



# Competitive Energy Services Weekly Market Summary

October 8 - 12, 2018

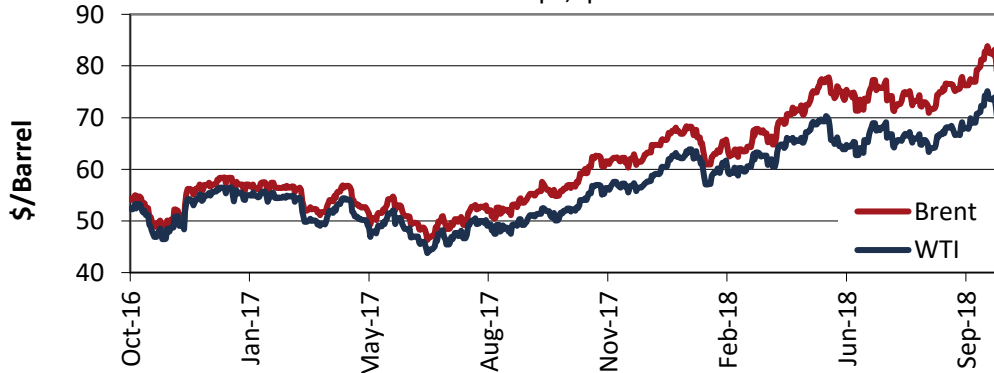
## Synopsis of Last Week's Energy Markets

Crude prices finally fell last week on a combination of factors. A slump in equities brought down commodities, while domestic crude storage gained. However, relations with Saudi Arabia are strained by the disappearance of Jamal Khashoggi, which could boost oil prices. Natural gas prices saw little weekly change as power outages in the wake of Hurricane Michael weighed on markets. This comes despite increasing concern over low storage levels going into the winter season.

## Oil Market

### Crude Oil - WTI & Brent

12-Month Forward Strips, past 24 months

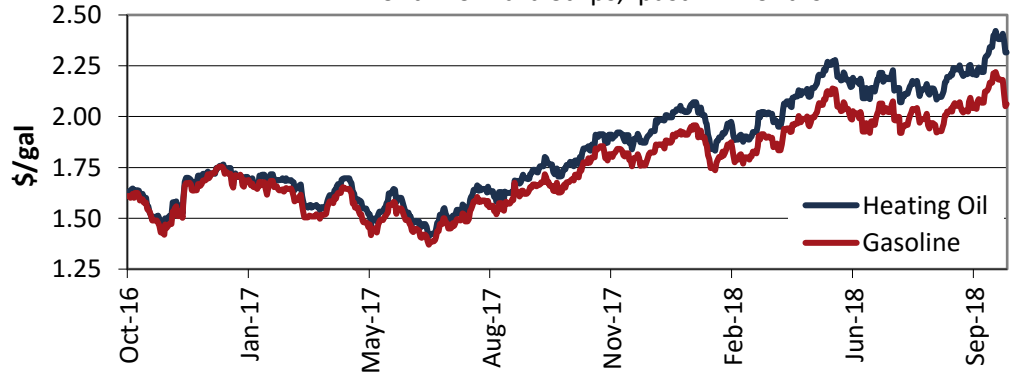


NYMEX WTI	last close	previous week	24-month high	24-month low
12 month strip, \$/bbl	\$70.72	\$73.58	\$75.39	\$43.82
date	10/12/18	10/5/18	10/3/18	6/21/17
change from last close		-3.9%	-6.2%	61%

US STORAGE (in million bbls)		crude oil
domestic stocks as of	10/5/18	410
gain / loss from previous week		6.0
comparison to historic range		within

