



# Competitive Energy Services Weekly Market Summary

September 4 - 8, 2017

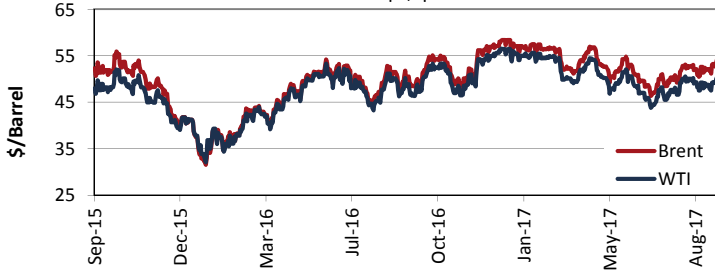
## Synopsis of Last Week's Energy Markets

Prompt month crude oil gained last week while the other months held steady or declined. The restoration of refining capacity in the Gulf is expected to pare down the large build in crude stocks due to Hurricane Harvey. Natural gas prices fell 6% last week as traders looked ahead to Hurricane Irma to bringing cool weather and power outages when it made landfall in Florida. The EIA reported a larger than average storage gain last week following similar outages in the wake of Tropical Storm Harvey in Texas and Louisiana.

## Oil Market

### Crude Oil - WTI & Brent

12-Month Forward Strips, past 24 months

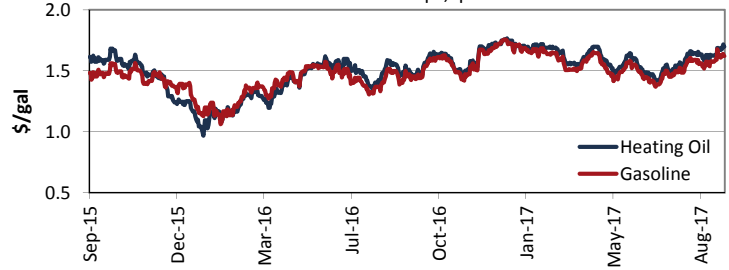


NYMEX WTI	last close	previous week	24-month high	24-month low
12 month strip, \$/bbl	\$49.20	\$49.28	\$56.70	\$32.40
date	9/8/17	9/1/17	1/6/17	1/20/16
change from last close		-0.2%	-13.2%	52%

US STORAGE (in million bbls)	crude oil
domestic stocks as of	9/1/17
	462
gain / loss from previous week	4.6
comparison to historic range	within

### Heating Oil & Gasoline

NYMEX 12-Month Forward Strips, past 24 months

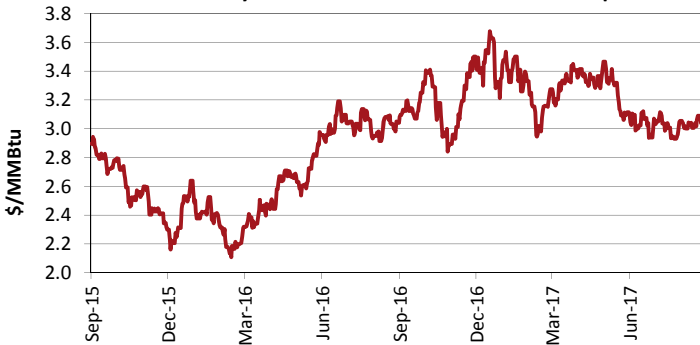


NYMEX Heating Oil	last close	previous week	24-month high	24-month low
12 month strip, \$/gal	\$1.70	\$1.68	\$1.76	\$0.97
date	9/8/17	9/1/17	1/2/17	1/20/16
change from last close		0.8%	-4%	75%

US STORAGE (in million bbls)	distillate	propane	gasoline
domestic stocks as of	9/1/17		
	148	80	227
gain / loss from previous week	-1.4	6.3	-3.2
comparison to historic range	within	within	within

## Natural Gas Market

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

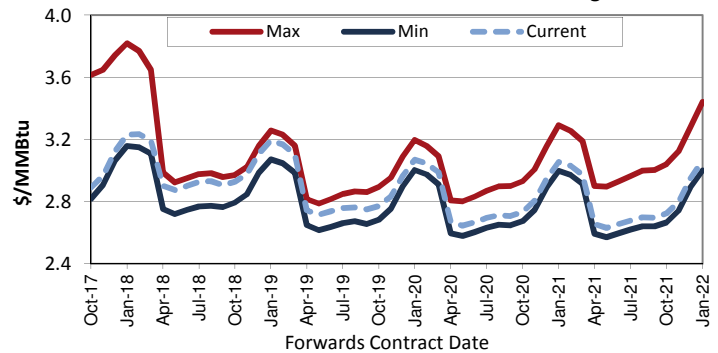


NYMEX PRICING	last close	previous week	24-month high	24-month low
12 mo. strip, \$/MMBtu	\$3.01	\$3.09	\$3.70	\$2.11
date	9/8/17	9/1/17	12/28/16	2/25/16
change from last close		-2.7%	-19%	43%

