

## Market Update

PRODUCTS	2/19/18	2/20/18	2/21/18	2/22/18	2/23/18
WTI Crude Oil	-	61.9	61.68	62.77	63.55
Brent Crude Oil	-	65.25	65.42	66.39	67.31
Natural Gas	-	2.62	2.66	2.63	2.63

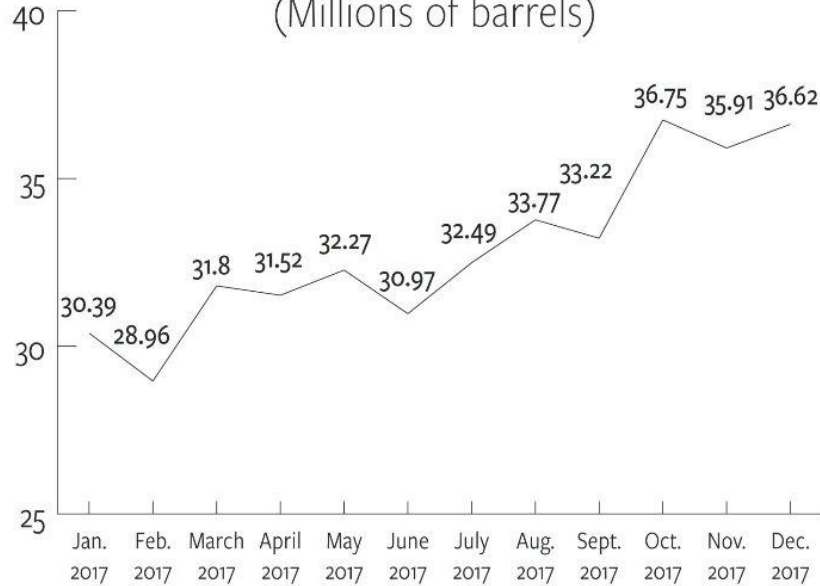
- [CME Group](#)

## Headlines

### Local North Dakota

- **Oil production remains high but slowed by cold. [Williston Herald](#)**
  - Everyone wants to know when North Dakota will break its old production record of 1.23 million barrels per day set in December 2014. It didn't happen in December, with production dropping slightly to 1.181 million barrels per day from 1.197 barrels per day in November. Director of Mineral Resources Director Lynn Helms joked that it isn't likely to happen until there's at least 30 days of nice weather in a row. "That's just a bit of levity," he said, "for a cold winter's day." Cold weather in North Dakota, however, is no joke when it comes to hydraulic fracturing. It is, in fact, very expensive to complete a well during the state's cold winter months. Largely, that's due to freezing of the fluids required for the hydraulic fracturing process. Helms was among those in Houston recently for a big oil and gas conference, and said he was told by the CEOs and management personnel of a couple different companies that they had gone from two drilling rigs to one during winter and are not going to complete any wells in December, January or February and maybe not even in March. It just costs too much to heat the hydraulic fracturing fluids and operate safely in North Dakota's winter temperatures, they told him. A good example is the technical experts at Halliburton said the modern frack technique uses friction reducers and surfactants that like water at 70 degrees," he said. "But when the outside temperature is minus 20, the cost of 70-degree water is too high. So that really is the big issue." Workforce is not the big constraint right now that it has been, Helms added, and the state believes it has come up with an approach to its labor crunch. With families now moving to the Bakken, and many children in high schools in Williston, Watford City and Dickinson nearing their junior and senior year, they believe they could provide some entry level training to these young men and women and prepare them for work with one of the many oil service companies upon graduation. "So, they are planning to jump on it and implement that," Helms said. "There is already a ready-made crop of people living in North Dakota, who, with a minimal amount of training could be put to work as part of a trained workforce." Lack of gas capture capacity is also not hindering production yet, Helms said. New gas gathering, and processing projects are coming online at a pace that is keeping up with the state's 85 percent capture rate. That's a concern, he acknowledged, because the state will soon move the target up to 88 percent capture. However, the North Dakota Petroleum Council has recently reactivated its gas capture task force, and he is confident solutions will be found in time. Justin Kringstad, the state's pipeline authority, said the state's gas capture capacity is now at 2.15 billion cubic feet, and if the proposed projects are completed on schedule, that will rise to 2.55 billion cubic feet by the end of 2018 and 2.76 billion cubic feet by 2019. Breakeven in the state are also favorable to production. The average has dropped to \$18 a barrel statewide. "Obviously, I must point to weather in the winter time," he said. "That really is why production is not ramping up. We have the crude oil capacity, we have the export capacity. There's some limits on gas capture, but nothing that is really holding production back that much. It honestly is the winter weather."

