# Oil 2019 – Analysis and Forecast to 2024

Neil Atkinson, Kristine Petrosyan

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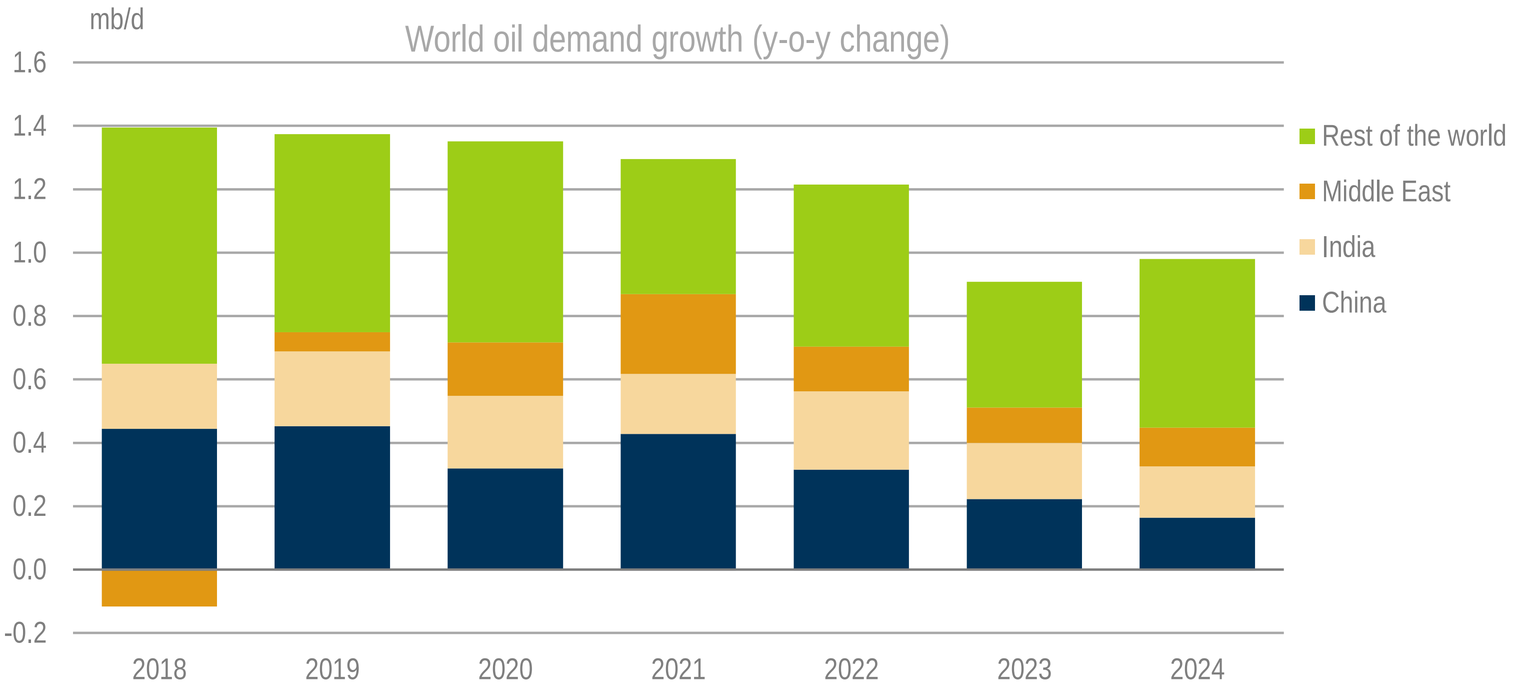
IEA

# Oil 2019

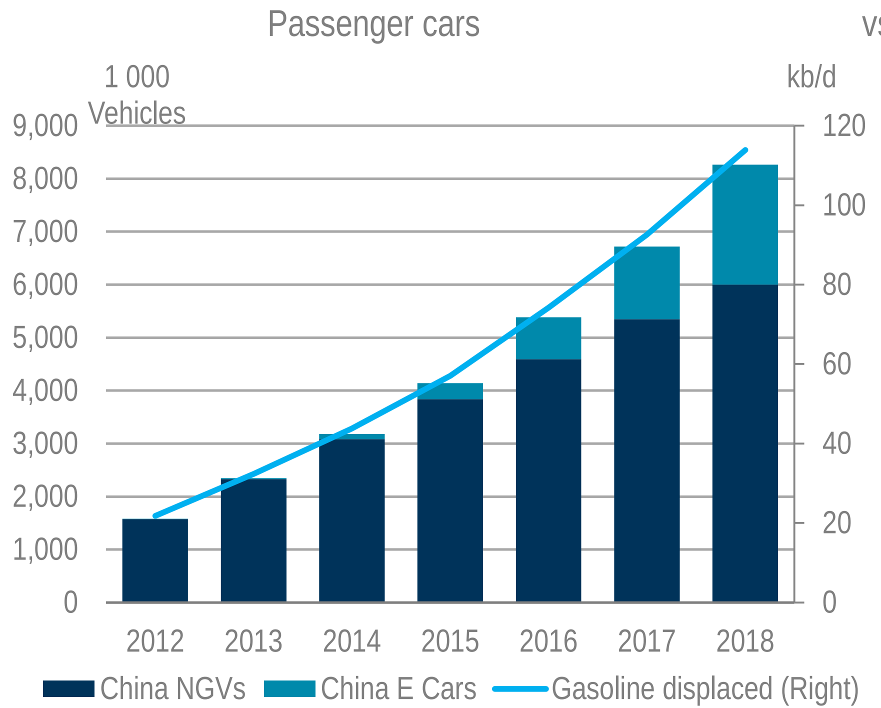
Analysis and Forecast to 2024

# World oil demand growth easing




**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.**

# China's oil demand transformed by alternative fuels

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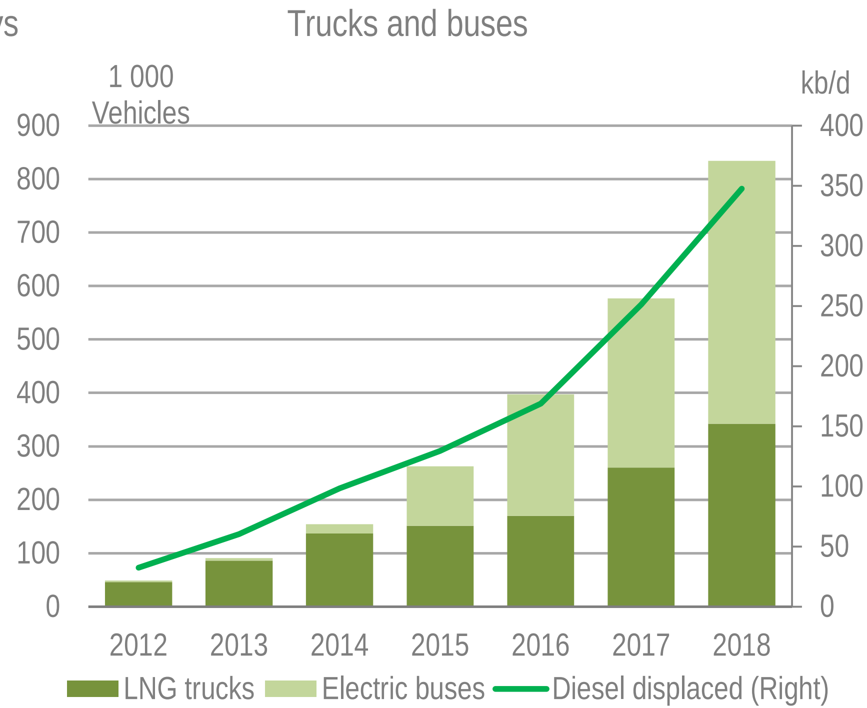
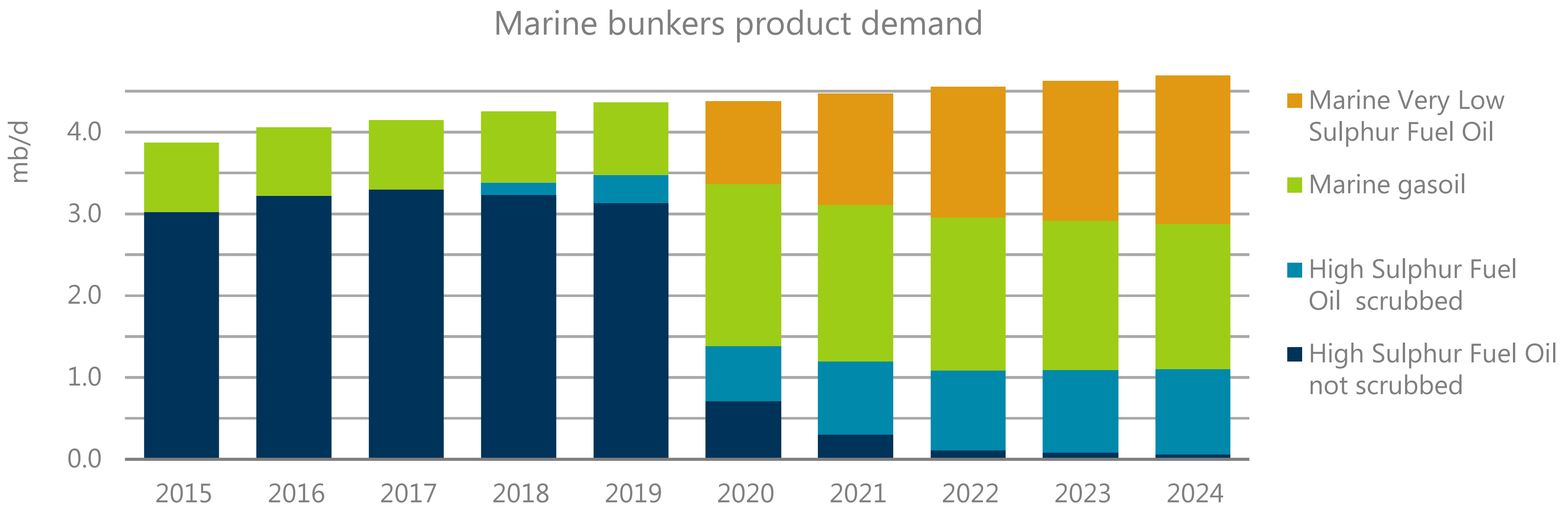


