



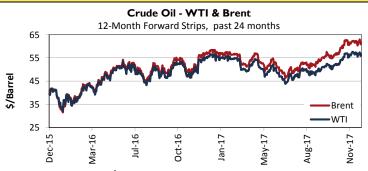
# Competitive Energy Services Weekly Market Summary

December 11 - 15, 2017

## Synopsis of Last Week's Energy Markets

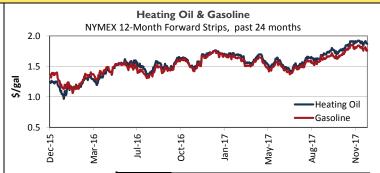
London-traded Brent crude was volatile last week while NYMEX-traded WTI was more stable. Both products saw little weekly change overall. Brent crude was hit with an outage on a major pipeline, but US production continues at an almost-record pace. Natural gas prices slid 5.8% last week; inventory levels are less than 1% lower than the 5-year average according to the latest EIA report, and strong production could keep withdrawals modest despite rising demand.

#### Oil Market



NYMEX WTI	last close	previous week	24-month high	24-month low
12 month strip, \$/bbl	\$56.09	\$56.83	\$57.06	\$32.40
date	12/15/17	12/8/17	11/9/17	1/20/16
change from last close		-1.3%	-1.7%	73%

US STORAGE (in million	crude oil		
domestic stocks as of	12/8/17	443	
gain / loss from previou	loss from previous week		
comparison to historic r	within		



NYMEX Heating Oil	last close	previous week	24-month high	24-month low
12 month strip, \$/gal	\$1.87	\$1.89	\$1.92	\$0.97
date	12/15/17	12/8/17	11/24/17	1/20/16
change from last close		-1.1%	-3%	93%

US STORAGE (in million bbls)	distillate	propane	gasoline	
domestic stocks as of 12/8/17	128	75	227	
gain / loss from previous week	-1.4	0.2	5.7	
comparison to historic range	within	within	within	

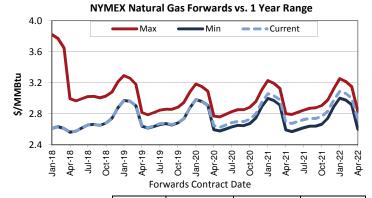
#### **Natural Gas Market**



NYMEX PRICING	last close	previous week	24-month high	24-month low	
12 mo. strip, \$/MMBTu	\$2.66	\$2.80	\$3.70	\$2.11	
date	12/15/17	12/8/17	12/28/16	2/25/16	
change from last close		-5.0%	-28%	26%	

CES SCORE							
100							
100							
99							
93							
	100 100 99						

The Score provides a measure of how current prices compare to their 52-week range. A score close to 0 indicates that current prices are close to their 52-week highs; a score close to 100 indicates that current prices are close to their 52-week lows.



FORWARDS	12 month	18 month	24 month	36 month
strip (\$/MMBTu)	\$2.66	\$2.70	\$2.71	\$2.73

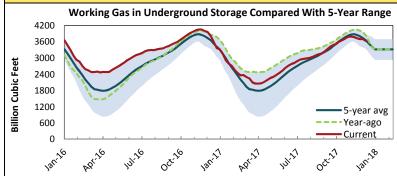
Natural gas futures are useful for both natural gas and electricity consumers because they drive electricity pricing in many U.S. markets. This chart compares the current natural gas price for each forward month on the NYMEX exchange to the highest and lowest prices for the same month over the past 12 months.



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# **Natural Gas Storage**



This chart shows the amount of natural gas in storage at each point in time (red line) compared to the highest, lowest, and average amounts in the past 5 calendar years.

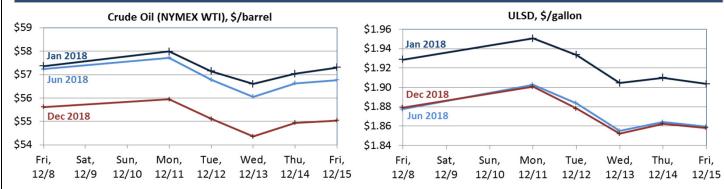
EIA Storage Data	date	Bcf	+/ -
Previous Stock Level		3,695	
Most Recent Stock Level	12/8/17	3,626	
Year-ago Stock Level		3,827	-5.3%
5-Year Average Stock Level		3,653	-0.7%
Most Recent Net Change	12/8/17	-69	
Year-Ago Net Change		-132	
5-Year Average Net Change		-78	