CES SCORE	
12 month	58
18 month	49
24 month	48
36 month	54

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



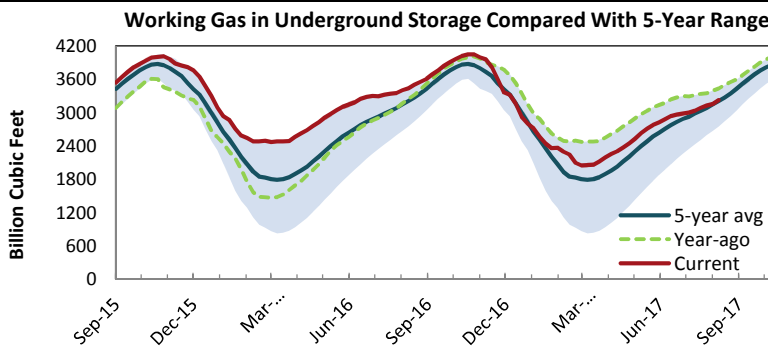
FORWARDS	12 month	18 month	24 month	36 month
strip (\$/MMBtu)	\$3.01	\$3.03	\$2.96	\$2.91

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	8/25/17	3,155	
Most Recent Stock Level	9/1/17	3,220	
Year-ago Stock Level		3,432	-6.2%
5-Year Average Stock Level		3,205	0.5%
Most Recent Net Change	9/1/17	65	
Year-Ago Net Change		38	
5-Year Average Net Change		58	

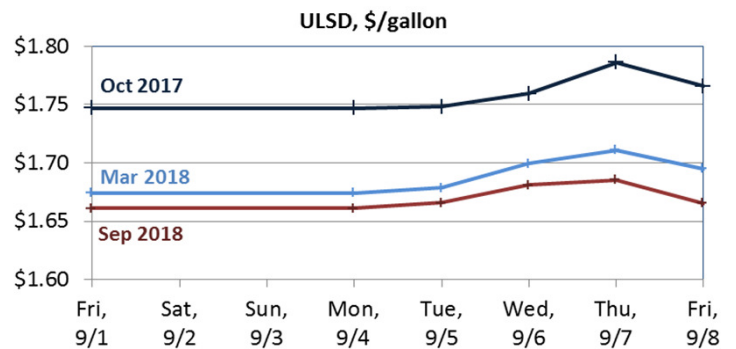
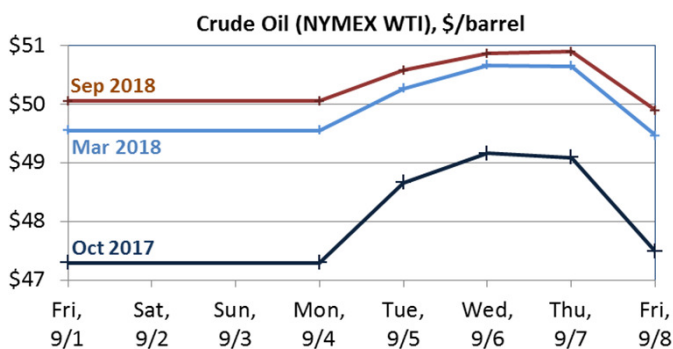
Data Source: EIA <http://tonto.eia.doe.gov/oog/info/ngs/ngs.html>

### Market Assessment

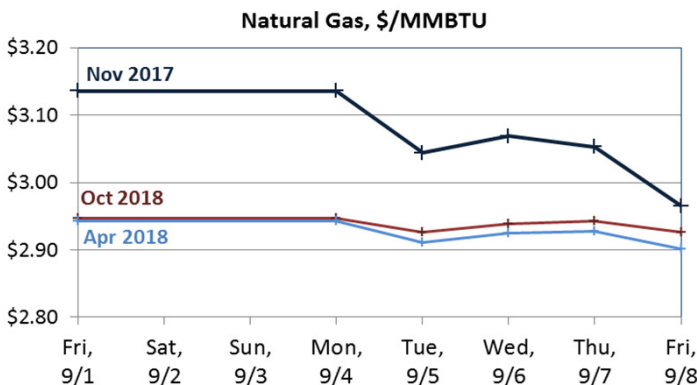
#### NYMEX Futures Summary Statistics

	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	\$47.48	Sep-18	\$49.89	Oct-17	\$47.48	\$48.86
Heating oil	Sep-17	8/31/17	\$1.76	Oct-17	\$1.77	Oct-17	\$1.77	Jul-18	\$1.66	\$1.72
Natural gas	Sep-17	8/29/17	\$2.96	Oct-17	\$2.89	Feb-18	\$3.23	May-18	\$2.87	\$3.15