## Monthly Oil Production (Millions of barrels)



- **New pipeline proposed for Bakken natural gas liquids. [The Dickinson Press](#)**
  - A new pipeline system proposed by Andeavor Logistics would transport growing volumes of natural gas liquids from the core of the Bakken to a rail terminal west of Belfield. The company, formerly known as Tesoro Logistics, has applied to the North Dakota Public Service Commission to construct 44 miles of new pipeline in McKenzie, Billings and Stark counties. The project would transport mixed natural gas liquids from the Watford City area to an Andeavor gas processing plant near Belfield, where the liquids would be separated into products such as ethane, propane, butane and natural gasoline. The products would then be transported by pipeline to the Andeavor Fryburg Rail Terminal and loaded onto rail cars. North Dakota produces more than 400,000 barrels of natural gas liquids per day, according to estimates from Justin Kringstad, director of the North Dakota Pipeline Authority. Kringstad projects that natural gas liquids production will more than double by the 2030s, ranging from 800,000 to 1 million barrels per day. "Our goal here is to provide an outlet for the natural gas liquids to get to market," said Destin Singleton, a spokeswoman for Andeavor. The project involves the construction of three pipeline segments that total 44 miles plus the conversion of 42 miles of the Andeavor BakkenLink crude oil pipeline into natural gas liquids service. The project would collect natural gas liquids from the Oasis Wild Basin natural gas processing plant that's being expanded near Watford City. The pipeline initially would transport 15,000 barrels per day and could be expanded to 34,000 barrels per day. The entire project, which includes some modifications to the Belfield gas plant, the rail terminal and pipeline connections, is estimated to cost from \$140 million to \$150 million, according to Andeavor. A company news release said partial operations are projected to begin in late 2018 with full operations starting in early 2019. Developing natural gas liquids infrastructure is part of the solution to reducing flaring in North Dakota, according to Kringstad, who said additional investments also are needed in gathering pipelines and processing plants, he said. The Public Service Commission has not scheduled a hearing on Andeavor's proposal. Meanwhile, Oneok has proposed the 900-mile Elk Creek Pipeline to transport natural gas liquids from the Bakken to Kansas. That project originates in Sidney, Mont., but will connect to existing pipelines in northwest North Dakota. Oneok has applied to the Public Service Commission to convert an existing 45-mile natural gas gathering pipeline into a natural gas liquids pipeline in McKenzie and Williams counties. The Public Service Commission has scheduled a public hearing at 9 a.m. March 6 at the Ernie French Center in Williston to take input on that project.

## Domestic U.S.

- **Oil prices extend gains after a strong week. MarketWatch**
  - Oil prices settled higher on Monday, extending gains made last week on the back of halted production at a Libyan oil field and an unexpected drop in U.S. crude stockpiles. West Texas Intermediate crude oil for April delivery CLJ8, +0.66% on the New York Mercantile Exchange—the U.S. benchmark—rose 36 cents, or 0.6%, to settle at \$63.91 a barrel—its third session climb in a row. For last week, it rose roughly 3.3%, but the contract is still roughly 1% lower month to date. The global benchmark—April Brent crude, +0.34% —tacked on 19 cents, or 0.3%, to \$67.50 a barrel on the ICE Futures Europe exchange. Last week, it put up a weekly gain of 3.8%. The weekly U.S. petroleum inventory report due Wednesday is “likely to provide some support, as a large build to crude stocks—as is seasonal for February—continues to be errant amid lower net imports,” said Matt Smith, director of commodity research at Clipper Data. The U.S. Energy Information Administration said Thursday the amount of crude oil in storage fell by 1.6 million barrels in the week ended Feb. 16. The surprise decline followed weeks of crude inventory builds in the U.S. that, along with rising production, had weighed on prices. “Total U.S. commercial oil stocks subsequently dipped below the five-year average for the first time in nearly four years,” according to Stephen Brennock, an analyst at brokerage PVM Oil Associates Ltd. Oil prices have gained more than 7% over the past two weeks, following a more than 12% selloff at the start of the month amid fears of surging U.S. shale production. Meanwhile, Libya’s National Oil Co. on Friday declared force majeure on exports from the el-Feel oil field in the south of the country. The 60,000 barrel-a-day field was shut down and evacuated following a violent protest by a unit of local guards. “Given the ongoing political situation in the country, production levels may remain volatile,” Jan Edelman, a commodities analyst at HSH Nordbank AG, said of reduced supply out of Libya. Prices have also been supported by ongoing rhetoric from the Organization of the Petroleum Exporting Countries and its partners about its commitment to cutting crude production. OPEC and 10 producers outside the oil cartel, including Russia, have been holding back crude output by 1.8 million barrels a day since the start of last year. The agreement, which is scheduled to last through the end of 2018, helped bolster crude prices by more than 50% in the second half of last year.