### Heating Oil & Gasoline

NYMEX 12-Month Forward Strips, past 24 months

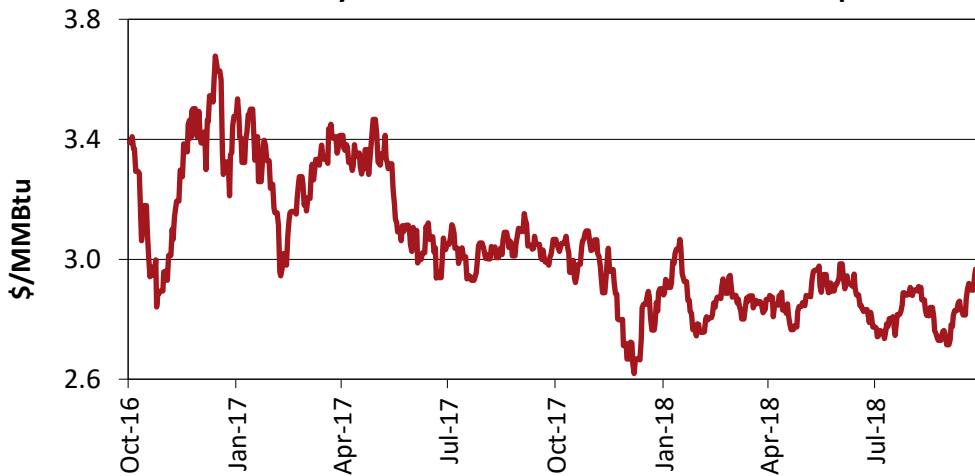


NYMEX Heating Oil	last close	previous week	24-month high	24-month low
12 month strip, \$/gal	\$2.31	\$2.38	\$2.43	\$1.41
date	10/12/18	10/5/18	10/3/18	6/21/17
change from last close		-2.9%	-5%	64%

US STORAGE (in million bbls)		distillate	propane	gasoline
domestic stocks as of	10/5/18	133	80	236
gain / loss from previous week		-2.7	1.5	1.0
comparison to historic range		within	within	above

## Natural Gas Market

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



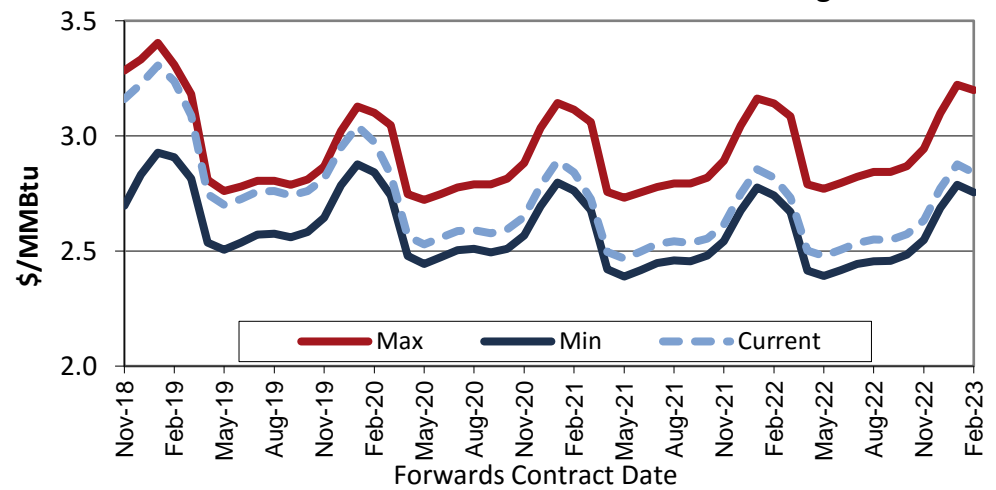
NYMEX PRICING	last close	previous week	24-month high	24-month low
12 mo. strip, \$/MMBTu	\$2.93	\$2.90	\$3.70	\$2.61
date	10/12/18	10/5/18	12/28/16	12/21/17
change from last close		1.3%	-21%	12%

#### CES SCORE

12 month	21
18 month	29
24 month	40
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



