



Oil 2019 – Analysis and Forecasts to 2024

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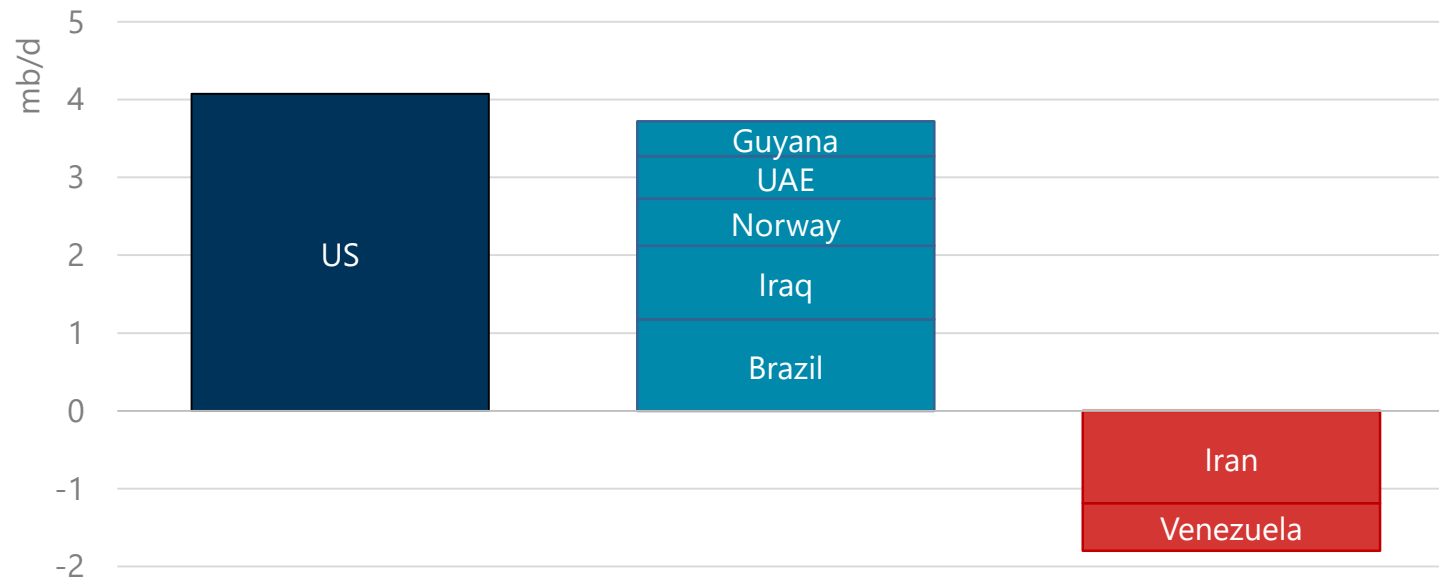
Oslo, 26 March 2019



Supply

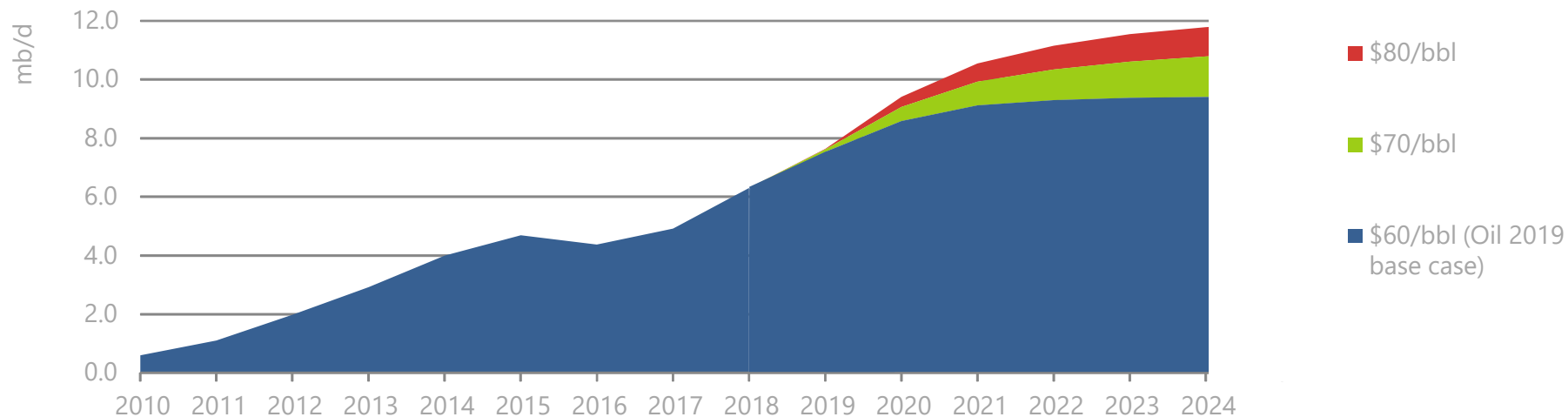
US leads the way in global supply growth

