



# Competitive Energy Services Weekly Market Summary

October 15 - 19, 2018

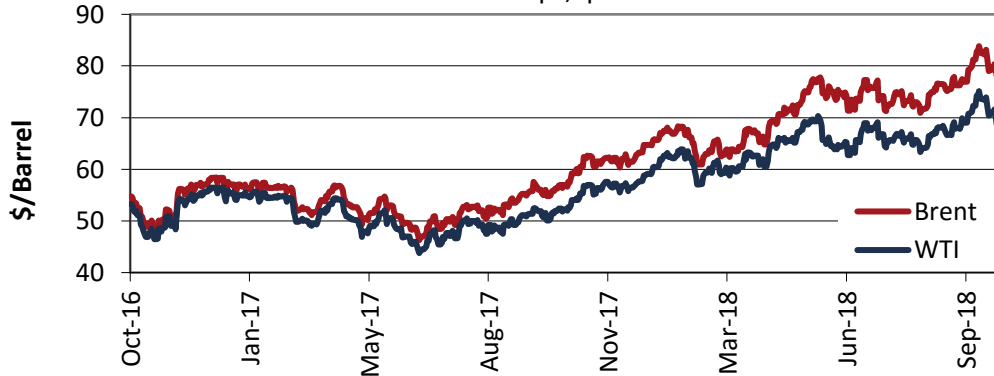
## Synopsis of Last Week's Energy Markets

Crude oil fell for a second straight week. US crude stocks of have gained for the past month while refineries are performing maintenance, offsetting the market impacts of the looming economic sanctions against Iran. Natural gas prices rose for the fifth consecutive week as traders looked ahead to colder weather and rising heating demand. Domestic inventories remain 16% below typical levels.

## Oil Market

### Crude Oil - WTI & Brent

12-Month Forward Strips, past 24 months

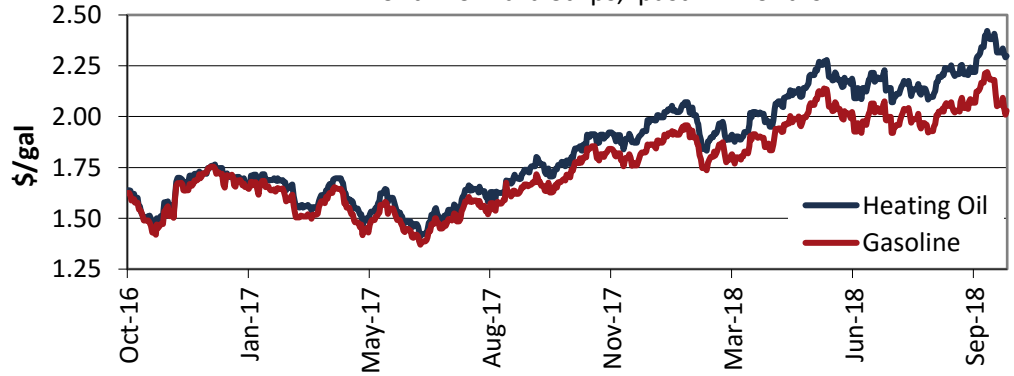


NYMEX WTI	last close	previous week	24-month high	24-month low
12 month strip, \$/bbl	\$69.25	\$70.84	\$75.39	\$43.82
date	10/19/18	10/12/18	10/3/18	6/21/17
change from last close		-2.2%	-8.1%	58%

US STORAGE (in million bbls)		crude oil
domestic stocks as of	10/12/18	416
gain / loss from previous week		6.5
comparison to historic range		within