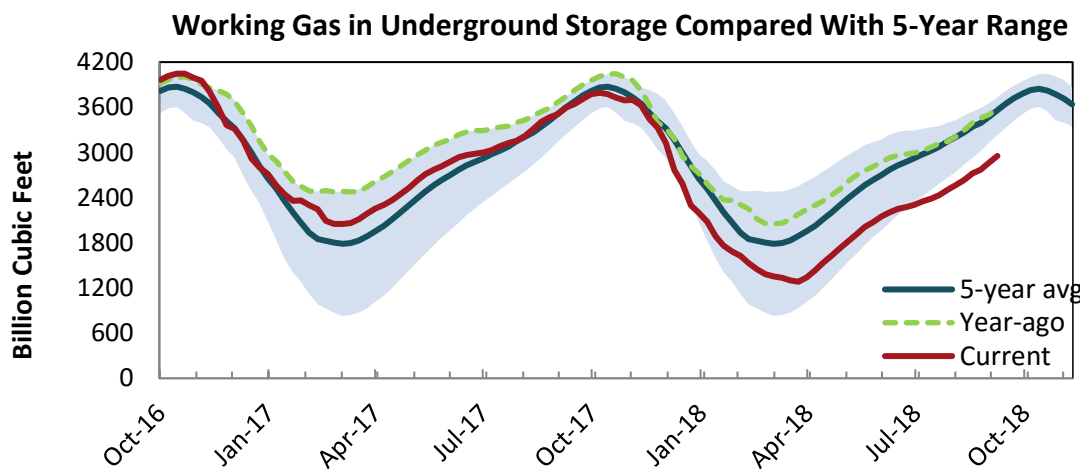
FORWARDS	12 month	18 month	24 month	36 month
strip (\$/MMBTu)	\$2.93	\$2.91	\$2.83	\$2.76

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		9/28/18	2,866	
Most Recent Stock Level		10/5/18	2,956	
Year-ago Stock Level			3,583	-17.5%
5-Year Average Stock Level			3,563	-17.0%
Most Recent Net Change		10/5/18	90	
Year-Ago Net Change			81	11%
5-Year Average Net Change			90	0%

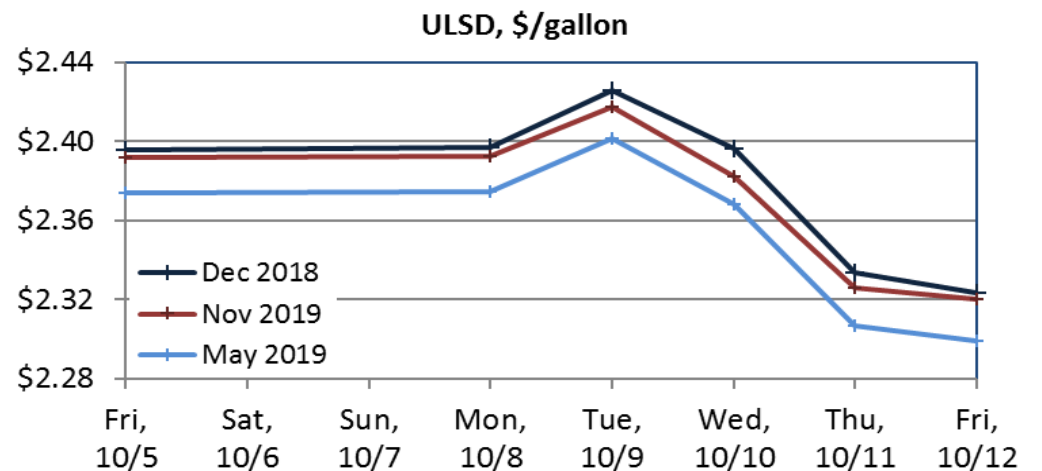
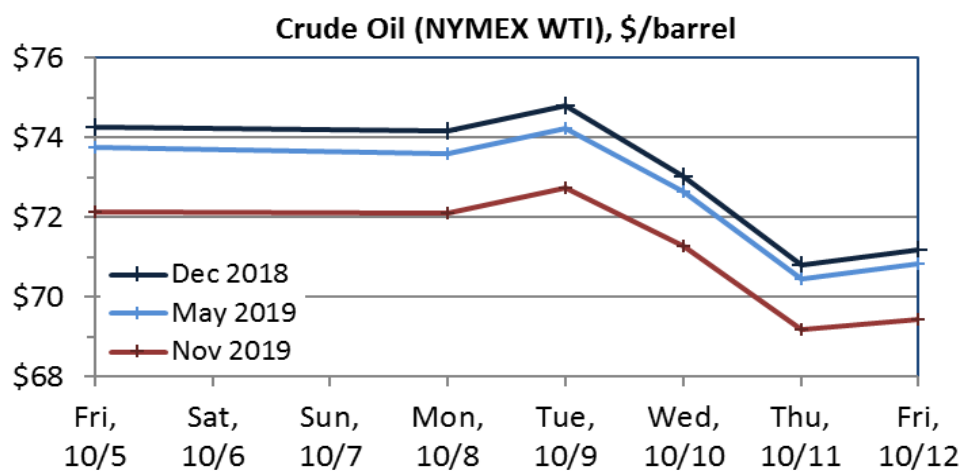
Data Source: EIA <http://tonto.eia.doe.gov/oog/info/ngs/ngs.html>

