Weekly Fundamental Market Report February 26- March 2, 2018

Market Update

PRODUCTS	2/26/18	2/27/18	2/28/18	3/1/18	3/2/18
WTI Crude Oil	63.91	63.01	61.64	60.99	61.25
Brent Crude Oil	67.50	66.63	65.78	65.71	64.37
Natural Gas	2.64	2.68	2.67	2.70	2.70

- **CME Group**

Headlines

Local North Dakota

- **North Dakota Oil Output Slips but Stays Above 1M Barrels.** **Nasdaq**
  - As per North Dakota's oil regulator, the state's daily crude output fell 1.3% in December after climbing 1.1% in the previous month. The North Dakota Department of Mineral Resources' latest data said that oil production in December averaged 1,181,319 barrels a day, down 15,657 barrels a day from November. With crude, natural gas output came down too - from November's record 2,096,440 thousand cubic feet per day to 2,081,522 thousand cubic feet per day. North Dakota's total number of producing wells numbered 14,293 at the end of December, again down marginally from the previous month's all-time high of 14,338. While the slight drop in oil activity - primarily attributed to winter weather - is the first month-over-month production decrease since July, daily output remained above 1 million barrels for the eleventh month in a row. Therefore, notwithstanding the temporary blip, the newest numbers confirm the resurgence in volumes extracted from North Dakota, centered on the Bakken Shale formation. Some 52 drilling rigs were active in the state in December. The all-time low of 27 was set in May 2016, while a year ago, North Dakota had just 40 rigs operating. A closely watched yardstick of North Dakota oil industry's strength, the year-over-year improvement in the number of units searching for oil and gas in the region indicates essentially rebounding drilling activities and production. However, the rig count is still down considerably from the peak of May 2012 when North Dakota had 218 units drilling. More rigs in operation and stable production not only confirms the positive developments for the state of North Dakota, but also points to the rising flood of U.S. shale-driven production. Now at a financial equilibrium, the shale firms are putting more rigs and employees back to work. Throughout the downturn, producers (in North Dakota and particularly the Permian Basin in Texas) worked tirelessly to cut costs down to a bare minimum and look for innovative ways to churn out more oil from rock. And they managed to do just that by improving drilling techniques. With these efforts, many upstream companies have repositioned themselves to adapt to the new $50-$60 oil reality and even thrive at those prices. In other words, while OPEC's moves to trim output and rebalance the demand-supply situation has stabilized the market to a large extent, in the process it has incentivized shale drillers to churn out more. The U.S. West Texas Intermediate (WTI) benchmark hit a more than three-year high of around $66 recently. Also, we are confident that improving fundamentals have probably put a floor under crude prices for the time being. While we do not rule out chances for short-term pullbacks on oversupply concerns and a stronger U.S. dollar, we remain extremely confident of a bull run in the near future. In this context, the steady recovery in North Dakota's production bode well for the region. With oil prices likely to head higher, the monthly output in the second-largest oil producing state after Texas is expected to stay above the psychologically important one million barrel a day mark for the time being. Apart from the strength in crude prices, there is another factor that might speed up Bakken output growth - the 1,100-mile-long Dakota Access Pipeline. Making good on his campaign promises to rev up infrastructure spending, President Trump ignored bitter opposition from environmental activists and signed executive order to smooth the way for Energy Transfer Partners' ETP $3.7 billion Dakota Access Pipeline just a few days into his new Administration. As a result, disregarding the censure from environmental groups and the Standing Rock Sioux Tribe, the sponsor brought the controversial conduit online in early June 2017. With the project's arrival, operators have scrambled to use the Dakota Access Pipeline to send a major portion of their product to market. In fact, around 787 of oil shipments out of North Dakota are now being carried by pipelines, with the costly railroad share dropping from over 24% in the early part of 2017 to less than 10%. Market players believe that the pipeline has helped in bettering the region's drilling economics by lowering transportation costs for

