Weekly Fundamental Market Report October 16-20, 2017

Market Update

PRODUCTS	10/16/17	10/17/17	10/18/17	10/19/17	10/20/17
WTI Crude Oil	51.87	51.88	52.04	51.29	51.47
Brent Crude Oil	57.82	57.88	58.15	57.23	57.75
Natural Gas	2.95	2.96	2.85	2.87	2.92

- **CME Group**

Headlines

Local North Dakota

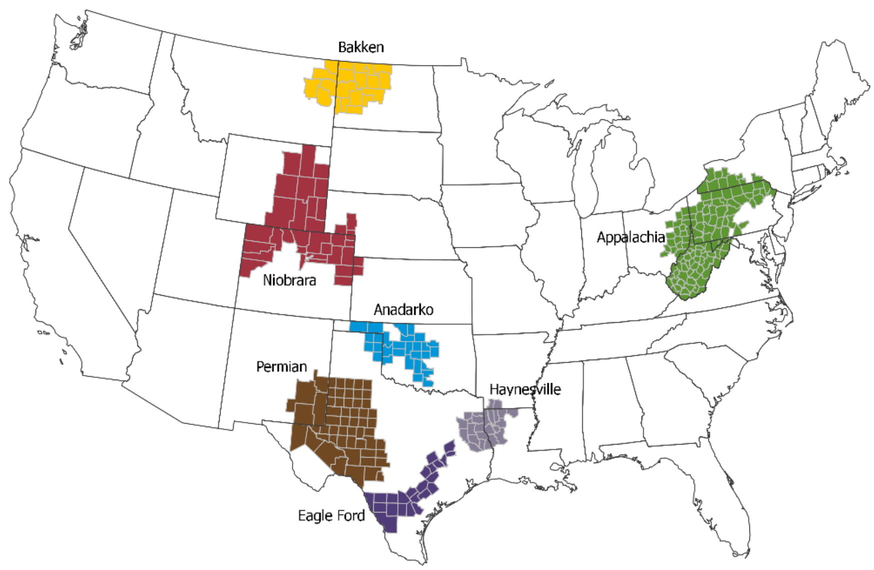
- **Proposed tax cuts may help ND energy sector, but questions remain.** **Bismarck Tribune**
    - The proposed Republican tax reform plan may benefit North Dakota industries, particularly the energy sector, but some doubt remains as to its broader impact. Among the plan's adjustments is setting the income tax rate for small and family owned businesses at 25 percent. It would also lower the corporate tax rate from as high as 39.1 percent in 2014 to 20 percent. Lowering the corporate tax rate would bring the U.S. a couple of points below the global income tax average, with a goal of boosting the U.S. economy. Rep. Kevin Cramer, R-N.D., said there aren't many energy-specific items in the tax reform proposal. "But what I sense from energy and petroleum, in particular … lowering the corporate rate is important for everybody," he said. "Just the fact that we lower the rate from the highest rate in the industrial world, down to 20 percent … 20 percent is lower than the international average of 22.5, which puts us competitive globally. That makes it better for the job creators." Meridian Energy Group, which is looking to building the Davis Refinery close to the border of Theodore Roosevelt National Park, likely would benefit from a tax cut. Meridian CEO Bill Prentice spoke about how it would be affected. "When you're in business, private enterprise, you're always interested in tax cuts," Prentice said. "It flows through from top to bottom. We get to charge less for our product, our employees make more, our investors see a higher return … I can't see a downside for any business. The long-term effect is that … you have more thoughts about expanding." These benefits will have a direct impact on the area, he said. "Specifically, in respect to the Bakken, there's a lot going on up there that would be expedited by a lower tax rate," Prentice said. Charles Conrick, a professor at Dickinson State University's school of business and entrepreneurship, agreed that a tax cut for corporations and businesses would benefit investment. "Bringing the corporate tax rate down to what they are proposing, 20 percent, (there) is no doubt that it is going to generate investment and hopefully corporate investment," Conrick said, though he added there's a silver lining when it comes to energy. "Particularly when you talk about oil companies, that will be a function of the price of oil, which is established on the global markets." He said Bakken oil is at a disadvantage because it costs more to extract that oil in other places. Conrick said he expected a lower tax rate would spur more entrepreneurship. The tax reform plan also calls for eliminating the federal estate tax, which will affect few North Dakota's farmers. The current estate tax only affects inheritances valued over $5.4 million. There were only 149 farms in North Dakota with a market value over $5 million in 2012, according to statistics provided by Darin Jantzi, state statistician with the U.S. Department of Agriculture. In 2007, that number was 39. The Internal Revenue Service reports that only 35 estate tax returns were filed in 2016 from North Dakota. There are other consequences if the estate tax is eliminated. Cramer said another selling point of the proposed plan is its simplicity. "(This is) very middle-class and lower-income focused," he said. "In addition to pro-growth on the top end, it is very pro-growth on the bottom and middle. We believe that 95 percent of Americans will be able to do their taxes on a post card. You have all the costs of complying … that still gets to stay in your pocket." Several tax brackets have been reduced to just three, which Cramer said is one of the plan's better values,

