



# Competitive Energy Services Weekly Market Summary

December 25 - 29, 2017

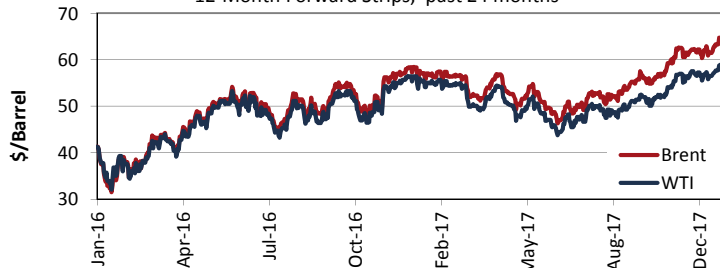
## Synopsis of Last Week's Energy Markets

Crude oil rose last week as geopolitical unrest threatened output from Iran and Libya, two key OPEC producers. Domestically, US production continues at a near-record pace and is expected to grow in 2018. Natural gas prices jumped 11% last week as frigid temperatures set in across the Eastern US. Storage levels slipped to 2.5% below average and the deficit is likely to widen following this weekend's record-high demand.

## Oil Market

### Crude Oil - WTI & Brent

12-Month Forward Strips, past 24 months

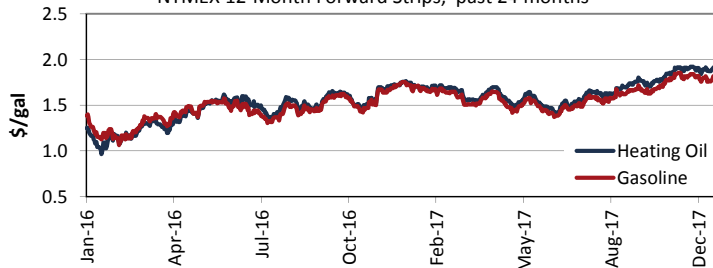


NYMEX WTI	last close	previous week	24-month high	24-month low
12 month strip, \$/bbl	\$59.40	\$57.68	\$59.40	\$32.40
date	12/29/17	12/22/17	12/29/17	1/20/16
change from last close		3.0%	0.0%	83%

US STORAGE (in million bbls)	crude oil
domestic stocks as of 12/22/17	432
gain / loss from previous week	-4.6
comparison to historic range	within

### Heating Oil & Gasoline

NYMEX 12-Month Forward Strips, past 24 months



NYMEX Heating Oil	last close	previous week	24-month high	24-month low
12 month strip, \$/gal	\$1.98	\$1.93	\$1.99	\$0.97
date	12/29/17	12/22/17	12/29/17	1/20/16
change from last close		2.9%	0%	105%

US STORAGE (in million bbls)	distillate	propane	gasoline
domestic stocks as of 12/22/17	130	69	228
gain / loss from previous week	1.1	-2.7	0.6
comparison to historic range	within	within	within

## Natural Gas Market

### NYMEX Henry Hub Futures: 12 Month Forward Strip

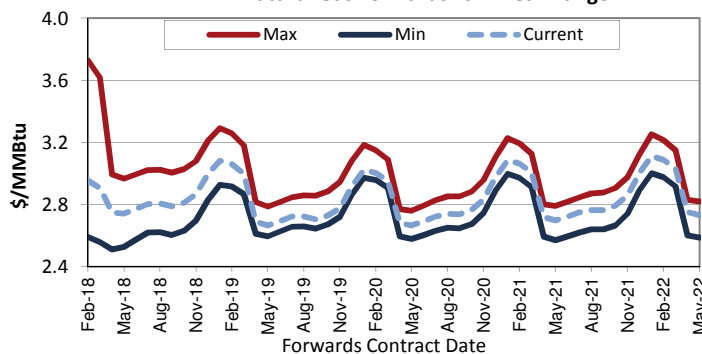


NYMEX PRICING	last close	previous week	24-month high	24-month low
12 mo. strip, \$/MMBtu	\$2.86	\$2.67	\$3.70	\$2.11
date	12/29/17	12/22/17	12/28/16	2/25/16
change from last close		7.1%	-23%	36%

CES SCORE	
12 month	56
18 month	58
24 month	62
36 month	61

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.