#### NYMEX End-of-Day Settlements



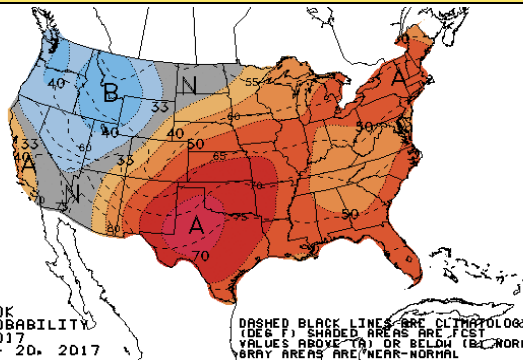
Crude oil prices rose early last week and then slid on Friday. Hurricane Harvey had shut down an estimated 20% of domestic refining capacity, and crude oil prices rose on the resumption of refining activity. Wednesday's EIA report showed a gain of 4.6M barrels, a result of hampered refining and export activity in the Gulf region. Gasoline stocks fell over 3M barrels, as expected. Prices began to fall on Thursday as then-Hurricane Irma and possibly Hurricane José was expected to crimp demand for gasoline and diesel in the Southeast. Crude oil prices climbed Monday as Irma was downgraded to a tropical storm and only 6% of refining capacity still remained offline.



Natural gas prices dropped last week as markets responded to the impact of the hurricanes on southern states. Harvey brought both power outages and stalled production along the Gulf Coast; this paired with mild weather across the Eastern half of the US resulted in a slightly higher than average inventory gain, bringing current stocks to a 0.5% surplus to the 5-year average. Meanwhile, forecasts for Hurricane Irma indicated that Florida and neighboring states would see power outages and dampened cooling demand while production in the Gulf remains online. Irma made landfall on Saturday; so far, an estimated 6 million customers in Florida are without power. October futures fell 18 cents last week, closing on Friday at \$2.89.

The National Weather Service near-term forecast calls for above-normal temperatures for a swath of the eastern US from New Mexico up to Minnesota, while the rest of the US is expected to be cooler than normal. The natural gas market scores on page 1 improved 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 Forecast for September 16 - 20, 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



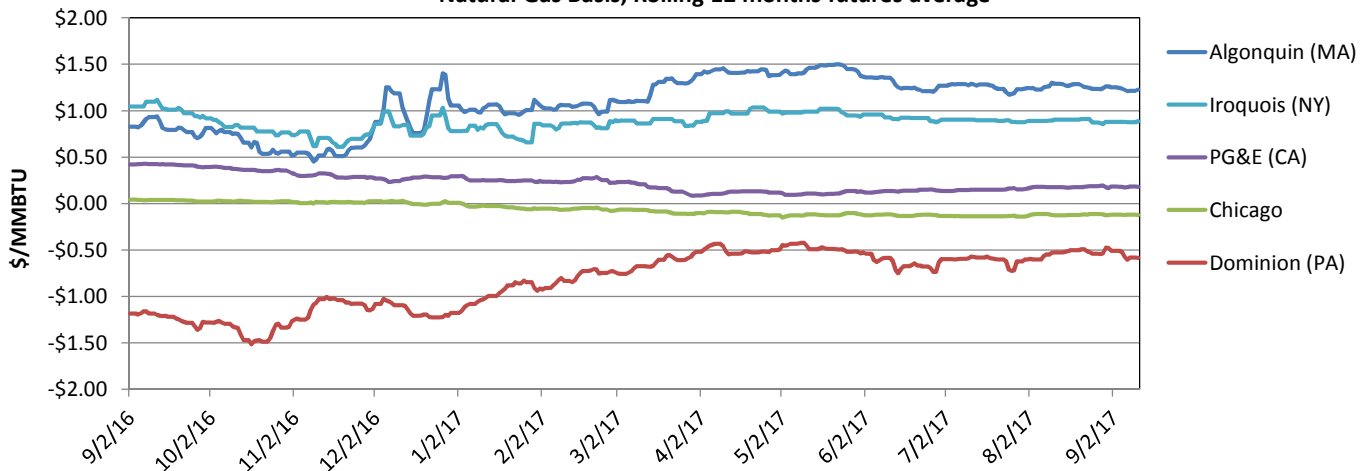
6-10 DAY OUTLOOK  
TEMPERATURE PROBABILITY  
MADE 10 SEP 2017  
VALID SEP 16 - 20, 2017