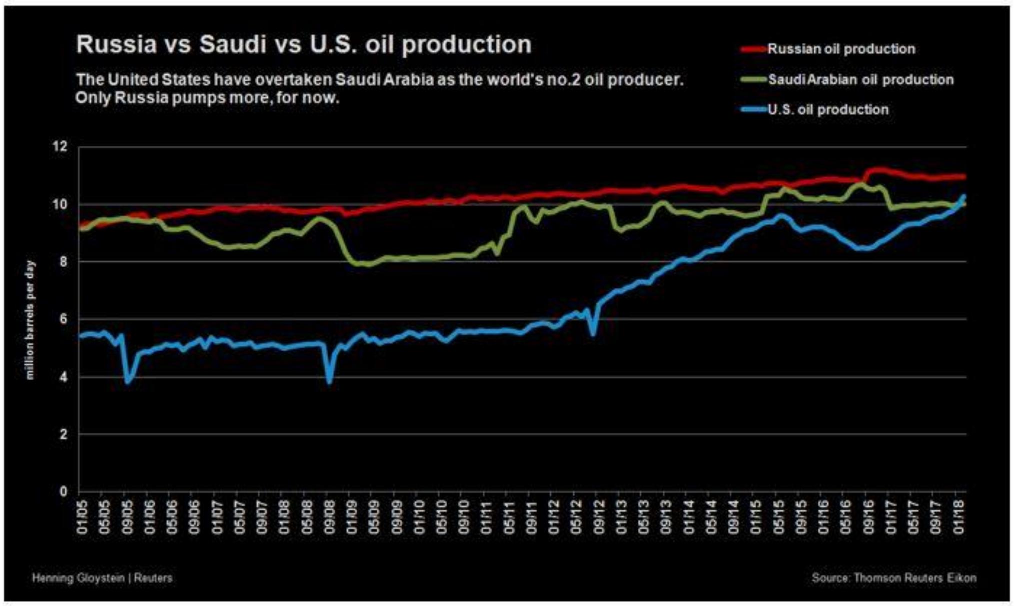
operators. Set to carry about 520,000 barrels of oil daily, or more than 50% of North Dakota's output, the commencement of the Dakota Access Pipeline has bridged the gap between Bakken players and producers in other U.S. oil producing areas like the Permian Basin. The geographically constrained Bakken Shale's crude has now better access to Gulf and East Coast refineries and also reaches international markets. As expected, the pipeline, where energy majors like Phillips 66 PSX , Enbridge Inc. ENB and Marathon Petroleum Corporation MPC have invested, has helped to improve the region's drilling economics by lowering transportation costs for operators and benefit the state financially. Products from companies like Continental Resources, Inc. CLR , and Hess Corporation HES were among the first to reach the international markets (China and Netherlands), with the help of Dakota Access. Overall, rebounding oil prices, together with the start of the Dakota Access Pipeline, are expected to support further increase in Bakken output by providing the companies a chance to push their produce outward at a lower cost. With the current operators planning to put more rigs to work in the second and third quarters of 2018 amid a conducive oil pricing environment, the state's output is expected to break the all-time high record of 1,227,483 barrels/day sometime in the next few months. Last year, it generated $8 billion in global revenues. By 2020, it's predicted to blast through the roof to $47 billion. Famed investor Mark Cuban says it will produce "the world's first trillionaires," but that should still leave plenty of money for regular investors who make the right trades early.

Domestic U.S.

- **Firming Oil Prices Could Boost Energy Sector IPOs And M&A Activity**
  - Despite the tug of war between rising U.S. oil production and output cuts put in place by OPEC and ten non-OPEC members fronted by Saudi Arabia and Russia, both the U.S. benchmark West Texas Intermediate, and Brent, the global proxy benchmark, appear to be fluctuating within a predictable $60-plus per barrel range. Looking to the upside, neither benchmark has capped the $70-level and maintained it in recent months. Examining the downside, neither Brent nor WTI futures have slipped toward, and stayed near, the $55-level for longer than a session or two. In fact, the said range has been in play since late 2017, and many in the industry believe it to be the catalyst for a bevy of merger and acquisition (M&A) deals last year. Experts at global law firm Baker McKenzie say plentiful financing and a strengthening global economy fueled energy sector deals last year, and its a trend that looks set to continue in 2018. The firm's latest report on the subject, compiled with Oxford Economics, notes that total M&A values more than doubled in 2017 to $345 billion, up from $164 billion in 2016. James O'Brien, chair of Baker McKenzie's Global Energy, Mining & Infrastructure Industry Group, forecasts M&A deal values to continue rising to a peak of $353 billion in 2018 before cooling in line with a slowing of global investment growth as borrowing costs rise in key economies and stretched stock market valuations start to soften. "There's an expectation now that oil prices won't go below $50 barrel, up from lows of $25 to $30 a barrel in recent years. It may not be $80 or $100 a barrel like it's been in the past, but it's sufficient enough to drive deals," O'Brien says. Across the regions, Baker McKenzie anticipates that Europe will see the greatest rise in energy M&A deal values this year, bolstered by an improving labor market, rising intra-EU trade, and growing business investment in the region. Hence, the firm forecasts European deal values to climb to $56.6 billion, up from $42.1 billion in 2017. However, North America will continue to lead M&A activity in the energy sector in 2018, although Baker McKenzie forecasts transaction values to dip slightly to $227.7 billion, down from $242.5 billion in 2017."But a provision of the U.S. tax reform law that enables companies to write off capital investments on new projects the year they are placed into service is expected to stimulate investment in the industry, as is the Trump administration's pro-energy policies," O'Brien adds. For Asia Pacific, the forecast for M&A deals is pinned at $50.4 billion, Latin America at $13.4 billion, and the Middle East and Africa at $4.5 billion. Away from M&A deals, the law firm predicts an uptick in Initial Public Offerings (IPOs) across a number of geographies, including North America, also in light of the relatively stable oil prices, as industry players seek to raise capital to acquire new talent and technology. The downturn of 2014-15 curbed enthusiasm for stock floatations, with energy IPOs seeing a valuation of $7.3 billion in 2017. But this is expected to double to $13.9 billion in 2018, with the prolonged downturn acting like something of a dam, holding back capital. Overall, Baker McKenzie reckons there are around three to four years worth of IPOs waiting to come to market, many of which could materialize before the end of the year.