Change in total oil supply 2018-24



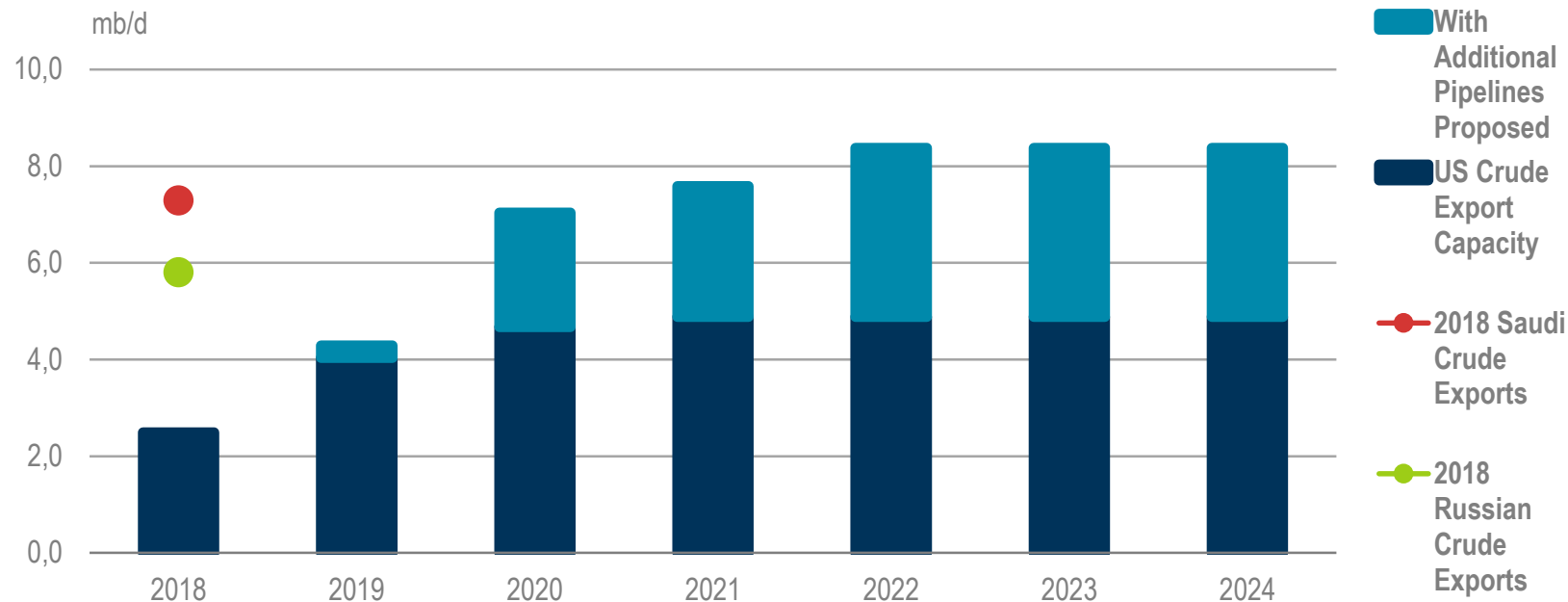
US expansion is 70% of global growth. Gains in Brazil, Iraq, Norway, the UAE and Guyana. Main declines in Iran and Venezuela.

US shale oil prospects



In higher price environment production could be even greater.

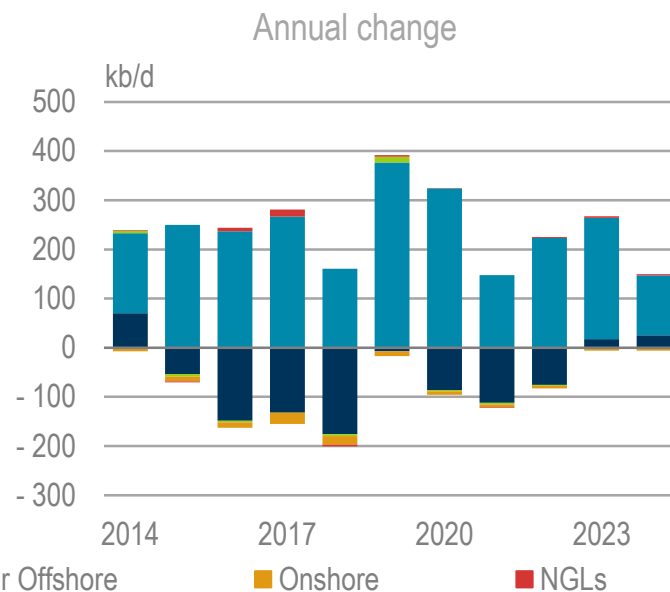
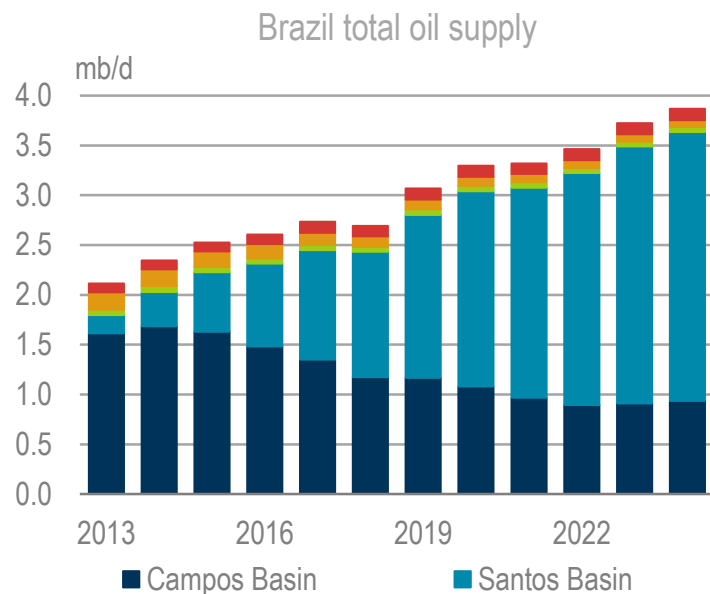
US crude export capacity no longer a constraint



