Thinking about a US fracking ban. What is at stake?

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About PetroNerds and Our Services

- 10 years of US shale experience and expertise
- Boutique energy analytics and advisory firm, specializing in US shale oil, based in Denver, CO
- Personalized, data-driven advisory services
- Help our clients understand how the oil market impacts their business
- Provide data and actionable insights as needed, not off the shelf reports and forecasts
A PetroNerd:
US Crude Oil Production

12.9 mbd

Source: EIA
US Shale Complexities in Context of a Fracing Ban

1. A fracing ban would not be happening in a vacuum.
2. It would be happening on the back of already low oil prices, weakened demand, investor pressure, efficiency gains, and changes in sentiment on oil and gas.
3. A few things to keep in mind:
   1. US shale has upended the global oil and gas market and will continue to do so. The speed at which global projects, from the offshore to the onshore, are brought online has increased and the cost has come down, competing with US short cycle crude oil production (Norway, Guyana, Brazil, Russia).
   2. The world produces and consumes roughly 100 mbd.
   3. The US and the world has responded incredibly on the supply side and technological increases and advances have and WILL continue to take place.
   4. The service sector will continue to remain under pressure and will morph over time.
   5. It is important to understand the context of pressure on US operators and their response during that time.
US Federal Lands Map
# OPEC and Russian Production

## Table: OPEC and Russian Production (2017-2019)

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Algeria</td>
<td>1,047</td>
<td>1,042</td>
<td>1,022</td>
<td>1,027</td>
<td>1,017</td>
<td>1,012</td>
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<td>Angola</td>
<td>1,634</td>
<td>1,505</td>
<td>1,401</td>
<td>1,283</td>
<td>1,408</td>
<td>1,374</td>
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<tr>
<td>Congo</td>
<td>252</td>
<td>318</td>
<td>326</td>
<td>314</td>
<td>327</td>
<td>293</td>
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<tr>
<td>Ecuador</td>
<td>530</td>
<td>519</td>
<td>528</td>
<td>535</td>
<td>541</td>
<td>537</td>
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<tr>
<td>Equatorial Guinea</td>
<td>133</td>
<td>125</td>
<td>117</td>
<td>120</td>
<td>121</td>
<td>124</td>
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<tr>
<td>Gabon</td>
<td>200</td>
<td>186</td>
<td>208</td>
<td>198</td>
<td>220</td>
<td>196</td>
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<td>Iran, I.R.</td>
<td>3,813</td>
<td>3,553</td>
<td>2,357</td>
<td>2,107</td>
<td>2,095</td>
<td>2,086</td>
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<td>Iraq</td>
<td>4,446</td>
<td>4,550</td>
<td>4,680</td>
<td>4,641</td>
<td>4,569</td>
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<td>Kuwait</td>
<td>2,708</td>
<td>2,746</td>
<td>2,687</td>
<td>2,707</td>
<td>2,709</td>
<td>2,665</td>
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<td>Libya</td>
<td>811</td>
<td>952</td>
<td>1,097</td>
<td>1,183</td>
<td>1,140</td>
<td>796</td>
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<td>Nigeria</td>
<td>1,658</td>
<td>1,719</td>
<td>1,786</td>
<td>1,782</td>
<td>1,751</td>
<td>1,776</td>
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<tr>
<td>Saudi Arabia</td>
<td>9,954</td>
<td>10,311</td>
<td>9,771</td>
<td>9,868</td>
<td>9,676</td>
<td>9,733</td>
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<tr>
<td>UAE</td>
<td>2,915</td>
<td>2,986</td>
<td>3,077</td>
<td>3,110</td>
<td>3,063</td>
<td>3,034</td>
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<tr>
<td>Venezuela</td>
<td>1,911</td>
<td>1,354</td>
<td>793</td>
<td>719</td>
<td>732</td>
<td>733</td>
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<tr>
<td><strong>Total OPEC</strong></td>
<td>32,013</td>
<td>31,865</td>
<td>29,851</td>
<td>29,595</td>
<td>29,368</td>
<td>28,859</td>
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</table>

*Notes: Totals may not add up due to independent sources.*

*Source: OPEC Secretariat.*

## Graph: Russia's Monthly Liquids Supply

- **Avg. 18**: 11.35
- **Avg. 19**: 11.44
- **Jan 20**: 11.49

*Sources: Nefte Compass and OPEC Secretariat.*
US Crude Oil Exports

Source: EIA

3.4 mbd
US Crude Oil Imports and Exports

Source: EIA
**Diverse and Flexible Portfolio of Inventory and Acreage**
EOG's Non-Federal vs. Federal Position