- **U.S. to overtake Russia as top oil producer by 2019 at latest: IEA. Reuters**
  - The United States will overtake Russia as the world's biggest oil producer by 2019 at the latest, the International Energy Agency (IEA) said on Tuesday, as the country's shale oil boom continues to upend global markets. IEA Executive Director Fatih Birol said at an event in Tokyo the United States would overtake Russia as the biggest crude oil producer "definitely next year", if not this year. "U.S. shale growth is very strong; the pace is very strong ... The United States will become the No.1 oil producer sometime very soon," he told Reuters separately. U.S. crude oil output -EIA rose above 10 million barrels per day (bpd) late last year for the first time since the 1970s, overtaking top oil exporter Saudi Arabia PRODN-SA. The U.S. Energy Information

Administration said early this month that U.S. output would exceed 11 million bpd by late 2018. That would take it past top producer Russia, which pumps just below that mark. Birol said he did not see U.S. oil production peaking before 2020, and that he did not expect a decline in the next four to five years. The soaring U.S. production is upending global oil markets, coming at a time when other major producers - including Russia and members of the Middle East-dominated Organization of the Petroleum Exporting Countries (OPEC) - have been withholding output to prop up prices. U.S. oil is also increasingly being exported, including to the world's biggest and fastest growing markets in Asia, eating away at OPEC and Russian market share. Meanwhile, U.S. net imports of crude oil USOICI=ECI fell last week by 1.6 million bpd to 4.98 million bpd, the lowest level since the EIA started recording the data in 2001, reflecting further erosion in a market OPEC has been relying on for decades. Birol said production growth was not just strong in the United States. "Canada, especially the oil sands, and Brazilian offshore projects. These are the two major (non-U.S.) drivers," he said. On the demand side, Birol said the IEA expected growth of around 1.4 million bpd in 2018.



Oil and Gas Analysis

- **Rotary Rig Count Summary**

Location	Date	Week	+/-	Week Ago	+/-	Year Ago
United States	23-Feb-18	978	3	975	224	754
	2-Mar-18	981	3	978	225	756
North Dakota	23-Feb-18	49	1	48	15	34
	2-Mar-18	47	-2	49	10	37
Canada	23-Feb-18	306	-12	318	-35	341
	2-Mar-18	302	-4	306	-33	335
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
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
2018 February-27 to March-2	58.33	58.33	58.33	58.33	55.5
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	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	61.73	62.72	63.52
2018 February-27 to March-2	63.81				
Differentials					
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	4.98	4.39	5.19
2018 February-27 to March-2	5.48				

- Flint Hills Resource
- EIA

- **Weekly Petroleum Status Report**

Stocks (Million Barrels)			
	Four Weeks Ending		
	2/23/2018	2/16/2018	2/24/2017
Crude Oil (Excluding SPR)	423.5	420.5	520.2
Motor Gasoline	251.8	249.3	255.9
Distillate Fuel Oil	138.0	138.9	164.2
All Other Oils	389.3	390.1	408.9
Crude Oil in SPR	665.3	664.9	695.1
Total	1,867.9	1,863.7	2,044.3

Products Supplied (Thousand Barrels per Day)			
	Four Weeks Ending		
	2/23/2018	2/16/2018	2/24/2017
Motor Gasoline	9,008	9,054	8,681
Distillate Fuel Oil	4,001	4,139	3,967
All Other Products	7,354	7,454	785
Total	20,363	20,646	19,833