Data Source: EIA http://tonto.eia.doe.gov/oog/info/ngs/ngs.html

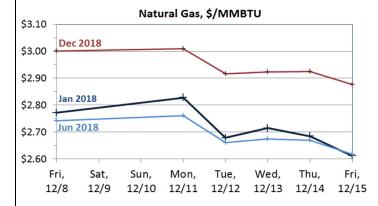
#### **Market Assessment**

NYMEX Futures Summary Statistics												
	Last Expired Prompt Most Expensive Least Expensive Winter Avg											
Contract Exp. Date Price Month Price Next 12 Months Price Next 12 Months Price (Jan-								(Jan-Mar18)				
Crude oil	Dec-17	11/20/17	\$56.09	Jan-18	\$57.30	Feb-18	\$57.33	Dec-18	\$55.04	\$57.29		
Heating oil	Dec-17	11/30/17	\$1.89	Jan-18	\$1.90	Jan-18	\$1.93	Aug-18	\$1.85	\$1.90		
Natural gas	Dec-17	11/28/17	\$2.61	Jan-18	\$2.77	Dec-18	\$2.88	Apr-18	\$2.56	\$2.62		

#### **NYMEX End-of-Day Settlements**



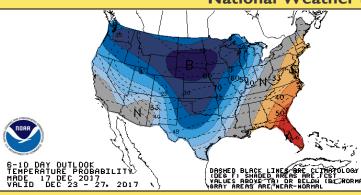
Both WTI and Brent ended the week almost exactly where they started. Prompt month Brent climbed to its highest price since October 2015 after a hairline crack was found in the Forties pipeline, a major conduit carrying crude from the North Sea to the UK. This shutdown some production in the North Sea, but Monday's climb was reversed over the next few days as the pipeline owner, Ineos Group, reported that the repair would take two to four weeks. Furthermore, the International Energy Agency (IEA) increased its 2018 projections of non-OPEC oil production and the domestic Energy Information Agency (EIA) reported U.S. production rose to 9.78M barrels per day. The record is 10.04M barrels per day, set in November 1970.



Natural gas prices fell for a second week despite rising heating demand as temperatures began to drop across the country. While gas has enjoyed a growing share of U.S. generation capacity and seen rising exports, this winter's heating demand has trailed behind the typical seasonal profile. This alongside strong shale output weighed on markets even amid last week's accelerated demand. Early-week expectations for a modest storage withdrawal combated forecasts that below-average temperatures could sweep across Western and Central U.S. through late December. This week's reported withdrawal of 69 Bcf fell left inventories just 0.7% below typical levels. January futures fell 16 cents to close at \$2.61 on Friday afternoon, but gains Monday morning have largely reversed last week's losses.

The National Weather Service near-term forecast calls for cooler-than-normal temperaturel for much of the U.S. except for a stretch of the Eastern Seaboard. The natural gas market scores on page 1 is at or close to 100 for all terms. Clients with electricity or natural gas contracts expiring in 2018 should consult with a CES representative for customized guidance.

# **National Weather Service Forecast**



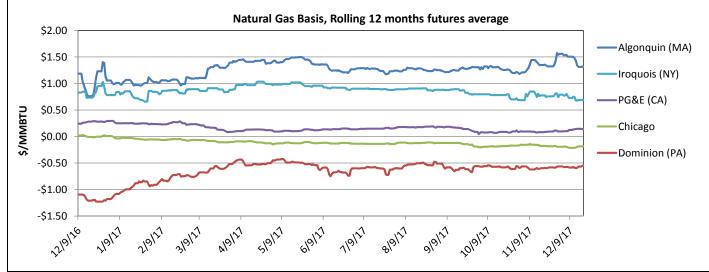
## 6 - 10 Day Forecast for Dec 23 - 27

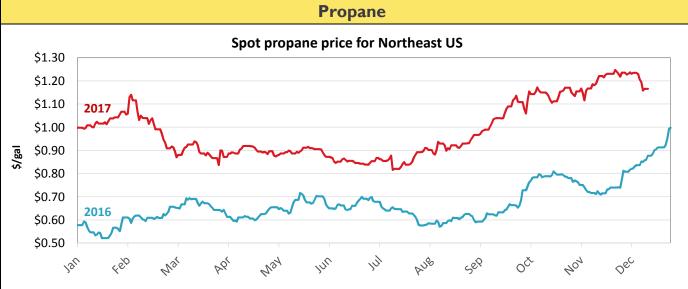
This map depicts forecasted temperatures for next week compared to the long term average. The blue/purple areas are forecast to be colder than normal, white areas are normal, and yellow/orange/red areas are warmer than normal. Abnormally hot weather in the summer and cold weather in the winter can increase the price for natural gas, oil, and electricity.