* Based on pipelines currently under construction or in final development stage.

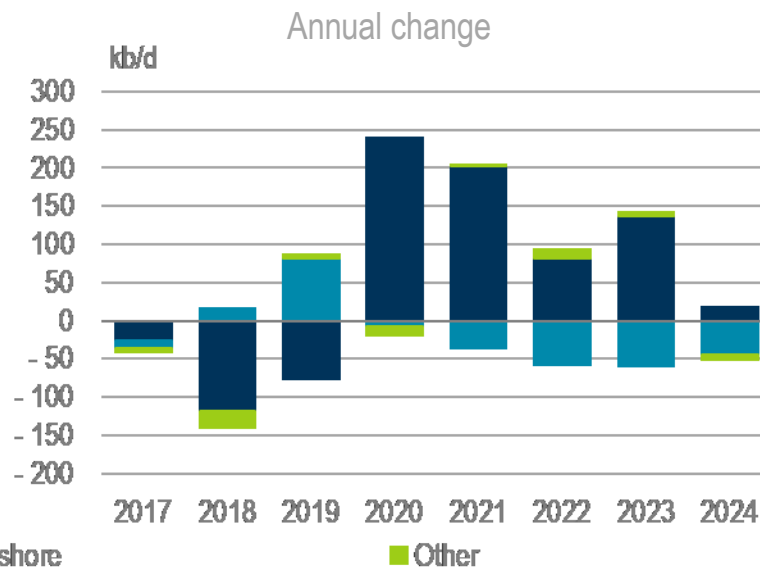
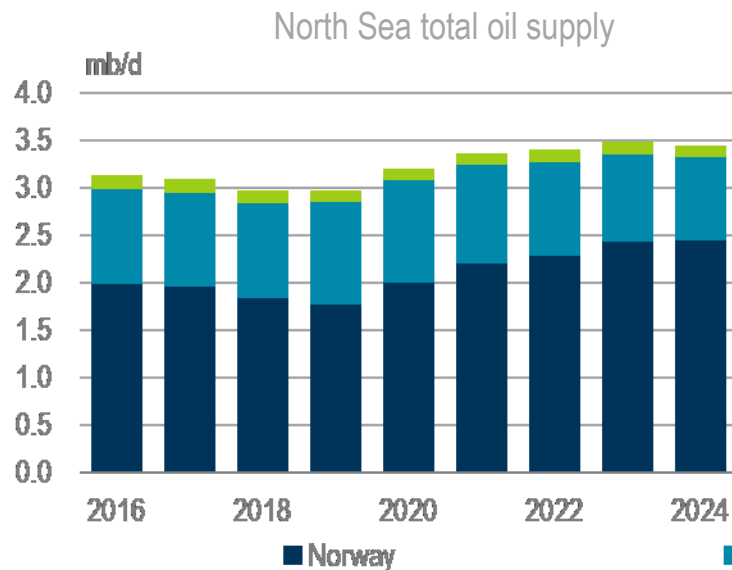
Enough pipelines planned to match Saudi exports, even if not all of them will be built.