### NYMEX Natural Gas Forwards vs. 1 Year Range



FORWARDS	12 month	18 month	24 month	36 month
strip (\$/MMBtu)	\$2.86	\$2.84	\$2.83	\$2.83

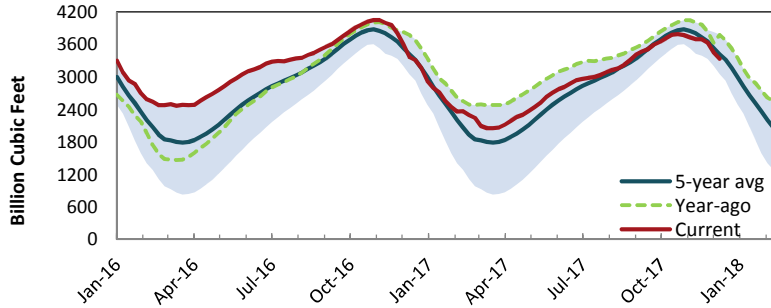
Natural gas futures are useful for both natural gas and electricity consumers because they drive electricity pricing in many U.S. markets. This chart compares the current natural gas price for each forward month on the NYMEX exchange to the highest and lowest prices for the same month over the past 12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



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### Natural Gas Storage

Working Gas in Underground Storage Compared With 5-Year Range



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	12/15/17	3,444	
Most Recent Stock Level	12/22/17	3,332	
Year-ago Stock Level		3,773	-11.7%
5-Year Average Stock Level		3,417	-2.5%
Most Recent Net Change	12/22/17	-112	
Year-Ago Net Change		-233	
5-Year Average Net Change		-111	

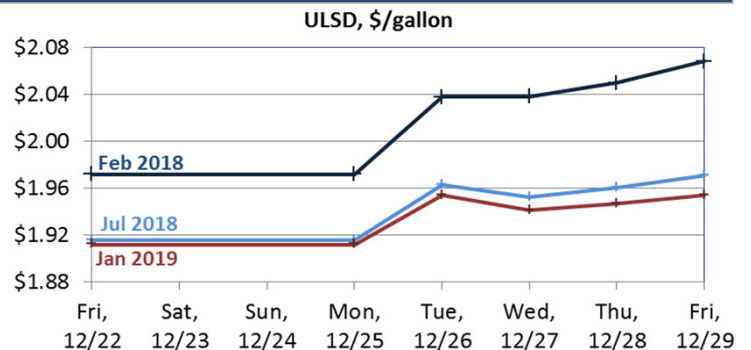
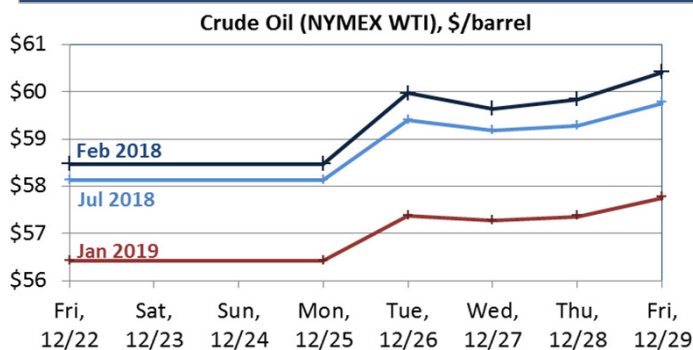
Data Source: EIA <http://tonto.eia.doe.gov/oog/info/ngs/ngs.html>