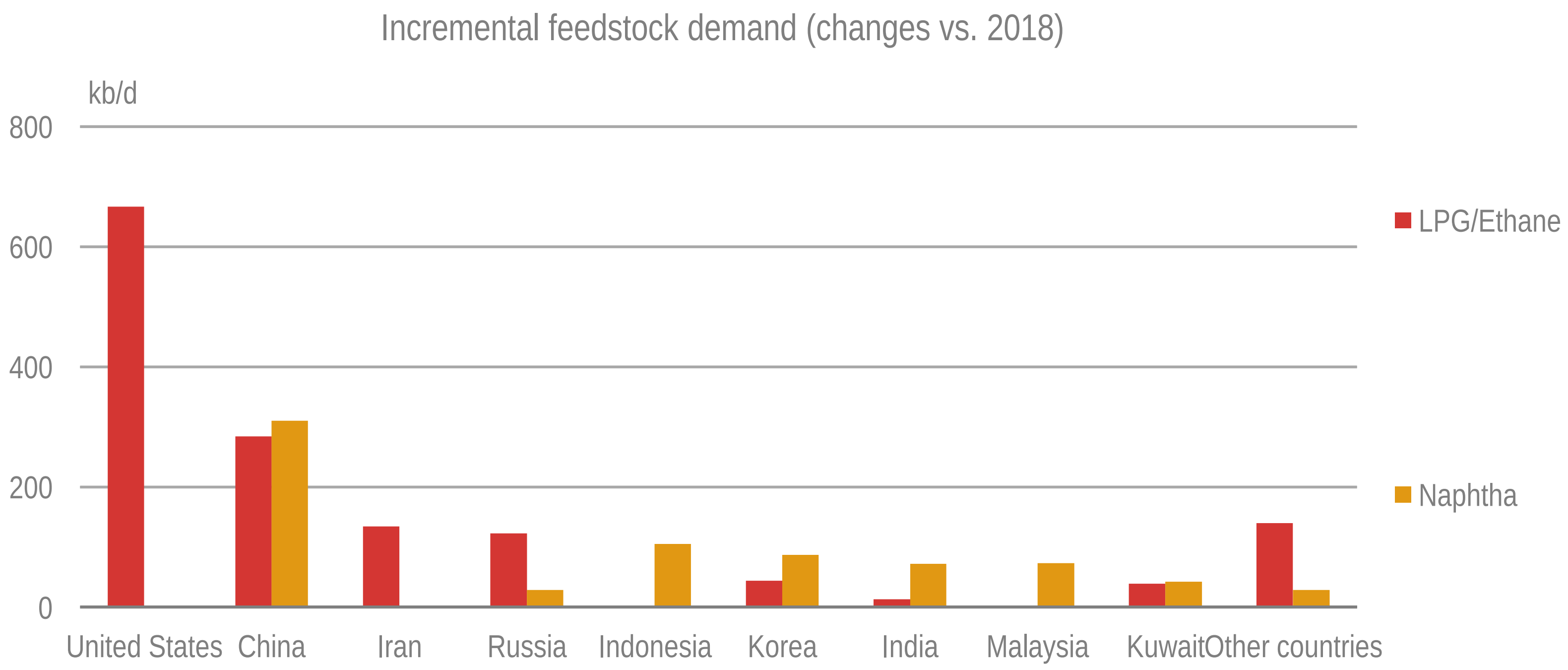

**While EVs are in the headlines, electric buses and LNG trucks replace larger volume of oil demand**

# Shippers and refiners adjust to IMO 2020 shakeup



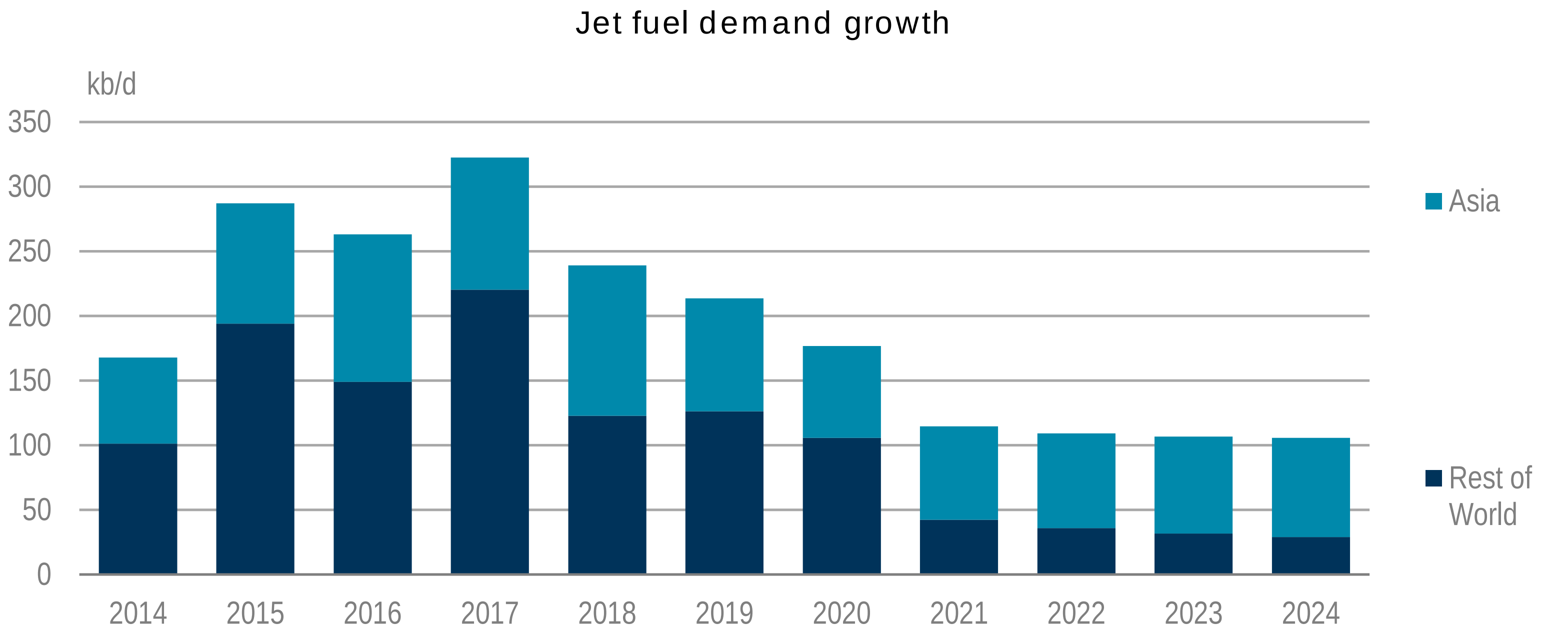

**Over 2 mb/d of HSFO shifts to gasoil and VLSFO. Main impact in first year but manageable over time.**

# Petrochemicals will be pillar of support for oil demand



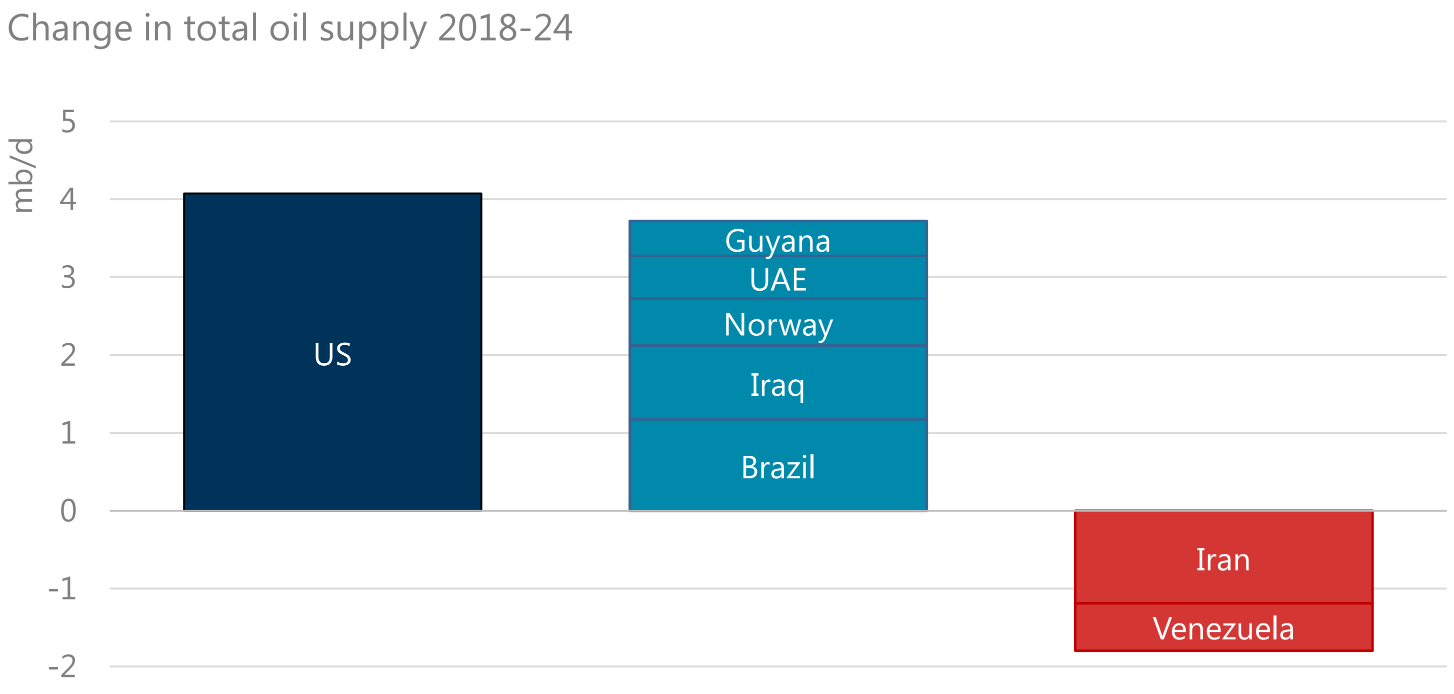

**Petrochemicals demand accounts for 30% of total demand growth**

# Air travel grows, but jet fuel demand is maturing




**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.**

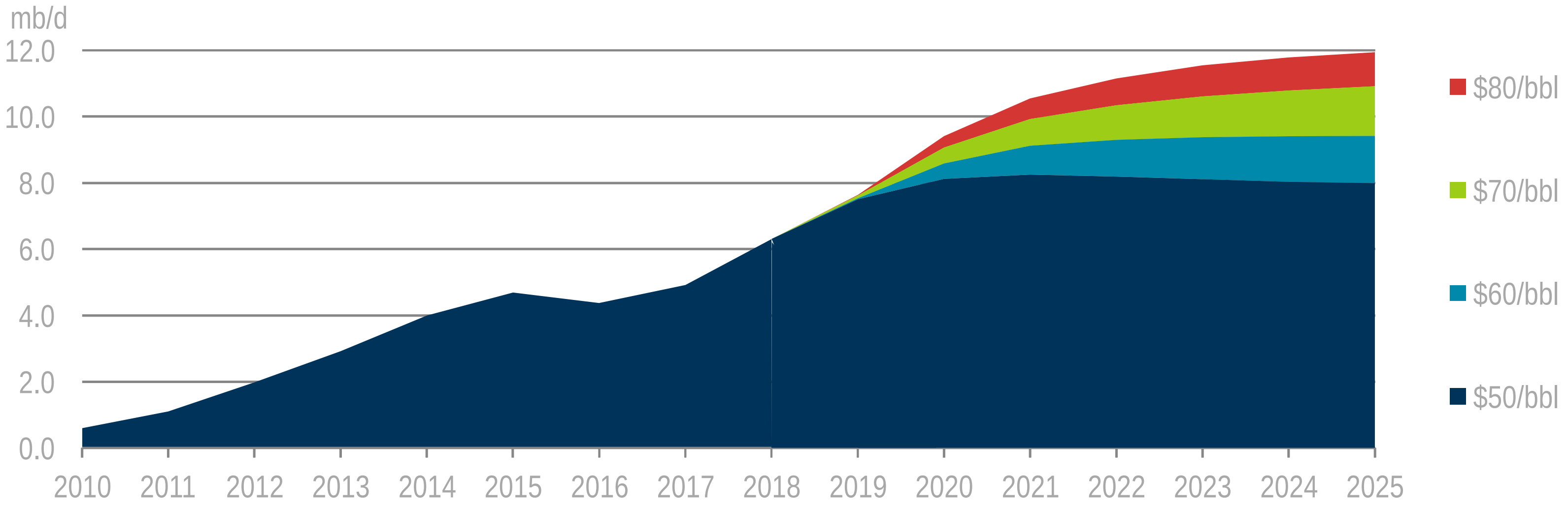
# US leads the way in global supply growth




**US expansion is 70% of global growth. Gains in Brazil, Iraq, Norway, the UAE and Guyana. Main declines in Iran and Venezuela.**

