Weekly Fundamental Market Report January 29- February 2, 2018

Market Update

PRODUCTS	2/5/18	2/6/18	2/7/18	2/8/18	2/9/18
WTI Crude Oil	64.15	63.39	61.79	61.15	59.2
Brent Crude Oil	67.62	66.86	65.51	64.81	62.79
Natural Gas	2.75	2.76	2.70	2.70	2.58

- **CME Group**

Headlines

Local North Dakota

- **Budget deal expands tax credit that could benefit ND energy industry.** **Dickinson Press**
  - The budget deal approved by Congress and signed into law Friday, Feb. 9, includes the expansion of a tax credit that supporters say will help North Dakota's energy industry develop carbon capture technology and reduce emissions. The two-year budget bill includes provisions that are identical to legislation introduced by Sen. Heidi Heitkamp, D-N.D., that enhances and extends the tax credit known as Section 45Q. The tax credit provides an incentive for carbon capture utilization and storage, such as projects that use carbon dioxide for enhanced oil recovery. Heitkamp, in an interview this week, said the tax credit Congress first created in 2008 had been too narrowly crafted to be effective. She said she introduced the FUTURE Act with co-sponsors from opposite sides of the political spectrum to improve the tax credit and encourage innovation. "If we're going to have a future for coal and new coal development, we've got to get new technology," Heitkamp said, the budget bill extends the tax credit for 12 years and increases the credit to $35 per ton for carbon that is captured and used for enhanced oil recovery, and $50 per ton of carbon that is captured and stored in a geologic formation deep underground. North Dakota industry leaders say there is huge potential to recover more oil from the Bakken using carbon dioxide for enhanced oil recovery but making the projects economically feasible has been a challenge. Dale Niezwaag, vice president of government relations for Basin Electric Power Cooperative, said the new legislation removes hurdles that make the tax credit more accessible to industry. “It helps open the door to be able to put technology together," Niezwaag said. Projects under development in North Dakota could benefit from the tax credit, such as the Allam Cycle, which uses pressurized carbon dioxide rather than steam to generate power more efficiently, and Project Tundra, which would capture carbon from the flue gas at the Milton R. Young Station near Center. In addition, Red Trail Energy in Richardton, a western North Dakota ethanol plant, is researching injecting carbon deep underground in order to market ethanol in California and other areas with low carbon fuel standards. "We've got a number of things on the drawing board kind of waiting to pencil out economically," Heitkamp said. North Dakota Gov. Doug Burgum was one of six governors who signed a letter earlier this week urging Congressional leaders to approve the expansion of the 45Q tax credit. "Carbon capture provides a long-term, low-carbon path for production and use of America's abundant coal, oil and natural gas resources," said the letter signed by Burgum and governors of Montana, Wyoming, Kansas, Oklahoma and Pennsylvania. Brad Crabtree, vice president for fossil energy at North Dakota-based Great Plains Institute, based in North Dakota, said the tax credit provides a significant incentive for companies to invest in carbon capture. "This is vital to the future of North Dakota's coal industry and its coal-based power industry," Crabtree said. Heitkamp initially introduced the FUTURE Act in 2016 and reintroduced it in July 2017, with co-sponsors Sens. Shelley Moore Capito, R-W.Va., Sheldon Whitehouse, D-R.I., and John Barrasso, R-Wyo. "Today's bipartisan victory shows that Congress can achieve results by putting differences aside and working on real solutions," Heitkamp said in a statement Friday. Sen. John Hoeven, R-N.D., said Congress also needs to approve his Regulatory Certainty Act, which aligns tax guidelines with existing federal regulations to make the tax credit more workable. "Carbon capture is technologically viable, we can do it. We've got to get it commercially viable," Hoeven said. Hoeven also introduced bipartisan legislation this week to extend the refined coal tax credit, which incentivizes power plants to pre-treat or refine coal to improve efficiency and decrease emissions. Heitkamp cosponsored the bill.

Domestic U.S.

