



# Competitive Energy Services Weekly Market Summary

August 28 - September 1, 2017

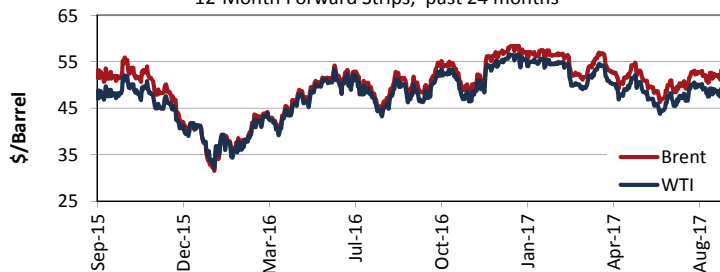
## Synopsis of Last Week's Energy Markets

Crude oil and refined products have been on a short roller coaster ride due to Hurricane Harvey. With its impacts on Gulf Coast refineries, gasoline and diesel prices climbed last week but are stabilizing as refining activity resumes normal operations. Natural gas prices rose 5% last week amid halted production and depressed power burn demand in the wake of then-Hurricane Harvey. Inventory levels are typical for this time of year, with the surplus narrowing to just 0.3% to the 5-year average.

## Oil Market

### Crude Oil - WTI & Brent

12-Month Forward Strips, past 24 months

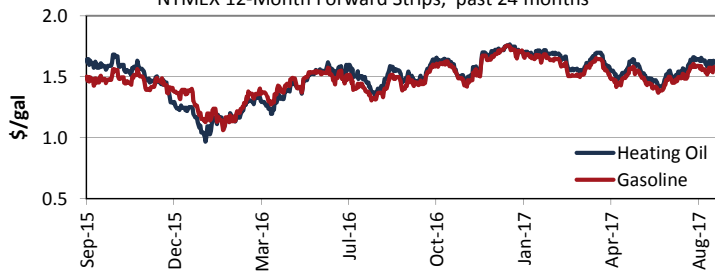


NYMEX WTI	last close	previous week	24-month high	24-month low
12 month strip, \$/bbl	\$49.26	\$48.71	\$56.70	\$32.40
date	9/1/17	8/25/17	1/6/17	1/20/16
change from last close		1.1%	-13.1%	52%

US STORAGE (in million bbls)	crude oil
domestic stocks as of	8/25/17
	458
gain / loss from previous week	-5.4
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	\$1.68	\$1.62	\$1.76	\$0.97
date	9/1/17	8/25/17	1/2/17	1/20/16
change from last close		3.6%	-5%	74%

US STORAGE (in million bbls)	distillate	propane	gasoline
domestic stocks as of	8/25/17		
	149	74	230
gain / loss from previous week	0.7	1.4	0.0
comparison to historic range	within	within	within

## Natural Gas Market

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

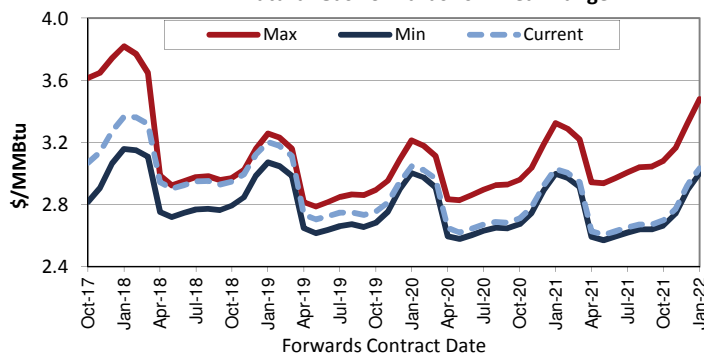


NYMEX PRICING	last close	previous week	24-month high	24-month low
12 mo. strip, \$/MMBTu	\$3.09	\$3.01	\$3.70	\$2.11
date	9/1/17	8/25/17	12/28/16	2/25/16
change from last close		2.9%	-16%	47%

CES SCORE	
12 month	40
18 month	34
24 month	39
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)	\$3.09	\$3.09	\$3.00	\$2.93

