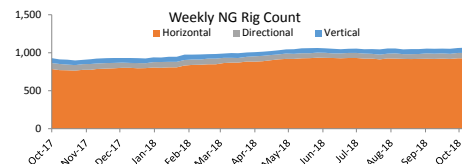


Natural Gas Storage Week Ending 10/14/2018	
Current Week Stocks (bcf)	3,095
Previous Week Stocks (bcf)	3,037
Implied Net Change (bcf)	58
Expected Net Change (bcf)	54
Variance (bcf)	4
Year-Ago Stocks (bcf)	3,211
Variance vs Prev. Year (%)	-3.6%
5-Year Average (bcf)	3,158
Variance vs 5-YR Avg (%)	-2.0%



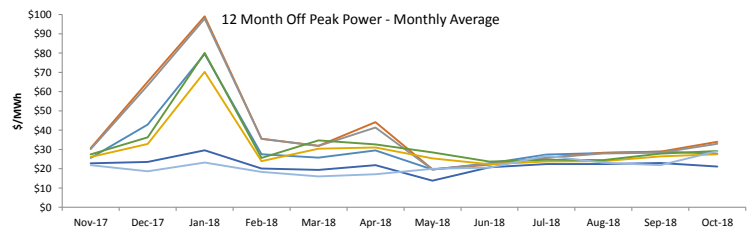
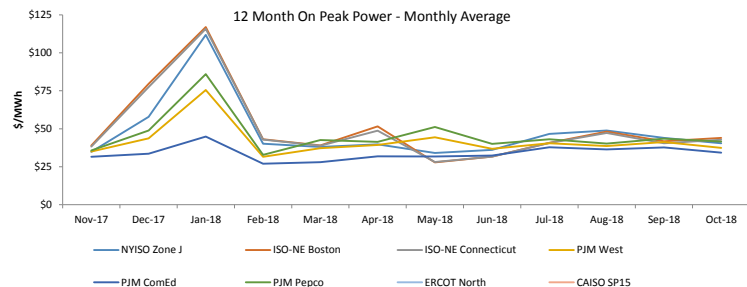
	\$/MMBtu	W-o-W Δ	Y-o-Y Δ
<b>Prompt Month</b>	\$3.202	0.3%	11.4%
<b>12-Month</b>	\$2.883	-1.7%	-2.8%
<b>24-Month</b>	\$2.785	-1.3%	-5.4%
<b>Cal 18</b>	\$2.978	-0.3%	-0.4%
<b>Cal 19</b>	\$2.827	-1.7%	-2.7%
<b>Cal 20</b>	\$2.662	-0.9%	-7.0%
<b>Cal 21</b>	\$2.596	-0.3%	-9.6%
<b>Cal 22</b>	\$2.602	-0.2%	-10.3%

Week Ending:	10/19/2018	W-o-W Δ	Y-o-Y Δ
Oil Rigs	873	0.5%	18.6%
Gas Rigs	194	0.5%	9.6%
Vertical	69	4.5%	11.3%
Horizontal	926	-0.1%	20.1%
Directional	72	2.9%	-10.0%



	Price	W-o-W Δ	Y-o-Y Δ	\$/MMBtu
<b>Natural Gas (\$/MMBtu)</b>	\$3.202	-\$0.04	0.9%	\$3.20
<b>CSX Coal (\$/ton)</b>	\$77.45	\$0.35	20.3%	\$3.10
<b>PRB Coal (\$/ton)</b>	\$12.50	\$0.00	11.1%	\$0.71
<b>WTI Crude Oil (\$/bbl)</b>	\$67.33	-\$4.59	18.5%	\$11.50
<b>#2 Heating Oil (\$/gal)</b>	\$2.25	-\$0.09	17.2%	\$16.26

	Avg. Temp	Past 10 Weeks	Departure From Normal	CDD	HDD
Boston	43		-6	0	22
Chicago	45		-5	0	20
Columbus	39		-8	0	26
Dallas	57		-8	0	8
Denver	51		3	0	14
Detroit	41		-7	0	24
Hartford	44		0	0	21
Houston	65		-5	1	1
Indianapolis	47		-6	0	18
Las Vegas	72		5	7	0
Los Angeles	68		3	3	0
Miami	80		2	16	0
Minneapolis	46		0	0	19
New York City	49		-6	0	16
Philadelphia	47		-8	0	18
Phoenix	74		0	9	0
Salt Lake City	54		5	0	11
San Diego	67		1	2	0
San Francisco	62		1	0	3
Seattle	55		5	0	10
St. Louis	50		-7	0	15
Washington D.	45		-8	0	20



## 2014 - 2018 YTD Locational Marginal Pricing (LMPs)