following an overall goal of simplifying the tax code to make it easier to understand and harder to take advantage of. “Much of the complication of the tax code is to the benefit of particular special interests and when I say particular I mean: all of them,” Cramer said. There are precedents in the U.S. when it comes to cutting corporate taxes, and this plan echoes parts of previous administrations’ attempts. “There have been two other presidents since the early 60s who have done something similar: President Kennedy and President Reagan,” said Kari Cutting, vice president of the petroleum council. “In both cases, when they cut taxes, the economy started moving forward.” Conrick said that determining whether risking cuts to welfare programs is worth a likely boost to domestic investment and job growth is a conversation informed citizens need to be having as these plans are debated in Congress.

- **Administration approves Alberta Clipper pipeline crossing from Canada. INFORUM**
  - The Trump administration has approved a crude oil pipeline crossing from Canada into northeastern North Dakota that will send oil across northern Minnesota. This Monday, Oct. 16, announcement allows Canada-based Enbridge to pump oil across the border at maximum capacity of the Alberta Clipper pipeline, also known as Line 67. The 1,112-mile pipeline has been operating, but since 2010, but Enbridge has used another pipeline to move oil at a lower rate across the international border. The pipeline starts at the Enbridge terminal in Edmonton, Alberta, Canada, and runs southeast to Neche, N.D., just west of the Minnesota border. From there, it goes to Superior, Wis. "Line 67 is a key component of Enbridge's Mainline System, which U.S. refineries rely on to supply the crude oil that fuels our everyday lives," Enbridge said in a statement. "Those refineries provide vital products to consumers across the Midwest, including in Minnesota. There is a strong demand for pipeline capacity and Line 67 remains critical energy infrastructure for the United States." The Alberta Clipper now can move more than 890,000 barrels of Canadian tar sands oil a day, slightly more than the controversial Keystone XL pipeline that the administration also approved this year. The new oil flow permitted by Washington is about twice as much as the existing crossing can carry. Environmentalists expected Monday's action. However, Martin said, the Washington decision is less important than one that remains to be made in Minnesota: whether to expand the Enbridge Line 3 so it can carry more tar sands oil. State regulators are expected to make a decision on expanding and moving Line 3 next April, although whatever action they take is expected to end up in court. After the Alberta Clipper began operating in 2010, Enbridge added pump stations in 2014 and 2015. It asked the federal State Department in 2012 to grant a permit for the 36-inch-diameter pipeline to cross the Canadian border.

Domestic U.S.