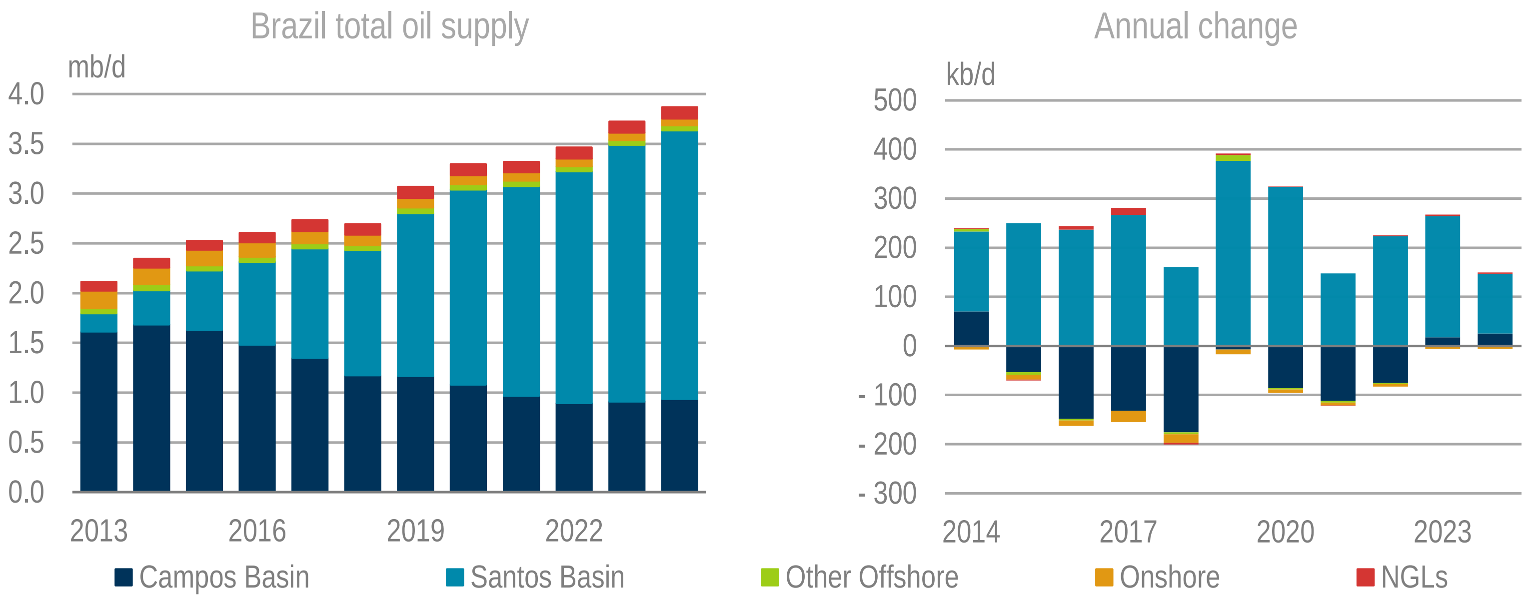
# Considerable upside for US shale if prices head higher

US shale oil prospects



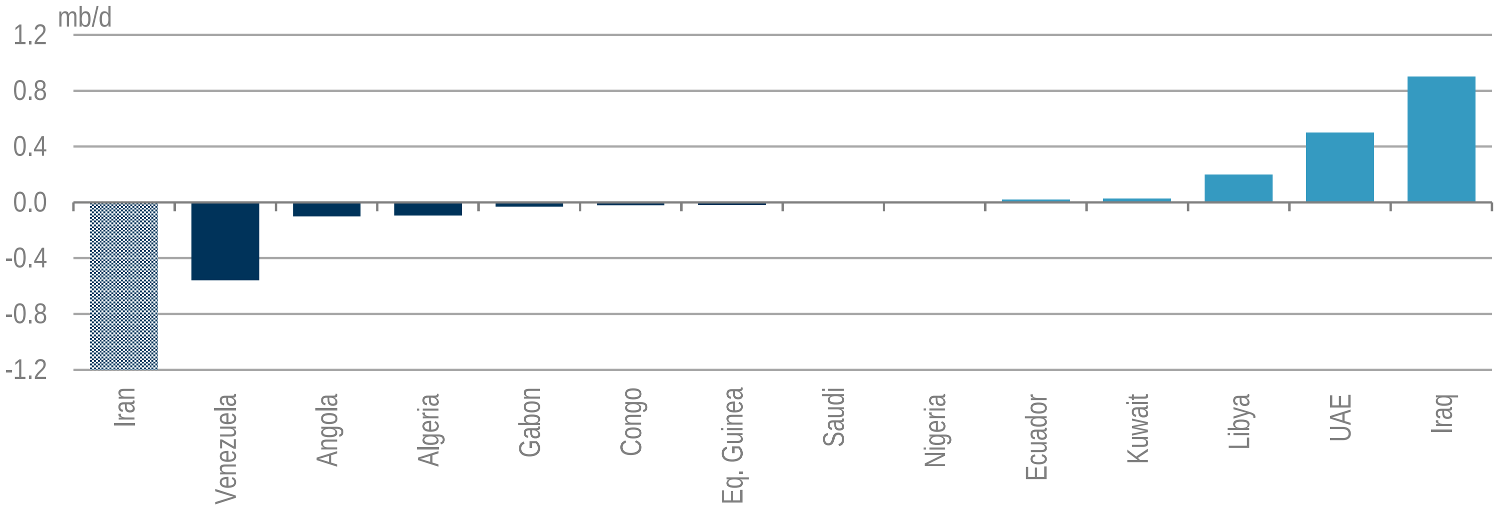

**US shale would continue to grow to 2025 even at today's price levels, with significant potential to rise even more quickly in a higher-price environment**

# Brazil rebound around the corner – even as mature fields decline



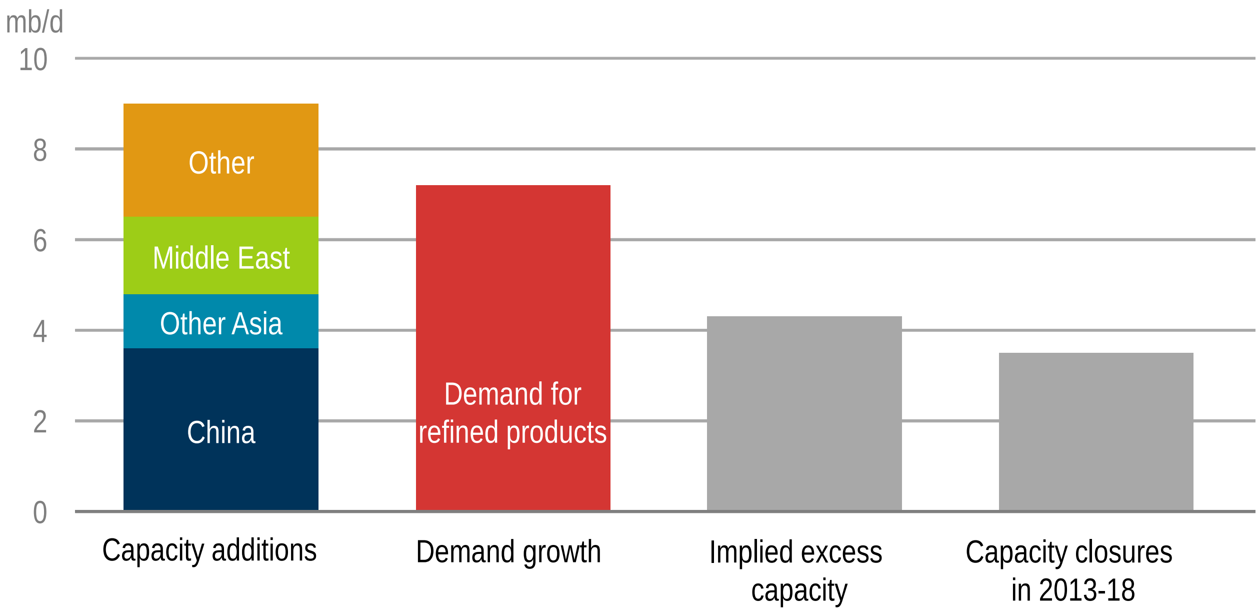

**Output set to rise by net 1.2 mb/d, to reach 3.9 mb/d in 2024.**

# OPEC "laid low" by US shale?



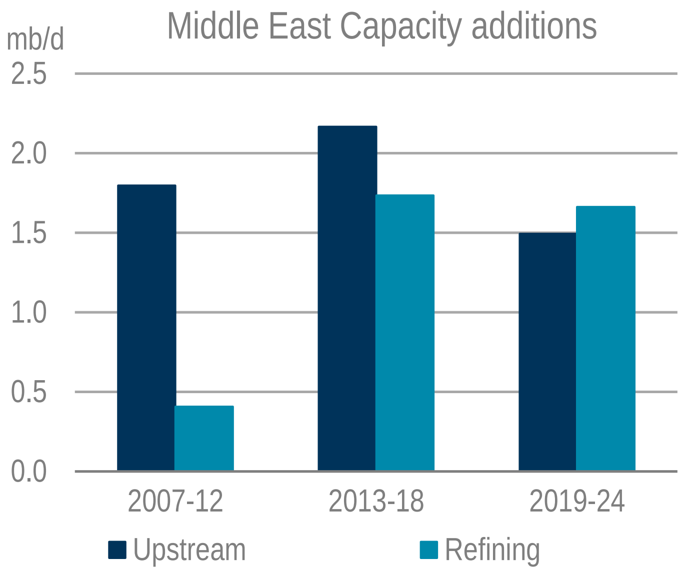

**Requirement for OPEC crude drops to 30 mb/d in 2020**

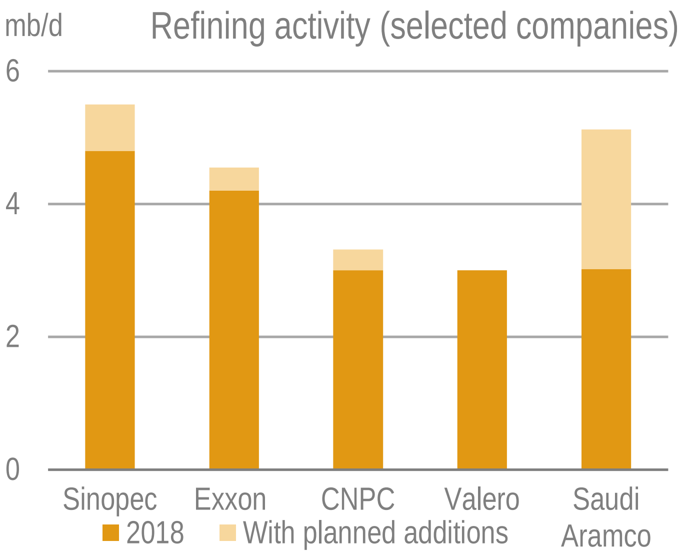
# Downstream capacity additions challenge refiners




