



UTILITY REVENUE SERVICES

Weekly Energy Report

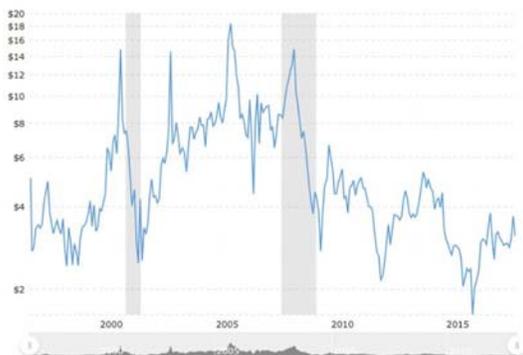


Natural Gas in Underground Storage

The weekly EIA Natural Gas Storage Report advised that there was an injection of 48Bcf (billion cubic feet) into Underground Storage for the week ending August 17th, 2018.

This is 5Bcf below the median forecast of a 53Bcf injection, the average prediction of sector analysts and traders in the Dow Jones Newswires weekly survey. The injection one year ago was 45Bcf and the 5-year average injection is 52Bcf. Storage is **684Bcf below last year** for the same week and **599Bcf below the 5-year average**. Working gas in storage stands at 2,435Bcf.

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Natural Gas Pricing

As of 9:25M CST, September 2018, (the prompt month) Natural Gas was trading at \$2.95, +\$0.04 from one week ago and the 1-Year Spread average was also \$2.89, +\$0.02 from one week ago.

Crude Oil Pricing

As of 7:50AM CST, September, 2018, (the prompt month) Light, Sweet Crude on the NYMEX was at **\$65.02, +\$2.76** 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	67.78	-0.08	-0.12%	Oct 2018	8:50 AM	
CO1:COM Brent Crude (ICE)	USD/bbl	74.49	-0.29	-0.39%	Oct 2018	8:49 AM	
CP1:COM Crude Oil (Tokyo)	JPY/b	49,450.00	+40.00	+0.08%	Jan 2019	8:54 AM	
NG1:COM Natural Gas (Nymex)	USD/MMBtu	2.94	-0.02	-0.51%	Sep 2018	8:50 AM	

1. U.S. Petroleum Balance Sheet, Week Ending 8/17/2018

Petroleum Stocks (Million Barrels)	Current Week	
	8/17/18	8/10/18
Crude Oil	1,068.4	1,074.2
Commercial (Excluding SPR) ¹	408.4	414.2
Strategic Petroleum Reserve (SPR) ²	660.0	660.0
Total Motor Gasoline ³	234.3	233.1
Reformulated	0.0	0.1
Conventional	23.9	23.1
Blending Components	210.4	210.0
Fuel Ethanol	23.3	23.0
Kerosene-Type Jet Fuel	41.6	40.5
Distillate Fuel Oil ³	130.8	129.0
15 ppm sulfur and Under ³	116.9	116.0
> 15 ppm to 500 ppm sulfur	5.3	4.6
> 500 ppm sulfur	8.6	8.4
Residual Fuel Oil	28.3	28.7
Propane/Propylene	68.8	69.8
Other Oils ⁴	289.3	289.1
Unfinished Oils	87.7	89.3
Total Stocks (Including SPR) ^{2,3}	1,884.8	1,887.3
Total Stocks (Excluding SPR) ³	1,224.8	1,227.3

Crude Oil Inventory

US crude inventories decreased by **5.8 million barrels** to 408.4 million barrels for the week ended August 17th, according to data released yesterday morning by the US Department of Energy. Traders in the Reuters poll projected a drop of 2.5 million bbl.

U.S. Rotary Rigs

U.S. Rotary Rigs drilling for natural gas were +2 at 71 for the week of August 17th. The number of rigs currently drilling for Natural Gas was 22 lower than last year's level of 93. US Rigs drilling for oil were unchanged at 869. There are +106 more rigs targeting oil than last year. Canadian rigs were +3 at 212 for the week. Rigs targeting oil remain 82% of all US drilling activity.