- **US shale oil output will grow by another 81,000 barrels a day in November, Dept. of Energy forecasts. CNBC**
  - The Department of Energy is predicting another strong month of oil growth from the nation's shale fields in November. American drillers are poised to increase output in several shale oil and gas regions by another 81,000 barrels a day next month, according to the department's Energy Information Administration. Total output for November in the areas is forecast to reach 6.12 million barrels a day, continuing a string of growth that is driving a rebound in U.S. oil production. Domestic crude output from all fields was 9.24 million barrels a day in July, the last period for which monthly data are available. Shale producers use advanced drilling methods like hydraulic fracturing, the process of injecting water, minerals and chemicals underground at high pressure to fracture rock formations and allow oil and gas to flow. This month's oil production from shale regions is now expected to hit 6.04 million barrels a day, down about 44,000 barrels a day from an earlier estimate. This is the second month in a row EIA has knocked down its estimate since changing the way it forecasts shale production in August. The Permian basin underlying western Texas and southeastern New Mexico continues to lead the pack, though EIA expects the pace of growth to slow. The region's output is poised to increase by 50,000 barrels a day next month. EIA forecast monthly gains of about 65,000 barrels a day between July and September. Analysts have lately warned that rising service costs and a shortage of highly skilled rig crews will slow growth in the prolific region. Oklahoma's Anadarko basin and the Rocky Mountain region's Niobrara shale are both expected to increase production by 9,000 barrels a day. North Dakota's Bakken shale should grow output by about 8,000 barrels a day, EIA said. The Eagle Ford in southern Texas will eke out a 2,000-barrels-a-day gain, EIA projected. Natural gas production from shale regions is forecast to grow by 827 million cubic feet a day to 60.9 billion cubic feet per day. The Marcellus and Utica shale patches in Appalachia account for nearly half of the growth.
  - **U.S. shale oil and gas regions, source: U.S. Energy Information Administration**



- **US Crude Oil Production**
  - EIA forecasts that U.S crude oil production will average 9.4 million barrels per day (b/d) in the second half of 2017, 340,000 b/d more than in the first half of 2017. Production in 2018 is expected to average 9.9 million b/d, surpassing the previous high of 9.6 million b/d set in 1970, based on projections in EIA's Short-Term Energy Outlook (STEO). The STEO projects that most of the crude oil production growth in the second half of 2017 will be in the Permian region, which extends across western Texas and southeastern New Mexico and has become one of the more active drilling regions in the United States. Production in the Permian continues to increase, in part, as a result of West Texas Intermediate (WTI) crude oil average monthly prices that have remained higher than $45 per barrel since the second half of 2016. In the STEO, EIA publishes crude oil production projections for Alaska, the Federal Gulf of Mexico, and the aggregated Lower 48 states. However, each month in the STEO, EIA models oil production for certain states and regions within the Lower 48 states. STEO's projected U.S. production changes for the second half of 2017 are discussed in more geographic detail in the latest This Week in Petroleum, which includes information on production in the Permian, Niobrara, Anadarko, Bakken, Eagle Ford, Alaska, California, and the Gulf of Mexico. The STEO forecast is based on recent trends in drilling and production and on anticipated future changes, driven largely by the WTI crude oil price. EIA evaluates past production trends on a well-by-well basis for all production documented since 2014 and uses that history to estimate future well performance and production decline rates at the state and regional levels. In the Lower 48 states, rig counts typically follow changes in the WTI price with an approximate four-month lag. Changes in the number of active rigs lead to changes in production volumes within about two months. Consequently, the STEO oil production forecast is based on the observation that changes in production volumes typically occur about six months after a change in the price of crude oil. The forecast is also influenced by estimates of cash flow and production costs, which vary by region and over time. In addition, the outlook makes assumptions regarding how the inventory of drilled but uncompleted wells respond to price and how that response affects production at the state and regional levels. All historical production data in the STEO are benchmarked monthly to EIA's Monthly Crude Oil and Natural Gas Production report and to EIA's Petroleum Supply Monthly (PSM) estimates at the state level. The October STEO forecast for oil production is benchmarked to the PSM data for July 2017 that was published at the end of September.