# Oil and Gas Analysis

## o Rotary Rig Count Summary

Location	Date	Week	+/-	Week Ago	+/-	Year Ago
United States	16-Feb-18	975	0	975	224	751
	23-Feb-18	978	3	975	224	754
North Dakota	16-Feb-18	48	-1	49	13	35
	23-Feb-18	49	1	48	15	34
Canada	16-Feb-18	318	-7	325	-13	331
	23-Feb-18	306	-12	318	-35	341
International	Jan-18	960	6	954	27	933

- [Baker Hughes](#)

## o WTI & Bakken Spot Price

February 2018 Daily Spot Prices					
	Mon	Tue	Wed	Thu	Fri
<b>Bakken (FH)</b>					
2018 January-29 to February-2	58.44	58.39	58.39	58.33	60.5
2018 February-5 to February-9	60.26	58.97	58.36	57.18	56.62
2018 February-12 to February-16	55.37	55.37	55.37	56.64	56.64
2018 February-19 to February-23	-	56.65	56.75	58.33	58.33
<b>WTI</b>					
2018 January-29 to February-2	65.71	64.64	64.82	65.92	65.5
2018 February-5 to February-9	64.18	63.48	61.91	61.3	59.2
2018 February-12 to February-16	59.41	59.33	60.7	61.48	61.89
2018 February-19 to February-23	-	61.91			
<b>Differentials</b>					
2018 January-29 to February-2	7.27	6.25	6.43	7.59	5
2018 February-5 to February-9	3.92	4.51	3.55	4.12	2.58
2018 February-12 to February-16	4.04	3.96	5.33	4.84	5.25
2018 February-19 to February-23	-	5.26			

- [Flint Hills Resource](#)
- [EIA](#)

o **Weekly Petroleum Status Report**

<b>Stocks (Million Barrels)</b>			
	<b>Four Weeks Ending</b>		
	<b>2/16/2018</b>	<b>2/9/2018</b>	<b>2/17/2017</b>
Crude Oil (Excluding SPR)	420.5	422.1	518.7
Motor Gasoline	249.3	249.1	256.4
Distillate Fuel Oil	138.9	141.4	165.1
All Other Oils	390.1	394.3	408.7
Crude Oil in SPR	664.9	665.6	695.1
<b>Total</b>	<b>1,863.7</b>	<b>1,872.4</b>	<b>2,044.0</b>

<b>Products Supplied (Thousand Barrels per Day)</b>			
	<b>Four Weeks Ending</b>		
	<b>2/16/2018</b>	<b>2/9/2018</b>	<b>2/17/2017</b>
Motor Gasoline	9,054	8,978	8,587
Distillate Fuel Oil	4,139	4,044	3,966
All Other Products	7,454	7,670	7,233
<b>Total</b>	<b>20,646</b>	<b>20,692</b>	<b>19,786</b>

<b>Refinery Activity (Thousand Barrels per Day)</b>			
	<b>Four Weeks Ending</b>		
	<b>2/16/2018</b>	<b>2/9/2018</b>	<b>2/17/2017</b>
Crude Oil Input to Refineries	16,201	16,364	15,642
Refinery Capacity Utilization	89.6	90.3	86.4
Motor Gasoline Production	9,838	9,651	9,321
Distillate Fuel Oil Production	4,761	4,845	4,619

<b>Net Imports (Thousand Barrels per Day)</b>			
	<b>Four Weeks Ending</b>		
	<b>2/16/2018</b>	<b>2/9/2018</b>	<b>2/17/2017</b>
Crude Oil	6,203	6,617	7,522
Petroleum Products	-2,508	-2,448	-2,643
<b>Total</b>	<b>3,696</b>	<b>4,169</b>	<b>4,879</b>

- [EIA](#)