	North American Rig Count			Change		Percent Change	
	08/17/2018	08/10/2018	08/18/2017	Weekly	Annual	Weekly	Annual
Total U.S.	1,057	1,057	946	0	111	0.0%	11.7%
Offshore	21	20	16	1	5	5.0%	31.3%
Land	1,036	1,037	930	(1)	106	-0.1%	11.4%
Inland Waters	2	2	3	0	(1)	0.0%	-33.3%
Oil	869	869	763	0	106	0.0%	13.9%
Percent	82.2%	82.2%	80.7%	0.0%	1.6%		
Gas	186	186	182	0	4	0.0%	2.2%
Percent	17.6%	17.6%	19.2%	0.0%	-1.6%		
Directional	70	64	81	6	-11	9.4%	-13.6%
Horizontal	922	924	799	-2	123	-0.2%	15.4%
Vertical	65	69	66	-4	-1	-5.8%	-1.5%
Gulf of Mexico	19	18	16	1	3	5.6%	18.8%
Gulf Oil	16	15	14	1	2	6.7%	14.3%
Percent	84.2%	83.3%	87.5%	0.9%	-3.3%		
Gulf Gas	3	3	2	0	1	0.0%	50.0%
Percent	15.8%	16.7%	12.5%	-0.9%	3.3%		
Canada	212	209	214	3	(2)	1.4%	-0.9%
Oil	141	140	121	1	20	0.7%	16.5%
Percent	66.5%	67.0%	56.5%	-0.5%	10.0%		
Gas	71	69	93	2	(22)	2.9%	-23.7%
Percent	33.5%	33.0%	43.5%	0.5%	-10.0%		
North America	1,269	1,266	1,160	3	109	0.2%	9.4%
Prices							
Oil \$/bbl.	\$66.21	\$67.91	\$47.52 (\$1.70)	\$18.69		-2.5%	39.3%
Oil \$/mmbtu	\$11.42	\$11.71	\$8.19 (\$0.29)	\$3.22		-2.5%	39.3%
Gas \$/mmbtu	\$2.98	\$2.93	\$2.91 \$0.04	\$0.06		1.5%	2.2%



Geopolitical

Cheniere approved to feed first gas to Corpus Christi LNG plant: Cheniere Energy's request to feed the first gas into its new liquefied natural gas facility in Corpus Christi, Tex., is **approved** by the Federal Energy Regulatory Commission, which means the company will be able to produce the first commissioning cargo by Q4 or sooner.

Weather

The AccuWeather 1-5 day Outlook forecasts above-normal temps for the Northeast, the North-Central states, Texas and part of the Southwest. Below-normal temps are forecast for the Northwest and part of the East coast. The 6-10 Day Outlook shows above-normal temps for most of the Eastern US, with the

Train 1 at the facility will become the first LNG export terminal in Texas and the third in the U.S.; Cheniere's terminal at Sabine Pass, La., with four operational trains, is the first and largest LNG facility in the country with capacity of 18M metric tons/year.

Cheniere's Sabine Pass liquefaction project (SPL Project) is located in Cameron Parish in southwest Louisiana, and currently has four fully-operational liquefaction units, or "trains" as they are known in the LNG industry...



Sustainability and Renewables

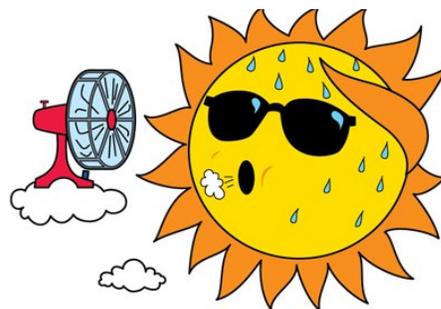
Scientists use 'funnel-vision' to pioneer cheap and efficient solar energy: Scientists have developed a pioneering new technique that could unlock new methods of making solar energy more efficient.

A team of experts from the University of Exeter has discovered an innovative way for generating photovoltaic (PV) energy – or ways in which to convert light into power. The new technique relies on 'funnelling' the sun's energy more efficiently directly into power cells, such as solar panels or batteries.

exception of the Southeast. Below-normal temps are forecast for the Northwest.

11-15 Day Outlook forecasts above-normal temps for the most of the country, with the exception of the Southeast and Northwest. The 30-day Outlook projects normal temps for most of the US with the exception of the Northeast and Northwest, which are expected to be at above-normal temperatures.

The 90-Day Outlook shows a similar picture. There is no tropical storm or hurricane activity in the Atlantic at this time.



This Week's Key Take-Away

While Natural Gas production remains high and is in fact one full month ahead of schedule, mother nature has kept the temperatures higher than expected and therefore, prices for Natural Gas remain higher. As a result, wholesale prices for electricity remain higher as well, although still at the lower range of the spectrum.

A pattern change portends even hotter temps across the US, starting this weekend. This new weather pattern will also help provide relief

Crucially, this ground-breaking method has the potential to harvest three times the energy compared with traditional systems. The researchers believe their breakthrough could result in **solar panels**, no bigger than a book, producing enough energy to power a family-sized house.

The results are published in *Nature Communications*. Adolfo De Sanctis, lead author of the paper and from the University of Exeter said: "The idea is similar to pouring a liquid into a container, as we all know it is much more efficient if we use a funnel..."

from wildfires and smoky conditions in the Northwest.

A southward plunge of the jet stream is currently ushering in temperatures that are near or below average for mid-August across the Plains, Midwest and parts of the East. That jet stream plunge will quickly exit this weekend as a dome of high pressure builds and sends temperatures climbing once again.

Basically, this means that we expect Natural Gas prices to trade within a narrow spectrum, probably between \$2.90 and \$2.99, with resistance at \$3.00. Expect electric prices to remain range-bound as well.

Next Day On-Peak Power (traded for 8/22/2018)		
ISO-NE Mass Hub \$35.52	MISO Indiana Hub \$30.00	NYISO Zone G \$34.51
PJM West Hub \$33.21	ERCOT North \$44.69	CAISO SP15 \$49.35



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