### Market Assessment

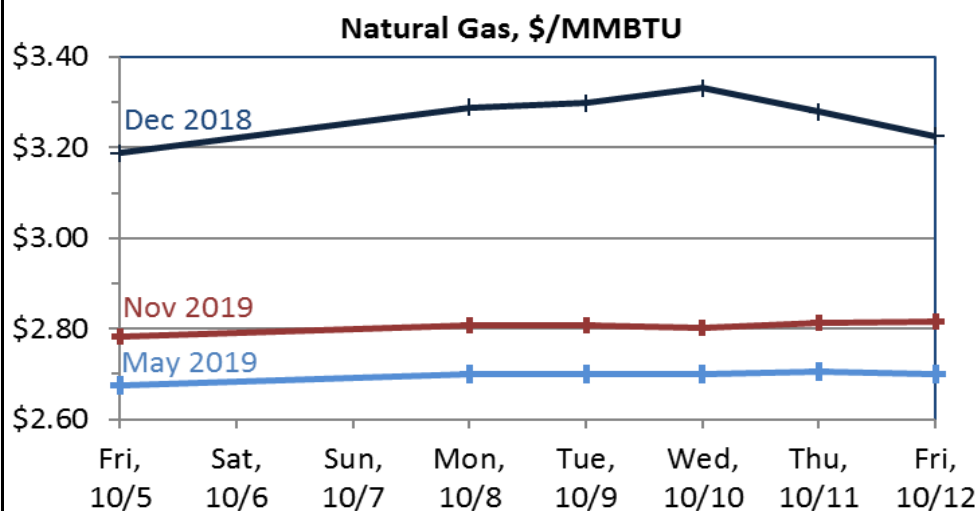
#### NYMEX Futures Summary Statistics

	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	\$71.34	Nov-18	\$71.34	Oct-19	\$69.75	\$68.76
Heating oil	Oct-18	9/28/18	\$2.35	Nov-18	\$2.32	Jan-19	\$2.32	Jun-19	\$2.30	\$2.32
Natural gas	Oct-18	9/26/18	\$3.02	Nov-18	\$3.16	Jan-19	\$3.31	May-19	\$2.70	\$2.92