- **Oil hits seven-week low on expectations of higher U.S., Iran output.** **Reuters**
  - Oil prices fell to their lowest in seven weeks on Thursday amid fears of rising global supplies after Iran announced plans to increase production and U.S. crude output hit record highs. Brent futures LCOc1 fell 70 cents, or 1.1 percent, to settle at $64.81 a barrel, their lowest close since Dec. 20. U.S. West Texas Intermediate (WTI) crude CLc1, meanwhile, was down 64 cents, or 1 percent, to settle at $61.15, its lowest close since Jan. 2. Both benchmarks fell for the fifth straight day, the longest losing streak for Brent since November 2017 and for WTI since April 2017. Brent futures have lost as much as 15 percent since hitting a four-year high above $71 in late January. "Oil prices remain under pressure in today's trading session as market participants continue to digest yesterday's bearish oil inventories report," said Abhishek Kumar, Senior Energy Analyst at Interfax Energy's Global Gas Analytics in London. The U.S. Energy Information Administration (EIA) on Wednesday said crude production last week rose to a record high of 10.25 million barrels per day (bpd). At that level, U.S. production would overtake the current output in Saudi Arabia, the biggest producer in the Organization of the Petroleum Exporting Countries. OPEC and other producers, including Russia, have cut production since January 2017 to force down global inventories, but these cuts have been somewhat offset by rising U.S. oil production. Oil prices were also pressured by an announcement from Iran that it is looking to boost production over the next four years. "The Iranians are looking to increase production...despite their alleged adherence to the OPEC-Russia deal. Everybody is itching to produce more oil," said John Kilduff, partner at energy hedge fund Again Capital LLC in New York. Traders also noted the restart of the Forties pipeline in the North Sea, added to losses in crude prices. The pipeline, which carries around a quarter of all North Sea crude output and roughly a third of Britain's offshore natural gas production, shut on Wednesday for the second time in two months after a valve closure at a Scottish facility. "It is now clear that oil prices in late January were too high to keep the oil market balanced in the long term," Commerzbank analysts wrote. "This is because U.S. oil production is now rising so sharply that there is a risk of renewed oversupply if OPEC does not voluntarily renounce market share." Earlier this week, the EIA projected U.S. production would rise to a record high annual average of 10.6 million bpd in 2018 and 11.2 million bpd in 2019, up from 9.3 million bpd in 2017. The current all-time U.S. annual output peak was in 1970 at 9.6 million bpd, according to federal energy data.

Global

- **How soaring U.S. oil exports to China are transforming the global oil game.** **Reuters**
  - Bit by bit, the U.S. petroleum industry is turning world oil markets inside out. First, sharp drops in U.S. imports of crude oil eroded the biggest market that producers like OPEC had relied on for many years. Now, surging U.S. exports – largely banned by Washington until just two years ago - challenge the last region OPEC dominates: Asia. U.S. oil shipments to China have surged, creating trade between the world's two biggest powers that until 2016 just did not exist, and helping Washington in its effort to reduce the nation's huge trade deficit with China. The transformation is reflected in figures released in recent days that shows the U.S. now produces more oil than top exporter Saudi Arabia and means the Americans are likely to take over the No.1 producer spot from Russia by the end of the year. The growth has surprised even the official U.S. Energy Information Administration, which this week raised its 2018 crude output forecast to 10.59 million bpd, up by 300,000 bpd from their last forecast just a week before. When U.S. oil exports appeared in 2016, the first cargoes went to free trade agreement partners South Korea and Japan. Few expected China to become a major buyer. Data in Thomson Reuters Eikon shows U.S. crude shipments to China went from nothing before 2016 to a record 400,000 barrels per day (bpd) in January, worth almost $1 billion. Additionally, half a million tonnes of U.S. liquefied natural gas (LNG) worth almost $300 million, headed to China from the U.S. in January. The U.S. supplies will help reduce China's huge trade surplus with the U.S. and may help to counter allegations from U.S. President Donald Trump that Beijing is trading unfairly. "With the Trump administration, the pressure on China to balance accounts with the U.S. is huge... Buying U.S. oil clearly helps toward that goal to reduce the disbalance," said Marco Dunand, chief executive and co-founder of commodity trading house Mercuria. As the energy exports rose, China's January trade surplus with the United States narrowed to $21.895 billion, from $25.55 billion in December, according to official Chinese figures released on Thursday. The energy sales to China are still modest compared with the $9.7 billion of oil shipped by the Organization of the Petroleum Exporting Countries (OPEC) to China in January. But they are already cutting into a market dominated by the likes of Saudi Arabia and Russia - with the threat of much more competition to come. "We see U.S. crude as a supplement to our large base of crude" from the Middle East and Russia, said a refinery manager for China's oil-major Sinopec, declining to be named as he was not cleared to speak to media. He said that Sinopec was looking to order more U.S. crude this year. China's crude imports climbed to a record 9.57 million bpd in January, official data showed on Thursday. Meanwhile, U.S. imports have fallen below 4 million bpd, against a record 12.5 million bpd in 2005. At average December/January volumes, American oil and gas sales to China would be worth around $10 billion a year. Including exports to Japan, South Korea and Taiwan,