**Global capacity growth to 2024 far exceeds refined products demand growth.**

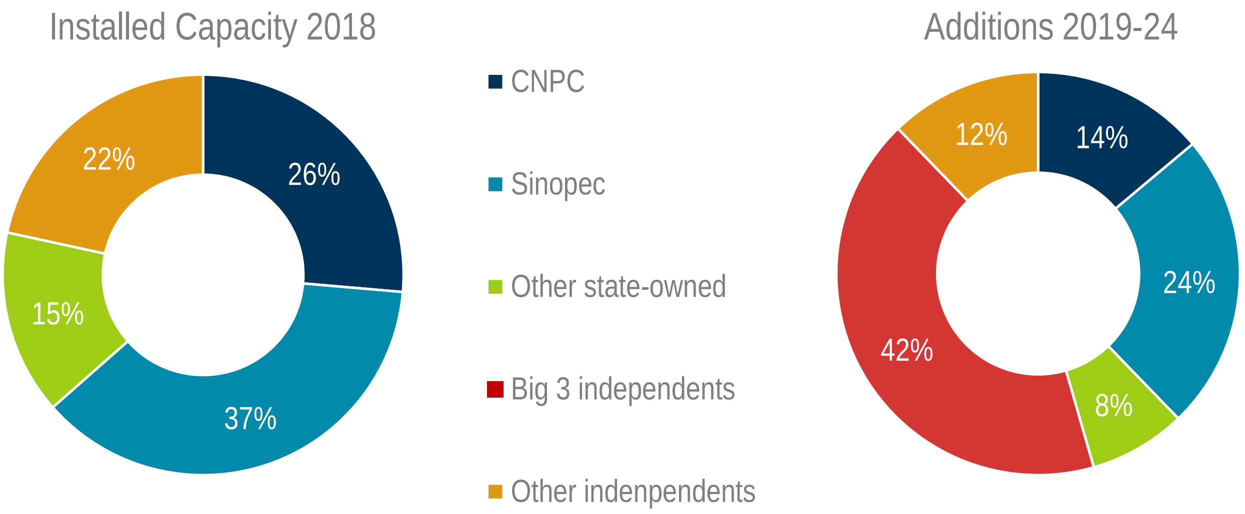
# Middle East wants to refine more




**Strong focus on refining capacity additions continues. NOCs target horizontal and vertical integration.**

# Petrochemical drivers of China’s refining




**Independents dominate China’s capacity expansion**

# Looming world-scale downstream hub in northern China

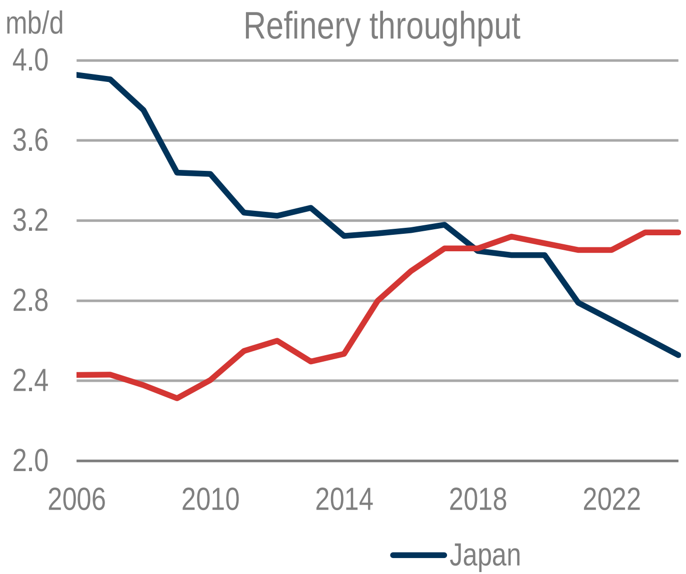
**China Bohai Bay Rim**

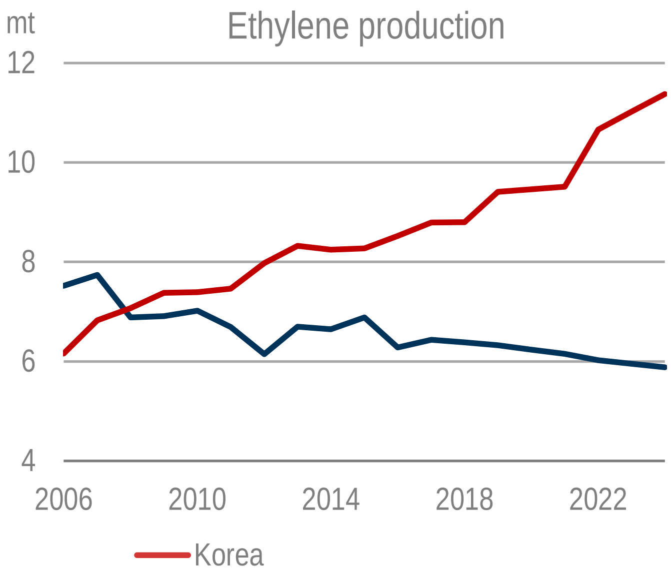
| | China Bohai Bay Rim | US Gulf Coast |
|---|---|---|
| Population | 235 mln | 33 mln |
| Refining capacity | 6.8 mb/d | 9.2 mb/d |
| as % of country total | 43% | 49% |
| Oil production | 1.3 mb/d | 9.3 mb/d |
| Natural gas production | 0.5 bcf/d | 25.4 bcf/d |
| Crude storage capacity | 469 mb | 1388 mb |

**US Gulf Coast**

**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.**

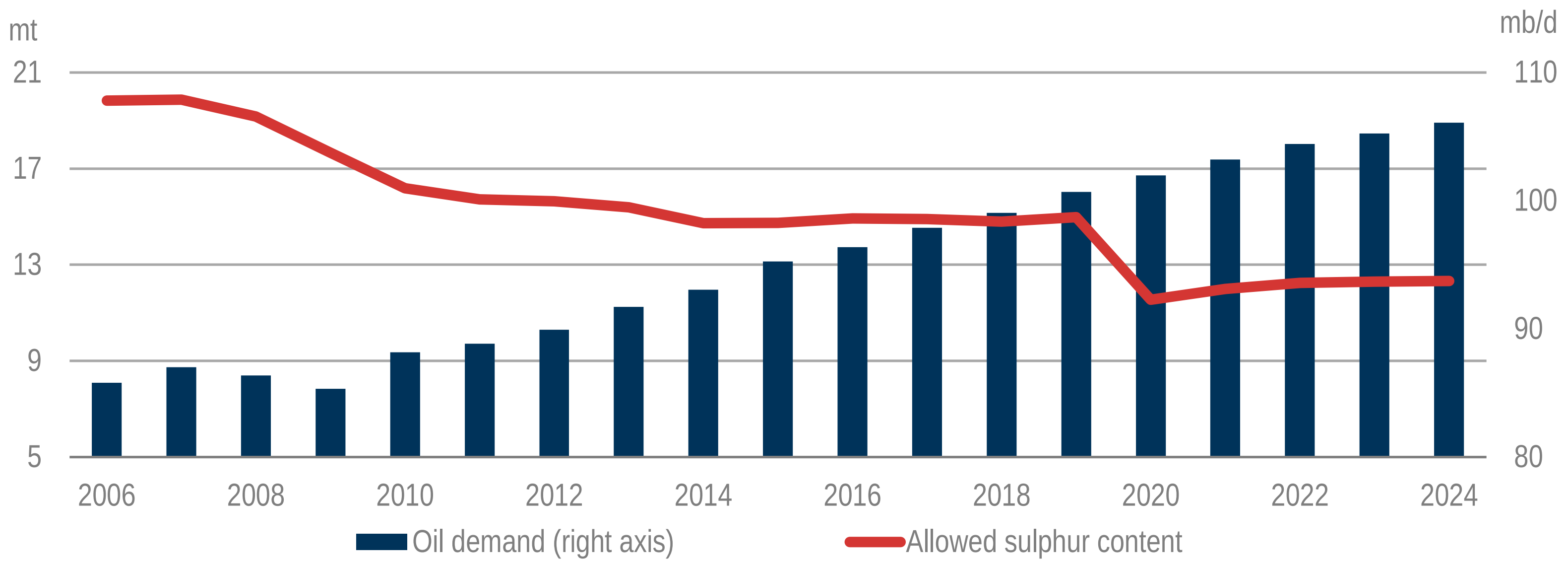
# Japan/Korea




**Korean refining prospects supported by petrochemical focus.**

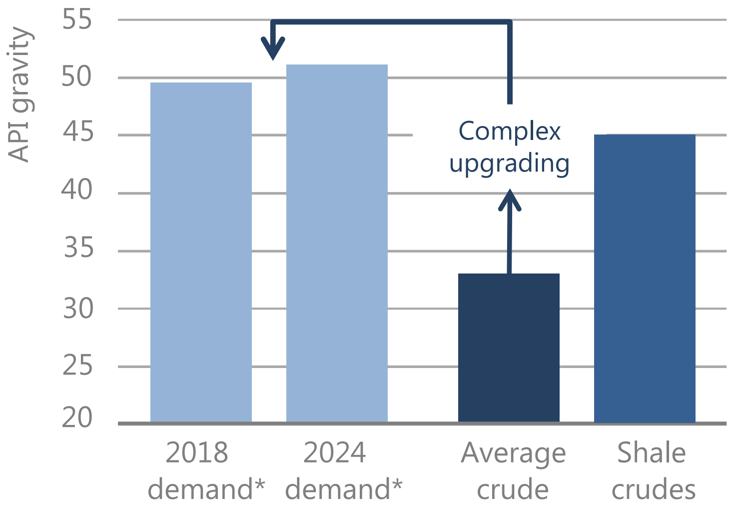
# Sulphur content regulations tighten further