### Heating Oil & Gasoline

NYMEX 12-Month Forward Strips, past 24 months

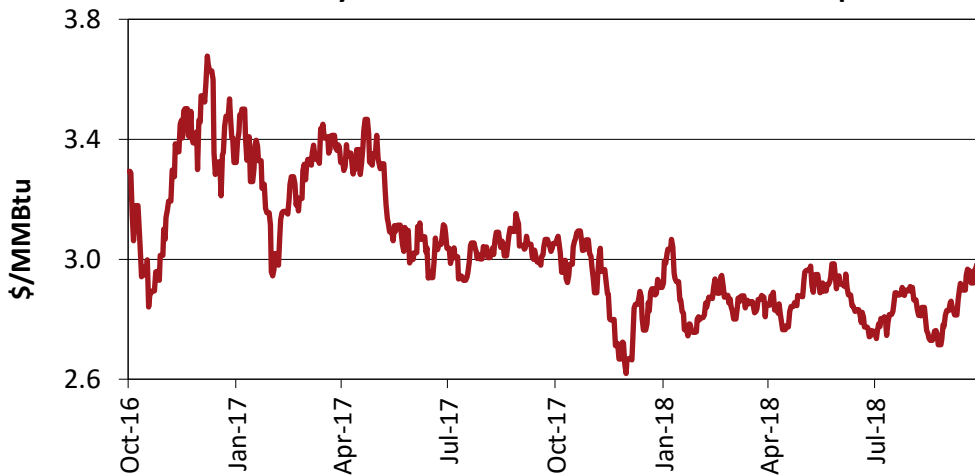


NYMEX Heating Oil	last close	previous week	24-month high	24-month low
12 month strip, \$/gal	\$2.29	\$2.32	\$2.43	\$1.41
date	10/19/18	10/12/18	10/3/18	6/21/17
change from last close		-1.0%	-6%	62%

US STORAGE (in million bbls)		distillate	propane	gasoline
domestic stocks as of	10/12/18	133	82	234
gain / loss from previous week		-0.8	2.0	-2.0
comparison to historic range		within	within	above

## Natural Gas Market

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



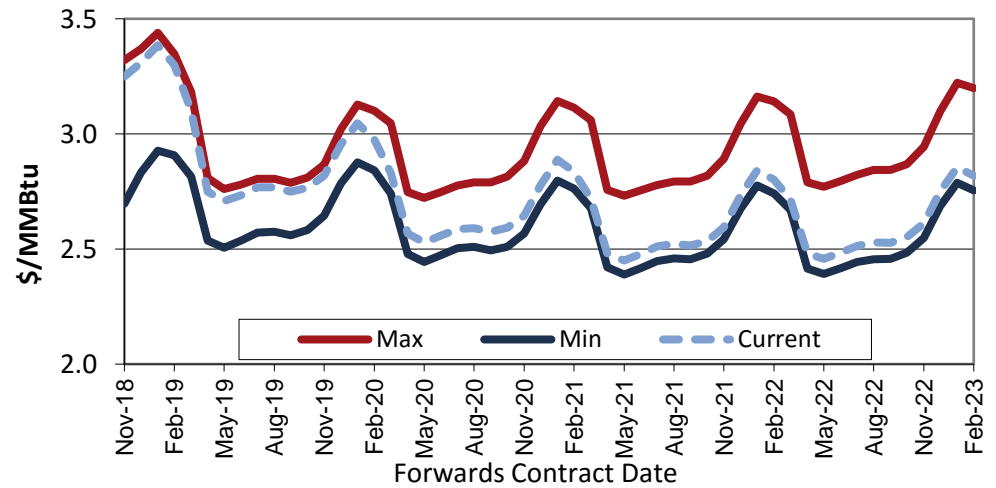
NYMEX PRICING	last close	previous week	24-month high	24-month low
12 mo. strip, \$/MMBtu	\$2.97	\$2.92	\$3.70	\$2.61
date	10/19/18	10/12/18	12/28/16	12/21/17
change from last close		1.5%	-20%	13%