the figure doubles. U.S. exports would be even greater but for infrastructure constraints: no U.S. port can handle the biggest oil tankers, known as Very Large Crude Carriers. To address that, one of the biggest facilities in the Gulf of Mexico, the Louisiana Offshore Oil Port Services (LOOP), is expanding in order to handle VLCCs soon. For Chinese buyers, the main attraction of U.S. oil has been price. Thanks to the shale boom, U.S. crude is cheaper than oil from elsewhere. At around $60.50 per barrel, U.S. crude is currently some $4 per barrel cheaper than Brent, off which most other crudes are priced. For many established oil exporters like the Middle East-dominated OPEC or Russia, who have been withholding production since 2017 in an attempt to push prices higher, these new oil flows mark a big loss in market share. "OPEC and Russia accepted that the U.S. will become a big producer because they simply wanted to get the price where it is today," Mercuria's Dunand said. Since the start of the OPEC-led supply cuts in January 2017, oil prices have risen by 20 percent, though prices in February have come under pressure again in large part due to soaring U.S. output. The flood of U.S. oil may even change the way crude is priced. Most OPEC producers sell crude under long-term contracts which are priced monthly, sometimes retro-actively. U.S. producers, by contrast, export on the basis of freight costs and price spreads between U.S. and other kinds of crude oil. This has led to a surge in traded volumes of U.S. crude futures, known as West Texas Intermediate (WTI), leaving volumes of other futures like Brent or Dubai far behind. "Buyers, like sellers of U.S. oil, started hedging WTI," said John Driscoll, director of Singapore-based consultancy JTD Energy Services. Despite all these challenges to the traditional oil order, established producers are putting on a brave face. "We have no concern whatsoever about rising U.S. exports. Our reliability as a supplier is second to none, and we have the highest customer base with long-term sales agreements," said Amin Nasser, president and chief executive officer of Saudi Aramco, Saudi Arabia's state-owned oil behemoth.

Oil and Gas Analysis

- **Rotary Rig Count Summary**

Location	Date	Week	+/-	Week Ago	+/-	Year Ago
United States	2-Feb-18	946	-1	947	217	729
	9-Feb-18	975	29	946	234	741
North Dakota	2-Feb-18	45	1	44	9	36
	9-Feb-18	49	4	45	13	36
Canada	2-Feb-18	342	4	338	-1	343
	9-Feb-18	325	-17	342	-27	352
International	Jan-18	960	6	954	27	933

  - **Baker Hughes**

- **WTI & Bakken Spot Price**

February 2018 Daily Spot Prices					
	Mon	Tue	Wed	Thu	Fri
Bakken (FH)					
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
WTI					
2018 January-29 to February-2	65.71	64.64	64.82	65.92	65.5
2018 February-5 to February-9	64.18				
Differentials					
2018 January-29 to February-2	7.27	6.25	6.43	7.59	5
2018 February-5 to February-9	3.92				

  - **Flint Hills Resource**
  - **EIA**

- ## Weekly Petroleum Status Report

Stocks (Million Barrels)			
	Four Weeks Ending		
	2/2/2018	1/26/2018	2/3/2017
Crude Oil (Excluding SPR)	420.3	418.4	508.6
Motor Gasoline	245.5	242.1	256.3
Distillate Fuel Oil	141.8	137.9	170.7
All Other Oils	401.9	406.8	413.3
Crude Oil in SPR	665.1	664.7	695.1
Total	1,874.6	1,869.8	2,044.0

Products Supplied (Thousand Barrels per Day)			
	Four Weeks Ending		
	2/2/2018	1/26/2018	2/3/2017
Motor Gasoline	8,880	8,806	9,340
Distillate Fuel Oil	4,208	4,178	3,865
All Other Products	7,734	7,788	7,661
Total	2,082	20,772	19,866