Brazil rebound around the corner – even as mature fields decline



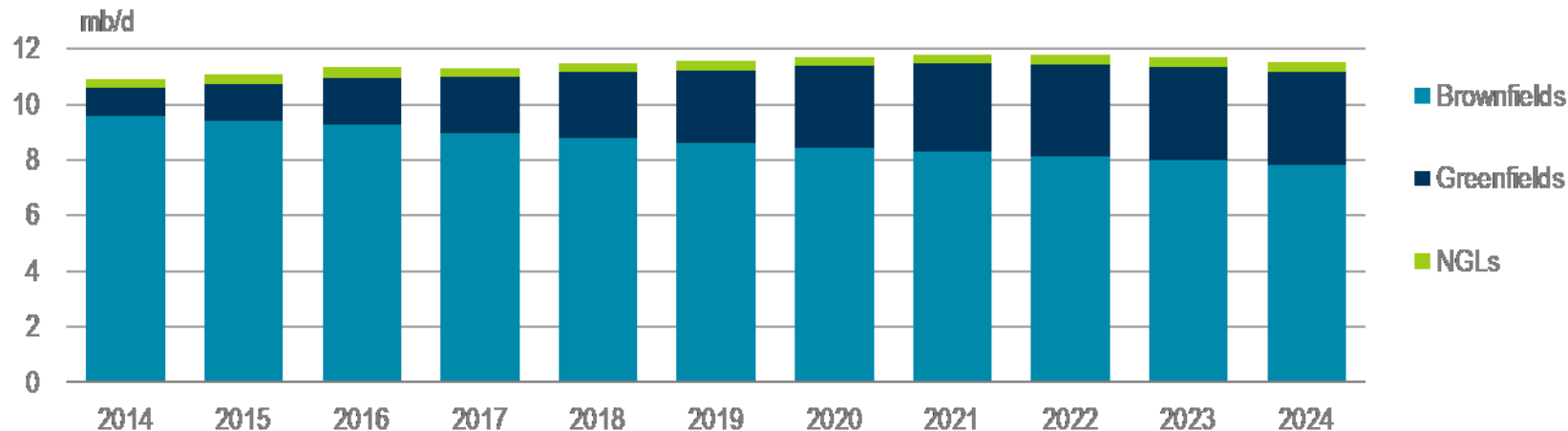
Output set to rise by net 1.2 mb/d, to reach 3.9 mb/d in 2024.

Norwegian projects fuel North Sea recovery

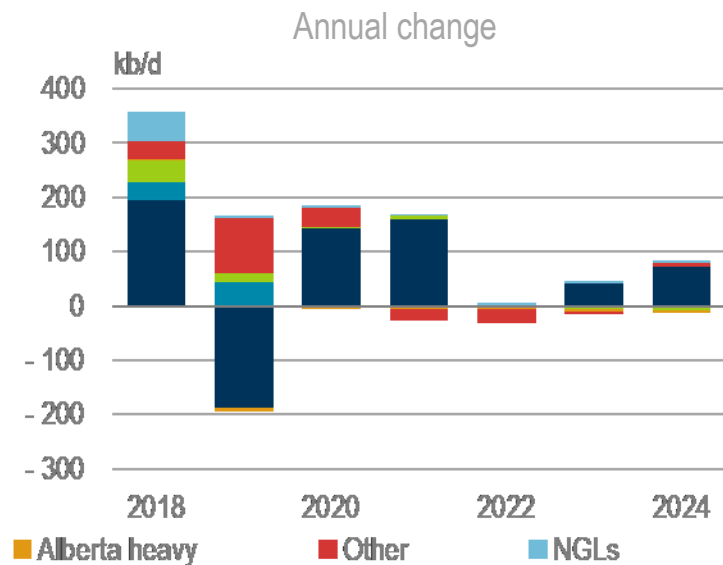
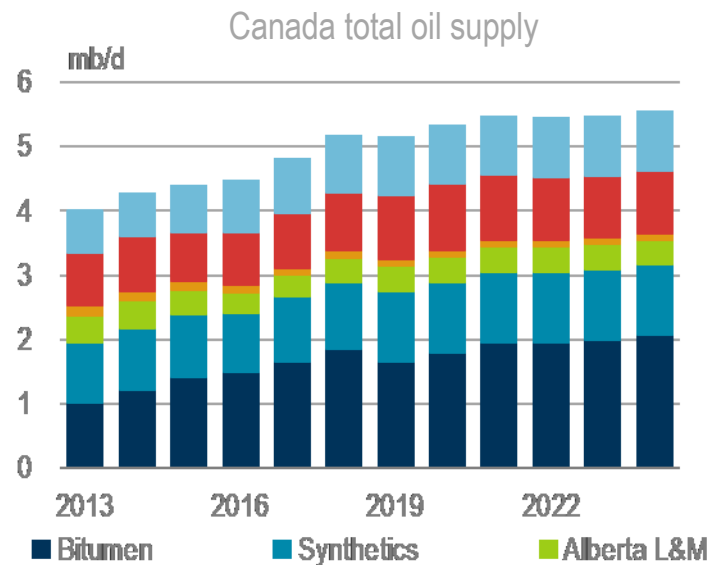


UK gains offset losses in Norway in early part of period. Start-up of Johan Sverdrup, Johan Castberg and expansion projects lift Norway to 2.5 mb/d

