

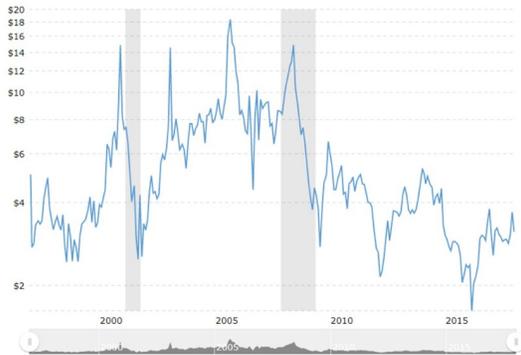


Natural Gas in Underground Storage

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 October 26th, 2018.

This is 2Bcf below the median forecast of a 50Bcf injection, the average prediction of sector analysts and traders in the Dow Jones Newswires weekly survey. Storage is **65Bcf below last year** for the same week and **62Bcf below the 5-year average**. Storage is 623 Bcf less than last year and 638 Bcf below the five-year average. Working gas in storage stands at 3,143Bcf. The November Natural Gas contract closed at \$3.185.

[Read More](#)



Natural Gas Pricing

As of 10:50AM CST, December 2018, (the *new* prompt month) Natural Gas was trading at \$3.24, +\$0.02 from one week ago and the 1-Year Spread average was \$2.85, -\$0.07 from one week ago.

Crude Oil Pricing

As of 9:57M CST, November, 2018, (the *new* prompt month) Light, Sweet Crude on the NYMEX was at **\$65.01**, **-\$2.27** 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	67.28	+0.46	+0.69%	Dec 2018	10:11 AM	
CO1.COM Brent Crude (ICE)	USD/bbl	76.50	+0.33	+0.43%	Dec 2018	10:11 AM	
CP1.COM Crude Oil (Tokyo)	JPY/kl	51,940.00	-700.00	-1.37%	Mar 2019	10:15 AM	
NG1.COM Natural Gas (Nymex)	USD/MMBtu	3.19	+0.03	+0.88%	Nov 2018	10:11 AM	

U.S. Petroleum Balance Sheet, Week Ending 10/26/2018

Petroleum Stocks (Million Barrels)	Current Week	
	10/26/18	10/19/18
Crude Oil	1,080.9	1,079.3
Commercial (Excluding SPR) ¹	426.0	422.8
Strategic Petroleum Reserve (SPR) ²	654.9	656.5
Total Motor Gasoline ³	226.2	229.3
Reformulated	0.0	0.1
Conventional	24.2	23.2
Blending Components	202.0	206.1
Fuel Ethanol	22.7	23.9
Kerosene-Type Jet Fuel	42.8	43.9
Distillate Fuel Oil ³	126.3	130.4
15 ppm sulfur and Under ³	111.1	114.9
> 15 ppm to 500 ppm sulfur	4.8	4.8
> 500 ppm sulfur	10.5	10.7
Residual Fuel Oil	28.7	29.2
Propane/Propylene	83.0	82.0
Other Oils ⁴	292.8	293.5
Unfinished Oils	92.6	90.0
Total Stocks (Including SPR) ^{2,3}	1,903.5	1,911.5
Total Stocks (Excluding SPR) ³	1,248.6	1,255.0

Crude Oil Inventory

US crude inventories **increased by 3.2 million barrels** to 426.0 million barrels for the week ended October 26th, according to data released yesterday morning by the US Department of Energy. Traders in the Reuters poll projected an increase of 4.1 million barrels.

U.S. Rotary Rigs

U.S. Rotary Rigs drilling for natural gas were -1 at 193 for the week of October 26th. The number of rigs currently drilling for Natural Gas was +21 from last year. US Rigs drilling for oil were +2 at 875. There are 138 more rigs targeting oil than last year. Canadian rigs were +9 at 200 for the week. Rigs targeting oil remain 82% of all US drilling activity.

