Oil 2019 - Analysis and Forecast to 2024

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Oil 2019

Analysis and Forecast to 2024
China slowdown reflects structural shift in the economy and environmental policies. Middle East fuel oil demand boosted after IMO 2020. India growth robust: similar to China by 2024.
While EVs are in the headlines, electric buses and LNG trucks replace larger volume of oil demand.
Shippers and refiners adjust to IMO 2020 shakeup

Over 2 mb/d of HSFO shifts to gasoil and VLSFO. Main impact in first year but manageable over time.
Petrochemicals will be pillar of support for oil demand

Incremental feedstock demand (changes vs. 2018)

Petrochemicals demand accounts for 30% of total demand growth
Although passenger volumes grow strongly, efficiency improvements see the pace of jet fuel demand growth halve. Asia accounts for 75% of demand growth by 2024.
US leads the way in global supply growth

US expansion is 70% of global growth. Gains in Brazil, Iraq, Norway, the UAE and Guyana. Main declines in Iran and Venezuela.
Considerable upside for US shale if prices head higher

US shale would continue to grow to 2025 even at today’s price levels, with significant potential to rise even more quickly in a higher-price environment.
Brazil rebound around the corner – even as mature fields decline

Output set to rise by net 1.2 mb/d, to reach 3.9 mb/d in 2024.
**OPEC “laid low” by US shale?**

**Requirement for OPEC crude drops to 30 mb/d in 2020**
Global capacity growth to 2024 far exceeds refined products demand growth.
Middle East wants to refine more

Strong focus on refining capacity additions continues. NOCs target horizontal and vertical integration.
Independents dominate China’s capacity expansion
Looming world-scale downstream hub in northern China

<table>
<thead>
<tr>
<th>China Bohai Bay Rim</th>
<th>US Gulf Coast</th>
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<tbody>
<tr>
<td><strong>Population</strong></td>
<td></td>
</tr>
<tr>
<td>235 mln</td>
<td>33 mln</td>
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<tr>
<td><strong>Refining capacity</strong></td>
<td></td>
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<tr>
<td>6.8 mb/d</td>
<td>9.2 mb/d</td>
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<tr>
<td>as % of country total</td>
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<tr>
<td>43%</td>
<td>49%</td>
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<tr>
<td><strong>Oil production</strong></td>
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<tr>
<td>1.3 mb/d</td>
<td>9.3 mb/d</td>
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<tr>
<td><strong>Natural gas production</strong></td>
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<tr>
<td>0.5 bcf/d</td>
<td>25.4 bcf/d</td>
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<tr>
<td><strong>Crude storage capacity</strong></td>
<td></td>
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<tr>
<td>469 mb</td>
<td>1388 mb</td>
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China’s Bohai Bay Rim could become the equivalent of the US Gulf Coast in concentration of downstream infrastructure, though different in the drivers of the expansion.
Korean refining prospects supported by petrochemical focus.
**Sulphur content regulations tighten further**

IMO 2020, India Bharat 6 standards, China inland bunkers, West African transport fuels..
Shale crudes reduce need for complex refining, first reversal of the historical trend.

*excludes natural gas liquids and other non-refinery products
The age of plenty..

Reversal of crude market fundamentals compared to 2000s – crude output growth comes mainly from light sweet grades.
US gross exports overtake Russia, close in on Saudi Arabia

US is net oil exporter in 2021 after 75 years of import dependency. US exports add to market flexibility.
Crude export growth is in the Atlantic Basin...

US, Brazil, Norway and Iraq lead crude exports growth.
Having overtaken the US as the single largest crude importing country, China is on track to overtake the European continent.
Diversification beyond Middle East sources now a necessity rather than choice.
Latin America and Africa are the largest net import regions.

While largest product importers are in the Atlantic Basin.
Conclusions

• The United States to provide 70% of the increase in global oil supply over next five years, with Iraq, Brazil, Norway & Guyana other major contributors

• Global oil demand growth to slow modestly, but still average 1.2 mb/d, with petrochemicals a key driver

• The oil industry needs to do more to cut its carbon footprint, including on flaring & methane leakages, and use of CCUS, EOR, hydrogen & renewables

• While there may be teething problems, refiners & shippers are relatively well prepared to respond to the new IMO bunker fuel regulations

• The 2nd wave of the US shale revolution is coming – it will shake-up international oil & gas trade flows, with profound implications for the geopolitics of energy
Global demand growth solid for now

Demand expected to grow by 1.4 mb/d this year, up from 1.3 mb/d 2018. Economic outlook, trade disputes, Brexit brings uncertainty.
Non-OPEC growth eases from 2.8 mb/d in 2018 to 1.7 mb/d in 2019

Compliance reaches 124% in March with OPEC+ production 290 kb/d below target. Compliance OPEC 153%, Non-OPEC 64% as Russia takes its time.
Saudi Arabia cuts 0.5 mb/d below supply target

Saudi Arabia shows strong lead: March production of 9.8 mb/d was lowest in two years.

Saudi outperforms on cuts
OECD stocks gradually tightening

OECD Stocks vs 50yr Average

OECD Industry Stocks Days of Forward demand

OECD commercial stocks above five-year average but below it in days of forward demand.
Market in deficit in 2Q19

Demand & supply numbers suggest return to deficit in 2Q19. Rest of year depends on OPEC+ agreement, Iranian waivers, Venezuela collapse, Libya unrest and strength of global economy.

* Assumes 100% OPEC compliance with Dec 2018 Vienna Agreement and further declines in Iran and Venezuela.
Atlantic Basin refiners struggle to add to throughput
Refining margins now rising, but only thanks to disruptions

**Regional Refining Margins Monthly**

- USGC coking
- Brent (Cracking)
- Dubai (Cracking)

**Upgrading Differential**

- NWE Brent
- Med Urals
- Singapore Dubai

Fuel oil supply shortage, itself a consequence of lower medium-heavy crude grade shortfall, helps simple refining margins, narrows the differential between complex and simple margins.
Global crude balance set for the largest draw since 2011 in 3Q19 if cuts continue.