Global

- **Rising tensions in oil-rich northern Iraq keep crude prices elevated.** Market Watch
  - Oil prices continued to climb Tuesday amid fighting in Iraq that threatened production from northern Iraq and as the relationship between the United States and Iran risked more strain. West Texas Intermediate crude, +0.12% was up 29 cents, or 0.6%, to $52.16 a barrel on the New York Mercantile Exchange, aiming toward

its highest settlement in some three weeks, according to FactSet data. Brent crude +0.42% gained 28 cents, or 0.5%, to $58.09. Iraqi forces on Monday clashed with fighters from Iraq's semi-autonomous Kurdish region in the oil-rich province of Kirkuk, in a continuing standoff over Kurdish independence. The violence followed a referendum late September in which the Kurds voted overwhelmingly in favor of independence, in defiance of the central government in Baghdad and other regional powers. Iraqi Kurdistan exports nearly 600,000 barrels of oil a day, mainly via a pipeline that runs through Turkey. With Iraqi forces now in control of some Kurdish oil fields, much of these exports could be blocked, experts say. That potential reduction to global supply has boosted crude prices in recent days. The situation in Iraq is still important for oil prices, said Iain Reid, head of European oil and gas research at Macquarie Group. "Iraq is a big part of Middle East oil production." Meanwhile, uncertainty surrounding the international agreement with Iran to curb the Islamic Republic's nuclear program in exchange for sanctions relief has also supported prices. President Donald Trump last week refused to recertify the 2015 deal, punting a decision to Congress on whether to impose fresh sanctions on Iran. The lifting of sanctions at the start of 2016 allowed Iran to significantly increase its production to around 3.8 million barrels a day. But new sanctions could limit Iran's export capacity, reducing global supplies. While there is "no immediate danger" to global oil supply from the Iran situation, it "nevertheless leads to an increase in geopolitical premium, which is probably forcing speculative shorts to cover at least part of their positions," said Tamas Varga, an analyst at brokerage PVM Oil Associates Ltd. Macquarie's Reid said inventors will be listening for any comments on geopolitical risk and the crude price environment when executives from the world's major oil companies gather in London this week at an annual summit. The three-day Oil & Money conference, hosted by the New York Times and Energy Intelligence, gets under way this morning. Among refined products, Nymex reformulated gasoline blendstock—the benchmark gasoline contract—was down 0.33%, at $1.62 a gallon. ICE gasoil, a benchmark for diesel fuel, changed hands at $543.25 a metric ton, up 0.46% from the previous settlement.

Meridian Energy Group Inc.

Oil and Gas Analysis

- **Rotary Rig Count Summary**

Location	Date	Week	+/-	Week Ago	+/-	Year Ago
United States	13-Oct-17	928	-8	936	389	539
	20-Oct-17	913	-15	928	360	553
North Dakota	13-Oct-17	51	1	50	21	30
	20-Oct-17	51	0	51	21	30
Canada	13-Oct-17	212	3	209	47	165
	20-Oct-17	202	-10	212	59	143
International	Sep-17	931	-21	952	-3	934

- Baker Hughes

- **WTI & Bakken Spot Price**

October 2017 Daily Spot Prices					
	Mon	Tue	Wed	Thu	Fri
Bakken (FH)					
2017 October-2 to October-6	44.06	45.04	45.04	44.59	45.24
2017 October-9 to October-13	43.98	44.17	45.23	45.4	44.92
2017 October-16 to October-20	45.53	45.66	45.66	45.46	45.56
WTI					
2017 October-2 to October-6	50.59	50.44	50	50.79	49.34
2017 October-9 to October-13	49.58	50.93	51.3	50.61	51.43
2017 October-16 to October-20	51.86				
Differentials					
2017 October-2 to October-6	6.53	5.4	4.96	6.2	4.1
2017 October-9 to October-13	5.6	6.76	7.13	5.21	6.51
2017 October-16 to October-20	6.33				

- Flint Hills Resource
- EI

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o Weekly Petroleum Status Report