### Market Assessment

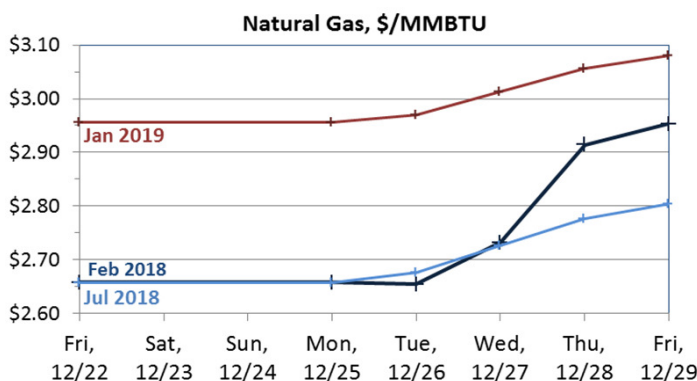
#### NYMEX Futures Summary Statistics

	Last Expired Contract	Exp. Date	Price	Prompt Month	Price	Most Expensive Next 12 Months	Price	Least Expensive Next 12 Months	Price	Next Winter Avg (Nov18-Mar19)
Crude oil	Jan-18	12/19/17	\$57.46	Feb-18	\$60.42	Mar-18	\$60.44	Jan-19	\$57.75	\$57.74
Heating oil	Jan-18	12/29/17	\$2.08	Feb-18	\$2.07	Feb-18	\$2.07	Jan-19	\$1.95	\$1.95
Natural gas	Jan-18	12/27/17	\$2.74	Feb-18	\$2.95	Jan-19	\$3.08	May-18	\$2.74	\$3.00

#### NYMEX End-of-Day Settlements



Crude oil rose last week, with the prompt month price breaching \$60 for the first time since mid-2015. Near-term oil contracts soared 3% last week as anti-government protests rocked Iran and Libya dealt with repairing a pipeline that had been bombed by militants. For the year, the rolling 12-month strip for NYMEX crude started at \$56.26 and ended at \$59.40, a 5.6% gain. OPEC's cuts have been balanced by US production, which is nearing the high of 10M barrels per day reached in November 1970. Looking ahead, this balance is expected to continue. OPEC has extended the production cut agreement through 2018, while the EIA is forecasting that US production will average 10.0M barrels per day in 2018.



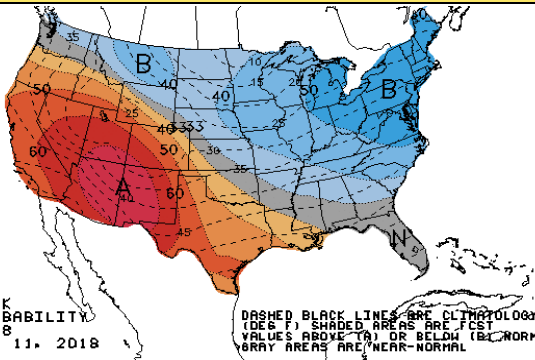
Natural gas prices rose 30 cents last week as a year-end freeze boosted heating demand across the Eastern half of the country. Inventory levels have fallen to a 2.5% deficit compared to the 5-year average following a 112 Bcf withdrawal. This storage deficit could widen in coming weeks as withdrawals accelerate, driven by strong demand and a dramatic drop in production – output is estimated to have fallen from 77 Bcf/d to 72 Bcf/d over the holiday weekend amid production freeze-offs. January 2018 futures expired on Wednesday, settling at \$2.74. The natural gas futures strip fell from \$3.62/MMBTU to \$2.86/MMBTU (-21%) for the year, the only energy commodity that declined in 2017. A mild 2016-17 winter allowed inventories to rise to above-average levels from February through July.

The National Weather Service near-term forecast calls for cooler-than-normal temperatures for the diagonally Northeastern half of the continental US. The natural gas market scores on page 1 declined from the previous week. 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 OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 1 JAN 2018  
VALID JAN 07 - 11, 2018



