

# Weekly Fundamental Market Report January 15-19, 2018

## Market Update

PRODUCTS	1/15/18	1/16/18	1/17/18	1/18/18	1/19/18
WTI Crude Oil	-	63.73	63.97	63.95	63.37
Brent Crude Oil	-	69.15	69.38	69.31	68.61
Natural Gas	-	3.13	3.23	3.19	3.19

- [CME Group](#)

## Headlines

### Local North Dakota

- **Meridian responds to Davis Refinery concerns.** [Dickinson Press](#)
  - Representatives from the Meridian Energy Group responded to concerns voiced at the public hearing regarding the proposed Davis Refinery, which will be located at the fringes of Theodore Roosevelt National Park, on Wednesday, Jan. 17. “We were thrilled with the attendance. This is what you go through this entire effort for,” Dan Hedrington, senior project manager for Short Elliott Hendrickson Inc, part of the Meridian Energy Group, said. Hedrington was happy to respond to some of the most common concerns raised at the hearing. One concern was that the North Dakota Department of Health had not anticipated the exhaust and air pollutants generated by truck traffic coming to and from the proposed refinery. Hedrington said this has been considered by Meridian and the health department, and was addressed by the Billings County Commissioners and their planning and zoning commission. “Trucking has been considered since day one,” Hedrington said. “We had to go through the planning and zoning commission in Billings County ... where it was higher review (standards) than I’ve ever encountered from any other county ever. It was extensive. “He said that not only was trucking information requested, but a condition of the permit -- which was granted via unanimous decision -- included an agreement to upgrade the roads and place hard surfacing to reduce potential dust. Hedrington seemed to welcome the scrutiny. “Those of us who are involved in the intricacies of the process ... your kind of excited about it,” he said. “It’s (testing your knowledge). It’s a lot of fun. When somebody is asking you these high-level questions ... it kind of gets your blood going.” Another concern voiced was that Meridian was playing a “shell game” and trying to weasel its way out of answering to a higher regulatory authority in the form of the Public Service Commission, due to the refinery being just shy of the 50,000 barrels per day production mark which requires PSC intervention. Hedrington explained why there had been different figures circulating about the proposed refinery’s production. “So, the original intent of the project was to develop a 27,500 barrel per day facility,” he said, adding that it was the request of regulatory agencies to assess the facility based upon its highest possible production standard. He said that this demonstrated to the public that even if production doubled at Davis, it would still be meeting environmental regulations. Hedrington said that initially the refinery will only be producing at 27,500 barrels per day. Despite that output, there will be no reduction to the economic benefits Meridian promises the refinery will bring. “We’ll still be providing jobs, especially in the construction phase,” he said, adding that the addition of the high-paid workforce will also sustain businesses in nearby communities. “That means there’s going to be more grocery stores, there’ll be more activity, more housing, all of these families coming in ... that’ll increase tax revenue ... growth and infrastructure. “The health department provided an informative presentation prior to the public hearing portion of the meeting, explaining their permitting process and using a chart to compare emissions from comparable facilities to what the Davis Refinery would produce. That chart showed that currently approved refineries, such as the Tesoro-Mandan facility, far exceed the expected emissions that Davis would produce. Indeed, the University of North Dakota’s coal-fired heating system was shown to be a greater potential source of emissions than Davis would be. For Hedrington and Meridian, they have absolute confidence that their technology will be proven. “The amount of money that has been spent so far -- we’re in the tens of millions of dollars without even breaking ground. The amount of full design and science and all the evaluation that’s been done thus far ... is the exciting part. The next exciting part is to prove it,” he said. “We’ve tried to prove everything thus far. We’ve proven it to the other scientists and engineers, we’ve proven it to those people evaluating. And now to be able to come to the public and say, after this thing is built, that not only did we do what we said we could do, this is an industry

changer potentially. Do you not think that the other refineries across the nation are watching what we're doing in North Dakota?"