DASHED BLACK LINES ARE CLIMATE NORMALS (DEG F). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) 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**

		New England ISO Real Time Power Pricing By Zone (\$/MWh)							Avg	
		9/4/17	9/5/17	9/6/17	9/7/17	9/8/17	9/9/17	9/10/17		
Power (\$/MWh)	Maine RT On Pk	11	23	27	15	20			19	
	Maine RT Off Pk	2	10	22	14	14	14	13	13	
	NH RT On Pk	11	24	28	15	20			19	
	NH RT Off Pk	2	10	22	15	16	14	13	13	
	Vermont RT On Pk	11	24	27	15	20			19	
	Vermont RT Off Pk	2	10	22	15	16	14	13	13	
	Connecticut RT On Pk	11	24	27	16	20			20	
	Connecticut RT Off Pk	2	10	22	15	15	14	13	13	
	Rhode Island RT On Pk	11	23	27	15	20			19	
	Rhode Island RT Off Pk	2	10	22	15	15	14	13	13	
	NE Mass RT On Pk	11	24	43	15	20			23	
	NE Mass RT Off Pk	2	10	22	15	15	14	13	13	
	SE Mass RT On Pk	11	24	27	15	20			19	
	SE Mass RT Off Pk	2	10	22	15	15	14	13	13	
	WC Mass RT On Pk	11	24	28	15	20			19	
	WC Mass RT Off Pk	2	10	22	15	16	14	13	13	
		New York ISO Real Time Power Pricing By Zone (\$/MWh)							Avg	
Power (\$/MWh)	Capital RT On Pk	11	28	27	15	23			21	
	Capital RT Off Pk	4	11	21	16	14	12	14	13	
	Central RT On Pk	8	27	24	14	24			19	
	Central RT Off Pk	2	8	19	16	9	11	13	11	
	Hudson RT On Pk	11	30	27	19	24			22	
	Hudson RT Off Pk	4	11	21	17	13	12	14	13	
	Mohawk RT On Pk	8	26	24	(20)	21			12	
	Mohawk RT Off Pk	2	8	20	16	7	11	13	11	
	Milwood RT On Pk	11	30	27	19	24			22	
	Milwood RT Off Pk	4	11	21	17	13	12	14	13	
	NYC RT On Pk	11	30	27	25	24			23	
	NYC RT Off Pk	4	11	21	19	13	12	14	13	
			PJM Real Time Power Pricing By Zone (\$/MWh)							Avg
	Power (\$/MWh)	Eastern Hub On Pk	8	26	20	22	22			20
		Eastern Hub Off Pk	5	16	19	16	16	16	16	15
		Western Hub On Pk	18	25	21	22	22			21
Western Hub Off Pk		6	17	13	16	16	16	16	15	
PPL Zone On Pk		13	26	20	21	21			20	
PPL Zone Off Pk		5	16	19	16	16	16	16	15	
AEP RT On Pk		22	25	22	22	22			23	
AEP RT Off Pk		7	20	20	17	17	17	17	16	
Chicago RT On Pk		21	23	21	20	20			21	
Chicago RT Off Pk		(4)	(10)	20	15	15	15	15	9	
New Jersey Hub On Pk		10	27	20	21	21			20	
New Jersey Hub Off Pk		5	16	18	16	16	16	16	14	
		California ISO Real Time Power Pricing (\$/MWh)							Avg	
Natural Gas \$/MMBtu		SoCal Edison RT On Pk	33	52	39	46	49			44
	SoCal Edison RT Off Pk	31	30	35	29	30	28	30	30	
			9/4/17	9/5/17	9/6/17	9/7/17	9/8/17	9/9/17	9/10/17	Avg
	Henry Hub, LA		2.86	2.93	2.88	2.83			2.87	
	TZ6, MA		1.75	1.67	1.49	1.16			1.52	
	Algonquin, MA		1.84	1.69	1.48	1.12			1.53	
	Chicago Hub, IL		2.82	2.86	2.83	2.73			2.81	
	New York, NY		1.44	1.45	1.23	0.85			1.24	
	Dominion South, PA		1.38	1.41	1.20	0.79			1.20	
	Opal Hub, WY		2.65	2.71	2.71	2.59			2.66	
PG&E Citygate, CA		3.35	3.37	3.36	3.28			3.34		
Kern River Deliveries		2.99	2.92	2.84	2.71			2.87		