



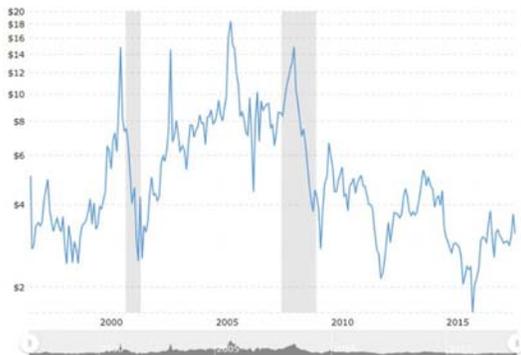
Natural Gas in Underground Storage

The weekly EIA Natural Gas Storage Report advised that there was an injection of 69Bcf (billion cubic feet) into Underground Storage for the week ending September 7th, 2018.

This is 2Bcf above the median forecast of a 67Bcf injection, the average prediction of sector analysts and traders in the Dow Jones Newswires weekly survey. The injection one year ago was 91Bcf and the 5-year average injection is 74Bcf. Storage is **662Bcf below last year** for the same week and **596Bcf below the 5-year average**. Working gas in storage stands at 2,636Bcf.

Note: Oil will be overtaken by natural gas as North America's primary energy source **this year** and remain the dominant source until 2050, according to risk management firm DNV GL.

[Read More](#)



Natural Gas Pricing

As of 9:22AM CST, October 2018, (the prompt month) Natural Gas was trading at \$2.85, +\$0.07 from one week ago and the 1-Year Spread average was \$2.77, +\$0.03 from one week ago.

Crude Oil Pricing

As of 9:05AM CST, October, 2018, (the prompt month) Light, Sweet Crude on the NYMEX was at **\$69.65**, **+\$0.93** from one week ago.

Crude Oil & Natural Gas

INDEX	UNITS	PRICE	CHANGE	%CHANGE	CONTRACT	TIME (EDT)	2 DAY
CL1.COM WTI Crude Oil (Nymex)	USD/bbl	69.65	-0.72	-1.02%	Oct 2018	10:05 AM	
CO1.COM Brent Crude (ICE)	USD/bbl	79.15	-0.59	-0.74%	Nov 2018	10:05 AM	
CP1.COM Crude Oil (Tokyo)	JPY/kl	51,580.00	+30.00	+0.06%	Feb 2019	10:09 AM	
NG1.COM Natural Gas (Nymex)	USD/MMBtu	2.85	+0.02	+0.74%	Oct 2018	10:04 AM	

U.S. Petroleum Balance Sheet, Week Ending 9/7/2018

Petroleum Stocks (Million Barrels)	Current Week	
	9/7/18	8/31/18
Crude Oil	1,056.2	1,061.5
Commercial (Excluding SPR) ¹	396.2	401.5
Strategic Petroleum Reserve (SPR) ²	660.0	660.0
Total Motor Gasoline ³	235.9	234.6
Reformulated	0.0	0.0
Conventional	24.5	23.0
Blending Components	211.3	211.6
Fuel Ethanol	22.9	22.7
Kerosene-Type Jet Fuel	44.3	42.0
Distillate Fuel Oil ³	139.3	133.1
15 ppm sulfur and Under ³	125.8	120.3
> 15 ppm to 500 ppm sulfur	5.0	4.6
> 500 ppm sulfur	8.5	8.3
Residual Fuel Oil	28.3	27.8
Propane/Propylene	74.6	73.4
Other Oils ⁴	295.2	291.5
Unfinished Oils	87.8	87.7
Total Stocks (Including SPR) ^{2,3}	1,896.7	1,886.6
Total Stocks (Excluding SPR) ³	1,236.7	1,226.6

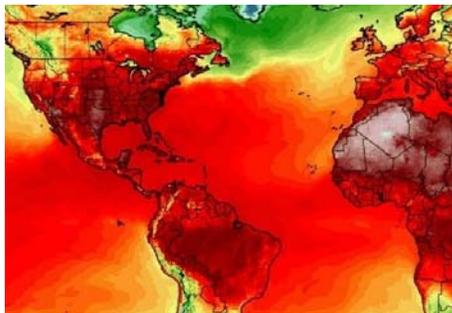
Crude Oil Inventory

US crude inventories decreased by **5.3 million barrels** to 396.2 million barrels for the week ended September 7th, according to data released yesterday morning by the US Department of Energy. Traders in the Reuters poll projected a drop of 1.3 million barrels.

U.S. Rotary Rigs

U.S. Rotary Rigs drilling for natural gas were +2 at 186 for the week of September 7th. The number of rigs currently drilling for Natural Gas was 1 lower than last year's level of 103. US Rigs drilling for oil were -2 at 860. There are 104 more rigs targeting oil than last year. Canadian rigs were -24 at 204 for the week. Rigs targeting oil remain 82% of all US drilling activity.