	North American Rig Count			Change		Percent Change	
	10/26/2018	10/19/2018	10/27/2017	Weekly	Annual	Weekly	Annual
Total U.S.	1,068	1,067	909	1	159	0.1%	17.5%
Offshore	19	20	20	(1)	(1)	-5.0%	-5.0%
Land	1,049	1,047	889	2	160	0.2%	18.0%
Inland Waters	3	3	1	0	2	0.0%	200.0%
Oil	875	873	737	2	138	0.2%	18.7%
Percent	81.9%	81.8%	81.1%	0.1%	0.9%		
Gas	193	194	172	(1)	21	-0.5%	12.2%
Percent	18.1%	18.2%	18.9%	-0.1%	-0.9%		
Directional	73	72	74	1	-1	1.4%	-1.4%
Horizontal	927	926	769	1	158	0.1%	20.5%
Vertical	68	69	66	-1	2	-1.4%	3.0%
Gulf of Mexico	18	19	20	-1	-2	-5.3%	-10.0%
Gulf Oil	13	13	18	0	-5	0.0%	-27.8%
Percent	72.2%	68.4%	90.0%	3.8%	-17.8%		
Gulf Gas	5	6	2	-1	3	-16.7%	150.0%
Percent	27.8%	31.6%	10.0%	-3.8%	17.8%		
Canada	200	191	191	9	9	4.7%	4.7%
Oil	124	123	96	1	28	0.8%	29.2%
Percent	62.0%	64.4%	50.3%	-2.4%	11.7%		
Gas	76	68	94	8	(18)	11.8%	-19.1%
Percent	38.0%	35.6%	49.2%	2.4%	-11.2%		
North America	1,268	1,258	1,100	10	168	0.8%	15.3%
Prices							
Oil \$/bbl.	\$67.52	\$70.25	\$52.63 (\$2.74)	\$14.88		-3.9%	28.3%
Oil \$/mmbtu	\$11.64	\$12.11	\$9.07 (\$0.47)	\$2.57		-3.9%	28.3%
Gas \$/mmbtu	\$3.16	\$3.26	\$2.89 (\$0.10)	\$0.26		-3.2%	9.1%



Geopolitical

SINGAPORE (Reuters) - The United States will become a key source of energy supplies to meet growing demand globally, with innovation in technology and financing set to boost U.S. oil and gas production in the next decade, the country's top energy diplomat said.

“In the next 5-10 years, we expect to see improved recovery rates and even a doubling in some of our most prolific (gas) basins,” said Frank Fannon, assistant secretary in the energy bureau of the U.S. state department.



Weather

The AccuWeather 1-5 day Outlook forecasts above-normal temps for the Eastern and Western coasts, with much of the Central US at below-normal temps. The 6-10 Day Outlook shows a similar forecast with expanded below-normal temps in the center of the country.

11-15 Day Outlook forecasts Florida and Eastern California at above-normal temps with below-normal temps for most of the center of the country. The 30-day Outlook projects normal temps for almost all of the US.

“What this means in the near-term is that the United States may double production, double export capacity and introduce new market innovation,” he said at an industry conference in Singapore. Fatih Birol, executive director of the International Energy Agency (IEA), said at the same event that the United States would become the “undisputed leader” of global oil and gas production...

The 90-Day Outlook shows normal temps for the entire country. This is due primarily to a developing El Niño weather pattern (unusually warm seawater) in the Pacific Ocean. There are still 30 days left in Hurricane Season but currently, there is no storm activity in the Atlantic Ocean. Oil and Natural Gas drilling rigs have returned to pre-storm output in the Gulf of Mexico.



Sustainability and Renewables

Beyond the Lithium Battery: The batteries we depend on for our mobile phones and computers are based on a technology that is more than a quarter-century old.

Rechargeable lithium-ion (Li-ion) batteries were first introduced in 1991, and their appearance heralded a revolution in consumer electronics. From then on, we could pack enough energy in a small volume to start engineering a whole panoply of portable electronic devices – devices that have given us much more flexibility and comfort in our lives and jobs.

In recent years, Li-ion batteries have also become a staple solution in efforts to solve the interlinked conundrums of climate change and



This Week's Key Take-Away

2018 has been a year in which several large pipeline companies have made an aggressive attempt to expand their Natural Gas pipelines. These projects are scheduled to be completed by the end of the year, which will help increase the takeaway capacity significantly. Moreover, if all the scheduled pipeline projects are operational by the end of 2018, then the takeaway capacity will be **more than 23 Bcf per day. This is more than two times the capacity that was there at the end of 2016.**

However, in July the U.S. Energy Information Administration agency (EIA) released a report that shows that natural gas demand has risen to 8.9 billion cubic feet per day, while, the supply level has grown to 7.6

renewable energy. Increasingly, they are being used to power electric vehicles and as the principal components of home-based devices that store energy generated from renewable sources, helping to balance an increasingly diverse and smart electrical grid. The technology has improved too: over the past two and a half decades, battery experts have succeeded in making Li-ion batteries 5–10% more efficient each year, just by further optimizing the existing architecture...

billion cubic feet per day. So... this creates a shortfall of 1.3 billion cubic feet per day, as demand is growing considerably faster than supply. Also, Mexico’s President-elect Andrés López Obrador has stated that he plans to ban hydraulic fracking. So even though China has placed tariffs on LNG, it appears that there is a home for excess (whatever that means) Natural Gas production for the foreseeable future.

Next Day On-Peak Power (traded for 11/1/2018)		
ISO-NE Mass Hub \$32.91	MISO Indiana Hub \$36.98	NYISO Zone G \$32.67
PJM West Hub \$34.62	ERCOT North \$29.37	CAISO SP15 \$43.93



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