<table>
<thead>
<tr>
<th>Premium Locations</th>
<th>U.S Acreage</th>
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</thead>
<tbody>
<tr>
<td>10,500</td>
<td>4.3 MM Acres</td>
</tr>
<tr>
<td>State or Private 55%</td>
<td>80% Total Federal Acreage HMPP</td>
</tr>
<tr>
<td>Federal 40%</td>
<td>90% Permian Basin Federal Acreage HMPP</td>
</tr>
<tr>
<td>7+ Years of Non-Federal Premium Inventory</td>
<td></td>
</tr>
<tr>
<td>15+ Years Permian Basin Non-Federal Premium Inventory</td>
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<tr>
<td>4 Years of Federal Permits in Process</td>
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</table>

Currently Drilling in 6 Basins Active Exploration Program Across 10+ Basins

**Oil and Gas Regulatory Process Promotes Balanced Regulatory Framework**

**Checks and Balances**
- Executive Order
  - Subject to Judicial Review
  - Requires Constitutional Authority

- Process for Regulatory Changes Governed by Federal Law
  - New Regulations must be Consistent with Existing Laws
  - Subject to Public Review

**Stakeholder Interests Are Aligned**
- Revenues from Federal Lands Shared with the States
- Oil and Gas Revenues Provide Significant Budget Support
  - Public Education, Health Care, Infrastructure Projects
- Industry Activity Provides Jobs and Economic Benefits to Local Communities

Source: EOG Q3 2019 Investor Presentations
Concho Natural Resources

3Q19 Operational Performance

High-Quality Asset Base
- Diversified portfolio provides capital allocation flexibility
  - Federal lands represent 1/5th of total net acreage position
  - Permit ~1 year in advance of operations

Production Above High End of Guidance
Quarterly Volumes & 4Q19 Outlook (MBoepd)

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Oil (MBoepd)</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>3Q18</td>
<td>165</td>
<td>206</td>
</tr>
<tr>
<td>3Q19</td>
<td>287</td>
<td>330</td>
</tr>
<tr>
<td>4Q19e</td>
<td>334-341 MBoepd</td>
<td></td>
</tr>
</tbody>
</table>

> 3Q19 total production & oil production above high end of guidance
> 4Q19 guidance includes expected impact from remaining spacing tests
  - Future development plans to prioritize wider spacing

Source: Concho Natural Resources, Q3 2019 Investor Presentations
Pioneer Natural Resources

Competitive Advantages of the Midland Basin

- Delaware Basin
- Midland Basin

<table>
<thead>
<tr>
<th>Political Risk</th>
<th>Delaware Basin</th>
<th>Midland Basin</th>
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<tbody>
<tr>
<td>Significant federal land exposure</td>
<td>Deeper basin requires higher development costs</td>
<td>Shallow basin yields lower development costs</td>
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</table>

<table>
<thead>
<tr>
<th>Well Costs</th>
<th>Delaware Basin</th>
<th>Midland Basin</th>
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<tbody>
<tr>
<td>Light oil (45° - 50° API gravity) trading at a discount (~50.75) to Midland pricing</td>
<td>Shallow oil yields lower production costs</td>
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</table>

<table>
<thead>
<tr>
<th>Oil Quality</th>
<th>Delaware Basin</th>
<th>Midland Basin</th>
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</thead>
<tbody>
<tr>
<td>50% greater water cut results in higher produced water expense</td>
<td>Reduced water cut drives lower produced water expense</td>
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</table>

<table>
<thead>
<tr>
<th>Commodity Mix</th>
<th>Delaware Basin</th>
<th>Midland Basin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower oil percentage (more gas production)</td>
<td>Higher oil percentage (less gas production)</td>
<td></td>
</tr>
</tbody>
</table>

Economic advantages of the Midland Basin generate higher corporate returns

Source: Pioneer Natural Resources Q3 2019 Investor Presentations
Exxon Q3

Neil Mehta

...As we go into the election season here in the United States, how do you think about risks around federal public lands and what that means for your exposure, and thinking about that in the context of New Mexico, Alaska and the Gulf of Mexico?

