



# Competitive Energy Services Weekly Market Summary

October 29 - November 2, 2018

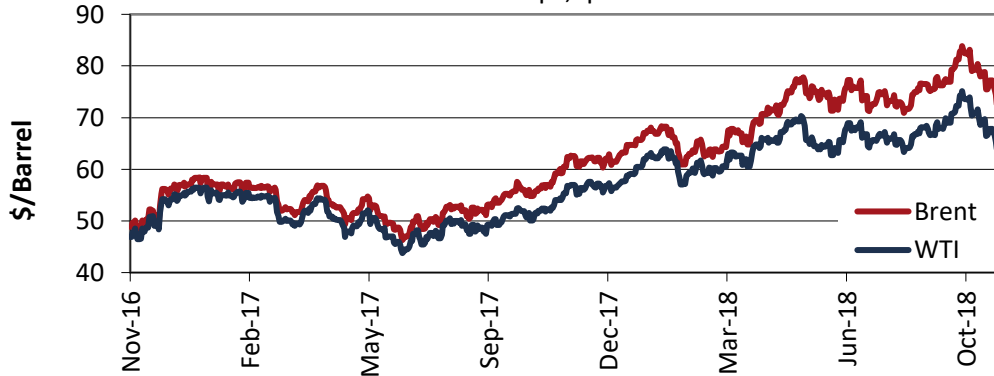
## Synopsis of Last Week's Energy Markets

Crude oil prices declined for the fourth straight week. Saudi Arabia and Russia continue to ramp up production as sanctions against Iran were reinstated November 4. In addition, eight nations were given waivers to the sanctions. Natural gas prices rose 2% last week and extended those gains in trading Monday morning as forecasts for November cooled, threatening stronger withdrawals from inventories which are already at 15-year lows.

## Oil Market

### Crude Oil - WTI & Brent

12-Month Forward Strips, past 24 months

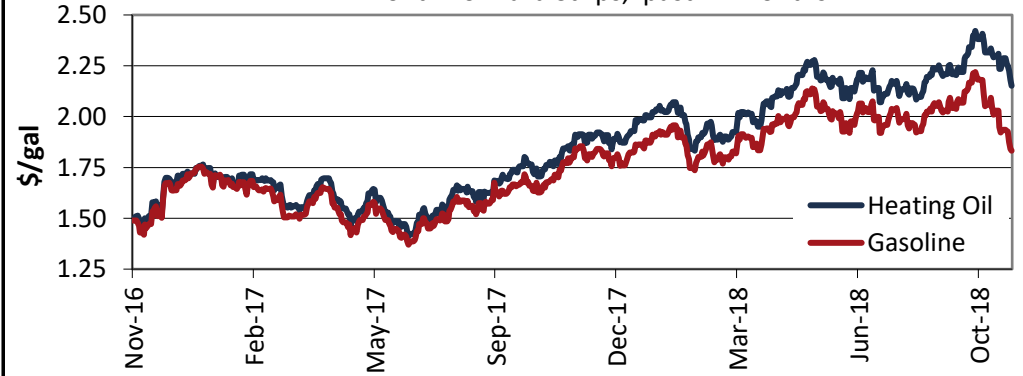


NYMEX WTI	last close	previous week	24-month high	24-month low
12 month strip, \$/bbl	\$63.69	\$67.83	\$75.39	\$43.82
date	11/2/18	10/26/18	10/3/18	6/21/17
change from last close		-6.1%	-15.5%	45%

US STORAGE (in million bbls)		crude oil
domestic stocks as of	10/26/18	426
gain / loss from previous week		3.2
comparison to historic range		within