#### CES SCORE

12 month	16
18 month	26
24 month	37
36 month	52

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



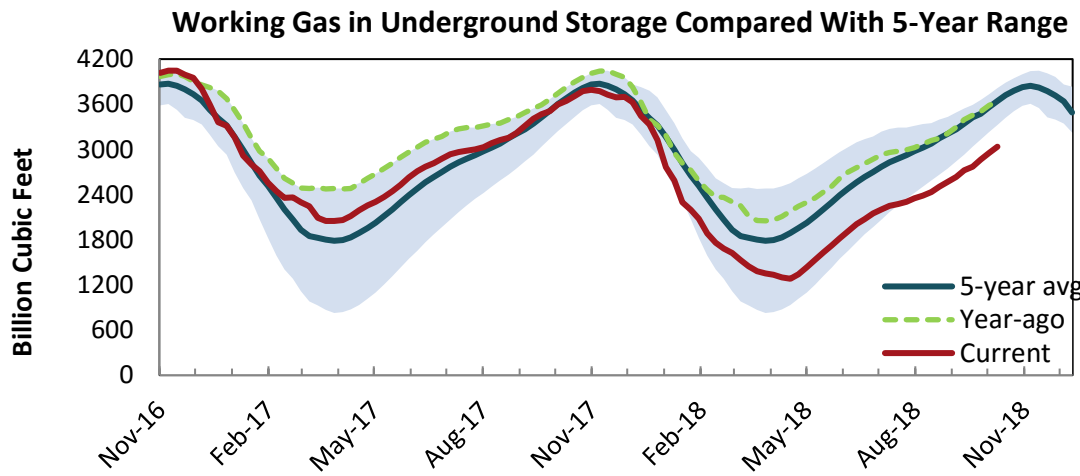
FORWARDS	12 month	18 month	24 month	36 month
strip (\$/MMBtu)	\$2.97	\$2.93	\$2.84	\$2.77

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		10/5/18	2,956	
Most Recent Stock Level		10/12/18	3,037	
Year-ago Stock Level			3,638	-16.5%
5-Year Average Stock Level			3,642	-16.6%
Most Recent Net Change		10/12/18	81	
Year-Ago Net Change			55	47%
5-Year Average Net Change			79	3%

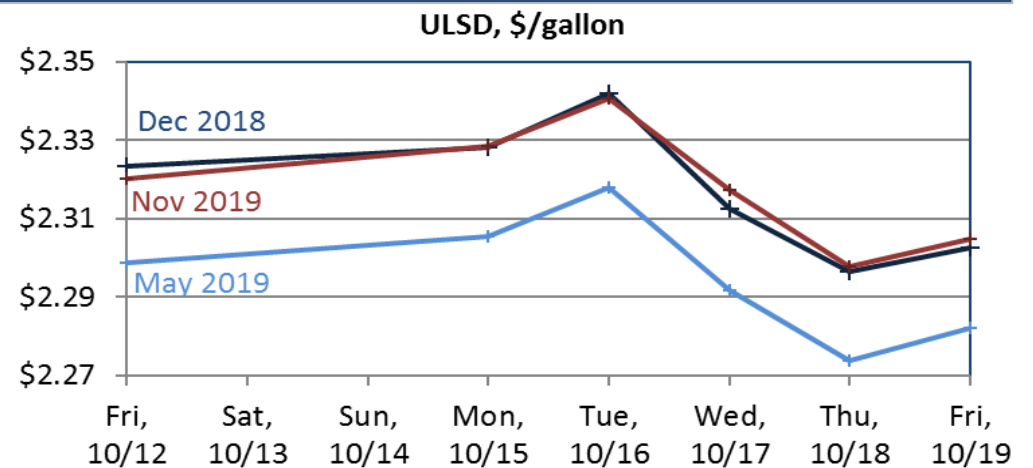
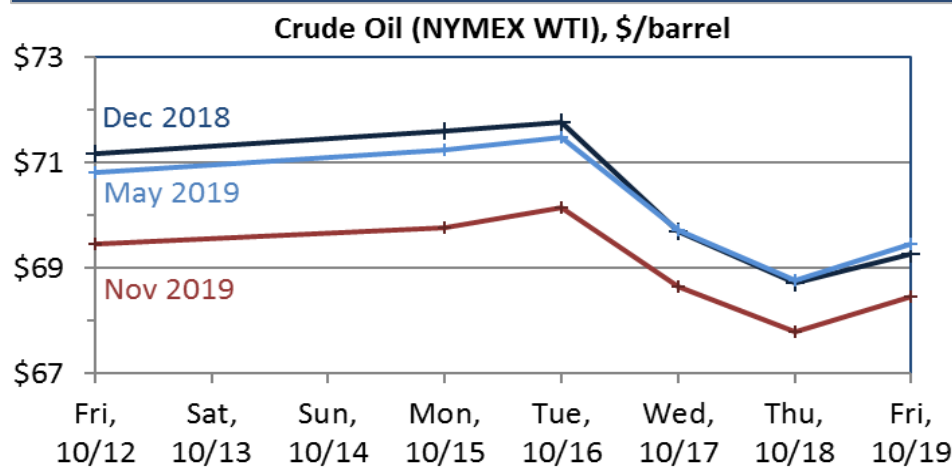
Data Source: EIA <http://tonto.eia.doe.gov/oog/info/ngs/ngs.html>