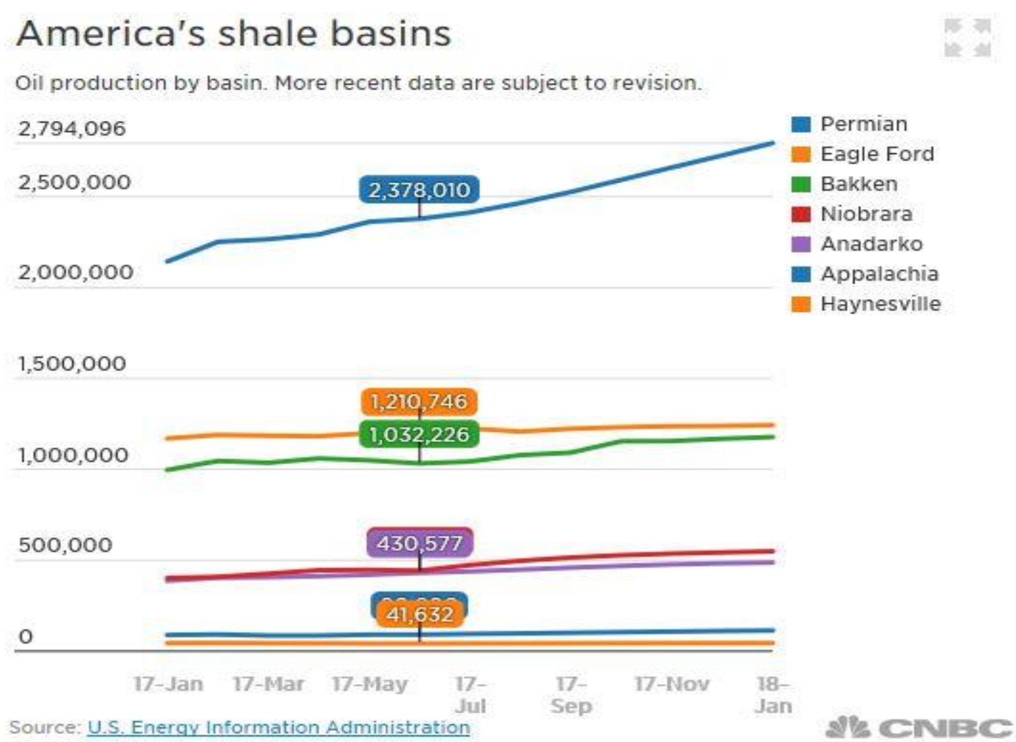
Refinery Activity (Thousand Barrels per Day)			
	Four Weeks Ending		
	2/2/2018	1/26/2018	2/3/2017
Crude Oil Input to Refineries	16,542	16,674	16,089
Refinery Capacity Utilization	91.1	91.8	88.7
Motor Gasoline Production	9,680	9,540	9,171
Distillate Fuel Oil Production	4,911	4,952	4,692

Net Imports (Thousand Barrels per Day)			
	Four Weeks Ending		
	2/2/2018	1/26/2018	2/3/2017
Crude Oil	6,650	6,660	7,858
Petroleum Products	-2,577	-2,835	-2,590
Total	4,073	3,825	5,268