North American Rig Count	09/07/2018		08/31/2018		09/08/2017		Change		Percent Change	
	Weekly	Annual	Weekly	Annual	Weekly	Annual	Weekly	Annual	Weekly	Annual
Total U.S.	1,048	1,048	944	0	104	0.0%	11.0%			
Offshore	19	18	16	1	3	5.6%	18.8%			
Land	1,029	1,030	928	(1)	101	-0.1%	10.9%			
Inland Waters	3	2	5	1	(2)	50.0%	-40.0%			
Oil	860	862	756	(2)	104	-0.2%	13.8%			
Percent	82.1%	82.3%	80.1%	-0.2%	2.0%					
Gas	186	184	187	2	(1)	1.1%	-0.5%			
Percent	17.7%	17.6%	19.8%	0.2%	-2.1%					
Directional	65	65	76	0	-11	0.0%	-14.5%			
Horizontal	918	917	793	1	125	0.1%	15.8%			
Vertical	65	66	75	-1	-10	-1.5%	-13.3%			
Gulf of Mexico	17	16	16	1	1	6.3%	6.3%			
Gulf Oil	15	14	13	1	2	7.1%	15.4%			
Percent	88.2%	87.5%	81.3%	0.7%	7.0%					
Gulf Gas	2	2	3	0	-1	0.0%	-33.3%			
Percent	11.8%	12.5%	18.8%	-0.7%	-7.0%					
Canada	204	228	202	(24)	2	-10.5%	1.0%			
Oil	133	151	102	(18)	31	-11.9%	30.4%			
Percent	65.2%	66.2%	50.5%	-1.0%	14.7%					
Gas	71	77	100	(6)	(29)	-7.8%	-29.0%			
Percent	34.8%	33.8%	49.5%	1.0%	-14.7%					
North America	1,252	1,276	1,146	(24)	106	-1.9%	9.2%			
Prices										
Oil \$/bbl.	\$68.80	\$69.40	\$48.58 (\$0.61)	\$20.22	-0.9%	41.6%				
Oil \$/mmbtu	\$11.86	\$11.97	\$8.38 (\$0.10)	\$3.49	-0.9%	41.6%				
Gas \$/mmbtu	\$2.92	\$2.93	\$2.88 (\$0.01)	\$0.05	-0.4%	1.7%				



Geopolitical

2018 will be fourth-hottest year on record, climate scientists predict; Heat waves on four continents are causing wild fires, electricity grids to crash and dips in the harvest of staple grains: The temperatures and wildfires witnessed this summer are set to become the new normal - yet much of the world is unprepared for life on a **hotter planet**, scientists are warning.

In **California**, firefighters are racing to control what has become the largest fire in state history. Harvests of

Weather

The AccuWeather 1-5 day Outlook forecasts above-normal temps for the Eastern 2/3 of the US with the exception of Texas, and below-normal temps for Texas and the Northwest. The 6-10 Day Outlook spaints a similar picture.

11-15 Day Outlook shows the West and Southeast at above-normal temperatures and normal temps for the balance of the country. The 30-day Outlook projects normal temps

staple grains like wheat and corn are expected to dip this year, in some cases sharply, in countries as different as Sweden and El Salvador.

In Europe, nuclear power plants have had to shut down because the river water that cools the reactors was too warm. Heat waves on four continents have brought electricity grids crashing, while dozens of **heat-related deaths in Japan** this summer offered a foretaste of what researchers warn could be big increases in mortality from extreme heat...

for most of the US with the exception of New England and the balance of Far-Northern states, which are expected to be at above-normal temperatures.

The 90-Day Outlook shows normal temps for the entire country,, with the exception of New England, which is expected to be at above-normal temps.

Hurricane Florence has been downgraded to a Cat 2 system but is still extremely dangerous. It should make landfall at approximately 2AM tomorrow morning.



Sustainability and Renewables

We could shift to sustainability and save \$26 trillion. Why aren't we doing it? The costs of the status quo keep rising; the costs of sustainable alternatives keep declining: \$26 trillion by 2030.

That, according to the most **authoritative research** to date, is the amount of money humanity could save through a global shift to sustainable development.

It's a lot of money. Before you **break your brain** trying to imagine it, just pause to make a note that it's a



This Week's Key Take-Away

Hurricane Florence has dominated the news this week... with good reason. Expected to make landfall in the Carolinas tomorrow, there are 2 schools of thought on how it could affect electric and natural gas prices.

First, as a result of downed power lines, generation interruption and property damage, considerably less energy would be used than normal. This is termed "demand destruction".

On the other hand, Appalachian gas producers, pipelines and other midstream companies are bracing

positive sum (uh, *extremely* positive), not negative. Net savings, not costs.

That might come as a surprise since decades of conservative and fossil fuel propaganda have made it conventional wisdom that cleaning up our act is expensive — that it costs more than the status quo. It is the argument hauled out against every single pollution regulation.

The argument has always been false on a sufficiently long time scale. Sooner or later, humanity must live sustainably or it won't go on living — that's what "sustainable" means...

for the impact of Hurricane Florence, which could result in the loss of up to 2 Bcf/d in supplies from the region over the next several days, according to Platts Analytics. In Pennsylvania, the 4 major gas-producing reporting areas are within the potential path of Florence, according to Platts. These areas drive US Northeast production, accounting for more than 17 Bcf/d of a total of 29 Bcf/d in the region. That said, we believe that it is unlikely that Florence will significantly affect production in PA. We should see a clearer picture over the weekend.

Next Day On-Peak Power (traded for 9/13/2018)		
ISO-NE Mass Hub \$34.31	MISO Indiana Hub \$36.03	NYISO Zone G \$35.46
PJM West Hub \$40.17	ERCOT North \$31.00	CAISO SP15 \$35.83



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