- **Davis Refinery plan deserves support. [Bismarck Tribune](#)**
  - Meridian Energy Group is seeking to locate the Davis Refinery near Belfield and Medora. This industry will create an opportunity for good-paying jobs, which ultimately lifts the opportunity for all in this area. Meridian Energy Group has followed all the rules the state has set forth for them to build this plant on that site. Because their projected refining volume is 27,500 barrels per day of production, they do not need a Public Service Commission permit. A PSC permit must be sought at 50,000 barrels per day of production. Its location is not in sight from one of the highest hilltops in Theodore Roosevelt National Park. The company has also reported plans to plant additional landscape tree borders on their property. Meridian's staff has followed the law during each step of the process. The Billings County Commission approved this project unanimously over a year ago after a detailed review of the refinery's location. Five hundred construction, 200 permanent and 2,000 indirect job positions will be created with this project, which contribute to the prosperity of our children and grandchildren. This will also add new families in both large and small towns and add to the economies of those towns. There are groups that oppose fossil fuel projects in part because they support alternative fuels like wind towers and solar panels. I agree wind and solar have their place. However, our state should embrace all the energy sources which include fossil fuels. Join me and others in supporting the Davis Refinery for western North Dakota.
- **North Dakota expects to hit oil production record in 2018. [Star Tribune](#)**
  - Oil prices are near a three-year high, and the state's November production levels were the highest since July 2015. North Dakota, the nation's second-largest oil-producing state, pumped out 1.19 million barrels per day in November, the highest monthly output since July 2015. North Dakota's oil production rose nicely again in November, and, with petroleum prices rising, monthly output should set records in 2018, the state's top oil and gas official said Tuesday. "We're pretty optimistic," said Lynn Helms, director of North Dakota's Department of Mineral Resources. "Everything points to more (oil) rigs, more frack crews and more activity in North Dakota." North Dakota, the nation's second largest oil-producing state, pumped out 1.19 million barrels per day in November, up 1 percent from October and the highest monthly output since July 2015. The state's all-time production high was 1.23 million barrels per day in December 2014. "We are closing in on that 1.2 million (barrel per day) number, which is a pretty important number," Helms said. "Sometime in the first half of this year, we should break the record." November was also a good month for North Dakota's natural gas production. It rose 1.4 percent from October, hitting a record high of 2.1 million MCF per day. (An MCF is a thousand cubic feet of gas.) The U.S. oil industry is expected to post a record year in 2018. Crude oil production is forecast to average 10.3 million barrels per day, surpassing the previous record of 9.6 million barrels per day set in 1970, according to a report last week from the U.S. Energy Information Administration (EIA). Oil prices are currently near a three-year high, with the U.S. benchmark crude price of West Texas Intermediate (WTI) closing just short of \$64 per barrel Tuesday. Prices have risen due to a relatively hot global economy — which has increased oil demand — coupled with supply curtailments by OPEC and Russia. The oil-producing countries agreed in November to extend production limits originally set in November 2016. The supply caps, aimed at reducing global oil inventories, are expected to run through 2018. With higher prices, the current drilling rig count in North Dakota has risen back to its October level of 56, after falling to 52 in December. A rising rig count indicates operators are drilling more new wells. The rig count in North Dakota was 38 one year ago after falling to a low of 27 in May 2016. If oil prices stay over \$55 for the next 90 days, operators are expected to add five to 10 more rigs in the second and third quarters of 2018, Helms wrote in a monthly report released Tuesday. Helms was asked during a webinar for reporters Tuesday whether he thought North Dakota was embarking on a second oil boom, or getting a "second wind." The latter, he answered. "We don't envision anything happening here like in 2012 and 2013." Back then, oil prices soared to a range of \$90 to \$100 per barrel. They began to collapse in 2014's fourth quarter, hitting a nadir of around \$30 a barrel in February 2016.