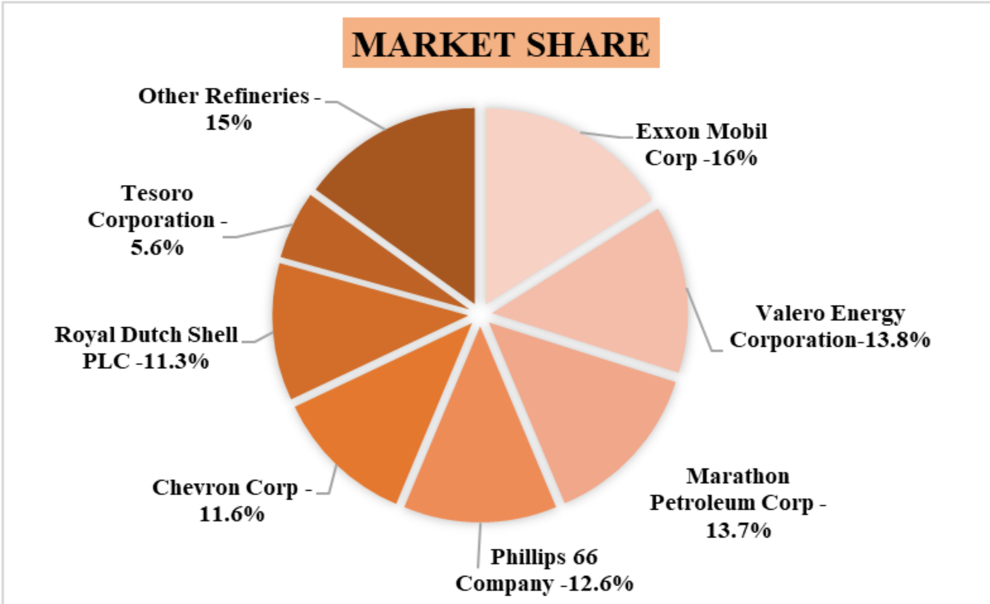
- **EIA**

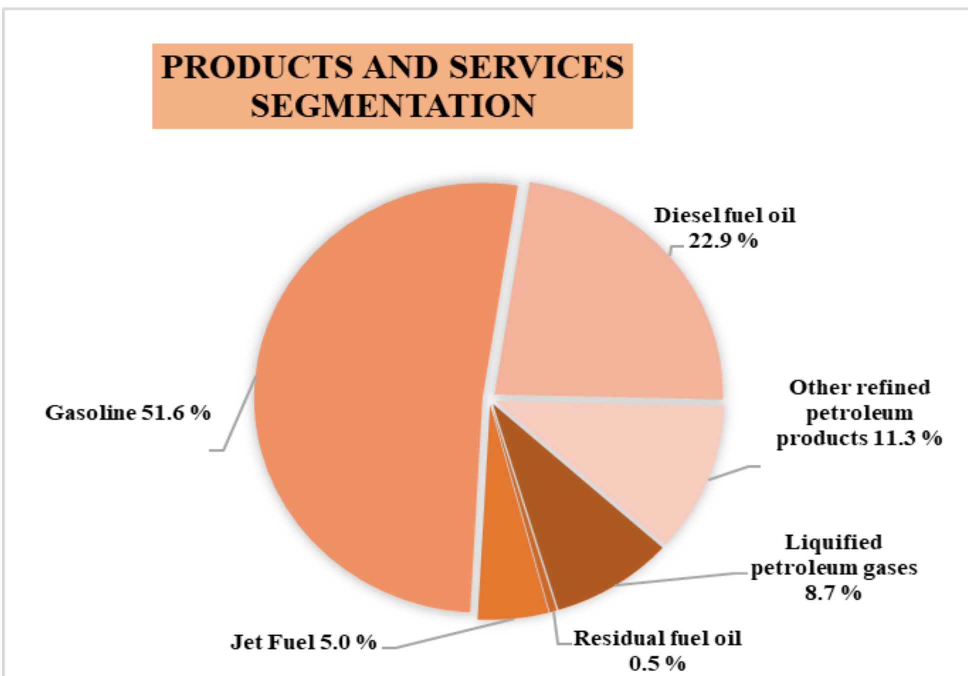
- **US Oil Production**

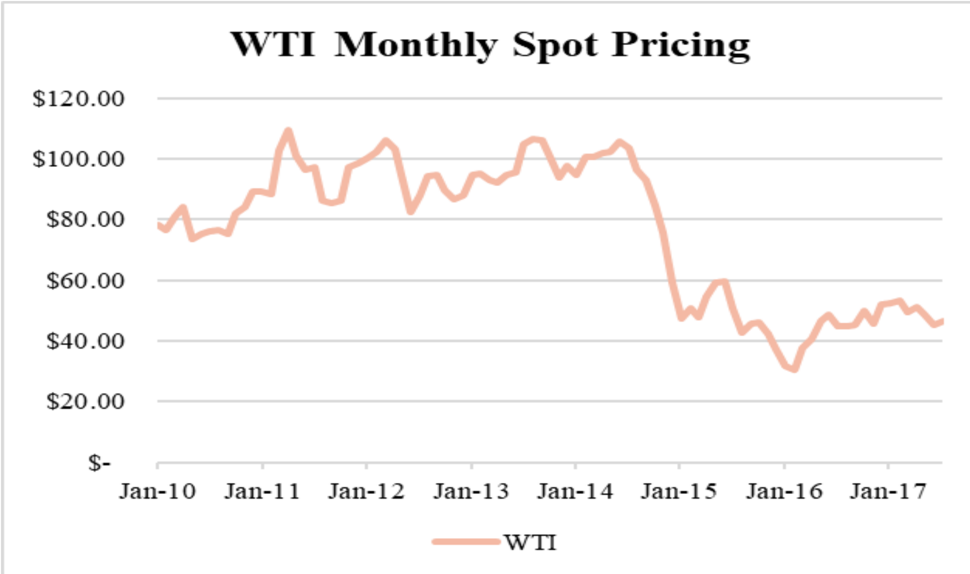
- **Americas Shale Basins**



- **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