Neil Hansen

...it's difficult to speculate on the impact of a policy without details on implementation. I think any effort obviously to ban fracking would have a negative impact on industry efforts to develop resources like the Permian. There is no doubt on that, but when you look at the motivation of those policies, I mean if the underlying concern is about risk of climate change and emissions reduction, we certainly share similar concerns. But we think they are more effective policies and we also think there are technology advances that are required.

For example, we've been a very long-term vocal advocate of a revenue-neutral carbon tax. It's uniform it's transparent, it will incentivize the market to find solutions. I think any efforts to ban fracking or restrict supply will not remove demand for the resource. If anything, it will shift the economic benefit away from the U.S. to another country and potentially impact the price of that commodity here and globally.

The other thing we're trying to do Neil is, is help policymakers understand the tremendous benefits that resource development brings to economies, that brings to employment and to society. In fact, a recent study was done. I don't know if you saw this, but the development in the Permian, our development in the Permian Basin for New Mexico, will generate approximately $64 billion in economic benefits over the next 40 years.
Neil Mehta

...You continue to trend above your target levels. Can you just talk, Jay, with some detail about, how the plan is progressing in the Permian and any comments that you would have on sort of this upcoming U.S. election? And any impacts the way you think about prosecuting your acreage?

Jay Johnson

...In terms of the upcoming election, look, hydraulic fracturing has been done for millions of wells, not only in the U.S. but around the world. It's done safely. It's done effectively. We learn more about it all the time. And it's really unlocked an economic -- huge economic benefit for the country, as well as for the companies involved.

It's also unlocked some environmental benefits in terms of the proliferation of gas, which isn't always to our benefit from a profit standpoint, but it's a great fuel for the U.S. If you look at it from our company standpoint, we have less than about 10% of our Permian unconventional acreage that is on federal land and all of that is in New Mexico. So from a relative standpoint, while we would not like to see any kind of restrictions on hydraulic fracturing it's -- that's the context for our company.
US Shale

AND THE BROADER OIL MARKET IMPACT
Oil Prices

Source: Bloomberg
The Shift in Price and Public Market Sentiment

The S&P 500 Energy Index now accounts for just ~4-5% percent of the S&P 500

2015 through 12/27/2019 WTI averaged $53/barrel (Brent $57)

2010 through 2014 WTI averaged $92/barrel (Brent $102)

Source: EIA, Bloomberg

Europe Brent Spot Price FOB $/bbl
Cushing OK WTI Spot Price FOB $/bbl
Market Pressure for Public Companies

**Market Pressure**

- Muted Oil Prices (Plenty of Supply, Demand Growth Concerns)
- Investor Pressure – Returns, Spacing/Inventory, ESG, Climate Change, Peak Demand

**S&P 500 Shrinkage – Loss of Generalist Investor**

- Permian Focus – Rockies & Williston Basin producers struggling for attention
- Small and Mid-Large Cap Pressure

**Transition and Shake Out**

- Limited capital access and an expectation that many small and mid-cap producers will be unable to survive a prolonged downturn
- Production has remained resilient
## S&P 500 Energy Components