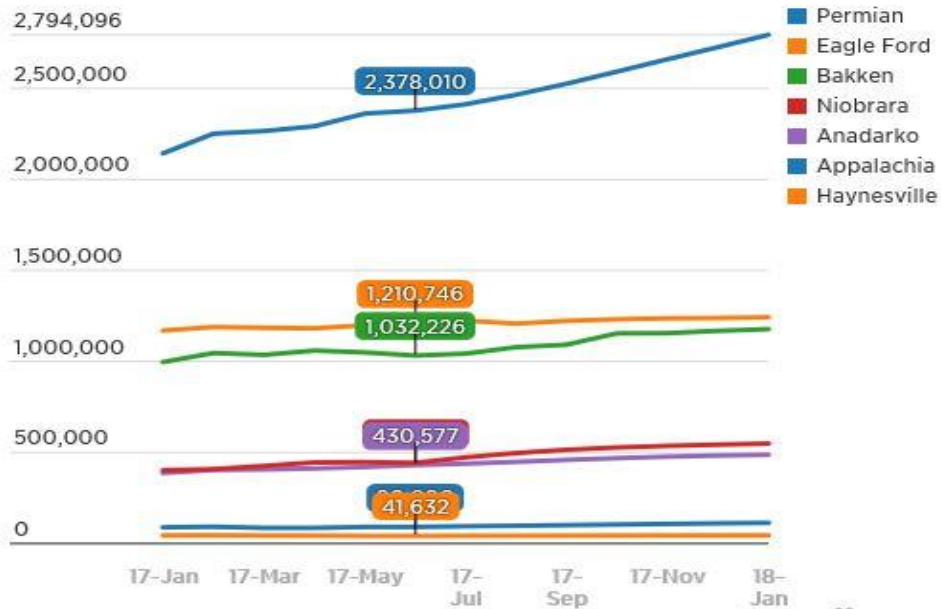
## o US Oil Production



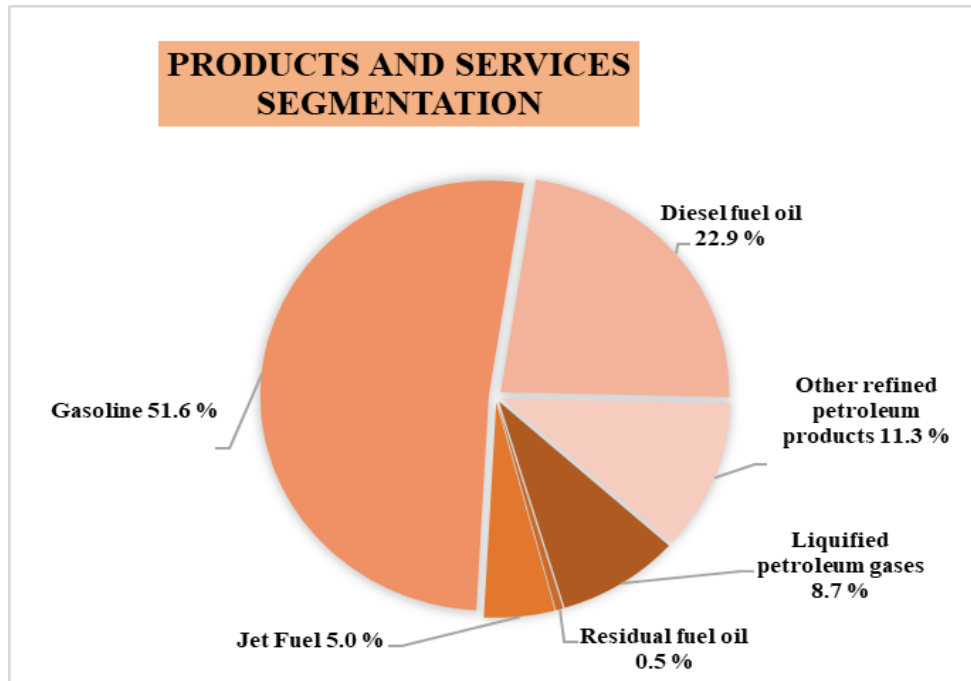
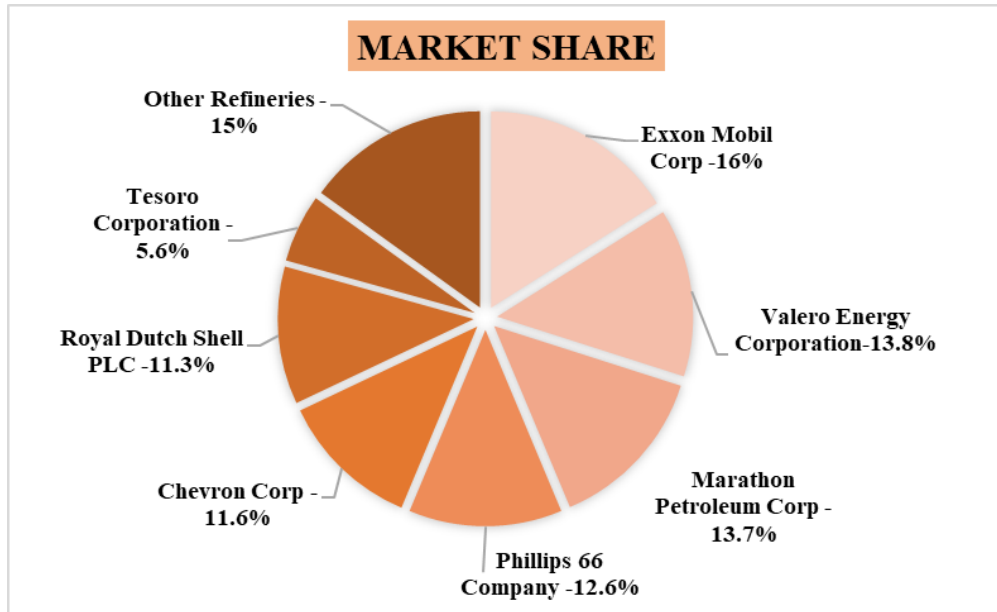
## o Americas Shale Basins