### Heating Oil & Gasoline

NYMEX 12-Month Forward Strips, past 24 months

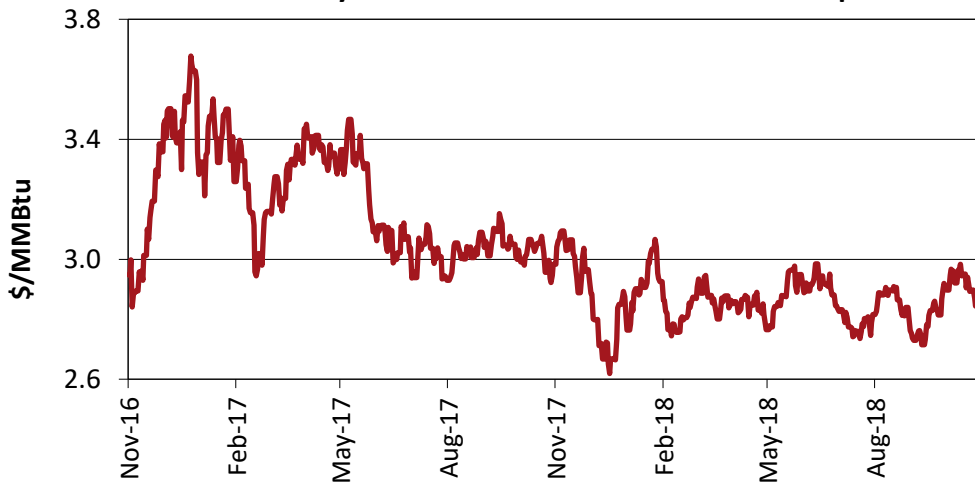


NYMEX Heating Oil	last close	previous week	24-month high	24-month low
12 month strip, \$/gal	\$2.16	\$2.29	\$2.43	\$1.41
date	11/2/18	10/26/18	10/3/18	6/21/17
change from last close		-5.7%	-11%	53%

US STORAGE (in million bbls)		distillate	propane	gasoline
domestic stocks as of	10/26/18	126	83	226
gain / loss from previous week		-4.1	1.0	-3.2
comparison to historic range		within	within	above

## Natural Gas Market

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



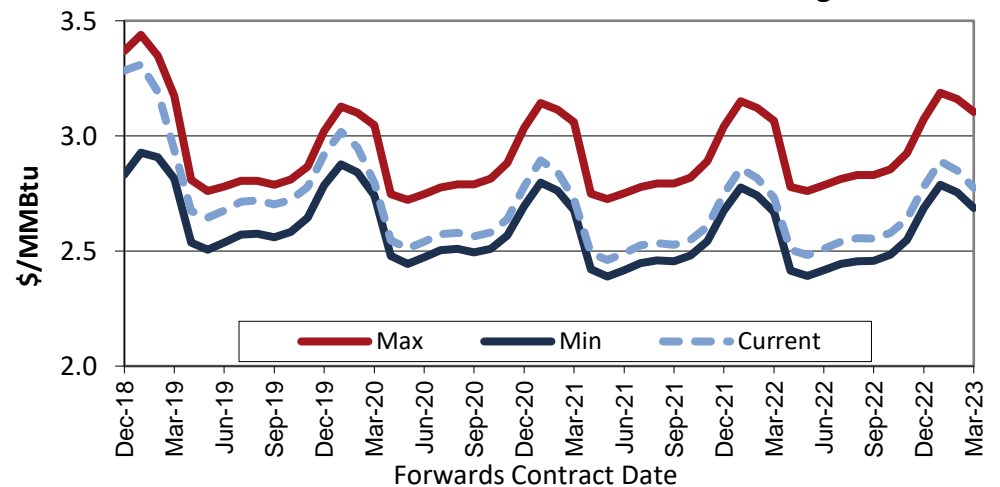
NYMEX PRICING	last close	previous week	24-month high	24-month low
12 mo. strip, \$/MMBtu	\$2.86	\$2.90	\$3.70	\$2.61
date	11/2/18	10/26/18	12/28/16	12/21/17
change from last close		-1.2%	-23%	10%