**6 - 10 Day Forecast for Jan 7 - 11**

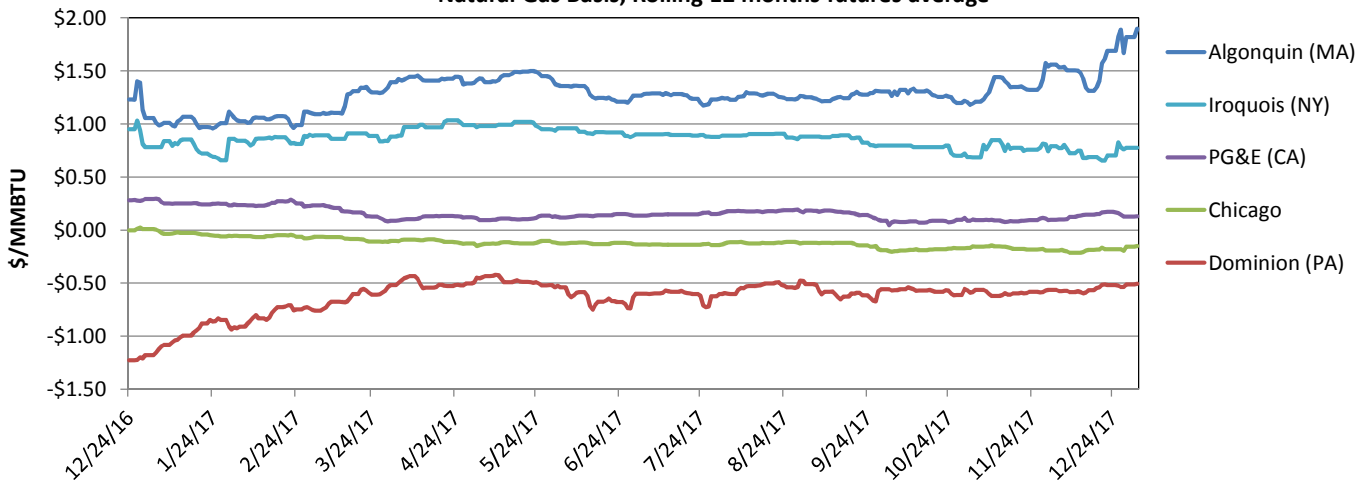
This map depicts forecasted temperatures for next week compared to the long term average. The blue/purple areas are forecast to be colder than normal, white areas are normal, and yellow/orange/red areas are warmer than normal. Abnormally hot weather in the summer and cold weather in the winter can increase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

Source: Chart from the National Weather Service Climate Prediction

**Natural Gas Basis Futures**

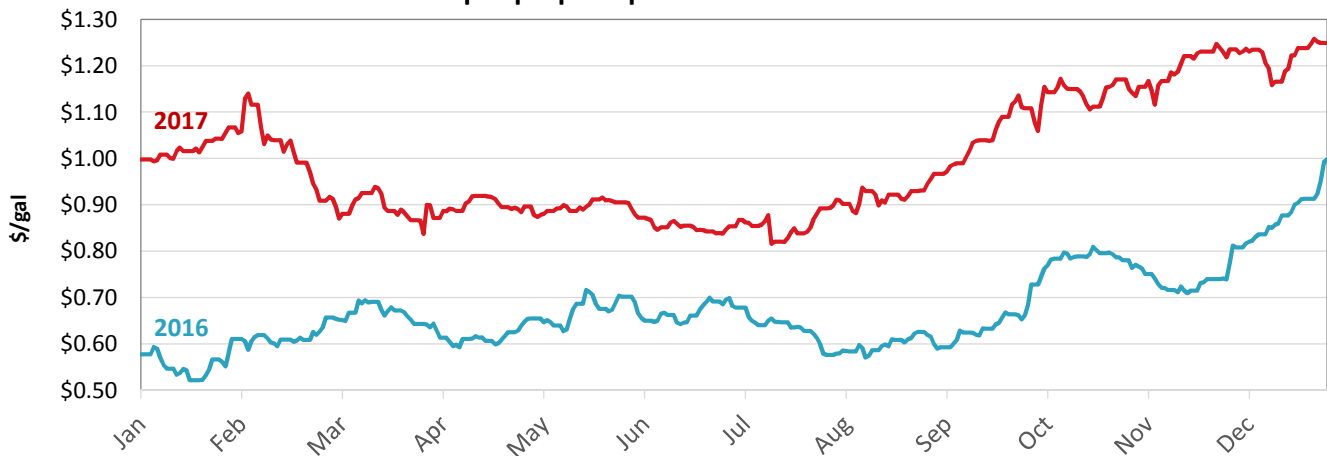
Basis is the price differential between Henry Hub, located in Erath, Louisiana, and the liquidity point closest to the end-user. Because Henry Hub is used as the delivery point for NYMEX natural gas futures contracts, the cost of using natural gas in any geographic region of the country can be approximated 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.