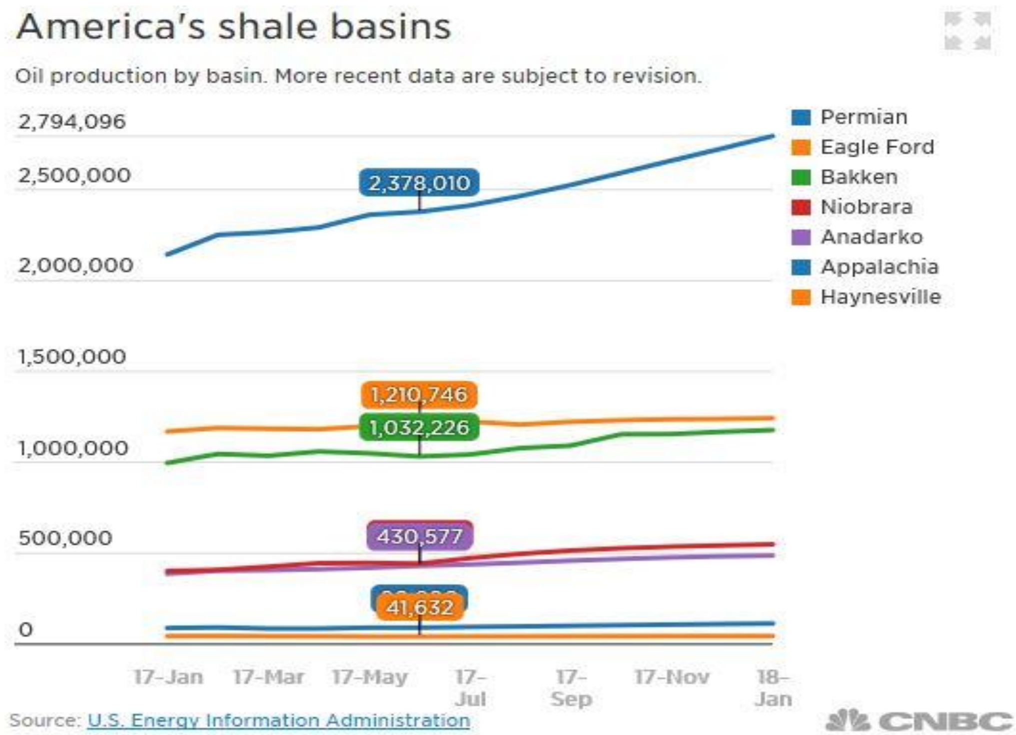
Refinery Activity (Thousand Barrels per Day)			
	Four Weeks Ending		
	2/23/2018	2/16/2018	2/24/2017
Crude Oil Input to Refineries	16,169	16,201	15,572
Refinery Capacity Utilization	89.6	89.6	85.8
Motor Gasoline Production	9,793	9,838	9,410
Distillate Fuel Oil Production	4,725	4,761	4,639

Net Imports (Thousand Barrels per Day)			
	Four Weeks Ending		
	2/23/2018	2/16/2018	2/24/2017
Crude Oil	5,996	6,203	7,303
Petroleum Products	-2,591	-2,508	-2,534
Total	3,406	3,696	4,769