#### CES SCORE

12 month	39
18 month	47
24 month	54
36 month	62

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



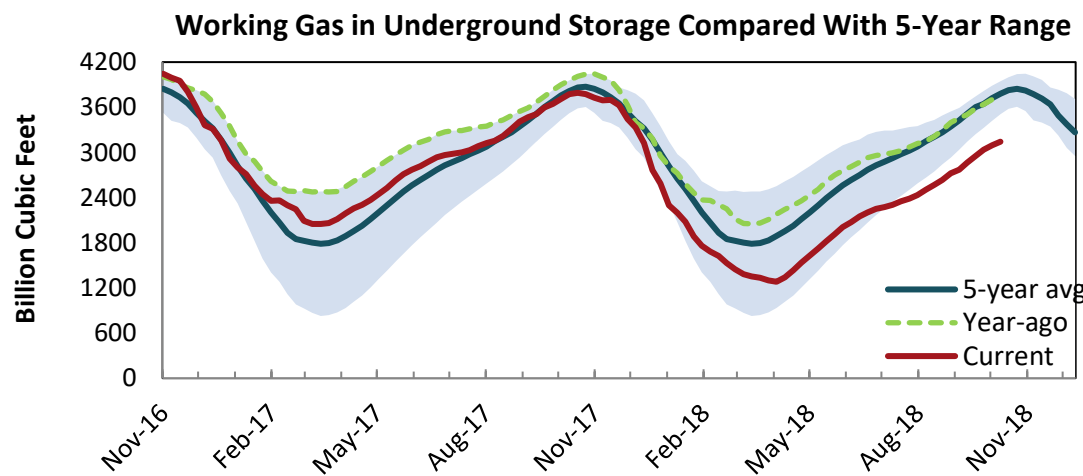
FORWARDS	12 month	18 month	24 month	36 month
strip (\$/MMBtu)	\$2.86	\$2.84	\$2.77	\$2.72

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	10/19/18	3,095		
Most Recent Stock Level	10/26/18	3,143		
Year-ago Stock Level		3,766	-16.5%	
5-Year Average Stock Level		3,781	-16.9%	
Most Recent Net Change	10/26/18	48		
Year-Ago Net Change		65	-26%	
5-Year Average Net Change		62	-23%	

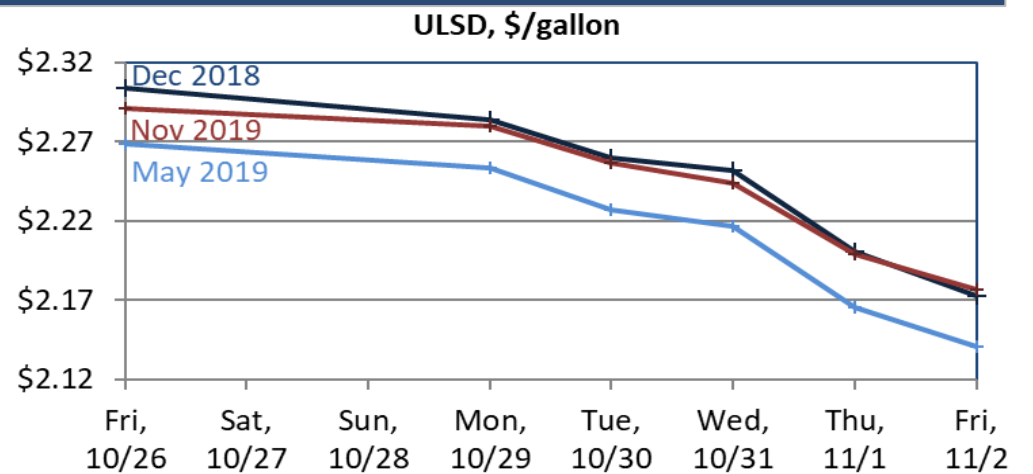
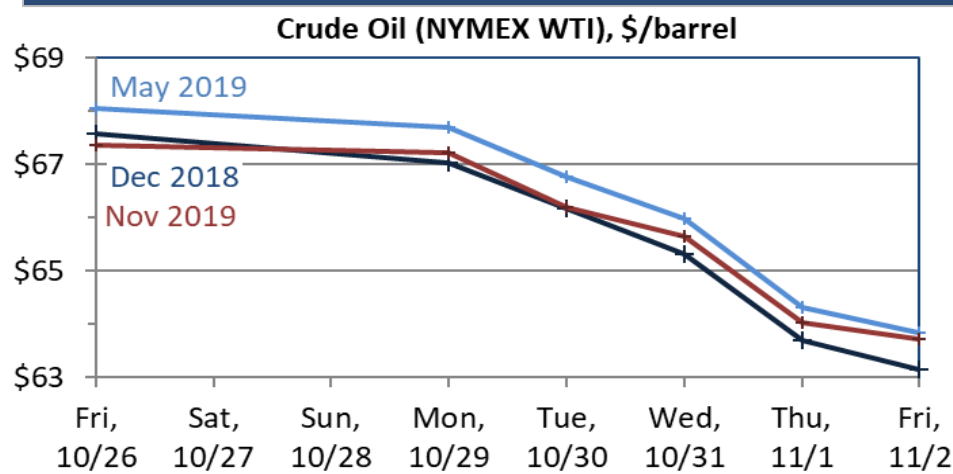
Data Source: EIA <http://tonto.eia.doe.gov/oog/info/ngs/ngs.html>