Russia's production stays at record levels

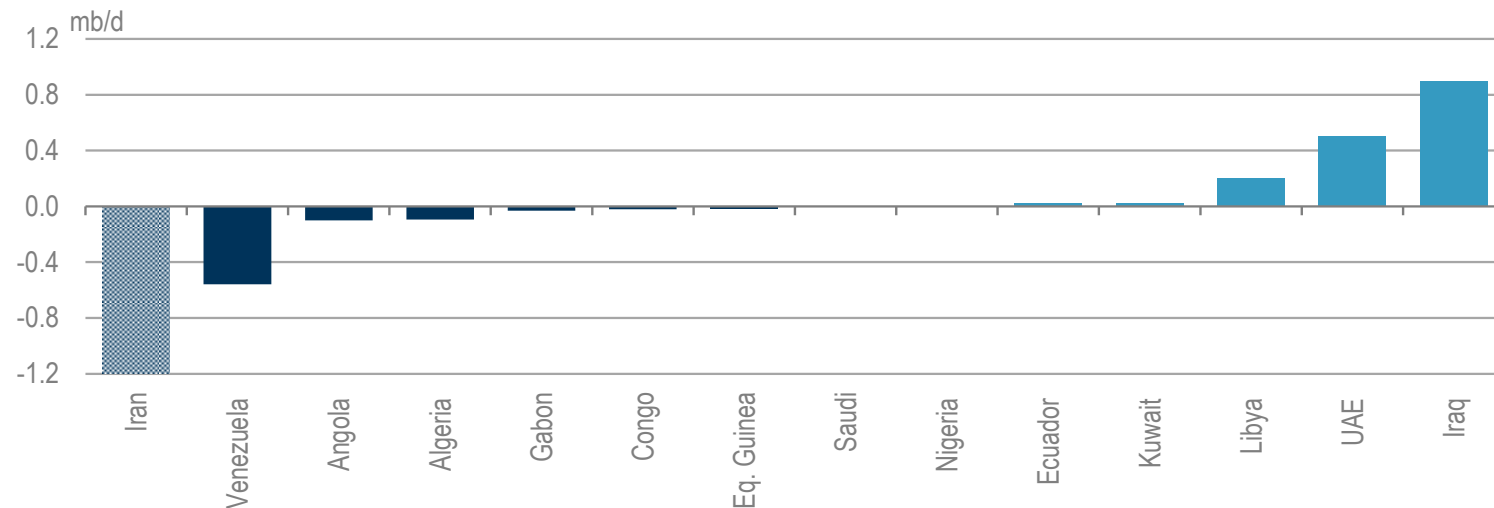


New projects could raise production if Vienna cuts unwound. Longer term, decline is possible unless sanctions and harder-to-develop projects move forward.



Infrastructure bottlenecks led to mandatory production cuts in 2019. New projects stall.

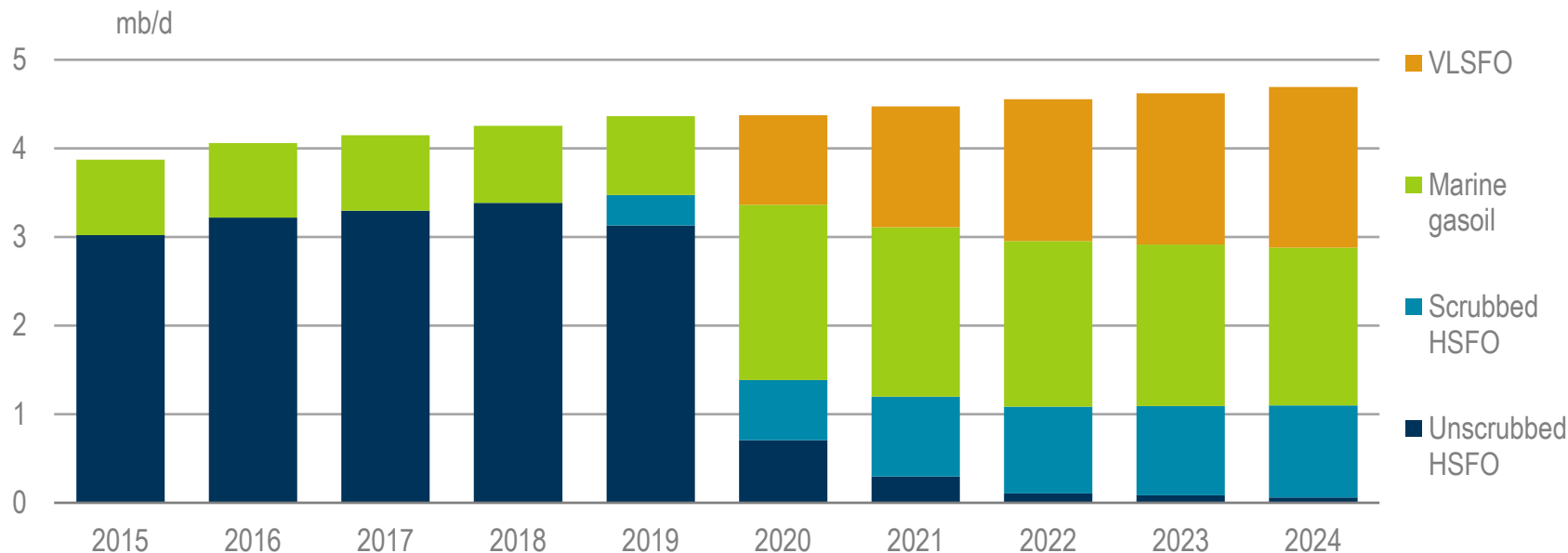
OPEC “laid low” by US shale?