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Name</th>
<th>Last</th>
<th>YTD %Chg</th>
<th>TM %Chg</th>
<th>SM %Chg</th>
<th>SDW %Chg</th>
<th>Links</th>
</tr>
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<tbody>
<tr>
<td>APA</td>
<td>Apache Corp</td>
<td>28.51</td>
<td>-11.99</td>
<td>+0.05%</td>
<td>-8.49%</td>
<td>+26.41%</td>
<td>-14.40%</td>
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<tr>
<td>BHP</td>
<td>BHP Group PLC</td>
<td>41.75</td>
<td>-13.00</td>
<td>-4.93%</td>
<td>-14.30%</td>
<td>-13.32%</td>
<td>-7.04%</td>
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<tr>
<td>CVX</td>
<td>Chevron Corp</td>
<td>104.08</td>
<td>7.36</td>
<td>-4.36%</td>
<td>-0.51%</td>
<td>+5.54%</td>
<td>-8.77%</td>
</tr>
<tr>
<td>CYN</td>
<td>CNOF Resources Inc</td>
<td>70.00</td>
<td>-2.86</td>
<td>-3.11%</td>
<td>-3.69%</td>
<td>-4.28%</td>
<td>-3.98%</td>
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<tr>
<td>DHR</td>
<td>Devon Energy Corp</td>
<td>22.28</td>
<td>-19.41</td>
<td>-13.57%</td>
<td>-12.77%</td>
<td>+4.83%</td>
<td>-16.41%</td>
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<tr>
<td>EOG</td>
<td>EOG Resources Co</td>
<td>76.11</td>
<td>-20.98</td>
<td>-8.83%</td>
<td>-9.71%</td>
<td>+5.34%</td>
<td>-22.77%</td>
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<tr>
<td>FANG</td>
<td>Diamondback Energy</td>
<td>78.53</td>
<td>-26.56</td>
<td>-15.06%</td>
<td>-13.15%</td>
<td>-10.32%</td>
<td>-21.28%</td>
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<tr>
<td>FTI</td>
<td>FirstLight Power</td>
<td>10.82</td>
<td>-24.55</td>
<td>-21.42%</td>
<td>-19.56%</td>
<td>-16.90%</td>
<td>-26.82%</td>
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<tr>
<td>KMI</td>
<td>Kinder Morgan Inc</td>
<td>21.92</td>
<td>-2.16</td>
<td>-10.3%</td>
<td>-9.88%</td>
<td>-7.90%</td>
<td>-26.72%</td>
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<tr>
<td>MPX</td>
<td>Marathon Petroleum Corp</td>
<td>31.72</td>
<td>-18.85</td>
<td>-12.41%</td>
<td>-12.69%</td>
<td>-22.42%</td>
<td>-17.72%</td>
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<tr>
<td>MRD</td>
<td>Marathon Oil Corp</td>
<td>11.94</td>
<td>-25.22</td>
<td>-12.11%</td>
<td>-11.46%</td>
<td>-10.82%</td>
<td>-24.81%</td>
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<tr>
<td>NBL</td>
<td>Noble Energy Inc</td>
<td>20.64</td>
<td>-10.37</td>
<td>-16.6%</td>
<td>-15.90%</td>
<td>+11.59%</td>
<td>-8.95%</td>
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<td>NOG</td>
<td>National Oilwell Varco</td>
<td>20.04</td>
<td>-26.92</td>
<td>-16.32%</td>
<td>-15.39%</td>
<td>-12.84%</td>
<td>-29.62%</td>
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<td>OHI</td>
<td>Onshore Inc</td>
<td>34.13</td>
<td>-11.07</td>
<td>-0.86%</td>
<td>-0.91%</td>
<td>+4.75%</td>
<td>+17.90%</td>
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<td>OXY</td>
<td>Occidental Petroleum Corp</td>
<td>40.73</td>
<td>-37.42</td>
<td>-10.49%</td>
<td>-1.50%</td>
<td>-3.71%</td>
<td>-36.69%</td>
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<tr>
<td>PSX</td>
<td>Phillips 66</td>
<td>95.05</td>
<td>-2.25</td>
<td>-13.81%</td>
<td>-13.18%</td>
<td>-19.28%</td>
<td>+2.67%</td>
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<td>RIV</td>
<td>Riverview Resources Co</td>
<td>140.08</td>
<td>-5.95</td>
<td>-8.87%</td>
<td>-7.12%</td>
<td>+10.90%</td>
<td>+5.50%</td>
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<tr>
<td>SAB</td>
<td>SAB Capital Advisors</td>
<td>33.95</td>
<td>-22.96</td>
<td>-15.34%</td>
<td>-14.77%</td>
<td>-12.81%</td>
<td>-22.52%</td>
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<tr>
<td>VALE</td>
<td>Vale SA</td>
<td>54.81</td>
<td>-6.11</td>
<td>-7.01%</td>
<td>-6.59%</td>
<td>-5.59%</td>
<td>-7.40%</td>
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<tr>
<td>WLP</td>
<td>Williams Companies</td>
<td>21.46</td>
<td>-23.15</td>
<td>-9.27%</td>
<td>-7.77%</td>
<td>-7.32%</td>
<td>-19.34%</td>
</tr>
<tr>
<td>XEC</td>
<td>Xanadu Energy Company</td>
<td>45.82</td>
<td>-36.33</td>
<td>-12.54%</td>
<td>-11.59%</td>
<td>+3.78%</td>
<td>-38.81%</td>
</tr>
<tr>
<td>XOM</td>
<td>Exxon Mobil Corp</td>
<td>68.54</td>
<td>-17.03</td>
<td>-7.56%</td>
<td>-7.06%</td>
<td>-5.73%</td>
<td>-9.71%</td>
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</tbody>
</table>