### Market Assessment

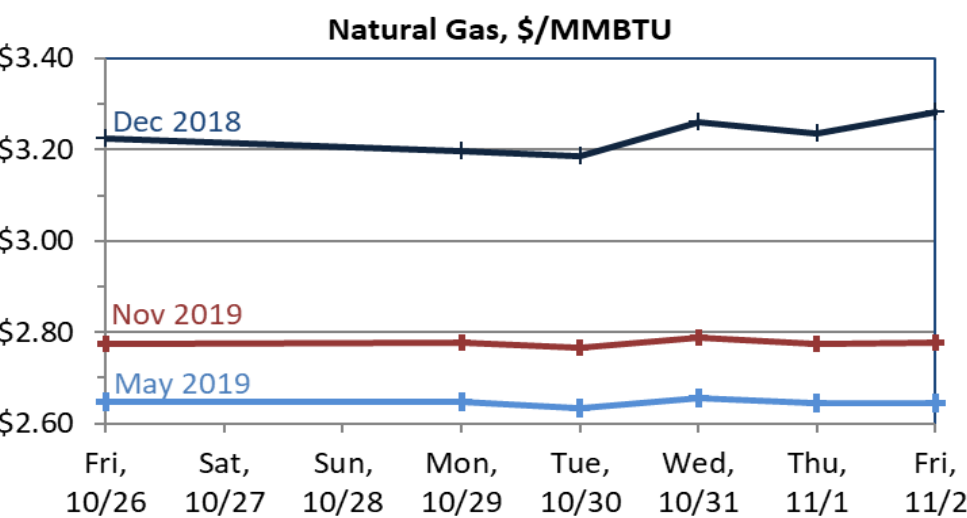
#### NYMEX Futures Summary Statistics

	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	Nov-18	10/22/18	\$69.17	Dec-18	\$63.14	Jul-19	\$63.98	Dec-18	\$63.14	\$63.36
Heating oil	Nov-18	10/31/18	\$2.26	Dec-18	\$2.17	Nov-19	\$2.18	Jun-19	\$2.14	\$2.18
Natural gas	Nov-18	10/29/18	\$3.19	Dec-18	\$3.28	Jan-19	\$3.31	May-19	\$2.65	\$2.89