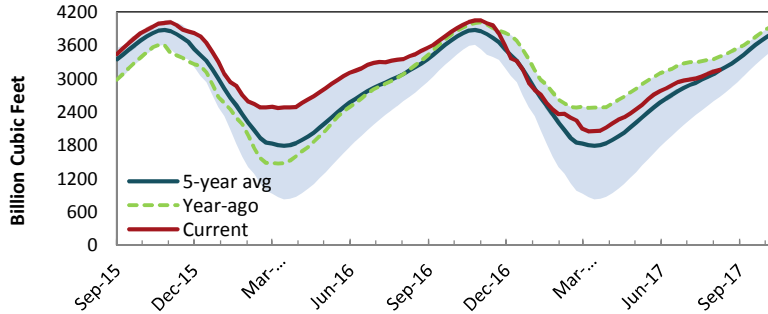
Natural gas futures are useful for both natural gas and electricity consumers because they drive electricity pricing in many U.S. markets. This chart compares the current natural gas price for each forward month on the NYMEX exchange to the highest and lowest prices for the same month over the past 12 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	8/18/17	3,125	
Most Recent Stock Level	8/25/17	3,155	
Year-ago Stock Level		3,394	-7.0%
5-Year Average Stock Level		3,147	0.3%
Most Recent Net Change	8/25/17	30	
Year-Ago Net Change		46	
5-Year Average Net Change		67	

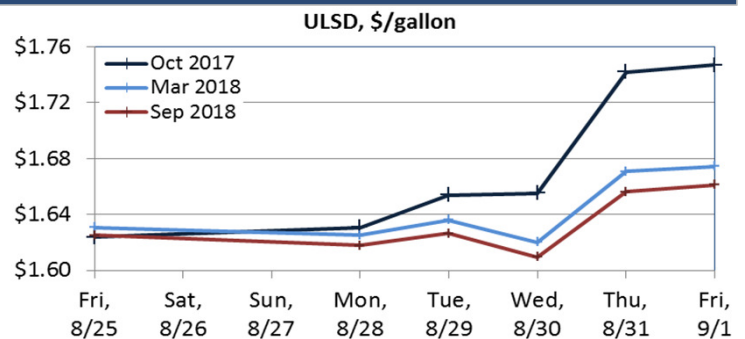
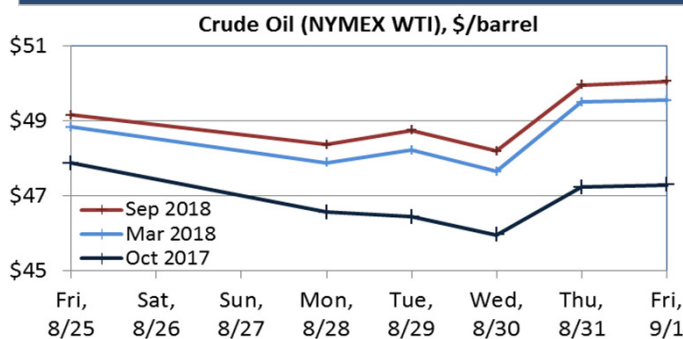
Data Source: EIA <http://tonto.eia.doe.gov/oog/info/ngs/ngs.html>

### Market Assessment

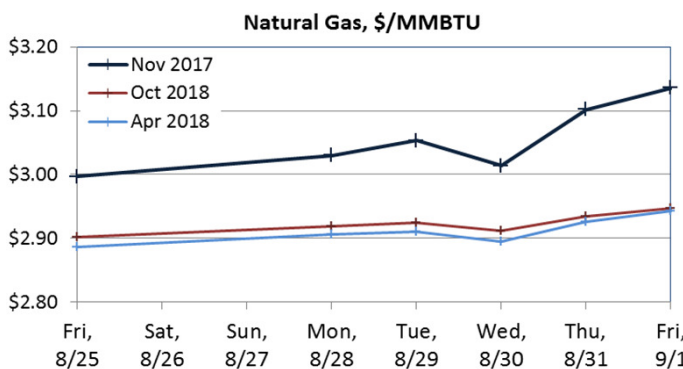
#### NYMEX Futures Summary Statistics

	Last Expired Contract	Exp. Date	Price	Prompt Month	Price	Most Expensive Next 12 Months	Price	Least Expensive Next 12 Months	Price	Next Winter Avg (Nov17-Mar18)
Crude oil	Sep-17	8/22/17	\$47.64	Oct-17	\$47.29	Sep-18	\$50.05	Oct-17	\$47.29	\$48.88
Heating oil	Sep-17	8/31/17	\$1.76	Oct-17	\$1.75	Oct-17	\$1.75	Jun-18	\$1.65	\$1.70
Natural gas	Sep-17	8/29/17	\$2.96	Oct-17	\$3.07	Jan-18	\$3.37	May-18	\$2.90	\$3.29

#### NYMEX End-of-Day Settlements



Crude oil prices were stable relative to refined products, which jumped last week as flooding from Hurricane Harvey knocked out refining activity on the Gulf Coast. Prompt month crude dipped to a 7-week low Wednesday, while gasoline futures rose to a 5-month high by the week's end. Analysts are projecting that refining outages will cause crude stocks to build, keeping a cap on prices. The next EIA report should reflect the impact on crude oil and crude product stocks. Refineries resumed operations over the weekend; as of this morning, crude oil prices are on a four-day rally while gasoline futures crested on August 31 and have receded since. Crude oil is also rising this week on reports that Russia and Saudi Arabia are considering another extension to the OPEC-led production cuts.