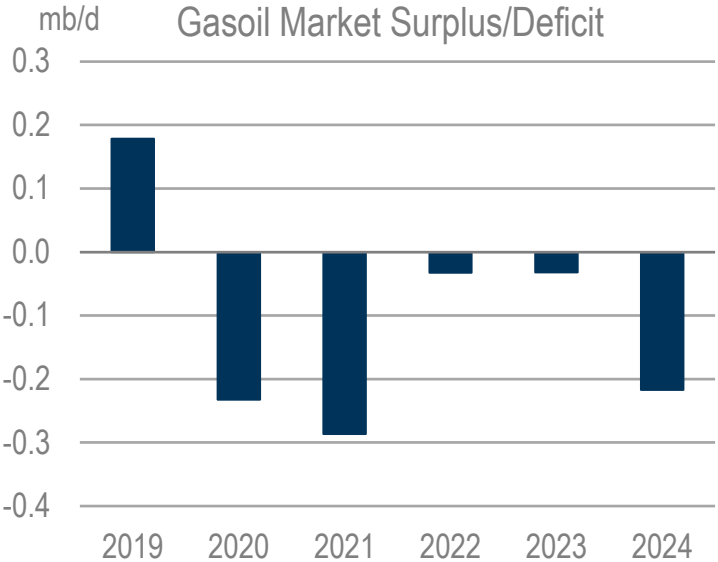
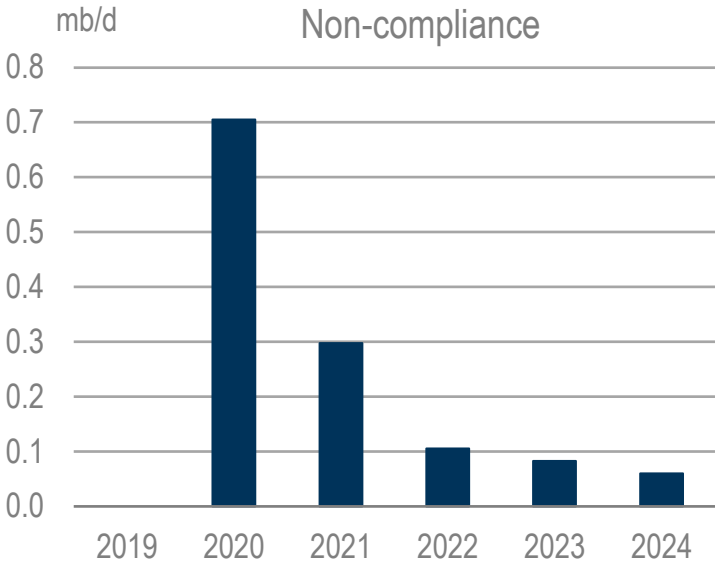
Requirement for OPEC crude drops to 30 mb/d in 2020, 0.7 mb/d below current production

Demand

Bunker oil demand will alter dramatically in 2020

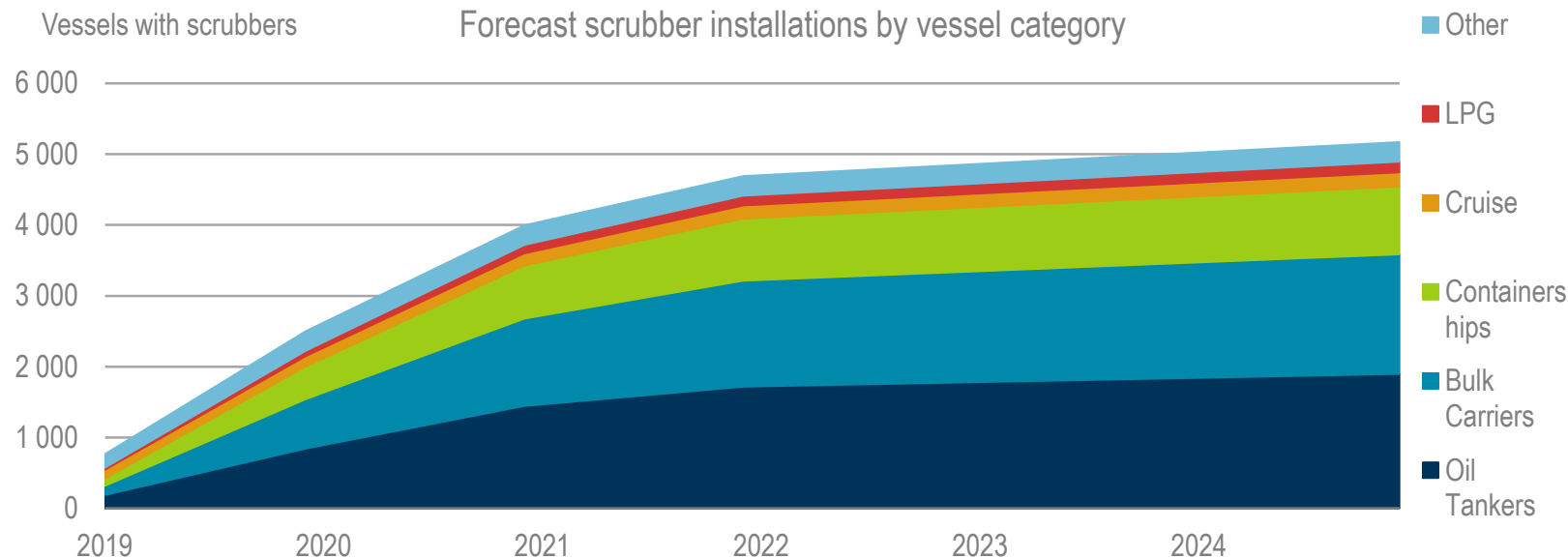


Over 2 mb/d of HSFO shifts to gasoil and VLSFO. Main impact in first year but manageable over time.