#### NYMEX End-of-Day Settlements



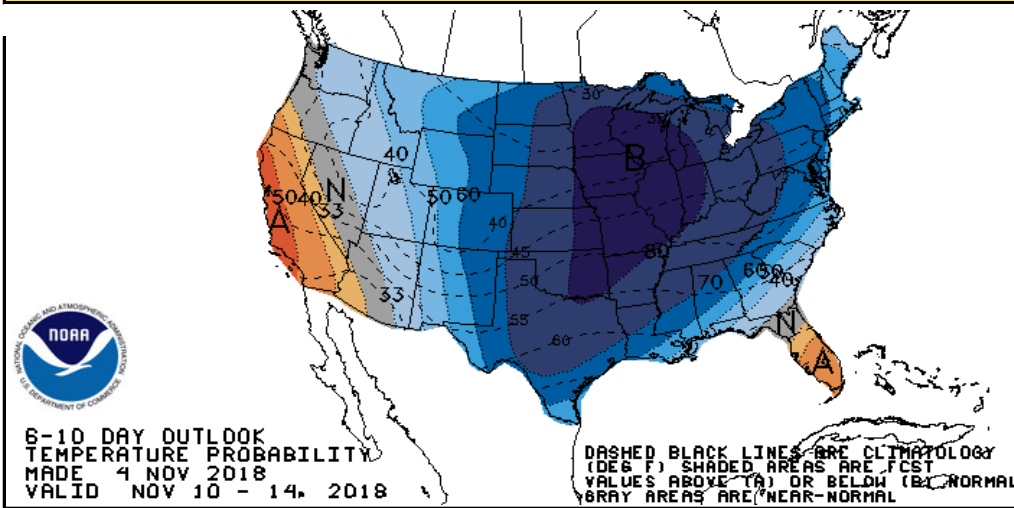
Crude oil prices dropped dramatically last week. Contracts for delivery in the next five months have fallen 14-15% over the past 4 weeks, erasing the gains from mid-August through early October when the oil markets began pricing in the reinstatement of Iran sanctions. Early this week US equities fell on reports that in early December the Trump Administration would announce tariffs on the remaining imports from China. An escalation of the trade war would crimp crude oil demand from the world's 2 largest consumers, driving down prices. Mid-week, the EIA reported that US crude oil stocks gained for a sixth straight week, further putting a cap on prices. Internationally, Saudi Arabia and Russia continue to ramp up production in light of the Iran oil sanctions. On Friday the State Department agreed to grant waivers to 8 countries to continue importing oil from Iran.



Natural gas prices gained 6 cents last week, closing at \$3.28/MMBtu on Friday afternoon, but traded well above \$3.50/MMBtu on Monday morning. Revised weather forecasts for mid-November show stronger chances of below-average temperatures across the middle and eastern portions of the U.S., foreshadowing increased heating demand. As the winter season begins with inventories at the lowest levels since 2003, shifting temperatures are seen as the major factor impacting the storage balance. This week's storage gain fell short of the average, allowing the inventory deficit to widen to nearly 640 Bcf (17%) compared to the 5-year average. Monday's rally was largely contained to near-term futures, as strong production continues to moderate prices for outer months.

The National Weather Service near-term forecast calls for below-average temperatures for almost all of the US, particularly in the Midwest. The natural gas market scores on page 1 are steady 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 Nov 10 - 14**

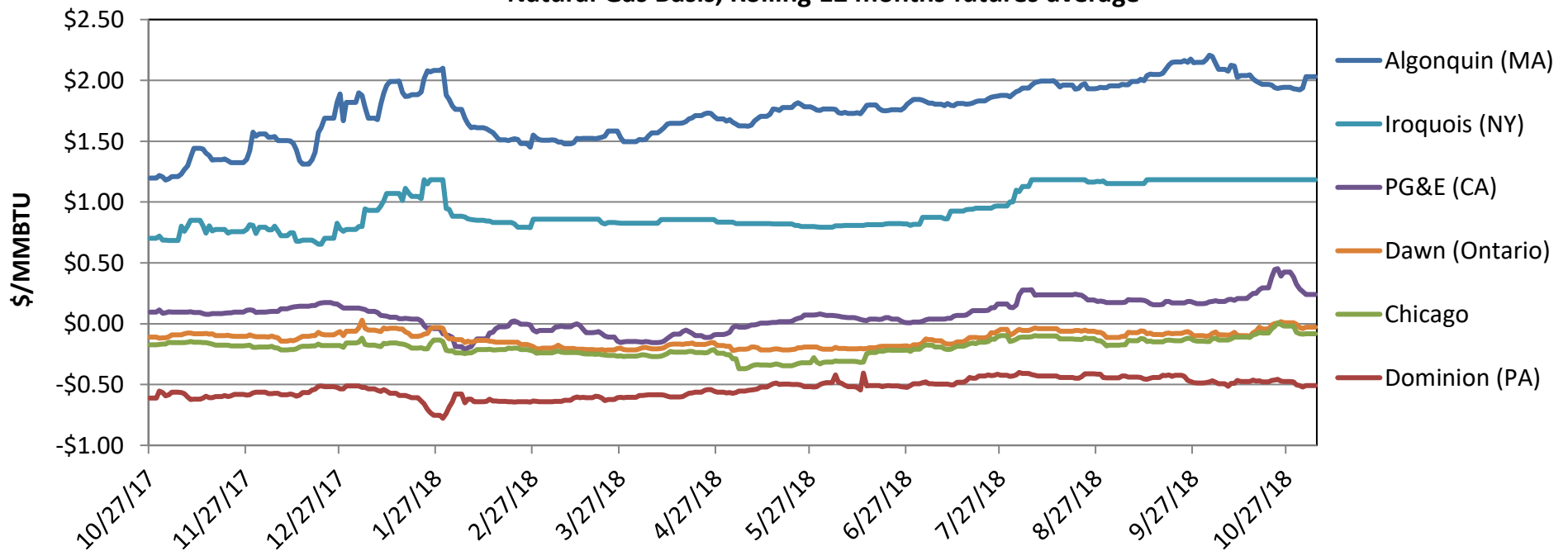
This map depicts forecasted temperatures for next week compared to the long term average. The blue/purple areas are forecast to be colder than normal, white areas are normal, and yellow/orange/red areas are warmer than normal. Abnormally hot weather in the summer and cold weather in the winter can increase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