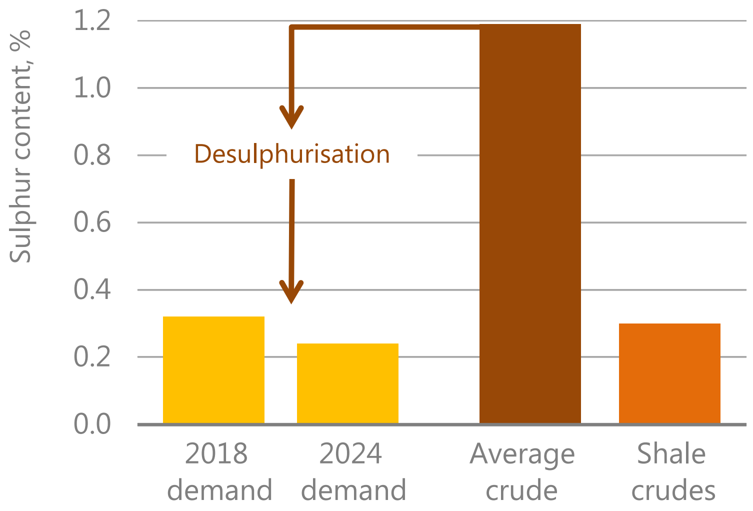

**IMO 2020, India Bharat 6 standards, China inland bunkers, West African transport fuels..**

# US shale fits the new demand landscape

Global refined product barrel vs crude barrel

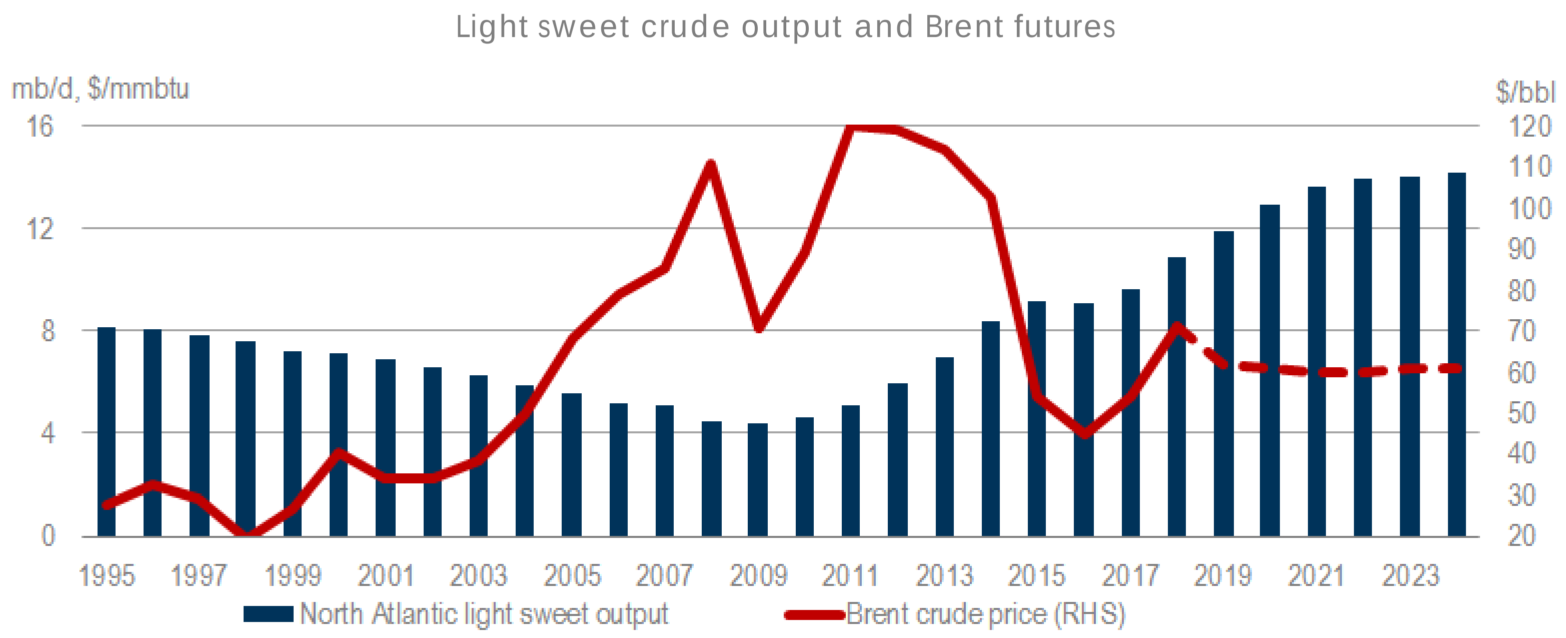



*excludes natural gas liquids and other non-refinery products



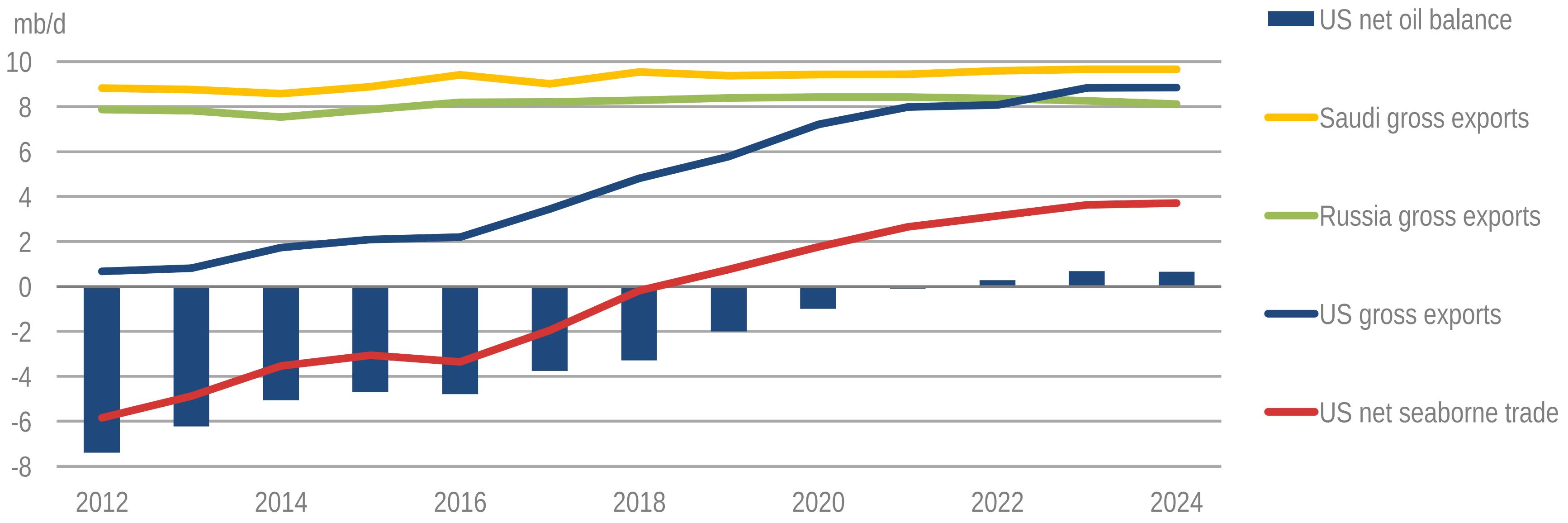

**Shale crudes reduce need for complex refining, first reversal of the historical trend.**

# The age of plenty..



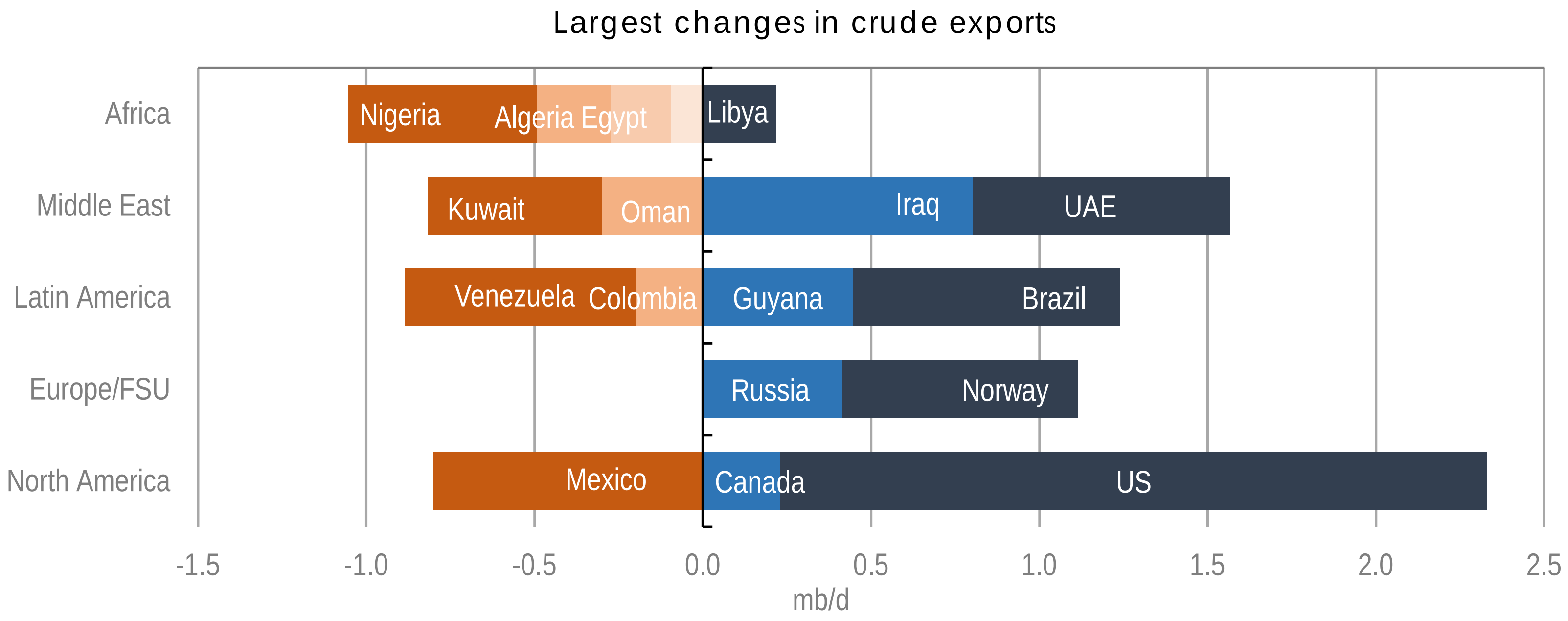

**Reversal of crude market fundamentals compared to 2000s – crude output growth comes mainly from light sweet grades.