## Domestic U.S.

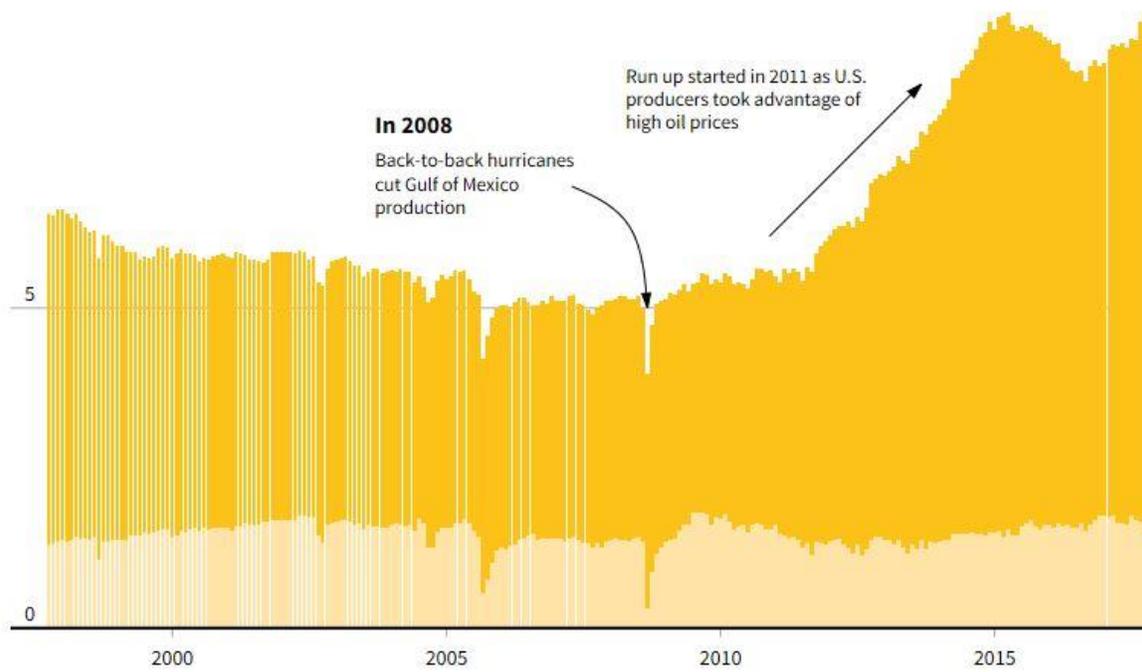
- **U.S. oil industry set to break record, upend global trade. [Reuters](#)**
  - Surging shale production is poised to push U.S. oil output to more than 10 million barrels per day - toppling a record set in 1970 and crossing a threshold few could have imagined even a decade ago. And this new record, expected within days, likely won't last long. The U.S. government forecasts that the nation's production will climb to 11 million barrels a day by late 2019, a level that would rival Russia, the world's top producer. The economic and political impacts of soaring U.S. output are breathtaking, cutting the nation's oil imports by a fifth over a decade, providing high-paying jobs in rural communities and lowering consumer prices for domestic gasoline by 37 percent from a 2008 peak. Fears of dire energy shortages that gripped the country in

