



# Oil Industry Segment Update

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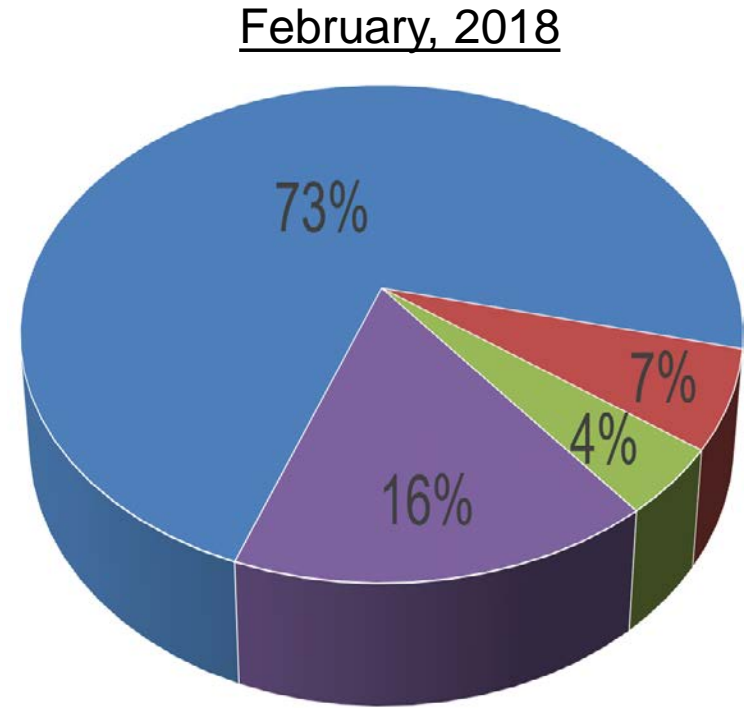
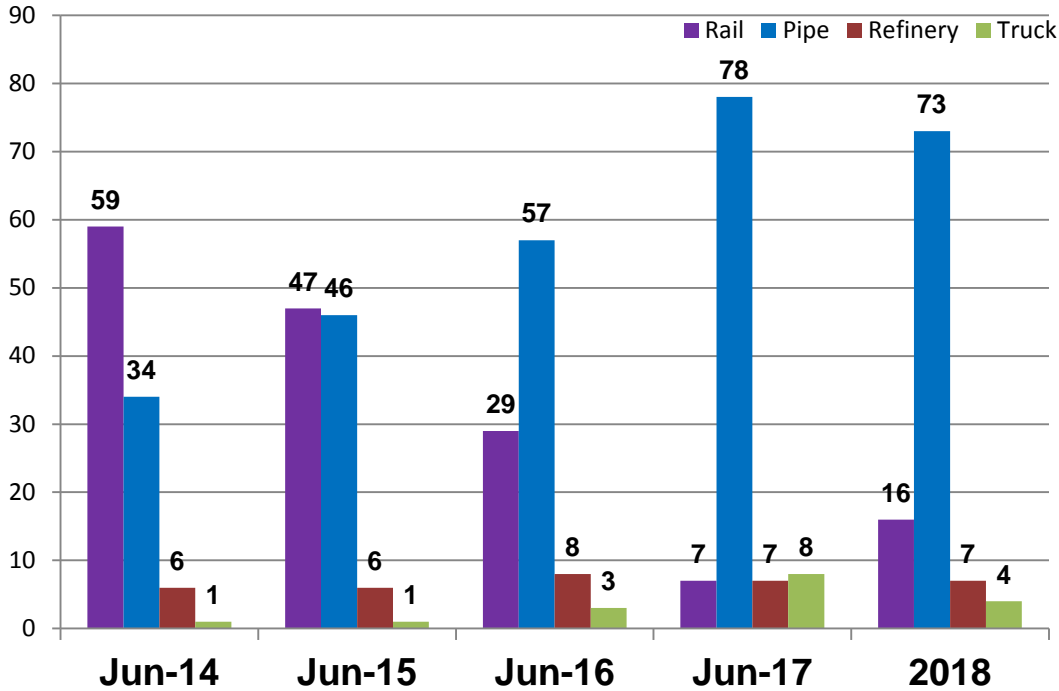
**Rail Energy Transportation Advisory Committee  
Surface Transportation Board**