**

# US gross exports overtake Russia, close in on Saudi Arabia



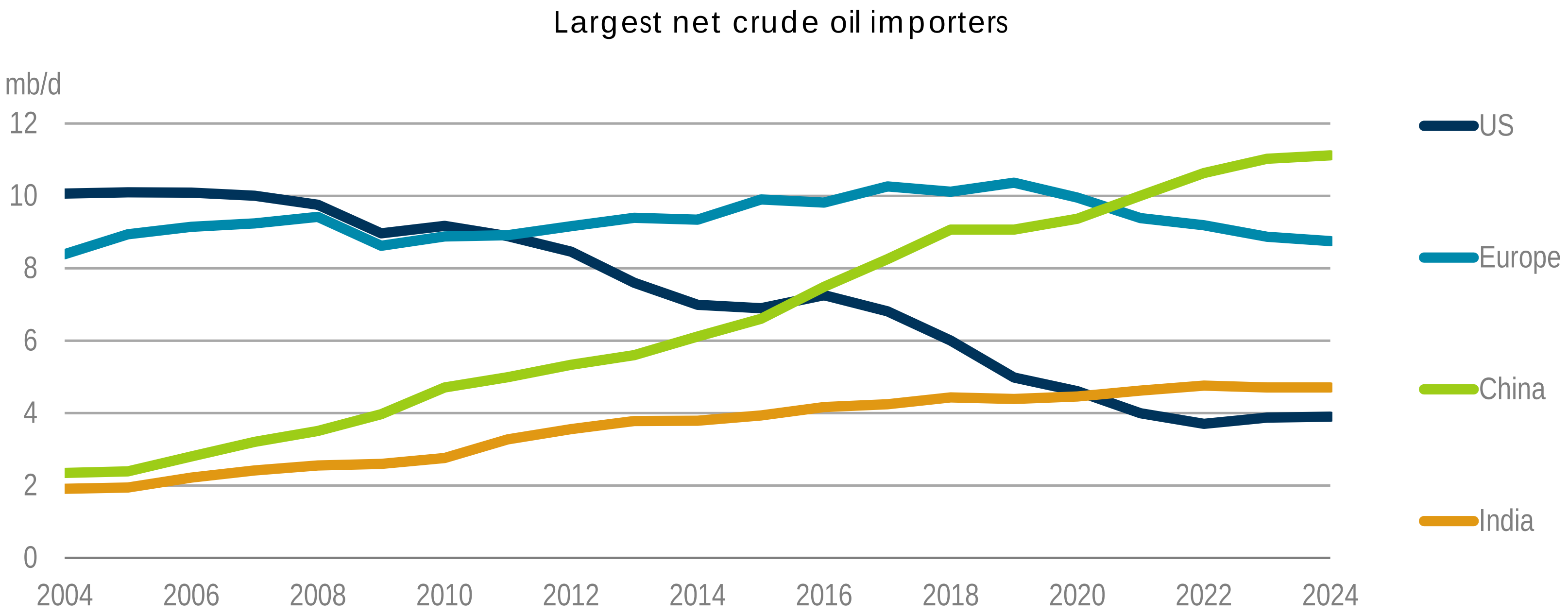

**US is net oil exporter in 2021 after 75 years of import dependency. US exports add to market flexibility.**

# Crude export growth is in the Atlantic Basin...




**US, Brazil, Norway and Iraq lead crude exports growth.**

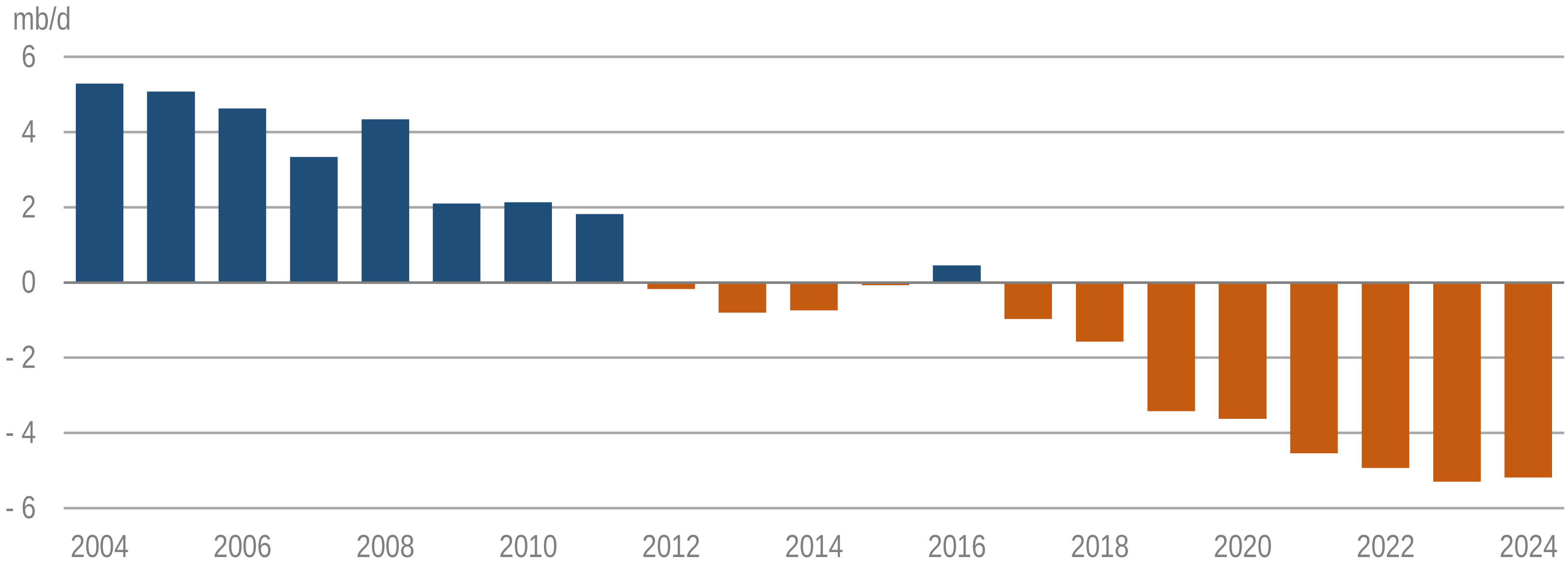
# ...while import growth is in Asia




**Having overtaken the US as the single largest crude importing country, China is on track to overtake the European continent.**

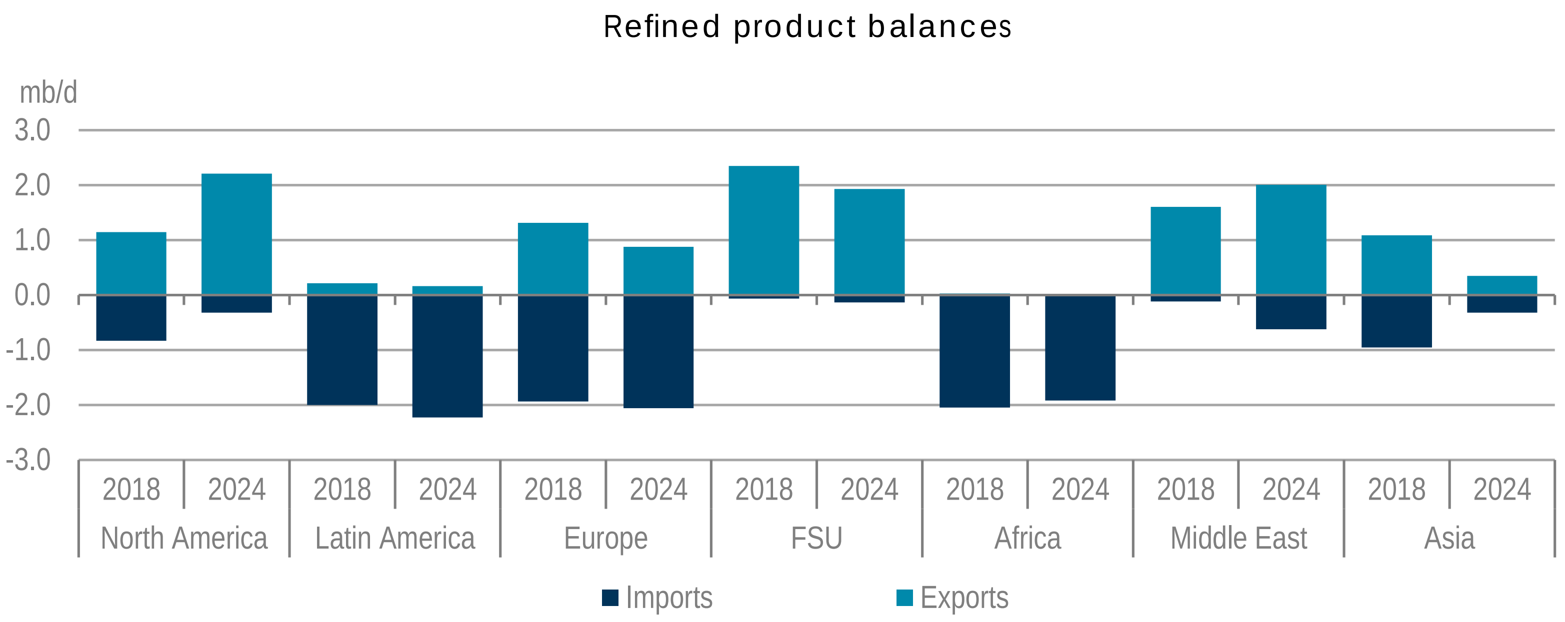
# The centre of gravity of the crude trade shifts to Asia