the 1970s have been replaced by a presidential policy of global “energy dominance.” “It has had incredibly positive impacts for the U.S. economy, for the workforce and even our reduced carbon footprint” as shale natural gas has displaced coal at power plants, said John England, head of consultancy Deloitte’s U.S. energy and resources practice. U.S. energy exports now compete with Middle East oil for buyers in Asia. Daily trading volumes of U.S. oil futures contracts have more than doubled in the past decade, averaging more than 1.2 billion barrels per day in 2017, according to exchange operator CME Group. The U.S. oil price benchmark, West Texas Intermediate crude, is now watched closely worldwide by foreign customers of U.S. gasoline, diesel and crude. The question of whether the shale sector can continue at this pace remains an open debate. The rapid growth has stirred concerns that the industry is already peaking and that production forecasts are too optimistic. The costs of labor and contracted services have recently risen sharply in the most active oilfields; drillable land prices have soared; and some shale financiers are calling on producers to focus on improving short-term returns rather than expanding drilling. But U.S. producers have already far outpaced expectations and overcome serious challenges, including the recent effort by the Organization of the Petroleum Exporting Countries (OPEC) to sink shale firms by flooding global markets with oil. The cartel of oil-producing nations backed down in November 2016 and enacted production cuts amid pressure from their own members over low prices - which had plunged to below \$27 earlier that year from more than \$100 a barrel in 2014. Shale producers won the price war through aggressive cost-cutting and rapid advances in drilling technology. Oil now trades above \$64 a barrel, enough for many U.S. producers to finance both expanded drilling and dividends for shareholders. Efficiencies spurred by the battle with OPEC - including faster drilling, better well designs and more fracking - helped U.S. firms produce enough oil to successfully lobby for the repeal of a ban on oil exports. In late 2015, Congress overturned the prohibition it had imposed following OPEC’s 1973 embargo. The United States now exports up to 1.7 million barrels per day of crude, and this year will have the capacity to export 3.8 billion cubic feet per day of natural gas. Terminals conceived for importing liquefied natural gas have now been overhauled to allow exports. That export demand, along with surging production in remote locations such as West Texas and North Dakota, has led to a boom in U.S. pipeline construction. Firms including Kinder Morgan and Enterprise Products Partners added 26,000 miles of liquids pipelines in the five years between 2012 and 2016, according to the Pipeline and Hazardous Materials Safety Administration. Several more multi-billion-dollar pipeline projects are on the drawing board. U.S. drillers say they can supply plenty more. “We continue to see and drive improvements” in drilling speed and efficiency, said Mathias Schlecht, a technology vice president at Baker Hughes, General Electric Co’s oilfield services business. New wells can be drilled in as little as a week, he said. A few years ago, it could take up to a month. The next phase of shale output growth depends on techniques to squeeze more oil from each well. Companies are now putting sensors on drill bits to more precisely access oil deposits, using artificial intelligence and remote operators to get the most out of equipment and trained engineers. As expanded investments push more producers to add wells in less productive regions, technology will help make those plays more profitable, said Kate Richard, chief executive of Warwick Energy Group, which owns interests in more than 5,000 U.S. wells. In an interview, she estimated about a third of the money from private equity investments in shale will be used to wring more oil from overlooked regions. Higher prices - up about \$10 a barrel in the last two months - also may encourage the industry to work through a backlog of some 7,300 drilled-but-uncompleted shale wells that have built up because of crew and equipment shortages. The higher prices have suppliers that provide hydraulic fracturing services, such as Keane Group and Liberty Oilfield Services, buying expensive new equipment in anticipation of more work. U.S. fracking service revenues are expected to grow by 20 percent this year, approaching a record of \$29 billion set in 2014, according to oilfield research firm Spears & Associates. The shale revolution initially upended the traditional industry hierarchy, making billionaires out of wildcatters such as Harold Hamm, who founded Continental Resources, and the late Aubrey McClendon of Chesapeake Energy. Top U.S. oil firms such as Exxon Mobil and Chevron a decade ago turned much of their focus to foreign fields, leaving smaller firms to develop U.S. shale. Now they’re back, buying shale companies, land and shifting more investments back home from overseas. Exxon last year agreed to pay up to \$6.6 billion for land in the Permian basin, the epicenter of U.S. shale. Chevron this year plans to spend \$4.3 billion on shale development. The majors’ shift is driving up costs for labor and drillable land in the region, another boost to wages and wealth in rural areas. In the shale industry hub of Midland, Texas, unemployment has fallen to a mere 2.6 percent, said Willie Taylor, executive director of the Permian Basin Workforce Development Board, a group that helps firms find staff. Companies are now offering signing bonuses to attract workers to West Texas. One oil company fly’s workers to Midland from Houston weekly to fill a local labor void, he said. “It was an employer’s market,” he said. “Now it’s more of a job seeker’s market.”

## TOTAL U.S. PRODUCTION

Offshore Onshore

10 million barrels per day



Source: U.S. Energy Information Administration  
By Han Huang | REUTERS GRAPHICS

# Oil and Gas Analysis

## o Rotary Rig Count Summary

Location	Date	Week	+/-	Week Ago	+/-	Year Ago
United States	12-Jan-18	939	15	924	280	659
	19-Jan-18	936	-3	939	242	704
North Dakota	12-Jan-18	45	0	45	13	32
	19-Jan-18	44	-1	45	10	35
Canada	12-Jan-18	276	102	174	-39	315
	19-Jan-18	325	49	276	-17	342
International	Dec-17	954	12	942	25	929