Stocks (Million Barrels)			
	Four Weeks Ending		
	10/6/2017	10/6/2017	10/7/2016
Crude Oil (Excluding SPR)	465.5	462.2	468.7
Motor Gasoline	222.3	221.4	228.0
Distillate Fuel Oil	134.5	134.0	155.7
All Other Oils	470.8	475.1	488.0
Crude Oil in SPR	671.7	672.4	695.1
Total	1,955.8	1,965.2	2,035.5

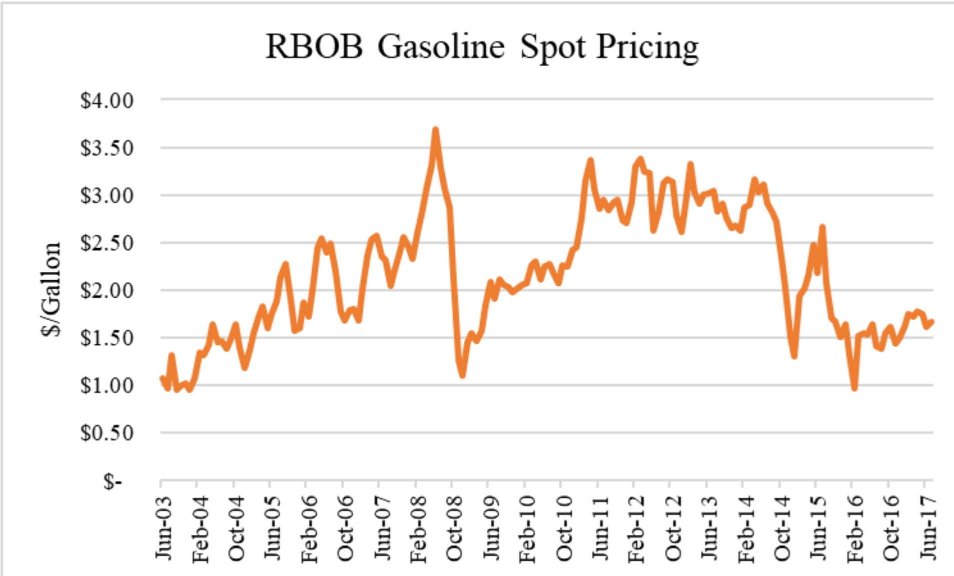
Products Supplied (Thousand Barrels per Day)			
	Four Weeks Ending		
	10/6/2017	10/6/2017	10/7/2016
Motor Gasoline	9,345	9,421	2,257
Distillate Fuel Oil	3,720	3,916	2,516
All Other Products	6,854	6,906	2,742
Total	19,918	20,243	2,481

Refinery Activity (Thousand Barrels per Day)			
	Four Weeks Ending		
	10/13/2017	10/6/2017	10/14/2016
Crude Oil Input to Refineries	15,975	15,908	15,822
Refinery Capacity Utilization	87.6	87.3	87.2
Motor Gasoline Production	9,870	9,811	9,744
Distillate Fuel Oil Production	4,829	4,769	4,629