Source: Chart from the National Weather Service Climate Prediction

## **Natural Gas Basis Futures**

Basis is the price differential between Henry Hub, located in Erath, Louisiana, and the liquidity point closest to the end-user. Because Henry Hub is used as the delivery point for NYMEX natural gas futures contracts, the cost of using natural gas in any geographic region of the country can be approximated by adding the basis price for the appropriate liquidity point to the NYMEX futures contract. Basis prices can be negative (indicating that natural gas at a liquidity point is cheaper than at the Henry Hub) or positive (indicating that natural gas at a different liquidity point is more expensive than at the Henry Hub). Basis prices are a key component of regional electricity and natural gas costs.





# **Spot Prices**

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	New England ISO Real Time F								
		12/11/17	12/12/17	12/13/17	12/14/17	12/15/17	12/16/17	12/17/17	Avg
	Maine RT On Pk	48	59	49	(7)	63			42
	Maine RT Off Pk	32	76	40	27	18	18	18	32
	NH RT On Pk	49	60	51	41	89			58
	NH RT Off Pk	33	76	40	52	56	56	56	53
	Vermont RT On Pk	48	58	51	70	101			66
	Vermont RT Off Pk	32	74	41	70	82	82	82	66
	Connecticut RT On Pk	48	59	52	79	105			68
	Connecticut RT Off Pk	32	74	41	75	92	92	92	71
	Rhode Island RT On Pk	48	59	52	88	109			71
	Rhode Island RT Off Pk	33	77	41	80	100	100	100	76
	NE Mass RT On Pk	49	60	52	94	112			73
	NE Mass RT Off Pk	33	76	41	83	105	105	105	78
	SE Mass RT On Pk	49	60	52	90	110			72
	SE Mass RT Off Pk	33	77	41	81	101	101	101	76
	WC Mass RT On Pk	48	60	52	84	108			70
	WC Mass RT Off Pk	33	76	41	77	96	96	96	74
	New York ISO Real Time Pow	er Pricing B	y Zone (\$/ľ	VIWh)					Avg
	Capital RT On Pk	38	31	37	47	65			43
	Capital RT Off Pk	30	43	23	54	69	69	69	51
Power (\$/MWh)	Central RT On Pk	35	29	31	26	45			33
₹	Central RT Off Pk	12	16	12	10	15	15	15	13
(\$/	Hudson RT On Pk	39	32	41	50	60			44
/er	Hudson RT Off Pk	24	35	20	39	51	51	51	39
٥٨	Mohawk RT On Pk	36	29	32	28	47			35
-	Mohawk RT Off Pk	12	16	13	11	15	15	15	14
	Milwood RT On Pk	39	32	43	52	61			45
	Milwood RT Off Pk	24	35	23	40	51	51	51	39
	NYC RT On Pk	39	32	43	54	62			46
	NYC RT Off Pk	24	35	20	39	51	51	51	38
	PJM Real Time Power Pricing	By Zone (\$	/MWh)						Avg
	Eastern Hub On Pk	49	35	59	39	39			44
	Eastern Hub Off Pk	31	24	48	33	33	33	33	34
	Western Hub On Pk	33	36	39	43	43			39
	Western Hub Off Pk	24	23	28	31	31	31	31	28
	PPL Zone On Pk	28	31	39	38	38			35
	PPL Zone Off Pk	22	22	27	32	32	32	32	28
	AEP RT On Pk	26	33	36	36	36			33
	AEP RT Off Pk	25	23	34	29	29	29	29	29
	Chicago RT On Pk	25	31	25	32	32			29
	Chicago RT Off Pk	22	22	20	28	28	28	28	25
	New Jersey Hub On Pk	29	34	41	39	39			36
	New Jersey Hub Off Pk	23	23	29	33	33	33	33	29
	California ISO Real Time Pow	er Pricing (	MWh)						Avg
	SoCal Edison RT On Pk	58	79	50	42	29			52
	SoCal Edison RT Off Pk	46	34	31	41	32	32	32	36
		12/11/17	12/12/17	12/13/17	12/14/17	12/15/17	12/16/17		Avg
_	Henry Hub, LA	2.80	2.81	2.67	2.67	2.62	. ,	. ,	2.71
Natural Gas \$/MIMBtu	TZ6, MA	7.50	10.28	9.93	7.81	8.02			8.71
¥	Algonquin, MA	6.25	10.00		7.75				8.00
\$/	Chicago Hub, IL	2.78	2.73	2.62	2.61	2.55			2.66
as	New York, NY	3.04	4.63	3.44	2.85	2.64			3.32
<u> </u>	Dominion South, PA	2.30				2.04			2.19
ını	,		2.31	2.12	2.14				
Nat	Opal Hub, WY	2.55	2.64	2.56	2.57	2.55			2.58
-	PG&E Citygate, CA	2.98	2.99	2.91	2.87	2.85			2.92
	Kern River Deliveries	2.92	2.88	2.85	2.92	2.84			2.88