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# Oil Industry Segment Market Environment

- **Global crude oil inventories trending downward** [Source: EIA April ST Outlook]
  - Average April days of supply – 2016 = 67 days; 2017 = 65 days ; 2018 = 60 days
  - Global production 1Q MMBPD – 2016 = 97.20; 2017 = 97.95; 2018 = 98.78
  - Global consumption 1Q MMBPD – 2016 = 96.87; 2017 = 98.52; 2018 = 99.62
- **WTI Spot Price trended higher since RETAC's October meeting**
  - low - \$51.63 (10/20/17) high - \$67.35 (4/13/18) [Source: EIA Daily Reports]
- **US crude oil production trending upward** [Source: EIA]
  - US production 1Q MMBPD – 2016 = 9.16; 2017 = 8.29; 2018 = 10.09
  - US imports 1Q MMBPD – 2016 = 7.85; 2017 = 7.91; 2018 = 8.01 (January)
  - US exports 1Q MMBPD – 2016 = 0.59; 2017 = 1.12; 2018 = 1.34 (January)
- **US land rig count is trending upward** [Source: Baker Hughes]
  - April first week - 2016 = 362 (Texas 50%); 2017 = 672 (Texas 59%); 2018 = 808 (Texas 63%)
- **CBR volumes have declined on an annual basis from 2014 to 2017** [Source: EIA]
  - Annual carloads in 000's – 2016 = 212; 2017 = 134; 1Q 2018 = 39 [Source: EIA]
  - 1Q 2017 = 40; 1Q 2018 = 39 / indicates some market share recovery [Source: EIA]
- **Early indications of growth in rail shipments of refined products**

# Williston Basin Crude Oil Modal Share



- Pipeline Export
- Refined
- Truck to Canadian Pipelines
- Estimated Rail

## CBR Destinations, February 2018

West Coast	68%
East Coast	26%
Gulf Coast	6%

	Average Production/BOPD	Rail/BOPD est.
<b>6/2014</b>	<b>1,092,519</b>	<b>644,586</b>
<b>6/2015</b>	<b>1,211,328</b>	<b>569,324</b>
<b>6/2016</b>	<b>1,027,131</b>	<b>297,868</b>
<b>6/2017</b>	<b>1,032,873</b>	<b>72,301</b>
<b>2/2018</b>	<b>1,174,769</b>	<b>187,963</b>

# Frac Sand Demand is Growing

- Drivers of growth in frac sand production [Source: WSJ]
  - Increased rig count
  - Completions of previously drilled wells
  - Productivity gains based on higher usage of sand
- 72% of industrial sand produced is used as frac sand [Source: USGS]
- The production of frac sand is growing rapidly to meet demand
  - 2014 53 million tons                      2015 43 million tons
  - 2016 39 million tons                      2017 77 million tons
  - 2018 102 million tons (consensus forecast) [Source: Wall Street Forecast and Spears & Associates]
- Northern White produced in Wisconsin is 50% of installed US capacity [Source: IHS]
- Estimated U.S. Class 1 carloads
  - 2014 450,000 - 85% share                      2015 370,000 - 86% share
  - 2016 310,000 - 79% share                      2017 616,000 – Assumes 80% rail share
  - 2018 816,000 - Assumes 80% of consensus forecast
- Focus on Permian
  - Accounts for 37% of frac sand demand – more than next two combined [Source: IHS]
  - “Region Sand” capacity developing rapidly – Permian Brown
  - No consensus on the impacts of regional sand

# Summary

- Global crude oil demand is outpacing production
- US crude oil production and exports trending upward; imports flat
- Crude oil prices are trending upward
- US land based rig count is trending upward
- Much US onshore E&P growth remains in pipe centric Texas
  - Permian capacity (pipeline and refining)/production gap is narrowing [Source: Goldman Sachs]
- Growing demand for frac sand may be straining the supply chains
- Bakken production trending upward nearing 1.2 million BPD
- CBR volume depressed but showing some growth; primarily to West Coast
- Increasing refined product and NGL shipments are potential short term opportunities for rail growth