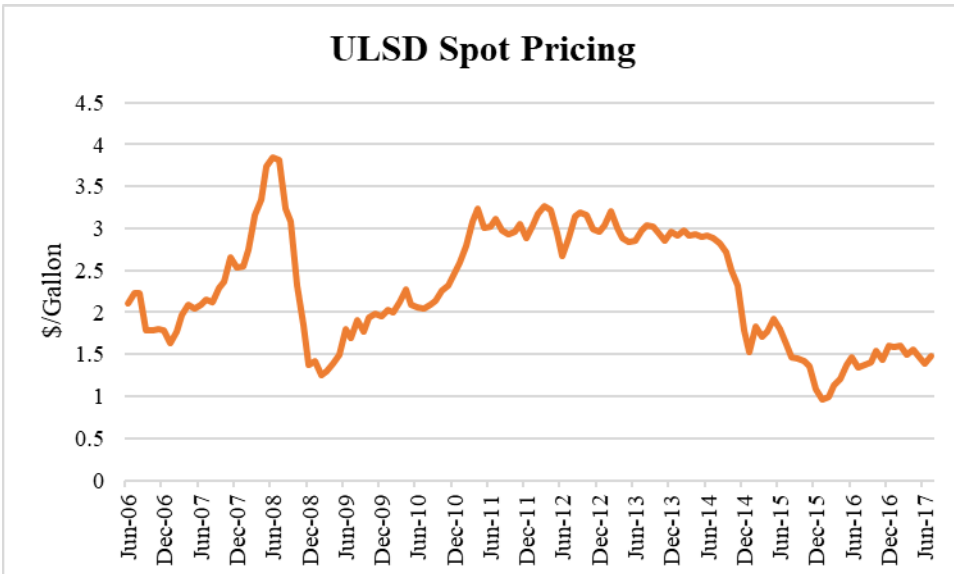
Net Imports (Thousand Barrels per Day)			
	Four Weeks Ending		
	10/6/2017	10/6/2017	10/7/2016
Crude Oil	5,800	5,988	7,112
Petroleum Products	-2,366	-2,271	-2,205
Total	3,434	3,717	4,907