Source: Chart from the National Weather Service Climate Prediction

**Natural Gas Basis Futures**

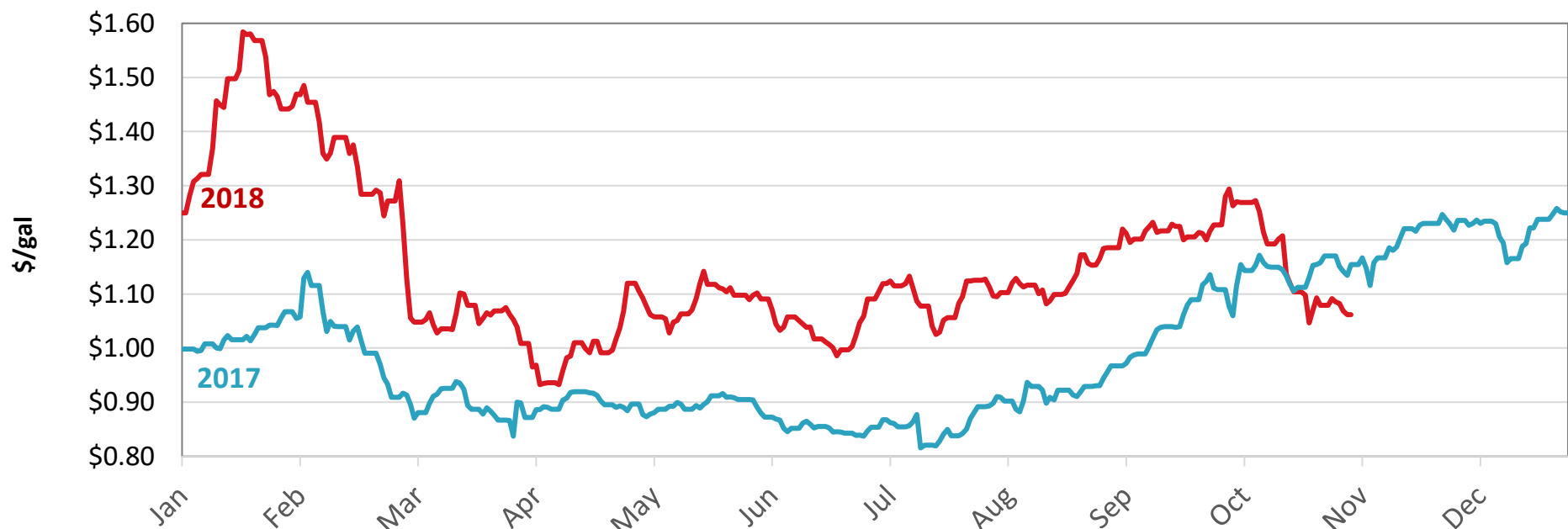
Basis is the price differential between Henry Hub, located in Erath, Louisiana, and the liquidity point closest to the end-user. Because Henry Hub is used as the delivery point for NYMEX natural gas futures contracts, the cost of using natural gas in any geographic region of the country can be approximated 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>							<b>Avg</b>	
		10/29/18	10/30/18	10/31/18	11/1/18	11/2/18	11/3/18	11/4/18		
Power (\$/MWh)	Maine RT On Pk	37	30	29	35	37			34	
	Maine RT Off Pk	27	24	19	21	29	23	15	23	
	NH RT On Pk	37	30	30	35	44			35	
	NH RT Off Pk	27	24	23	22	29	27	17	24	
	Vermont RT On Pk	36	30	29	35	42			34	
	Vermont RT Off Pk	27	24	23	21	28	26	17	24	
	Connecticut RT On Pk	36	30	30	35	43			35	
	Connecticut RT Off Pk	27	24	23	22	29	27	17	24	
	Rhode Island RT On Pk	36	30	29	35	43			35	
	Rhode Island RT Off Pk	27	24	23	22	29	27	17	24	
	NE Mass RT On Pk	36	31	30	35	44			35	
	NE Mass RT Off Pk	27	25	24	22	29	27	17	24	
	SE Mass RT On Pk	36	30	30	35	44			35	
	SE Mass RT Off Pk	27	25	24	22	29	27	17	24	
	WC Mass RT On Pk	36	30	30	35	44			35	
	WC Mass RT Off Pk	27	24	23	22	29	27	17	24	
			<b>New York ISO Real Time Power Pricing By Zone (\$/MWh)</b>							<b>Avg</b>
		Capital RT On Pk	30	28	28	37	38			32
		Capital RT Off Pk	23	23	20	19	22	24	18	21
		Central RT On Pk	29	28	28	36	37			31
	Central RT Off Pk	22	22	19	19	21	24	18	21	