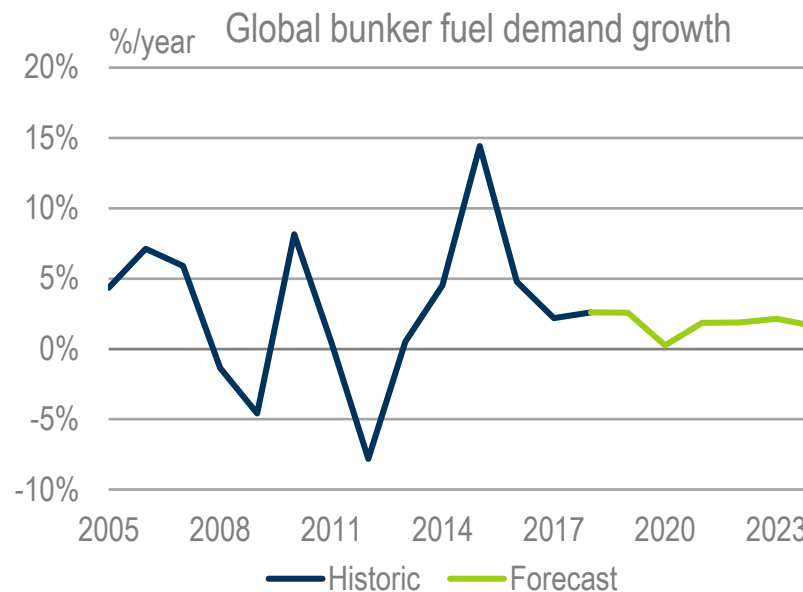
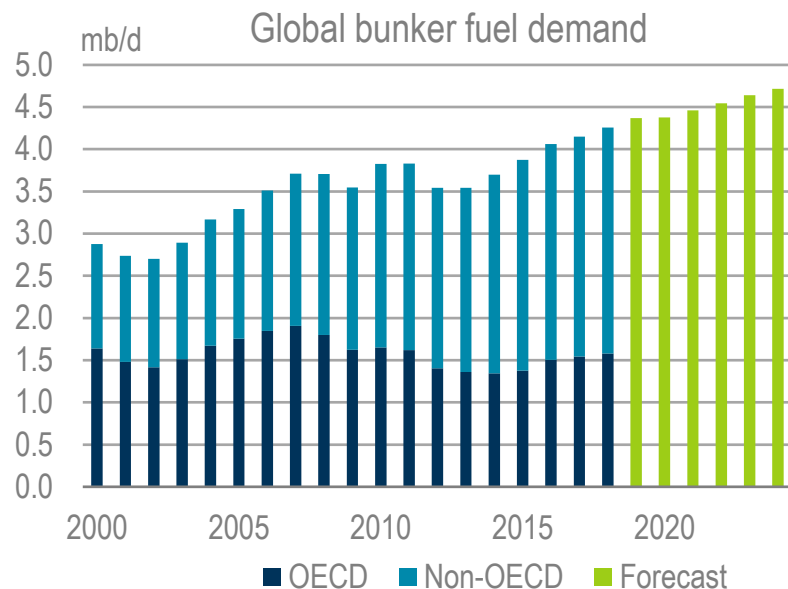
Average gasoil deficit of 0.2 mb/d over 2020-24. This is small relative to the global gasoil market.