### Permian Basin Top Producers

<table>
<thead>
<tr>
<th>Company</th>
<th>Daily Oil (b/d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCS</td>
<td>462,117.93</td>
</tr>
<tr>
<td>CON</td>
<td>308,089.22</td>
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<tr>
<td>PNR</td>
<td>293,943.19</td>
</tr>
<tr>
<td>DBE</td>
<td>255,530.67</td>
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<tr>
<td>EOG</td>
<td>245,685.55</td>
</tr>
<tr>
<td>ExxonM</td>
<td>238,885.16</td>
</tr>
<tr>
<td>CHEV</td>
<td>154,648.49</td>
</tr>
<tr>
<td>PARSLEY</td>
<td>118,445.03</td>
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<tr>
<td>APACHE</td>
<td>115,075.66</td>
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<tr>
<td>CIMAREX</td>
<td>108,299.70</td>
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<tr>
<td>ENVEAR</td>
<td>105,698.95</td>
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<tr>
<td>DEV</td>
<td>98,934.41</td>
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<td>ENCANA</td>
<td>92,650.06</td>
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<tr>
<td>MEW</td>
<td>82,134.84</td>
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<tr>
<td>SM</td>
<td>81,314.38</td>
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<td>SHELL</td>
<td>69,486.35</td>
</tr>
<tr>
<td>CENTR</td>
<td>61,930.62</td>
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</table>

Source: [https://www.bar-chart.com/stocks/indices/sp-sector/energies/?viewName=performance](https://www.bar-chart.com/stocks/indices/sp-sector/energies/?viewName=performance)
EOG Completed Well Costs

Source: PetroNerds, EOG Investor Presentations
Conventional Cycles Getting Shorter

This IEA chart shows project development times for conventional upstream oil and gas projects declining precipitously across all project types.

Unconventional technology and lessons learned from the short-cycle business model are one of the primary contributing factors to the decline in project development times.

Source: IEA World Energy Investment 2019
Cost Deflation

Cost-adjusted upstream oil and gas investment was 15% higher in 2018 than 2010.

Although IEA has been a leader of the ‘investment shortfall’ bandwagon, more nuanced data, in this case from IEA, shows that the shortfall is a complex and misleading issue – particularly when combined with the previous chart showing reduced project times for conventional development.

Source: IEA World Energy Investment 2019
Production and Productivity

PERMIAN BASIN FOCUS
US Shale Oil Production

8.3 mbd of shale oil production

Largely driven by the Permian Basin at 4.4 mbd

Source: PetroNerds, DrillingInfo
Permian Basin Production

Associated gas and water could cause production constraints and bottlenecks

Source: PetroNerds, DrillingInfo
Changes in the Market

- Despite lower and rangebound oil prices, longer lateral lengths and correlated production increases have continued.
ConocoPhillips’ analyst day presentation discusses the “look backs” they have performed on their shale activity in the Bakken and Eagle Ford and how much capital was squandered by chasing prices and responding by adjusting activity levels.

They would end up dropping rigs when rig day rates were low and end up bringing on production when oil prices were low.

They expect to achieve five percent higher returns by keeping activity levels stable and not chasing cycles.
Majors Continue Growth in the Permian Basin

Short cycle, competitive, strong breakevens, growth now - not later.

Source: Chevron Q3 2019 Earnings, November 2019

Source: ExxonMobil Q3 Earnings, November 2019
Permian Basin Production Forecast

Historical Production
Flat/Current Rate Forecast - 439 Wells/Month
Decline Forecast - 329 Wells/Month
Growth Forecast - 549 Wells/Month
Cushing OK WTI Spot Price FOB $/bbl
Combo Look: Concho, Diamondback, EOG, and Exxon

Source: PetroNerds, raw data DrillingInfo
Are well spacing issues really going to kill the boom?
Differentiated Views on Well Spacing

Not a one size fits all - EOG vs. PXD on Well Spacing

Source: EOG Q2 2019 Earnings, Pioneer Natural Resources September 2019 Investor Presentation
Understanding the Hype: Long-Term Potential – “Stacked Pay”

USGS Announces Largest Continuous Oil Assessment in Texas and New Mexico

USGS Identifies Largest Continuous Oil and Gas Resource Potential Ever

PERMIAN BASIN – STACKED PAYS CREATE WORLD CLASS RESOURCE

- **35–50 years of drilling in core areas at current rate**
  - Over 200,000 horizontal wells to be drilled in core areas
  - 9,750 core units (1x2 mile) available for horizontal drilling with 30 wells per unit

- **2018 USGS New Resource Assessment: 46 billion barrels in just Delaware basin**
  - 33 years of production at current rate (1.4 billion barrels)
  - 2007 USGS: 1.3 billion barrels total resource in Permian basin!