East of Suez crude oil balance




**Diversification beyond Middle East sources now a necessity rather than choice.**

# ..while largest product importers are in the Atlantic Basin




**Latin America and Africa are the largest net import regions.**

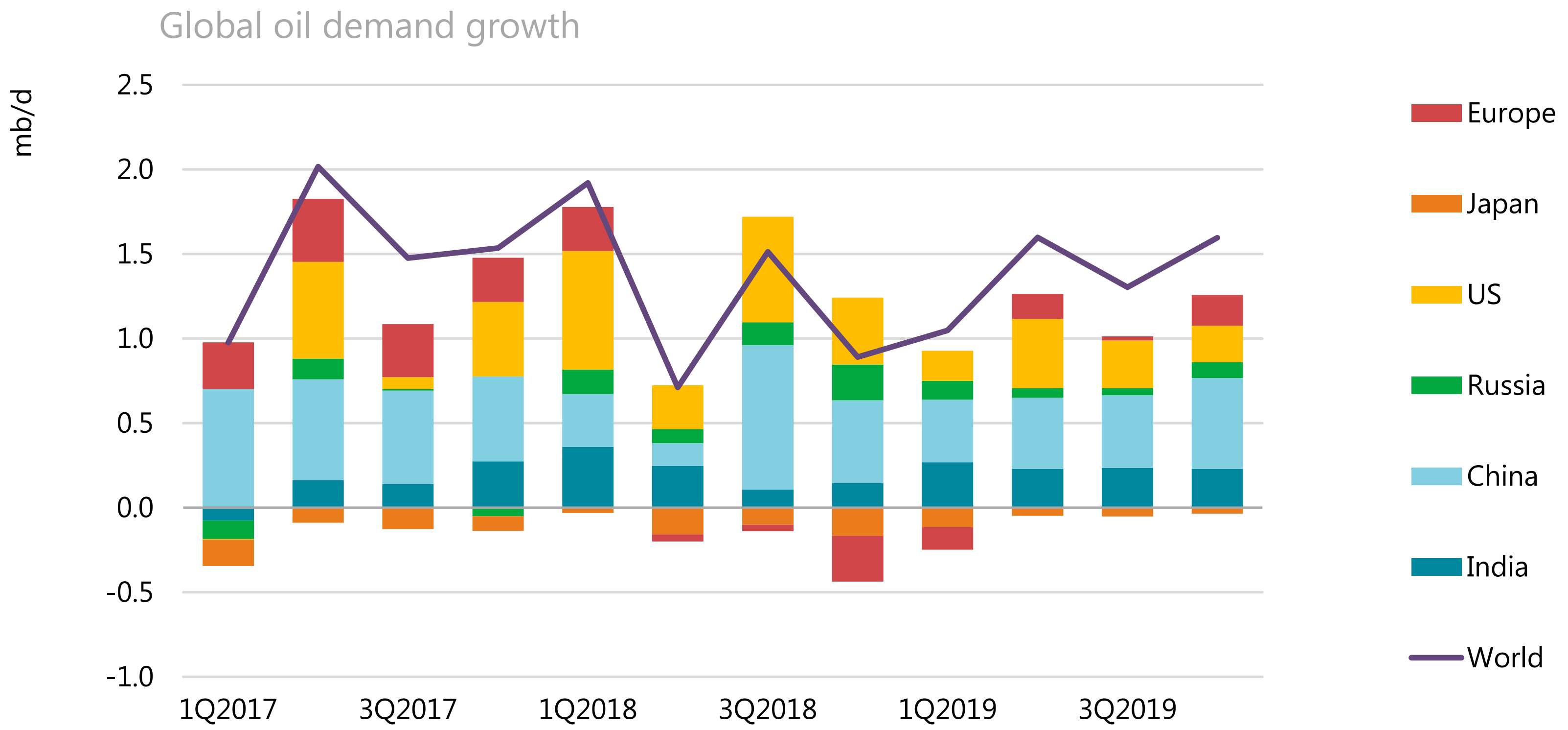
# Conclusions

- 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

# Oil Market Report

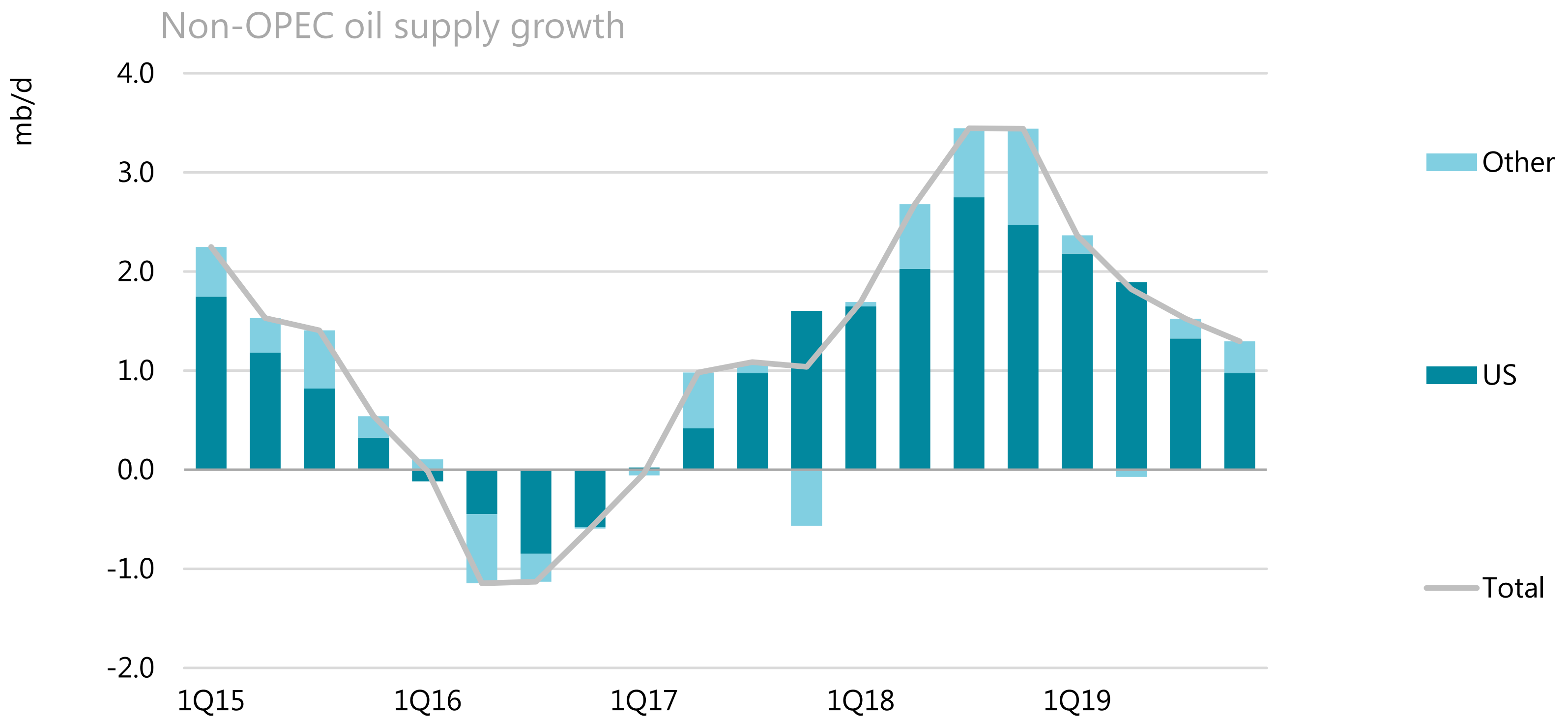
April 2019

# Global demand growth solid for now



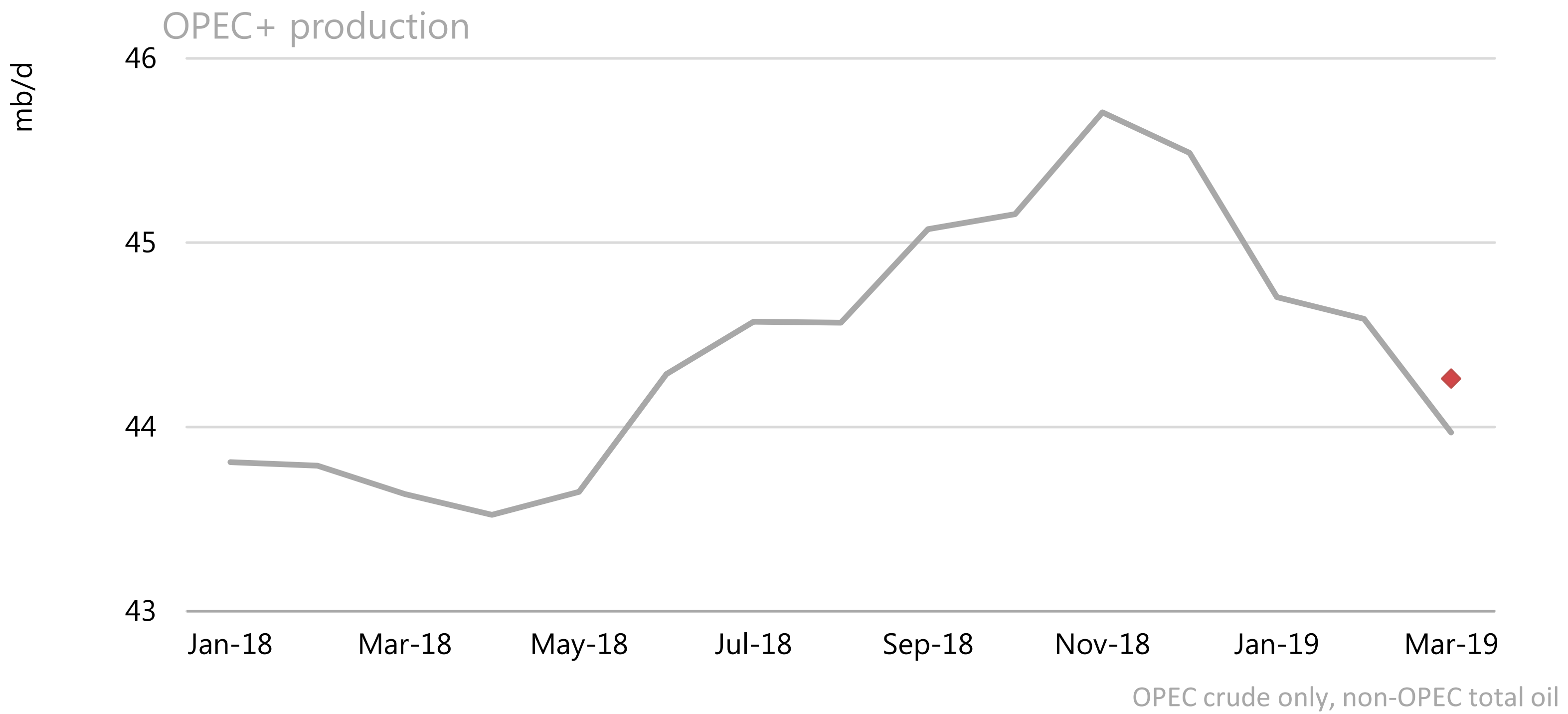

Demand expected to grow by 1.4 mb/d this year, up from 1.3 mb/d 2018.
Economic outlook, trade disputes, Brexit brings uncertainty.

# Non-OPEC growth eases from 2.8 mb/d in 2018 to 1.7 mb/d in 2019




US accounts for 92% of 2019 gains (80% in 2018). Significant growth in Brazil.
Declines in Canada, China, Mexico, Norway.

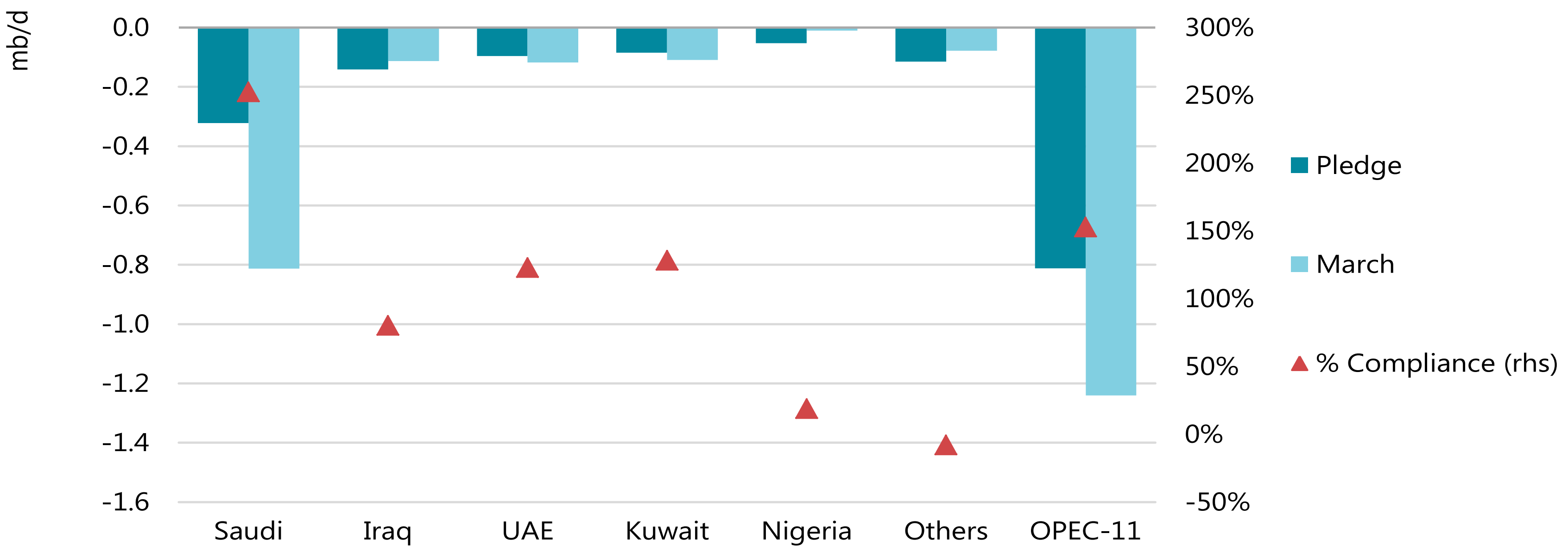
# OPEC+ supply cuts exceed the target




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

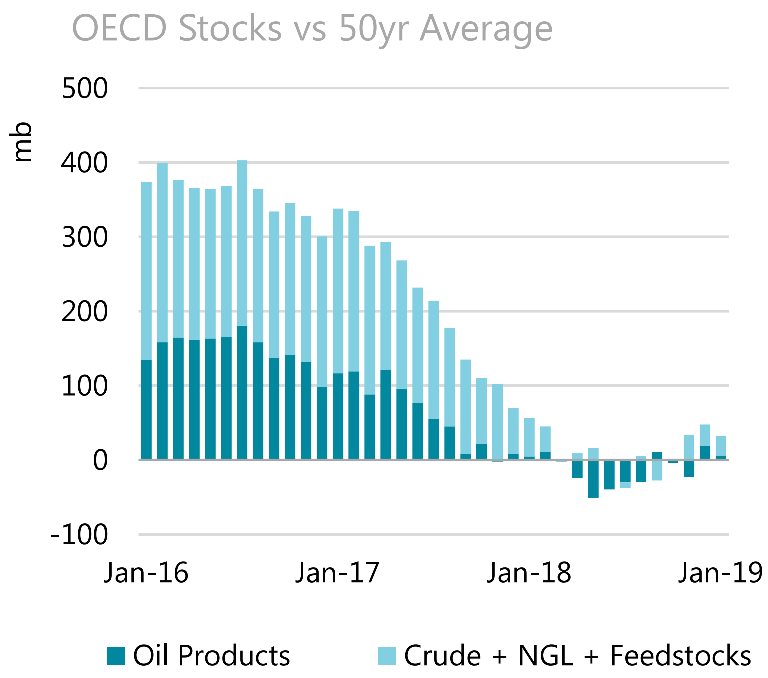
# Saudi Arabia cuts 0.5 mb/d below supply target