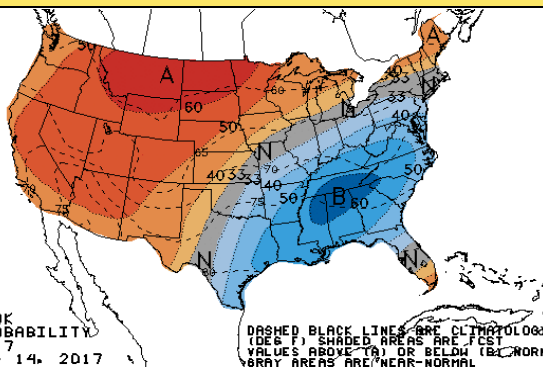
Natural gas prices were stagnant early in the week as power outages and cool weather in Harvey's path curbed demand for generation in the South-Central region, which has been characterized by higher than usual demand this summer. Halted production in the region has had less influence on markets as the shale boom has shifted domestic production onshore and northward. October futures gained 10 cents on Thursday following a lower-than-expected storage gain of 30 Bcf, bringing inventory to just 8 Bcf above the 5-year average. Forecasts indicate Hurricane Irma's path is highly uncertain, but could track along the Gulf Coast after making landfall later this week. September contracts settled at \$2.96 on Tuesday; October futures closed on Friday afternoon at \$3.07.

The National Weather Service near-term forecast calls for below-normal temperatures for a swath of the eastern US from Texas up to southern New England, while the rest of the US is expected to be warmer than normal. The natural gas market scores on page 1 fell drastically from the previous week. Clients with electricity or natural gas contracts expiring in 2017 or 2018 should consult with a CES representative for customized guidance.

### National Weather Service Forecast



6-10 DAY OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 4 SEP 2017  
VALID SEP 10 - 14, 2017