### Market Assessment

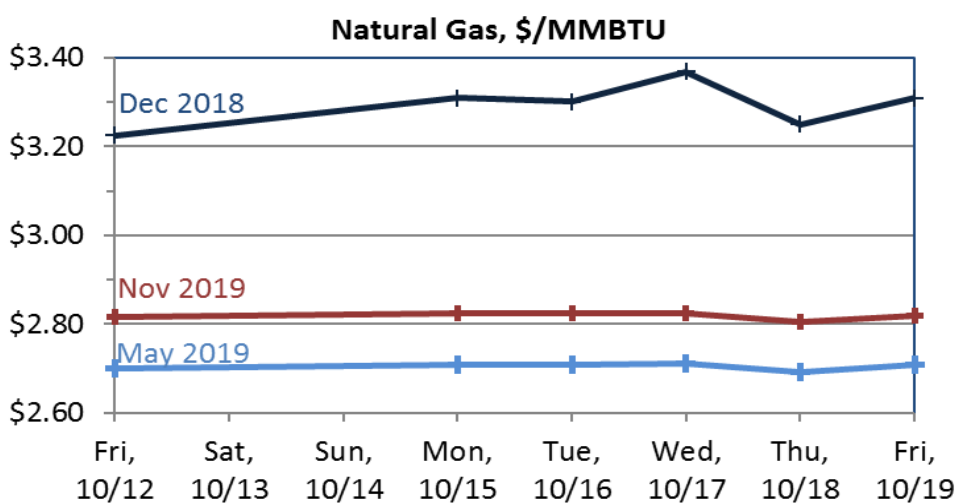
#### NYMEX Futures Summary Statistics

	Last Expired Contract	Exp. Date	Price	Prompt Month	Price	Most Expensive Next 12 Months	Price	Least Expensive Next 12 Months	Price	Next Winter Avg (Nov19-Mar20)
Crude oil	Oct-18	9/20/18	\$70.80	Nov-18	\$69.12	Apr-19	\$69.46	Oct-19	\$68.72	\$67.86
Heating oil	Oct-18	9/28/18	\$2.35	Nov-18	\$2.30	Jan-19	\$2.30	Jun-19	\$2.28	\$2.30
Natural gas	Oct-18	9/26/18	\$3.02	Nov-18	\$3.25	Jan-19	\$3.39	May-19	\$2.71	\$2.93

#### NYMEX End-of-Day Settlements



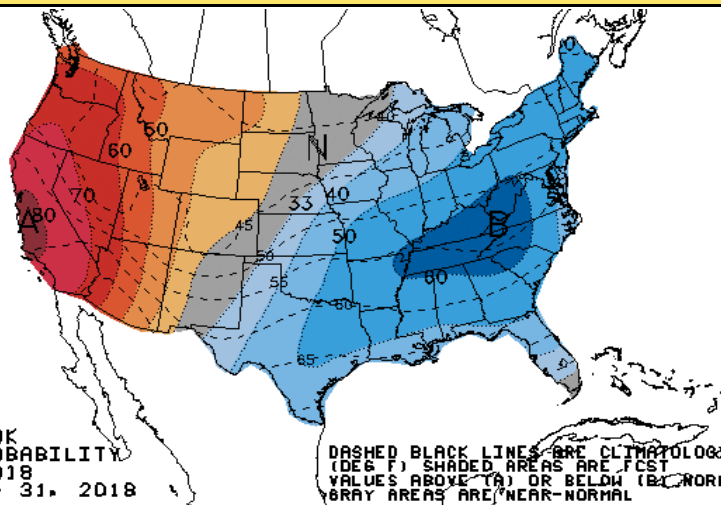
Crude oil prices continued to fall last week; losses for near-term WTI contracts total 8% since the start of the month. The EIA reported Wednesday that US crude stocks have risen 6% since mid-September, sending prices down mid-week. Domestic production remains near 11M barrel per day while refinery rates have slowed for the past 6 weeks due to maintenance in preparation for the heating season. Furthermore, oil and gas firm Baker Hughes, Inc. reported that active US oil rigs rose by 4 last week, bringing the current count to 19% above a year-ago. Oil prices are continuing to fall on Monday as the dollar strengthened and Saudi Arabia's energy minister said that it would continue to boost output to compensate for the loss of production from Iran. He also reported that production is at 10.7M barrels per day and total capacity is 12M barrels per day. Production from Iran is expected to drop 1.5M barrels per day.