- Baker Hughes

## o WTI & Bakken Spot Price

January 2018 Daily Spot Prices					
	Mon	Tue	Wed	Thu	Fri
<b>Bakken (FH)</b>					
2018 January-1 to January-5	-	53.07	53.07	56.63	56.63
2018 January-8 to January-12	56.19	56.19	57.67	57.67	58.16
2018 January-15 to January-19	-	58.02	58.02	58.02	58.02
<b>WTI</b>					
2018 January-1 to January-5	-	60.37	61.61	61.98	61.49
2018 January-8 to January-12	61.73	62.92	63.6	63.81	64.22
2018 January-15 to January-19	-	63.82			
<b>Differentials</b>					
2018 January-1 to January-5	-	7.3	8.54	5.35	4.86
2018 January-8 to January-12	5.54	6.73	5.93	6.14	6.2
2018 January-15 to January-19	-	5.8			

- Flint Hills Resource
- EIA

## o Weekly Petroleum Status Report

<b>Stocks (Million Barrels)</b>			
	<b>Four Weeks Ending</b>		
	<b>1/12/2018</b>	<b>1/5/2018</b>	<b>1/13/2017</b>
Crude Oil (Excluding SPR)	412.7	4,193.5	485.5
Motor Gasoline	240.9	237.3	246.4
Distillate Fuel Oil	139.2	143.1	169.1
All Other Oils	413.2	419.8	432.4
Crude Oil in SPR	664.2	663.7	695.1
<b>Total</b>	<b>1,870.2</b>	<b>1,883.5</b>	<b>2,028.4</b>

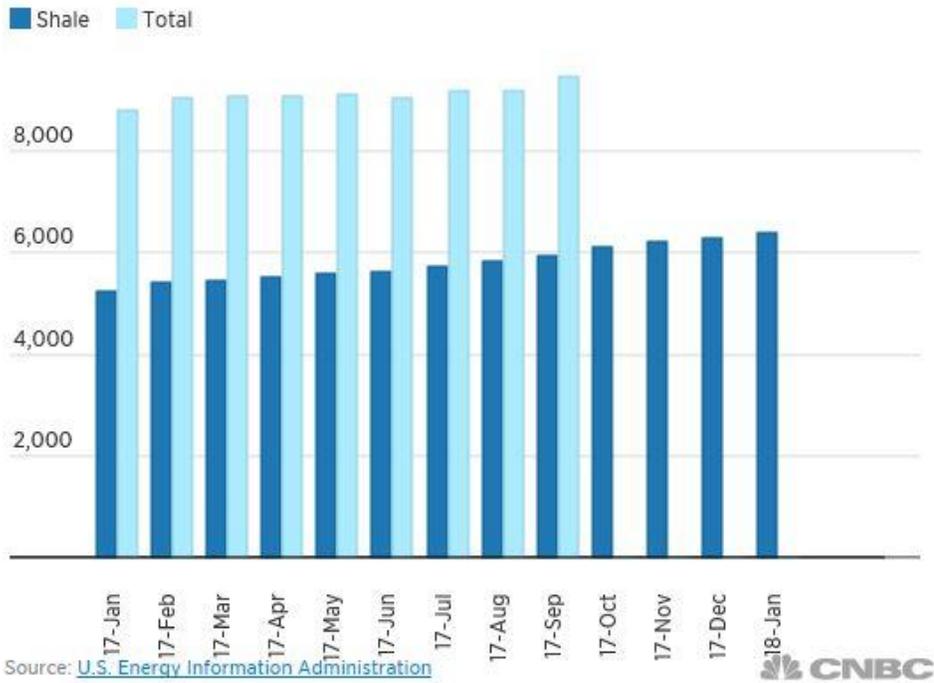
<b>Products Supplied (Thousand Barrels per Day)</b>			
	<b>Four Weeks Ending</b>		
	<b>1/12/2018</b>	<b>1/5/2018</b>	<b>1/13/2017</b>
Motor Gasoline	8,904	9,094	8,571
Distillate Fuel Oil	4,077	3,874	3,513
All Other Products	7,561	7,650	7,265
<b>Total</b>	<b>20,543</b>	<b>20,618</b>	<b>19,348</b>

<b>Refinery Activity (Thousand Barrels per Day)</b>			
	<b>Four Weeks Ending</b>		
	<b>1/12/2018</b>	<b>1/5/2018</b>	<b>1/13/2017</b>
Crude Oil Input to Refineries	17,301	17,348	16,705
Refinery Capacity Utilization	95.2	95.4	91.8
Motor Gasoline Production	9,791	9,880	9,656
Distillate Fuel Oil Production	5,359	5,391	5,081