#### NYMEX End-of-Day Settlements



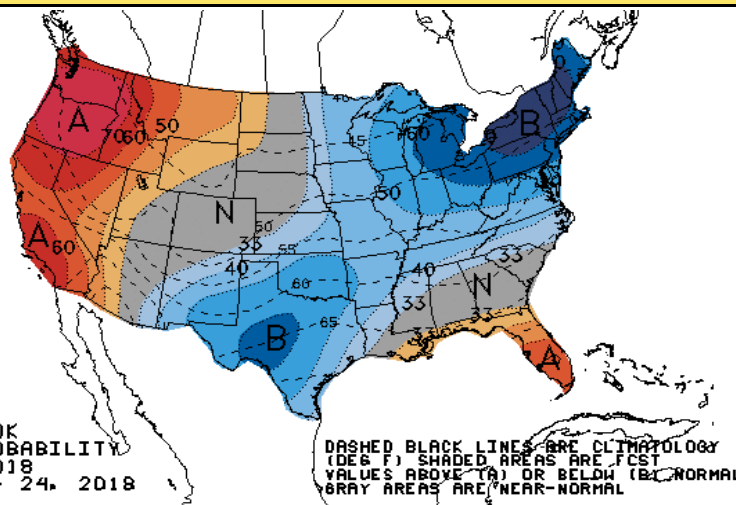
Crude oil prices retreated last week, snapping a four-week streak of gains. A drop in the equities market mid-week dragged down commodities. Furthermore, the EIA reported on Thursday that crude stockpiles rose by 6M barrels, the third straight gain. And although oil platforms in the Gulf of Mexico were shut-in ahead of Hurricane Michael, the storm resulted in little impact to production. Late last week evidence emerged that the Saudi monarchy may have lured Washington Post journalist Jamal Khashoggi to the Saudi embassy in Turkey and murdered him. Officially he remains missing. Over the weekend, President Trump said that there would be "severe punishment" if it turned out Khashoggi was murdered, and Saudi Arabia issued a veiled threat of retaliation if this happened, raising concerns that it would curb oil production in response.



Natural gas prices rose just under 2 cents last week as news of then-Hurricane Michael's landfall weighed on prices despite an outlook for tight storage supply this winter. Outages in the storm's pathway left an estimated 1.5 million customers without power, while low regional temperatures suppressed cooling demand. Cool weather has also stirred heating demand, however, with residential and commercial load rising across the central and southeastern states. This could curb coming storage injections: Platts estimates that the storage deficit will widen in the next two weeks as rising demand overwhelms strong domestic output. Inventories are currently 17% below the 5-year average and below the 5-year range in most regions.

The National Weather Service near-term forecast calls for below average temperatures for the Northeast, especially New England. 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 20 - 24**

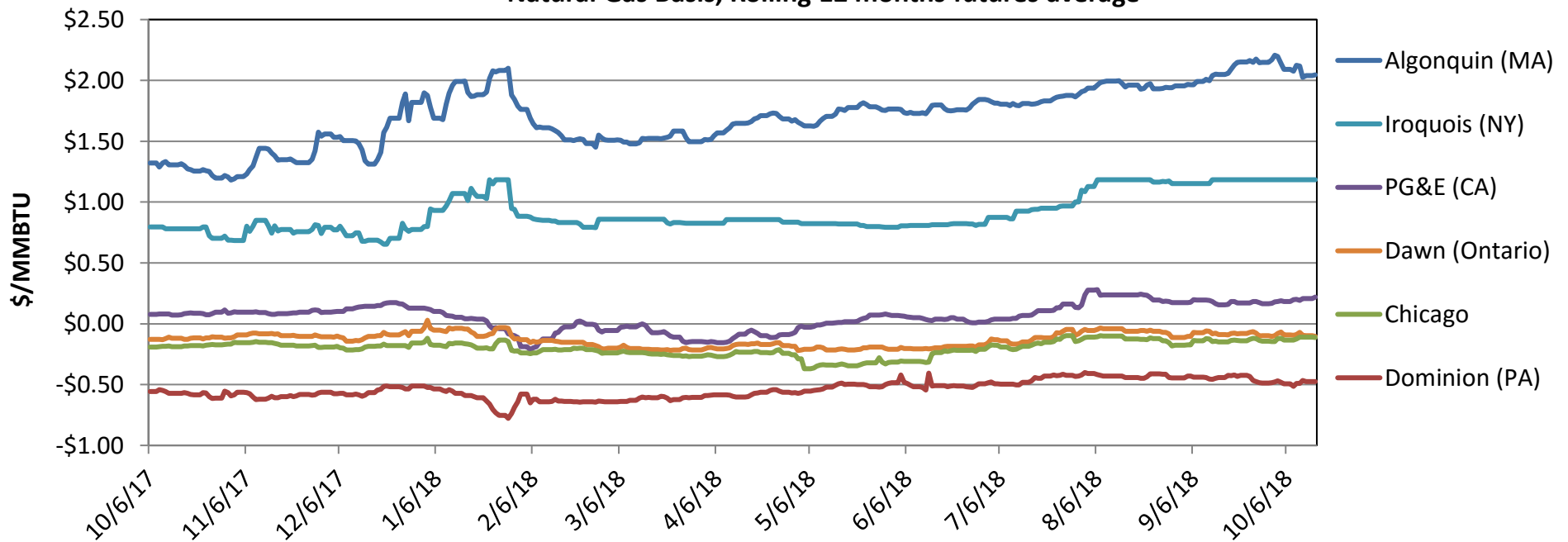
This map depicts forecasted temperatures for next week compared to the long term average. The blue/purple areas are forecast to be colder than normal, white areas are normal, and yellow/orange/red areas are warmer than normal. Abnormally hot weather in the summer and cold weather in the winter can increase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