Natural gas prices rose 3% last week as lower-than-average temperatures threaten to limit remaining storage injections. Near-term contracts strengthened as the winter heating season approaches. With inventories 16% behind the 5-year average, futures markets have been sensitive to changes in weather forecasts – the major factor seen influencing the storage balance – and EIA inventory reports. Regions including Southern California and the Northeast could see price volatility in the winter spot markets due to regional storage limitations or pipeline constraints amid competing demand for heating and generation. November futures closed at \$3.25/MMBtu on Friday afternoon, a 9-cent increase over the previous week, but these gains were reversed in trading on Monday.

The National Weather Service near-term forecast calls for below-average temperatures for the eastern half of the United States. The natural gas market scores on page 1 declined from the previous week. Clients with electricity or natural gas contracts expiring in 2018 and 2019 should consult with a CES representative for customized guidance.

**National Weather Service Forecast**



**6 - 10 Day Forecast for Oct 27 - Oct 31**

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



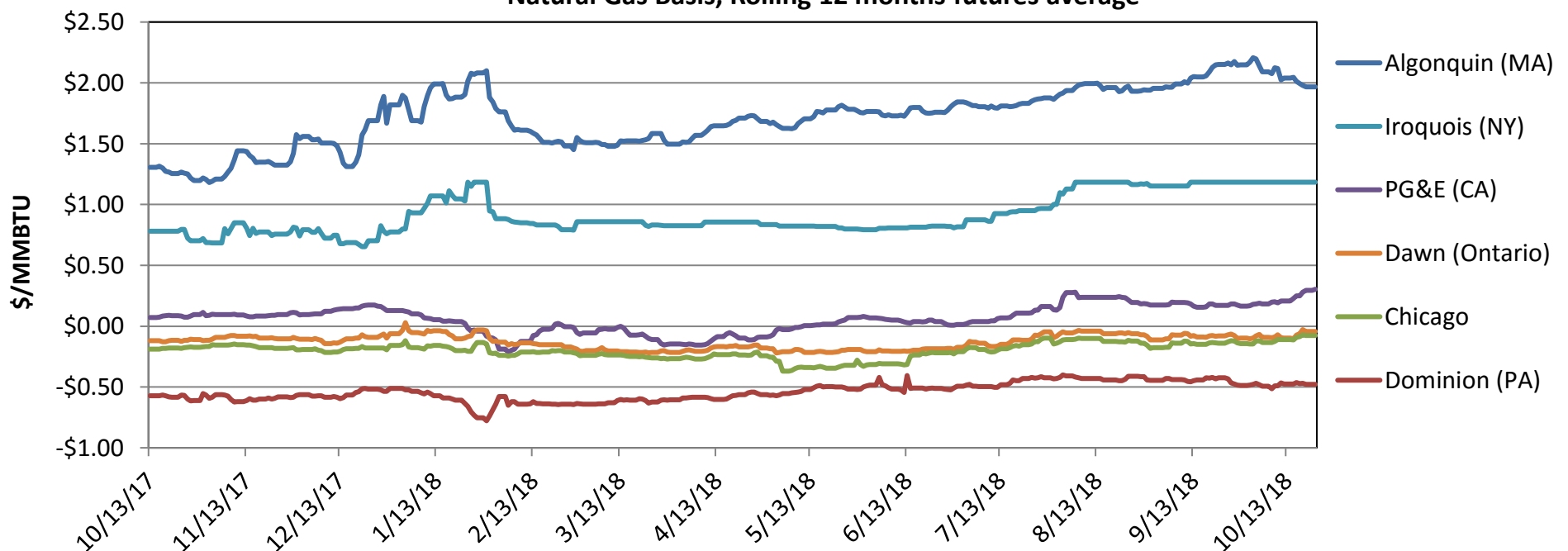
6-10 DAY OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 21 OCT 2018  
VALID OCT 27 - 31, 2018