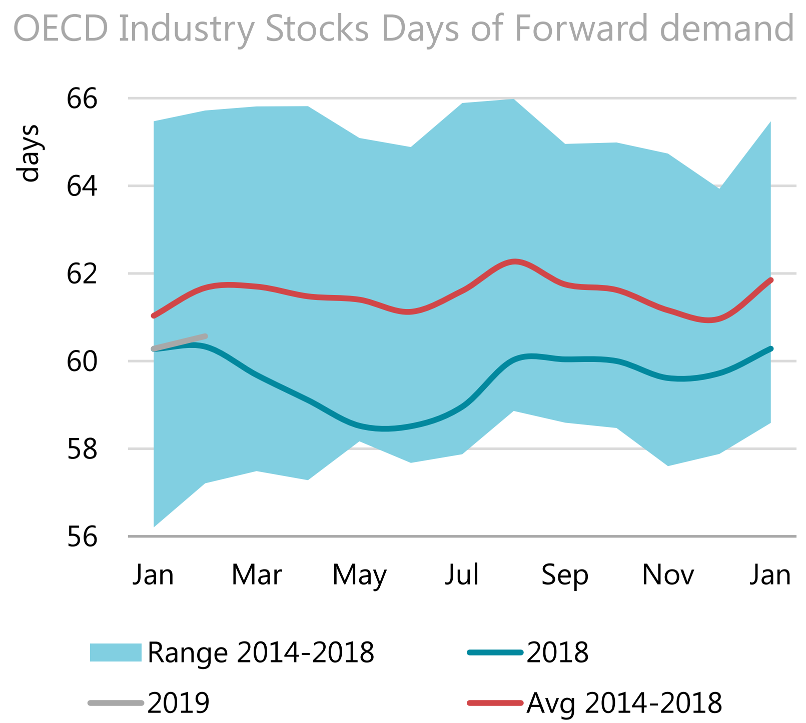
## Saudi outperforms on cuts




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

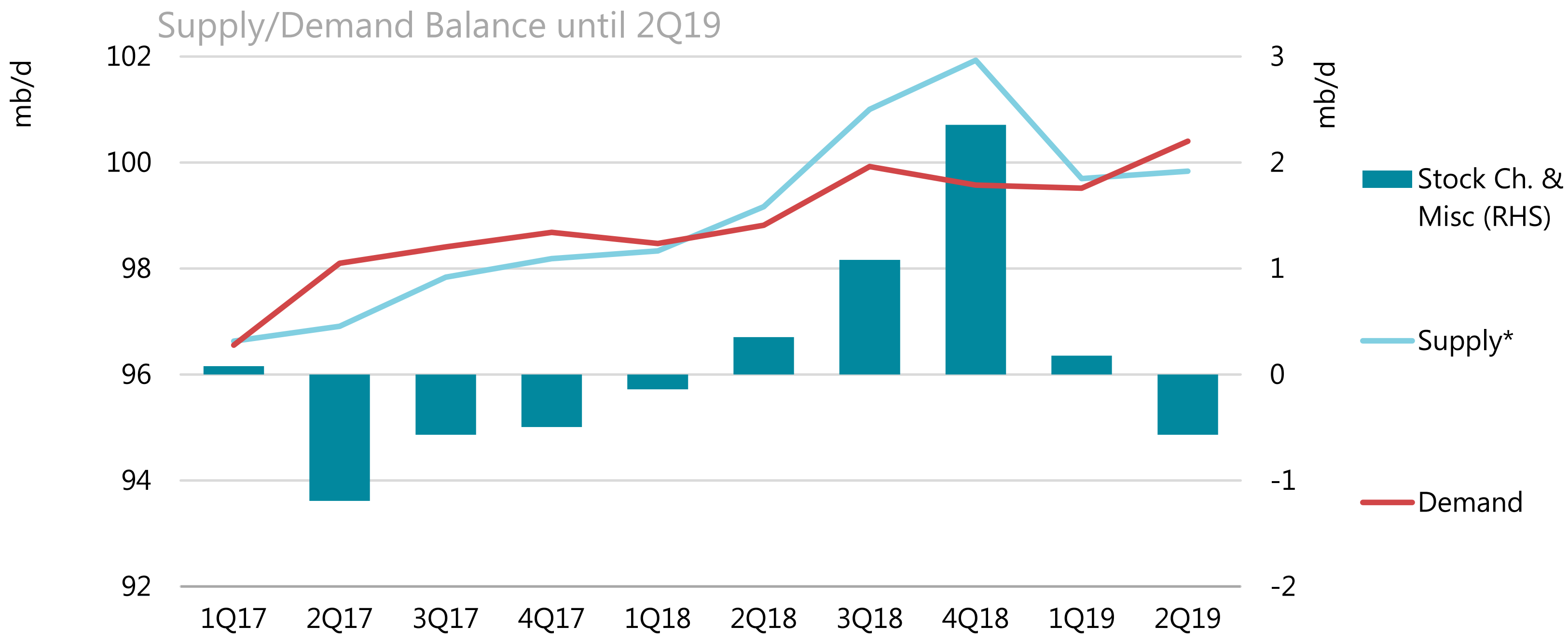
# OECD stocks gradually tightening




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

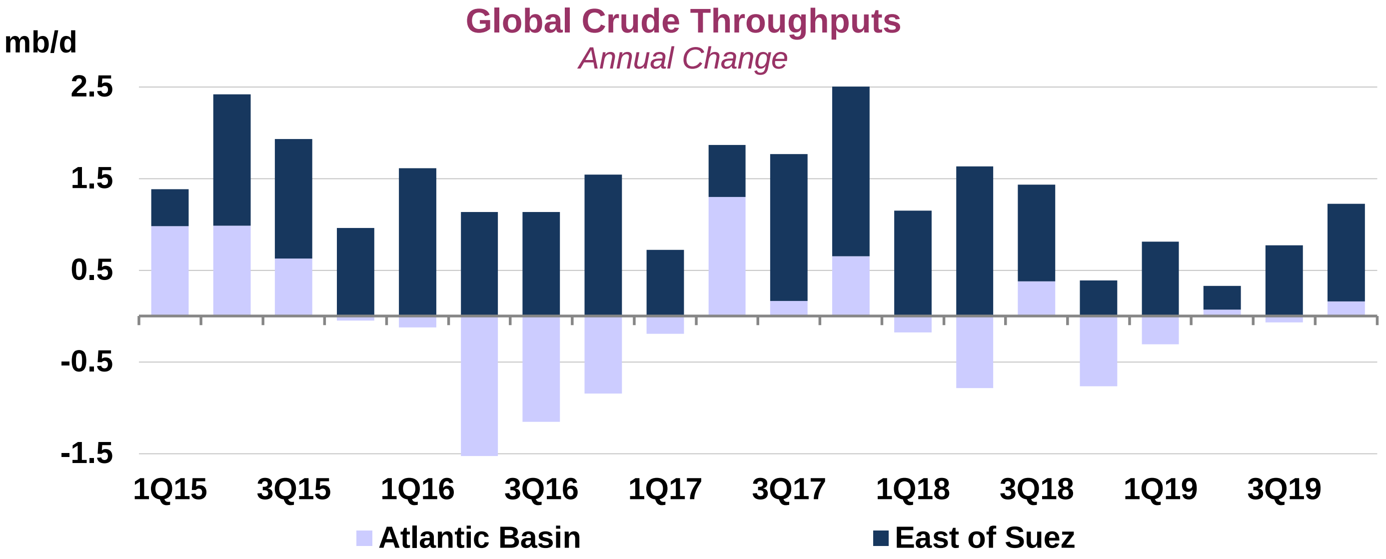
# Market in deficit in 2Q19




* Assumes 100% OPEC compliance with Dec 2018 Vienna Agreement and further declines in Iran and Venezuela.

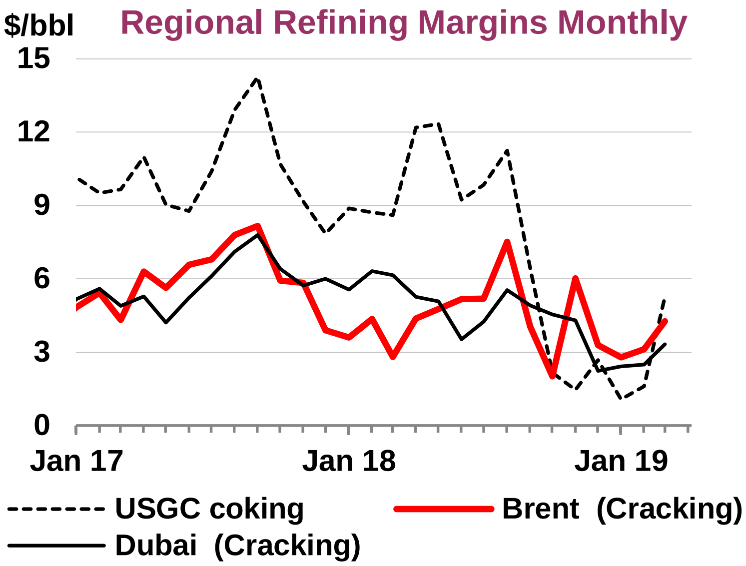
Demand & supply numbers suggest return to deficit in 2Q19. Rest of year depends on OPEC+ agreement, Iranian waivers, Venezuela collapse, Libya unrest and strength of global economy.

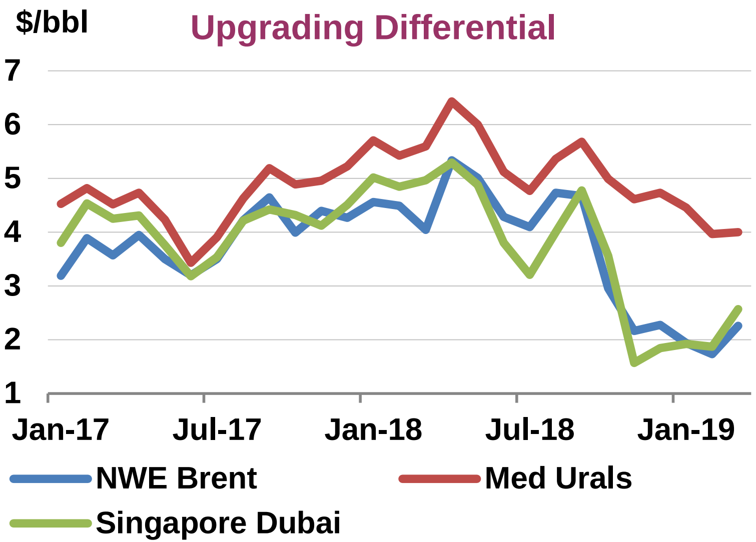
# Refining growth mostly coming from East of Suez




**Atlantic Basin refiners struggle to add to throughput**

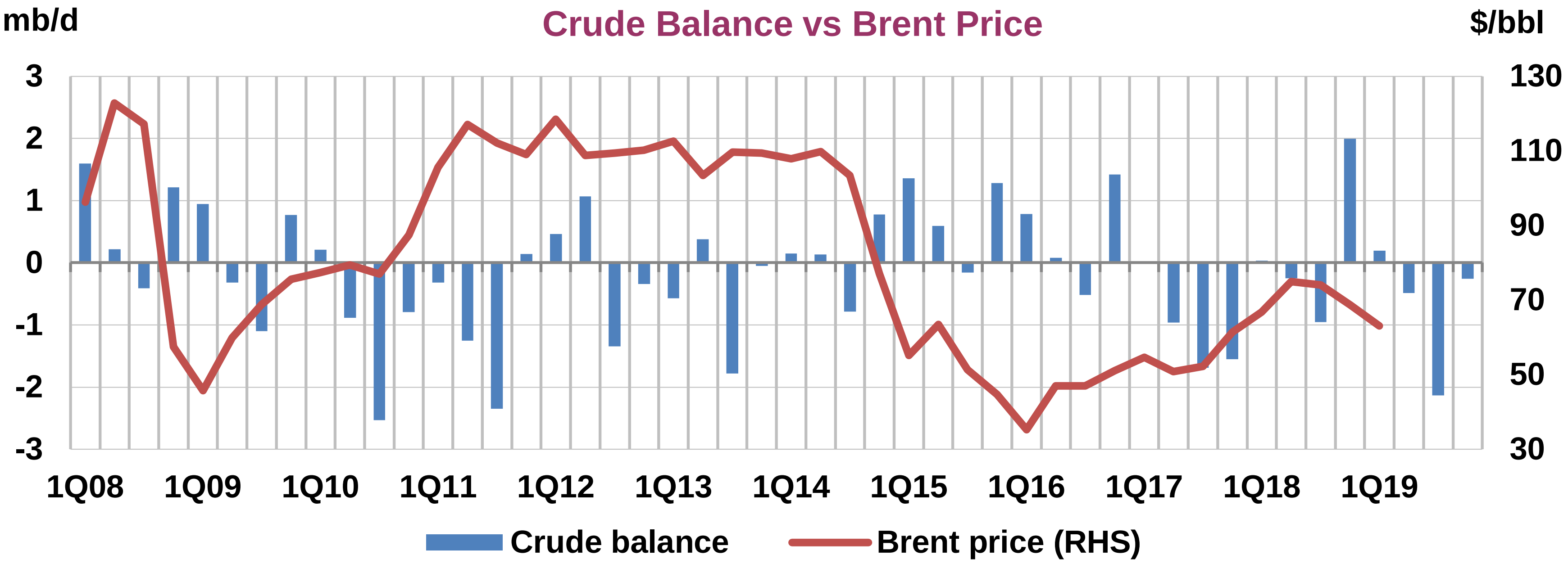
# Refining margins now rising, but only thanks to disruptions




**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.**

# Sobering outlook on refining on tight crude balances




**Global crude balance set for the largest draw since 2011 in 3Q19 if cuts continue.**

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