- **EIA**

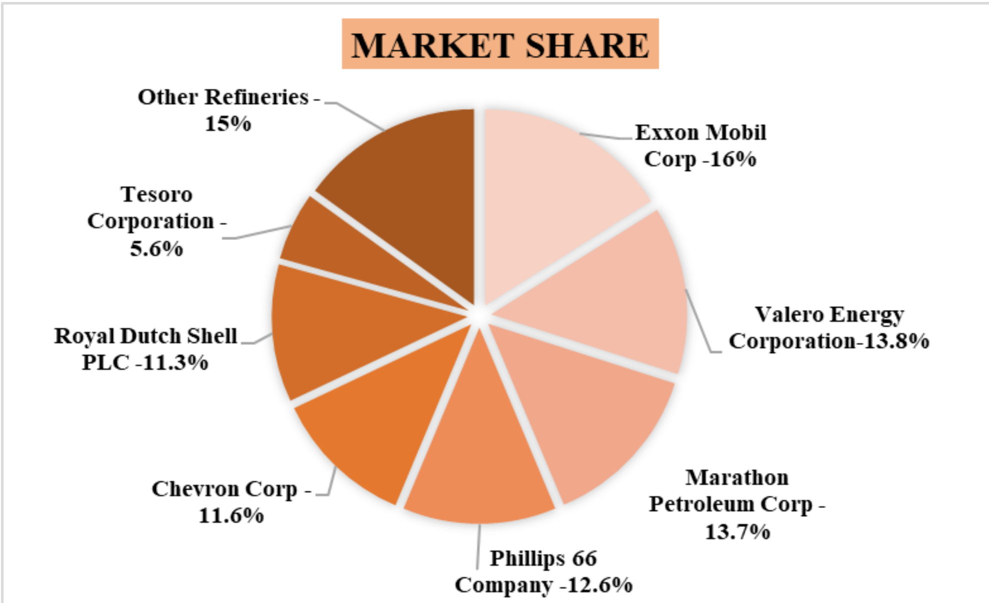
- **RBOB Gasoline**

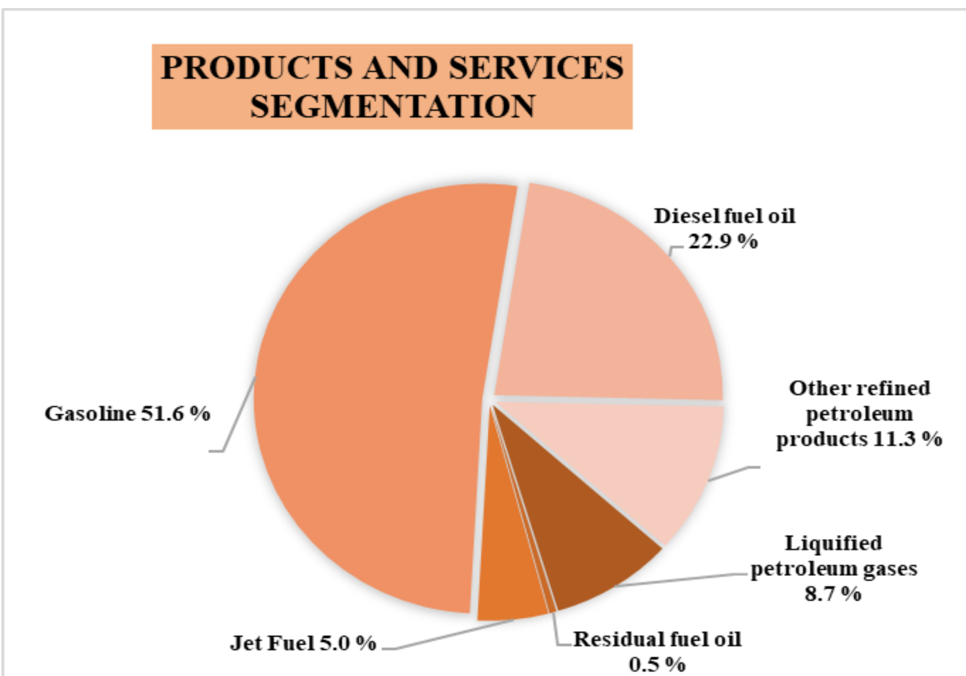


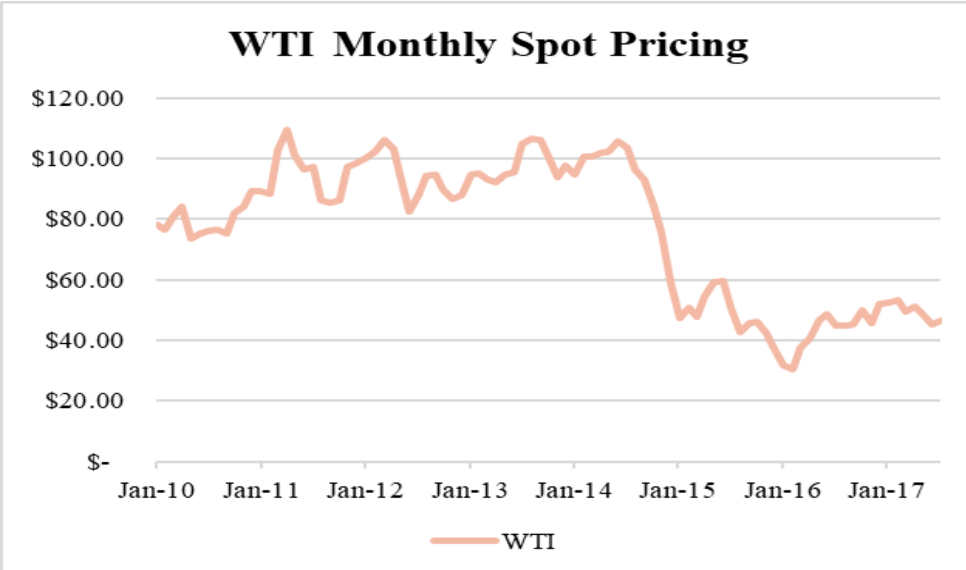
- **Ultra-Low Sulfur Diesel**



- **US Petroleum Refining at a Glance**







- **EIA**

o Key External Drivers

- **World price of crude oil**
  - http://markets.businessinsider.com/commodities/oil-price?type=wti
- **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
- **GDP of mainland China**
  - https://tradingeconomics.com/china/gdp
- **Trade-weighted index**
  - https://www.investing.com/news/economy-news/top-5-things-to-know-in-the-market-on-friday-541066
- **Total vehicle miles**
  - https://www.advisorperspectives.com/dshort/updates/2017/08/31/vehicle-miles-traveled-another-look-at-our-evolving-behavior