DASHED BLACK LINES ARE CLIMATEOLOGY (DEG F). SHADED AREAS ARE FCST VALUES ABOVE (+) OR BELOW (-) NORMAL. GRAY AREAS ARE NEAR-NORMAL.

**Natural Gas Basis Futures**

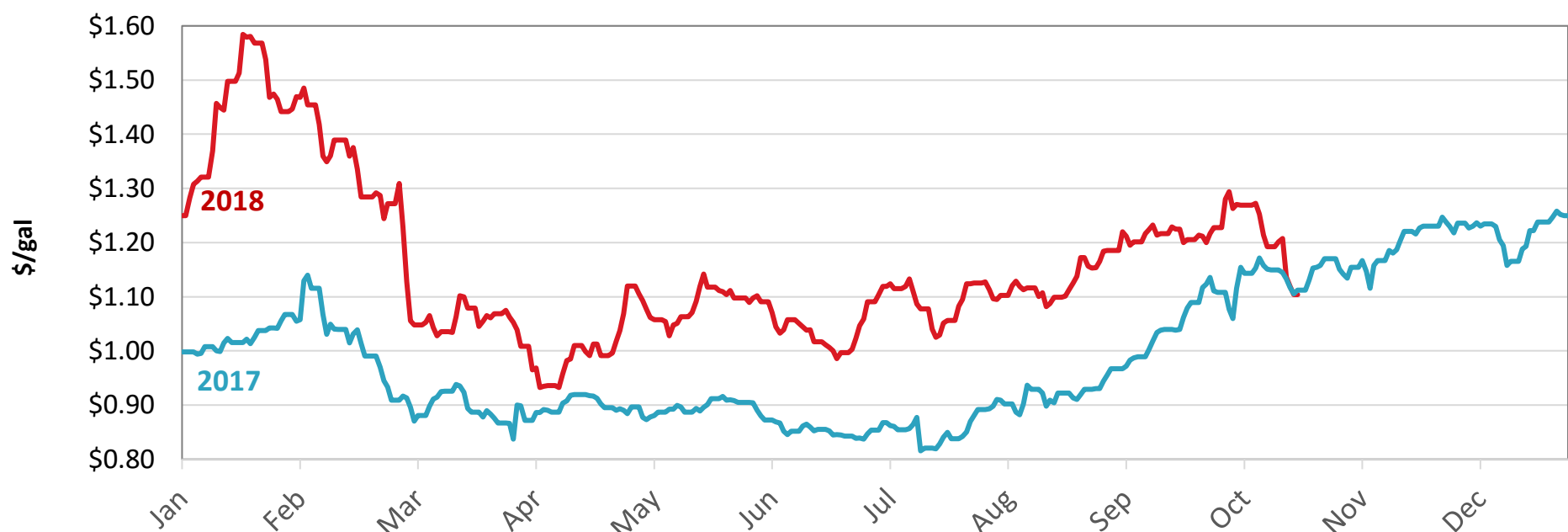
Basis is the price differential between Henry Hub, located in Erath, Louisiana, and the liquidity point closest to the end-user. Because Henry Hub is used as the delivery point for NYMEX natural gas futures contracts, the cost of using natural gas in any geographic region of the country can be approximated 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>							<b>Avg</b>	
		10/15/18	10/16/18	10/17/18	10/18/18	10/19/18	10/20/18	10/21/18		
<b>Power (\$/MWh)</b>	Maine RT On Pk	80	32	31	31	34			42	
	Maine RT Off Pk	41	51	25	27	31	37	33	35	
	NH RT On Pk	82	34	32	32	34			43	
	NH RT Off Pk	42	54	28	27	31	40	34	37	
	Vermont RT On Pk	77	33	31	31	33			41	
	Vermont RT Off Pk	41	52	28	27	30	39	33	36	
	Connecticut RT On Pk	79	34	31	32	33			42	
	Connecticut RT Off Pk	41	54	28	27	30	39	33	36	
	Rhode Island RT On Pk	80	33	31	32	33			42	
	Rhode Island RT Off Pk	41	54	28	27	31	40	33	36	
	NE Mass RT On Pk	82	34	32	32	34			43	
	NE Mass RT Off Pk	42	55	29	28	31	40	34	37	
	SE Mass RT On Pk	81	34	31	32	34			43	
	SE Mass RT Off Pk	42	54	28	27	31	40	34	37	
	WC Mass RT On Pk	81	34	31	32	34			42	
	WC Mass RT Off Pk	41	54	28	27	31	40	34	37	
		<b>New York ISO Real Time Power Pricing By Zone (\$/MWh)</b>							<b>Avg</b>	
<b>Power (\$/MWh)</b>	Capital RT On Pk	40	28	30	38	33			34	
	Capital RT Off Pk	26	33	20	31	43	35	38	32	
	Central RT On Pk	34	27	26	36	31			31	