**Natural Gas Basis, Rolling 12 months futures average**



**Propane**

**Spot propane price for Northeast US**



**Spot Prices**

		<b>New England ISO Real Time Power Pricing By Zone (\$/MWh)</b>								
		12/25/17	12/26/17	12/27/17	12/28/17	12/29/17	12/30/17	12/31/17	<b>Avg</b>	
<b>Power (\$/MWh)</b>	Maine RT On Pk	118	108	164	182	229			160	
	Maine RT Off Pk	38	79	167	124	133	133	133	133	
	NH RT On Pk	120	111	172	188	233			165	
	NH RT Off Pk	39	82	176	130	138	138	138	138	
	Vermont RT On Pk	115	110	170	186	232			162	
	Vermont RT Off Pk	38	82	176	129	139	139	139	139	
	Connecticut RT On Pk	116	112	172	186	229			163	
	Connecticut RT Off Pk	39	84	180	131	138	138	138	138	
	Rhode Island RT On Pk	119	114	175	188	234			166	
	Rhode Island RT Off Pk	39	86	184	133	140	140	140	140	
	NE Mass RT On Pk	121	114	176	191	234			167	
	NE Mass RT Off Pk	39	86	183	133	139	139	139	139	
	SE Mass RT On Pk	121	115	178	192	235			168	
	SE Mass RT Off Pk	39	86	186	134	140	140	140	140	
	WC Mass RT On Pk	119	114	175	189	233			166	
	WC Mass RT Off Pk	39	86	183	133	140	140	140	140	
			<b>New York ISO Real Time Power Pricing By Zone (\$/MWh)</b>							<b>Avg</b>
	<b>Power (\$/MWh)</b>	Capital RT On Pk	27	91	127	192	181			124
		Capital RT Off Pk	20	47	110	153	131	131	131	131
		Central RT On Pk	2	43	63	85	113			61
Central RT Off Pk		(5)	2	71	64	111	111	111	111	
Hudson RT On Pk		20	79	111	162	164			107	
Hudson RT Off Pk		13	34	100	129	127	127	127	127	
Mohawk RT On Pk		2	45	67	96	122			66	
Mohawk RT Off Pk		(5)	2	74	69	117	117	117	117	
Milwood RT On Pk		20	79	111	163	165			108	
Milwood RT Off Pk		13	34	101	130	128	128	128	128	
NYC RT On Pk		20	79	112	163	165			108	
NYC RT Off Pk		13	34	100	129	128	128	128	128	
		<b>PJM Real Time Power Pricing By Zone (\$/MWh)</b>							<b>Avg</b>	
<b>Power (\$/MWh)</b>		Eastern Hub On Pk	25	51	102	126	126			86
		Eastern Hub Off Pk	21	26	53	167	167	167	167	110
		Western Hub On Pk	24	44	81	162	162			95
	Western Hub Off Pk	20	25	49	138	138	138	138	92	
	PPL Zone On Pk	24	50	94	122	122			82	
	PPL Zone Off Pk	20	25	51	160	160	160	160	105	
	AEP RT On Pk	24	38	64	63	63			50	
	AEP RT Off Pk	20	24	40	103	103	103	103	71	
	Chicago RT On Pk	22	36	61	44	44			41	
	Chicago RT Off Pk	18	23	38	70	70	70	70	51	
	New Jersey Hub On Pk	25	50	106	124	124			86	
	New Jersey Hub Off Pk	20	25	52	162	162	162	162	107	
			<b>California ISO Real Time Power Pricing (\$/MWh)</b>							<b>Avg</b>
	<b>Natural Gas \$/MMBtu</b>	SoCal Edison RT On Pk	31	33	35	29	27			31
SoCal Edison RT Off Pk		33	29	36	30	26	26	26	26	
		12/25/17	12/26/17	12/27/17	12/28/17	12/29/17	12/30/17	12/31/17	<b>Avg</b>	
Henry Hub, LA			2.70	2.75	2.96				2.81	
TZ6, MA			39.20	22.40	19.30				26.97	
Algonquin, MA			52.22	24.30	19.00				31.84	
Chicago Hub, IL			2.93	3.15	3.98				3.35	
New York, NY			11.53	18.98	13.98	26.98			17.87	
Dominion South, PA			2.35	2.34	2.53	3.00			2.56	
Opal Hub, WY			2.53	2.61	2.88				2.67	
PG&E Citygate, CA		2.84	2.89	3.04				2.92		
Kern River Deliveries		2.91	2.83	3.05				2.93		