Yes...The Permian Basin Has Staying Power!

Source: EPRfundamentals

Fundamentals Panel – 11
While productivity appears to be flattening, it is not experiencing diminishing marginal returns as lateral lengths continue to increase, meaning productivity remains stable on barrels per lateral foot basis while efficiency improvements continue to be made.

Source: PetroNerds, raw data DrillingInfo
Well Additions by Play

Source: PetroNerds, raw data DrillingInfo
Productivity by Play

**Average Lateral Length**
- Basin: DENVER JU...  EAGLE FORD  PERMIAN  WILLIST...

**First 6 Month Oil Per Lateral Foot**
- Basin: DENVER JU...  EAGLE F...  PERMIA...  WILLISTON

Source: PetroNerds, raw data Drillinginfo
Williston Basin Productivity Continues to Disprove Skeptics

Source: PetroNerds, raw data DrillingInfo
Appendix
Bottlenecks Alleviated by New Pipelines

Source: Enterprise Products Partners Analyst Meeting Presentation, April 2019
Permian Basin Geology and Targets

The prospect of stacked payzones and multiple targets combined with relatively tight well spacing has drawn investment.

Figure 2. Generalized stratigraphic schema of upper Carboniferous through upper Permian intervals for the Permian Basin

EOG - CAPEX, Production, and Free Cash Flow

Source: PetroNerds
Permian Basin API Gravity for Horizontal Wells

Source: PetroNerds, DrillingInfo
Evolution of Investor Pressure

Pre-2014: Need to diversify beyond the Bakken

2014 Oil Price Correction: Pump and produce, High IPs, Cash Flow

2015 to 2016: PERMANIA, Prices are sub-$60, buy anything and everything (dry powder, no production, at any cost), FOMO
   I. Strict drilling and leasing requirements follow

2017: Begin focusing on cash flow

2018: Investor pressure on returns and free cash flow continues to build, oil prices move up

2019: Generalist investor has left the shale space. Free cash flow neutrality is not enough, serious returns are needed.
   I. Expected more mergers and acquisitions
   II. Favored majors and short cycle
   III. Unclear what would drive share price growth
Capital Sourcing Shift

**2016**

- **Public Equity Offerings:** 55
- **Traditional Banks:** 39
- **High Yield Debt Offerings:** 29
- **Private Equity:** 110

**Responses Total:** 289*

**2020**

- **Equity from Capital Markets:**
  - **Joint Ventures with Private Equity Firms (farmouts, Drillos, etc.):**
  - **Cash Flow from Operations:**
  - **Debt from Alternative Capital Providers:**
  - **Equity from Private Equity Firms:**

**Equity from Capital Markets:**

- **Debt from Banks:**
- **Debt from Capital Markets:**

**Respondents could select more than one option. We collected 670 responses. The figures in the chart above indicate the percent of total responses for each option.**
Reduction in Need for Services

Efficiencies across the oil and gas D&C value chain are impacting the service sector, from hydraulic fracturing to drilling.

The incremental growth in lateral lengths has had a material impact on service companies as it has occurred during a period of modest prices and investor pressure. The average foot treated per day has gone up as the average lateral length drilled has as well.

Operators are drilling and completing more lateral feet with less equipment/manpower and more efficient use of horsepower.

....efficiency gains across the industry have raised the number of frac stages completed by each fleet by 10% to 20%, which implies a 10% or so decrease in the required active frac fleets. The slowing pace of frac activity in the second half of 2019 is leading to a further reduction of demand for frac fleets, resulting in pricing pressure on services.

Liberty Oilfield Services, Chris Wright, Q3 2019
Supply and Demand

World liquid fuels production and consumption balance
million barrels per day

- World production
- World consumption
- Forecast

Source: Short-Term Energy Outlook, January 2020