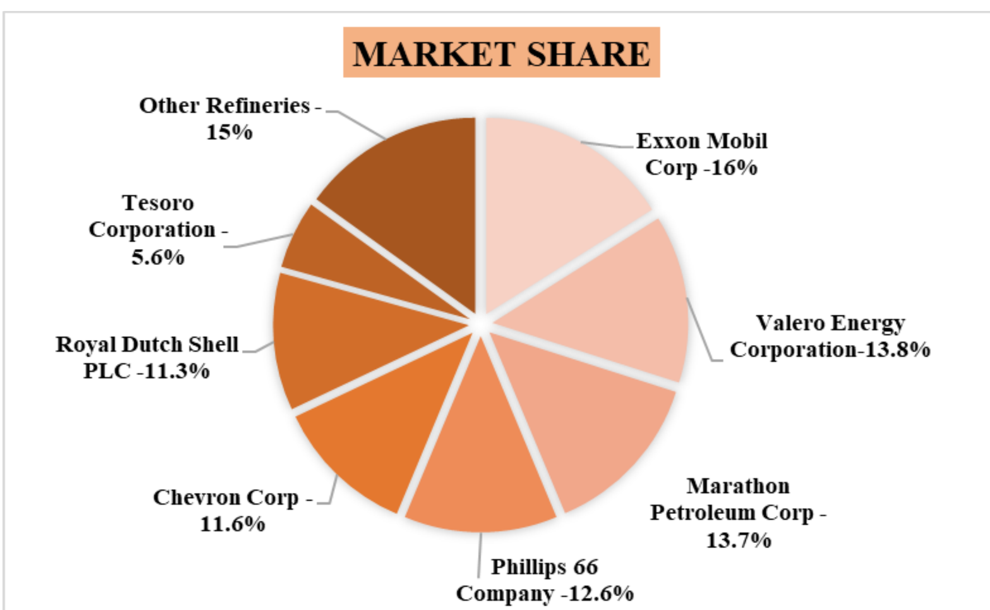
  - **EIA**

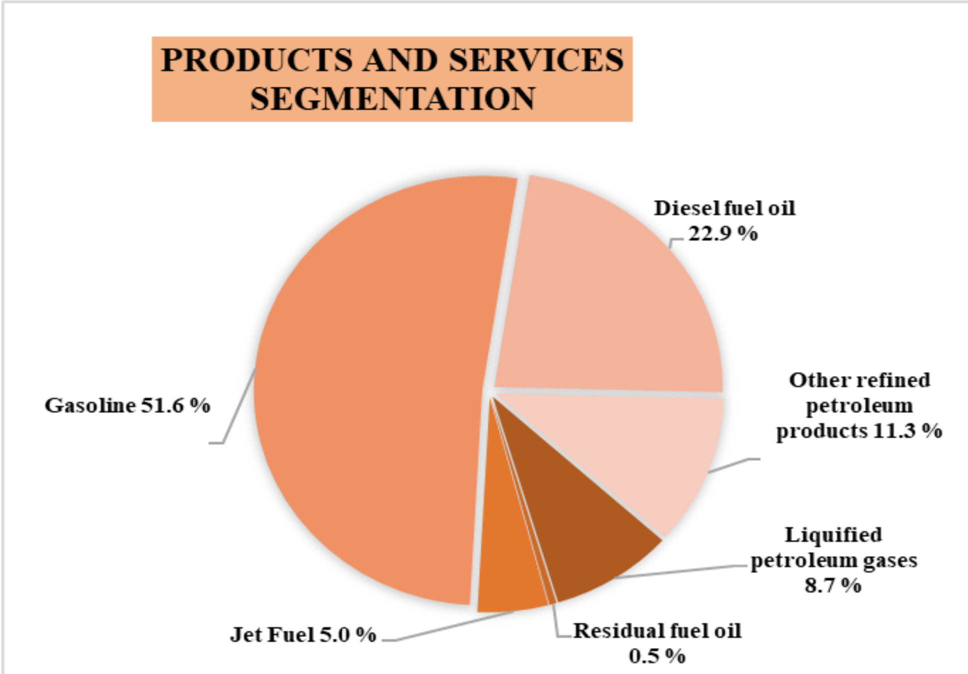
- **US Oil Production**

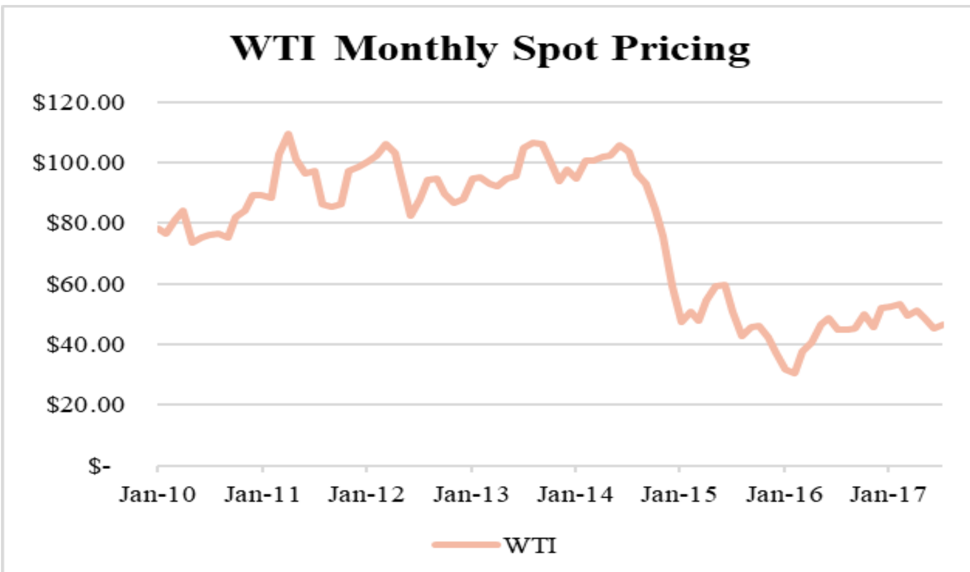
- **Americas Shale Basins**



- **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