	Central RT Off Pk	17	8	6	7	28	20	25	16	
	Hudson RT On Pk	39	28	29	38	34			34	
	Hudson RT Off Pk	24	26	15	24	39	31	35	28	
	Mohawk RT On Pk	32	27	24	35	30			30	
	Mohawk RT Off Pk	18	9	4	7	26	19	28	16	
	Milwood RT On Pk	39	28	29	38	34			34	
	Milwood RT Off Pk	24	26	16	24	39	31	35	28	
	NYC RT On Pk	40	28	30	40	35			34	
	NYC RT Off Pk	24	26	16	24	39	31	35	28	
			<b>PJM Real Time Power Pricing By Zone (\$/MWh)</b>							<b>Avg</b>
	<b>Power (\$/MWh)</b>	Eastern Hub On Pk	42	34	32	33	33			35
		Eastern Hub Off Pk	24	21	23	24	24	24	24	23
		Western Hub On Pk	33	28	30	32	32			31
Western Hub Off Pk		22	21	23	24	24	24	24	23	
PPL Zone On Pk		31	27	29	30	30			30	
PPL Zone Off Pk		22	21	23	23	23	23	23	23	
AEP RT On Pk		33	28	31	31	31			31	
AEP RT Off Pk		22	22	23	25	25	25	25	24	
Chicago RT On Pk		32	27	32	31	31			31	
Chicago RT Off Pk		20	21	20	23	23	23	23	22	
New Jersey Hub On Pk		31	27	29	31	31			30	
New Jersey Hub Off Pk		22	21	23	24	24	24	24	23	
		<b>California ISO Real Time Power Pricing (\$/MWh)</b>							<b>Avg</b>	
<b>Natural Gas \$/MMBtu</b>		SoCal Edison RT On Pk	16	19	21	39	47			29
		SoCal Edison RT Off Pk	34	38	36	36	43	36	31	36
				10/15/18	10/16/18	10/17/18	10/18/18	10/19/18	10/20/18	10/21/18
	Henry Hub, LA	3.28	3.29	3.32	3.30	3.22			3.28	
	TZ6, MA	3.47	3.55	4.00	3.33	3.63			3.60	
	Algonquin, MA	3.31	3.45	4.70	3.19	3.36			3.60	
	Chicago Hub, IL	3.29	3.39	3.41	3.25	3.33			3.33	
	New York, NY	3.15	3.10	3.24	3.20	3.06			3.15	
	Dominion South, PA	2.95	3.00	3.09	2.87	2.98			2.98	
	Opal Hub, WY	3.08	3.12	3.22	3.11				3.13	
PG&E Citygate, CA		3.71	3.83	3.89	3.91			3.84		