#### 6 - 10 Day Forecast for September 10 - 14, 2017

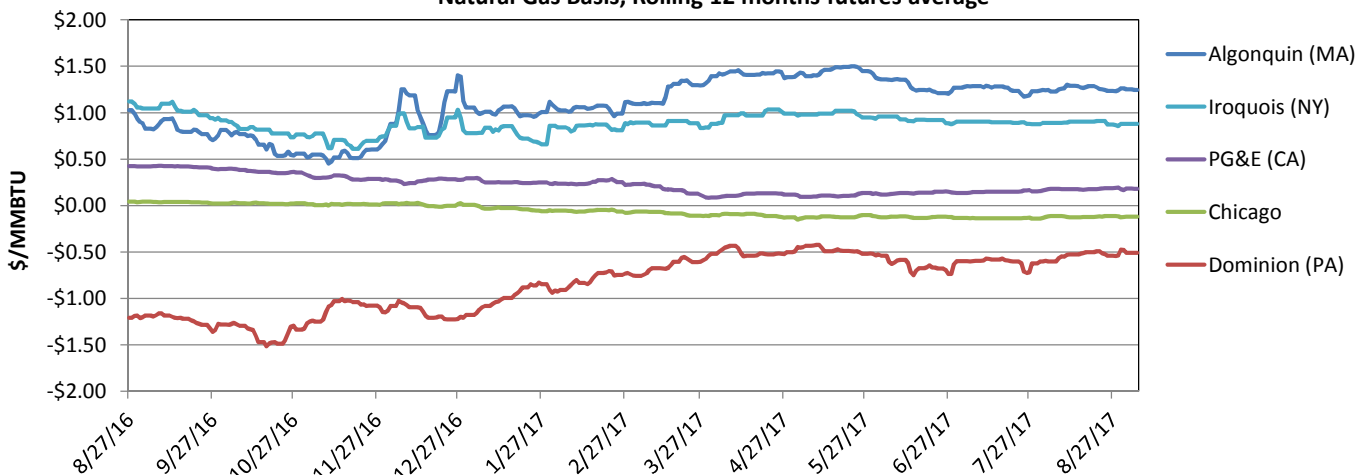
This map depicts forecasted temperatures for next week compared to the long term average. The blue/purple areas are forecast to be colder than normal, white areas are normal, and yellow/orange/red areas are warmer than normal. Abnormally hot weather in the summer and cold weather in the winter can increase 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>	
		8/28/17	8/29/17	8/30/17	8/31/17	9/1/17	9/2/17	9/3/17		
<b>Power (\$/MWh)</b>	Maine RT On Pk	26	21	20	18	14			20	
	Maine RT Off Pk	15	14	12	11	7	12	8	11	
	NH RT On Pk	26	20	20	18	14			20	
	NH RT Off Pk	15	14	12	11	7	12	8	11	
	Vermont RT On Pk	26	20	20	18	14			20	
	Vermont RT Off Pk	15	14	12	11	8	12	8	11	
	Connecticut RT On Pk	26	20	20	19	15			20	
	Connecticut RT Off Pk	15	14	12	11	8	12	8	11	
	Rhode Island RT On Pk	26	20	19	18	14			19	
	Rhode Island RT Off Pk	15	14	12	11	8	12	8	11	
	NE Mass RT On Pk	26	20	20	18	14			20	
	NE Mass RT Off Pk	15	14	12	11	8	12	8	11	
	SE Mass RT On Pk	26	20	19	18	14			19	
	SE Mass RT Off Pk	15	14	12	11	8	12	8	11	
	WC Mass RT On Pk	26	20	20	18	14			20	
	WC Mass RT Off Pk	15	14	12	11	8	12	8	11	
		<b>New York ISO Real Time Power Pricing By Zone (\$/MWh)</b>							<b>Avg</b>	
<b>Power (\$/MWh)</b>	Capital RT On Pk	24	19	24	20	18			21	
	Capital RT Off Pk	13	14	11	13	11	11	10	12	
	Central RT On Pk	23	18	23	20	17			20	
	Central RT Off Pk	10	13	9	8	9	8	7	9	
	Hudson RT On Pk	25	20	25	21	18			22	
	Hudson RT Off Pk	13	14	11	12	11	10	9	12	
	Mohawk RT On Pk	23	19	23	19	16			20	
	Mohawk RT Off Pk	11	13	9	8	9	9	7	9	
	Milwood RT On Pk	25	20	25	21	18			22	
	Milwood RT Off Pk	13	14	11	12	11	10	9	12	
	NYC RT On Pk	24	27	25	21	18			23	
	NYC RT Off Pk	13	14	11	12	11	11	9	12	
			<b>PJM Real Time Power Pricing By Zone (\$/MWh)</b>							<b>Avg</b>
	<b>Power (\$/MWh)</b>	Eastern Hub On Pk	17	17	25	27	17			21
		Eastern Hub Off Pk	15	13	13	19	15	15	15	15
		Western Hub On Pk	21	21	28	26	20			23
Western Hub Off Pk		17	16	17	20	18	18	18	18	
PPL Zone On Pk		14	14	23	26	19			19	
PPL Zone Off Pk		14	10	11	19	17	17	17	15	
AEP RT On Pk		24	24	31	26	21			25	
AEP RT Off Pk		19	19	20	20	20	20	20	20	
Chicago RT On Pk		24	24	31	23	20			24	
Chicago RT Off Pk		19	19	19	(1)	(9)	(9)	(9)	4	
New Jersey Hub On Pk		17	17	24	26	17			20	
New Jersey Hub Off Pk		15	12	13	19	15	15	15	15	
		<b>California ISO Real Time Power Pricing (\$/MWh)</b>							<b>Avg</b>	
<b>Natural Gas \$/MMBtu</b>		SoCal Edison RT On Pk	173	92	57	68	98			98
	SoCal Edison RT Off Pk	33	31	33	36	39	59	53	41	
			8/28/17	8/29/17	8/30/17	8/31/17	9/1/17	9/2/17	9/3/17	<b>Avg</b>
	Henry Hub, LA	2.93	2.88	2.87	2.89	2.90				2.89
	TZ6, MA	2.06	2.15	2.08	1.73	1.23				1.85
	Algonquin, MA				1.50					1.50
	Chicago Hub, IL	2.85	2.80	2.78	2.79	2.83				2.81
	New York, NY	1.70	1.70	1.67	1.38	1.04				1.50
	Dominion South, PA	1.68	1.70	1.60	1.43	1.04				1.49
	Opal Hub, WY	2.83	2.74	2.68	2.69	2.72				2.73
PG&E Citygate, CA	3.36	3.39	3.36	3.35	3.40				3.37	
Kern River Deliveries	3.64	4.66	4.19	3.69	3.32				3.90	