<b>Net Imports (Thousand Barrels per Day)</b>			
	<b>Four Weeks Ending</b>		
	<b>1/12/2018</b>	<b>1/5/2018</b>	<b>1/13/2017</b>
Crude Oil	6,655	6,473	7,509
Petroleum Products	-3,184	-3,107	-3,096
<b>Total</b>	<b>3,471</b>	<b>3,367</b>	<b>4,414</b>

- [EIA](#)

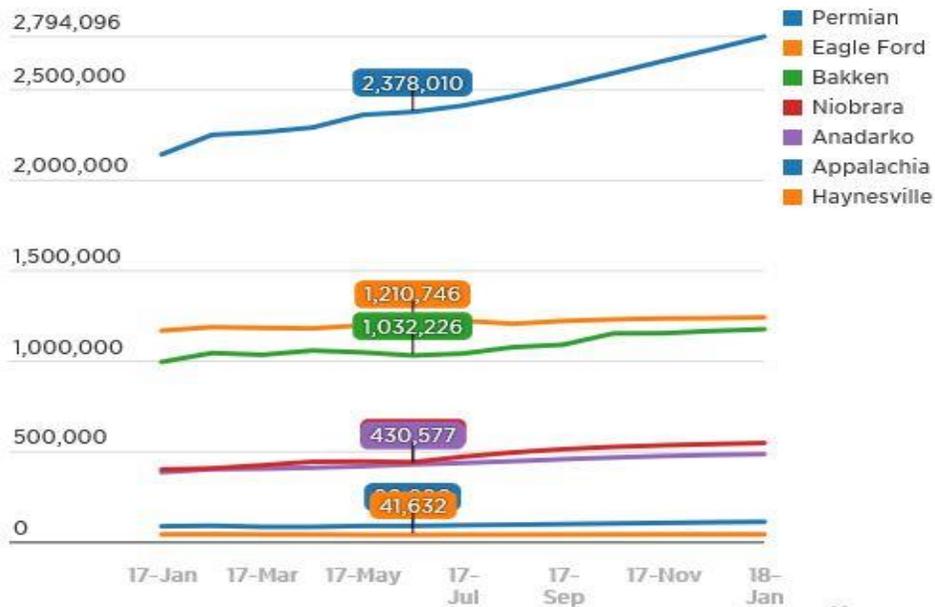
## o US Oil Production



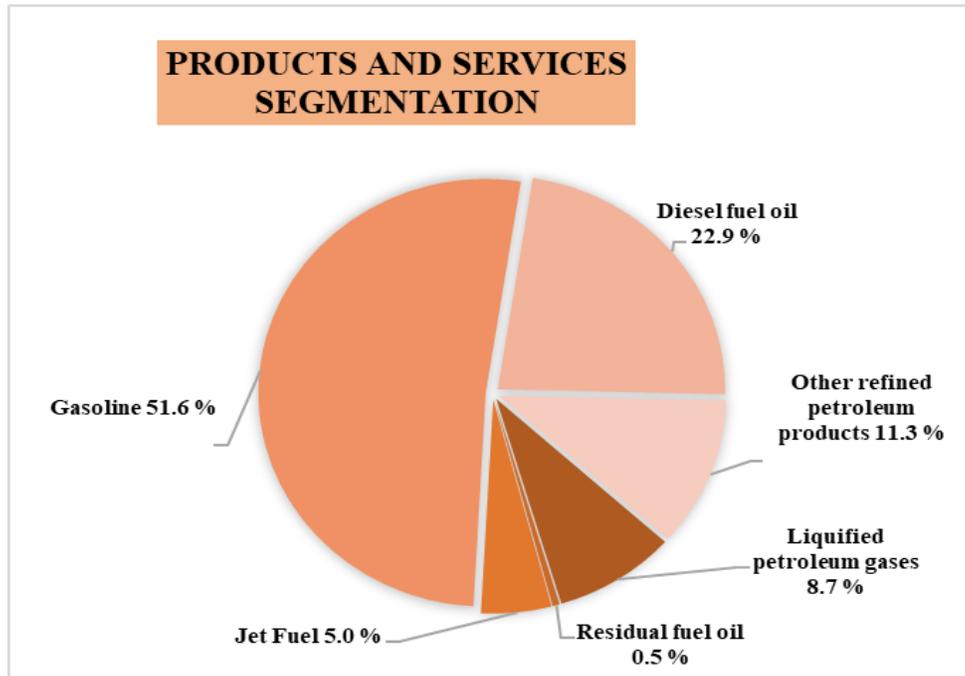
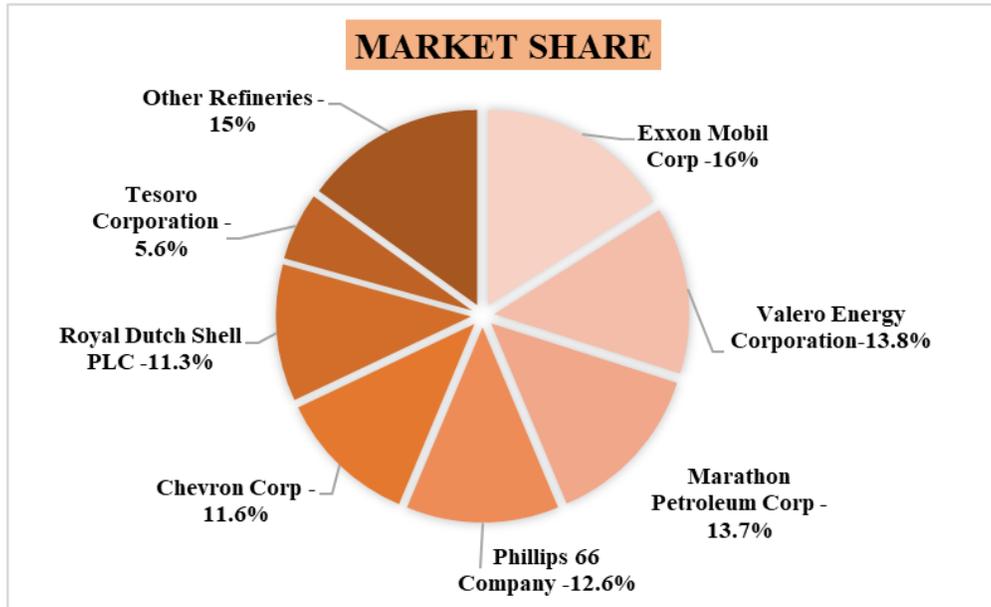
## o Americas Shale Basins

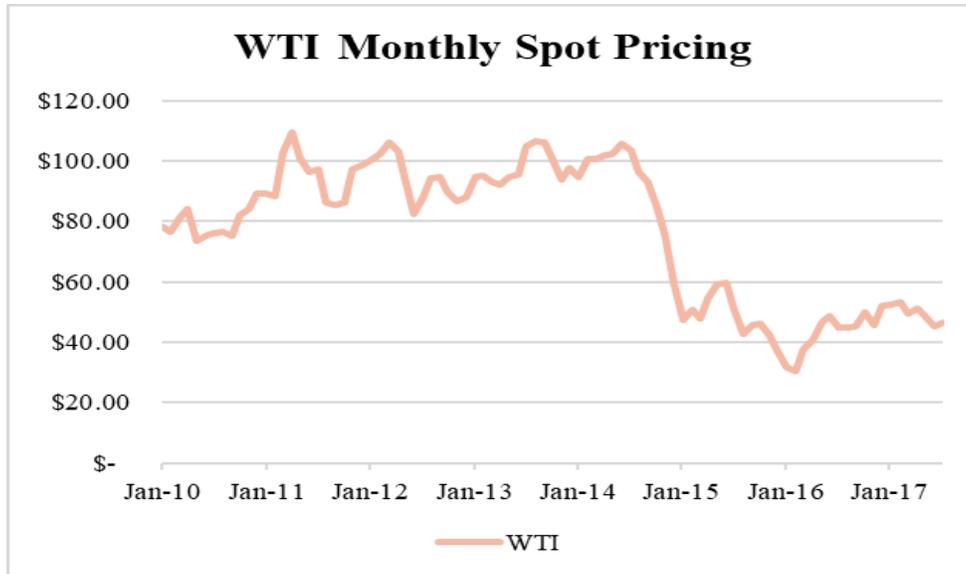
### America's shale basins

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>