Source: Chart from the National Weather Service Climate Prediction

**Natural Gas Basis Futures**

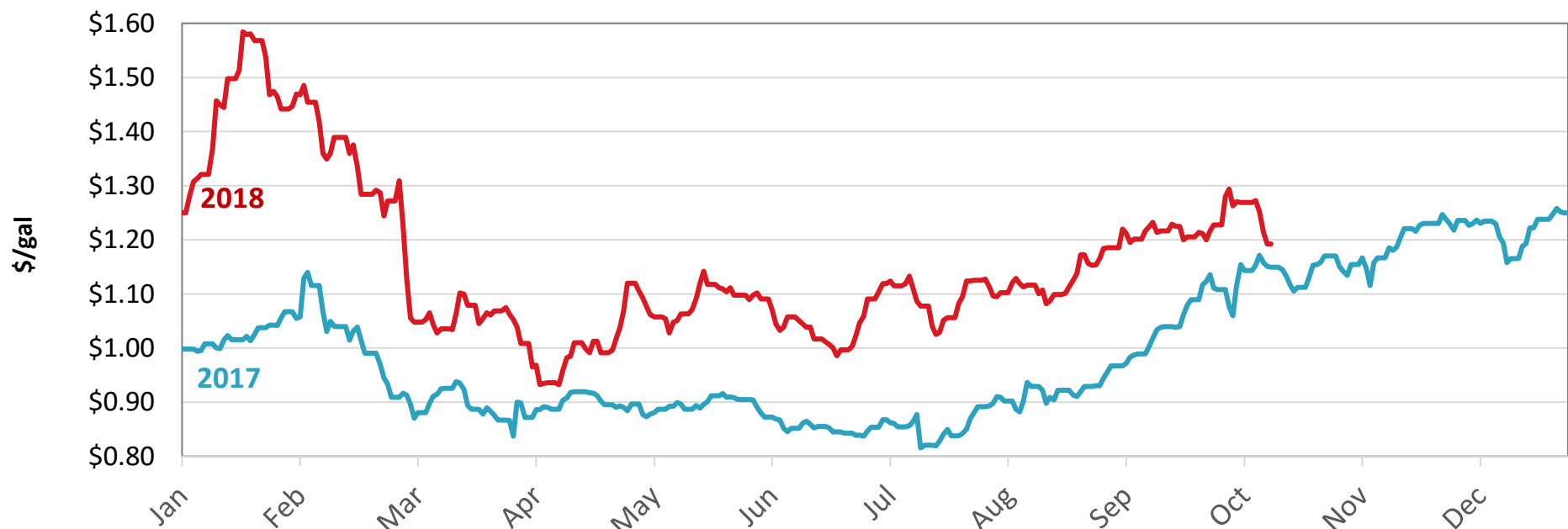
Basis is the price differential between Henry Hub, located in Erath, Louisiana, and the liquidity point closest to the end-user. Because Henry Hub is used as the delivery point for NYMEX natural gas futures contracts, the cost of using natural gas in any geographic region of the country can be approximated 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>	
		10/8/18	10/9/18	10/10/18	10/11/18	10/12/18	10/13/18	10/14/18		
<b>Power (\$/MWh)</b>	Maine RT On Pk	34	36	45	50	45			42	
	Maine RT Off Pk	23	21	28	38	33	34	30	29	
	NH RT On Pk	33	37	46	51	45			42	
	NH RT Off Pk	23	21	28	38	33	34	30	30	
	Vermont RT On Pk	32	37	45	50	43			41	
	Vermont RT Off Pk	22	21	27	37	32	33	30	29	
	Connecticut RT On Pk	32	37	45	50	44			42	
	Connecticut RT Off Pk	22	21	28	37	33	33	30	29	
	Rhode Island RT On Pk	31	36	46	50	45			42	
	Rhode Island RT Off Pk	22	21	28	37	33	34	30	29	
	NE Mass RT On Pk	32	38	46	51	46			42	
	NE Mass RT Off Pk	23	22	28	38	34	34	31	30	
	SE Mass RT On Pk	32	37	49	51	46			43	
	SE Mass RT Off Pk	23	22	28	38	33	34	30	30	
	WC Mass RT On Pk	32	37	45	51	45			42	
	WC Mass RT Off Pk	22	21	28	38	33	34	30	30	
			<b>New York ISO Real Time Power Pricing By Zone (\$/MWh)</b>							<b>Avg</b>
		Capital RT On Pk	30	36	37	40	22			33
		Capital RT Off Pk	19	16	26	27	19	31	33	25
		Central RT On Pk	28	35	36	38	21			32
		Central RT Off Pk	18	15	24	26	18	23	20	21