	Hudson RT On Pk	32	29	29	37	39			33	
	Hudson RT Off Pk	23	24	21	19	22	24	19	22	
	Mohawk RT On Pk	29	28	28	35	37			31	
	Mohawk RT Off Pk	22	22	20	18	21	24	17	21	
	Milwood RT On Pk	32	29	29	37	39			33	
	Milwood RT Off Pk	23	24	21	19	22	24	19	22	
	NYC RT On Pk	55	48	37	38	40			44	
	NYC RT Off Pk	22	24	21	20	22	24	19	22	
		<b>PJM Real Time Power Pricing By Zone (\$/MWh)</b>							<b>Avg</b>	
	Eastern Hub On Pk	50	37	45	41	41			43	
	Eastern Hub Off Pk	27	30	29	26	26	26	26	27	
	Western Hub On Pk	40	33	41	35	35			37	
	Western Hub Off Pk	24	31	24	25	25	25	25	26	
	PPL Zone On Pk	40	27	36	34	34			34	
	PPL Zone Off Pk	24	25	24	25	25	25	25	25	
	AEP RT On Pk	40	32	35	35	35			36	
	AEP RT Off Pk	24	36	24	26	26	26	26	27	
	Chicago RT On Pk	39	31	35	35	35			35	
	Chicago RT Off Pk	23	35	24	26	26	26	26	26	
	New Jersey Hub On Pk	40	30	37	35	35			35	
	New Jersey Hub Off Pk	24	27	25	25	25	25	25	25	
		<b>California ISO Real Time Power Pricing (\$/MWh)</b>							<b>Avg</b>	
	SoCal Edison RT On Pk	24	36	23	33	25			28	
	SoCal Edison RT Off Pk	28	33	35	28	30	29	26	30	
		10/29/18	10/30/18	10/31/18	11/1/18	11/2/18	11/3/18	11/4/18	<b>Avg</b>	
Natural Gas \$/MMBtu	Henry Hub, LA	3.22	3.27	3.31	3.35	3.26			3.28	
	TZ6, MA	3.61	3.63	3.05	3.17	3.21			3.33	
	Algonquin, MA	3.55	3.15	2.94	2.97	2.98			3.12	
	Chicago Hub, IL	3.19	3.18	3.10	3.16	3.12			3.15	
	New York, NY	3.17	2.95	2.71	2.80	2.98			2.92	
	Dominion South, PA	2.96	2.88	2.65	2.77	2.75			2.80	
	Opal Hub, WY	3.12	3.07	3.01		2.76			2.99	
	PG&E Citygate, CA	3.95	3.86	3.76	3.67	3.43			3.73	