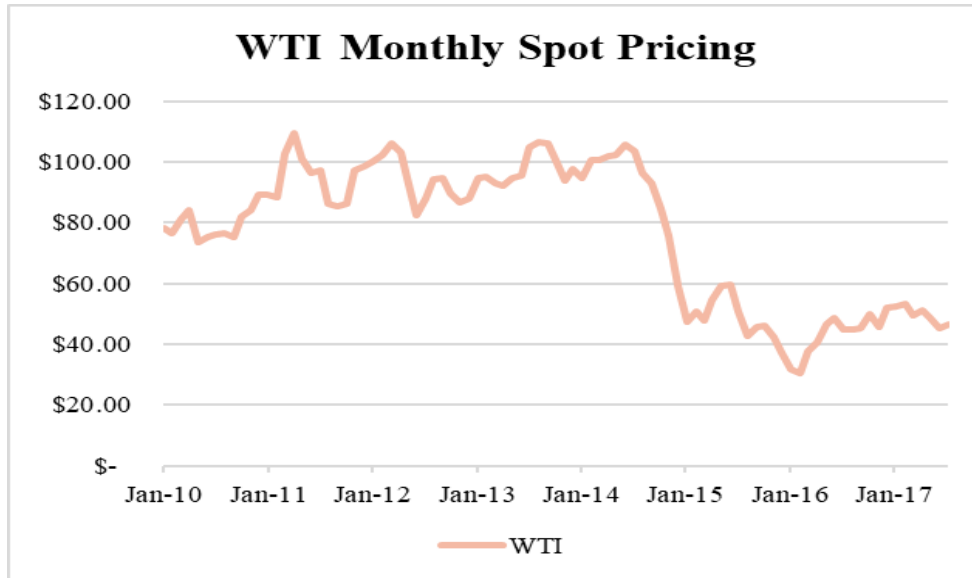
### America's shale basins

Oil production by basin. More recent data are subject to revision.



## o US Petroleum Refining at a Glance





- [EIA](#)

## o Key External Drivers

- o **World price of crude oil**
  - <http://markets.businessinsider.com/commodities/oil-price?type=wti>
- o **Demand from gasoline and petroleum bulk stations**
  - <https://www.reuters.com/article/us-usa-natgas-kemp/u-s-natural-gas-prices-rise-as-winter-stocks-look-tight-kemp-idUSKCN1BU1RK>
- o **GDP of mainland China**
  - <https://tradingeconomics.com/china/gdp>
- o **Trade-weighted index**
  - <https://www.investing.com/news/economy-news/top-5-things-to-know-in-the-market-on-friday-541066>
- o **Total vehicle miles**
  - <https://www.advisorperspectives.com/dshort/updates/2017/08/31/vehicle-miles-traveled-another-look-at-our-evolving-behavior>