		Hudson RT On Pk	30	37	38	41	22			34
		Hudson RT Off Pk	19	17	26	28	20	29	30	24
		Mohawk RT On Pk	29	34	36	39	21			32
		Mohawk RT Off Pk	18	15	22	26	18	23	20	20
		Milwood RT On Pk	30	37	38	41	22			34
	Milwood RT Off Pk	19	17	26	28	20	29	30	24	
	NYC RT On Pk	19	40	39	43	27			34	
	NYC RT Off Pk	14	17	26	28	20	30	30	24	
		<b>PJM Real Time Power Pricing By Zone (\$/MWh)</b>							<b>Avg</b>	
	Eastern Hub On Pk	57	55	62	53	53			56	
	Eastern Hub Off Pk	27	29	32	40	40	23	23	31	
	Western Hub On Pk	51	46	43	33	33			41	
	Western Hub Off Pk	24	23	23	29	29	23	23	25	
	PPL Zone On Pk	36	36	49	49	49			44	
	PPL Zone Off Pk	23	22	23	34	34	22	22	26	
	AEP RT On Pk	71	44	38	31	31			43	
	AEP RT Off Pk	25	24	24	31	31	26	26	26	
	Chicago RT On Pk	45	35	34	26	26			33	
	Chicago RT Off Pk	24	23	20	1	1	25	25	17	
	New Jersey Hub On Pk	39	37	44	42	42			41	
	New Jersey Hub Off Pk	24	23	23	32	32	23	23	26	
		<b>California ISO Real Time Power Pricing (\$/MWh)</b>							<b>Avg</b>	
	SoCal Edison RT On Pk	19	25	21	32	26			25	
	SoCal Edison RT Off Pk	32	31	30	34	28	34	21	30	
		10/8/18	10/9/18	10/10/18	10/11/18	10/12/18	10/13/18	10/14/18	<b>Avg</b>	
<b>Natural Gas \$/MMBtu</b>	Henry Hub, LA	3.31	3.40	3.45	3.18	3.22			3.31	
	TZ6, MA	3.26	3.33	3.50	3.13	3.18			3.28	
	Algonquin, MA	2.97	3.05	3.07	2.83	2.86			2.96	
	Chicago Hub, IL	3.12	3.26	3.39	3.18	3.15			3.22	
	New York, NY	2.81	2.68	2.91		2.85			2.81	
	Dominion South, PA	2.71	2.64	2.75	2.65	2.54			2.66	
	Opal Hub, WY	2.95	2.96	3.22	2.84	3.00			2.99	
	PG&E Citygate, CA	3.49		3.73	3.50	3.52			3.56	