Scrubber installations rise rapidly in 2019-20



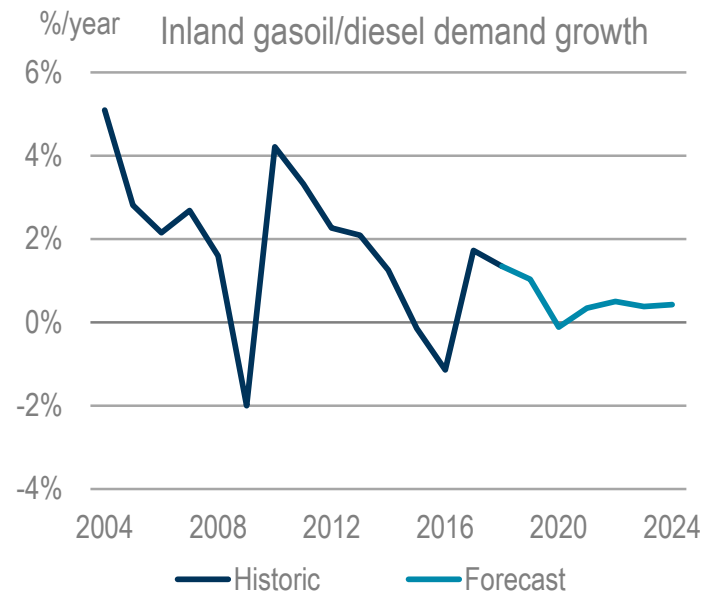
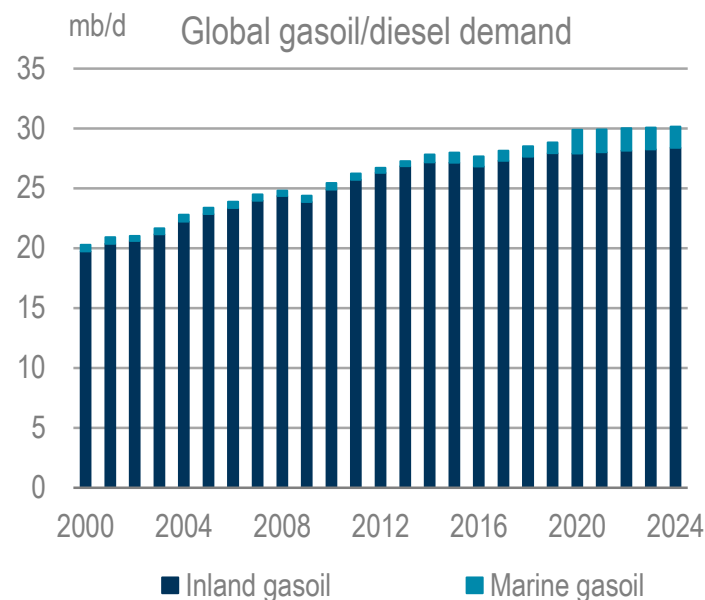
But investments slow markedly in 2021 as gasoil availability rises.

Bunker demand growth to slow



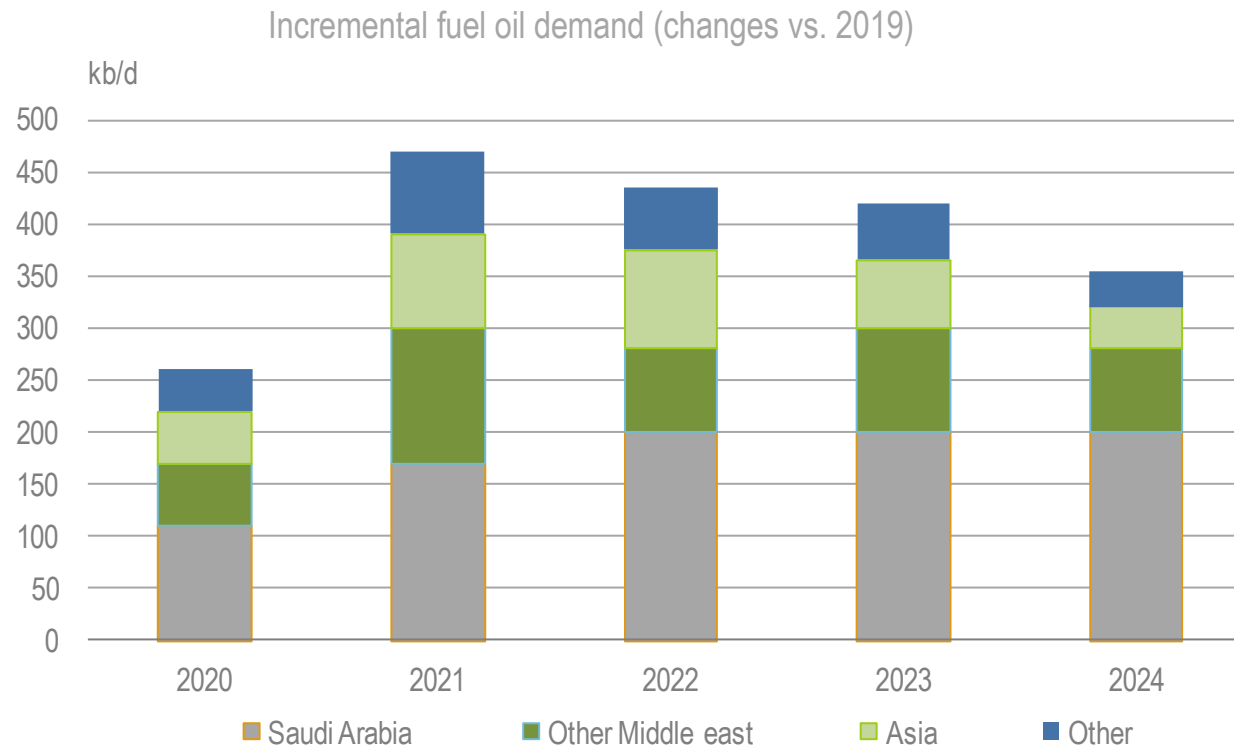
Bunker demand falls in 2020 following IMO rule implementation and slows to 1.9% p.a. after

Marine gasoil takes rising share of global market



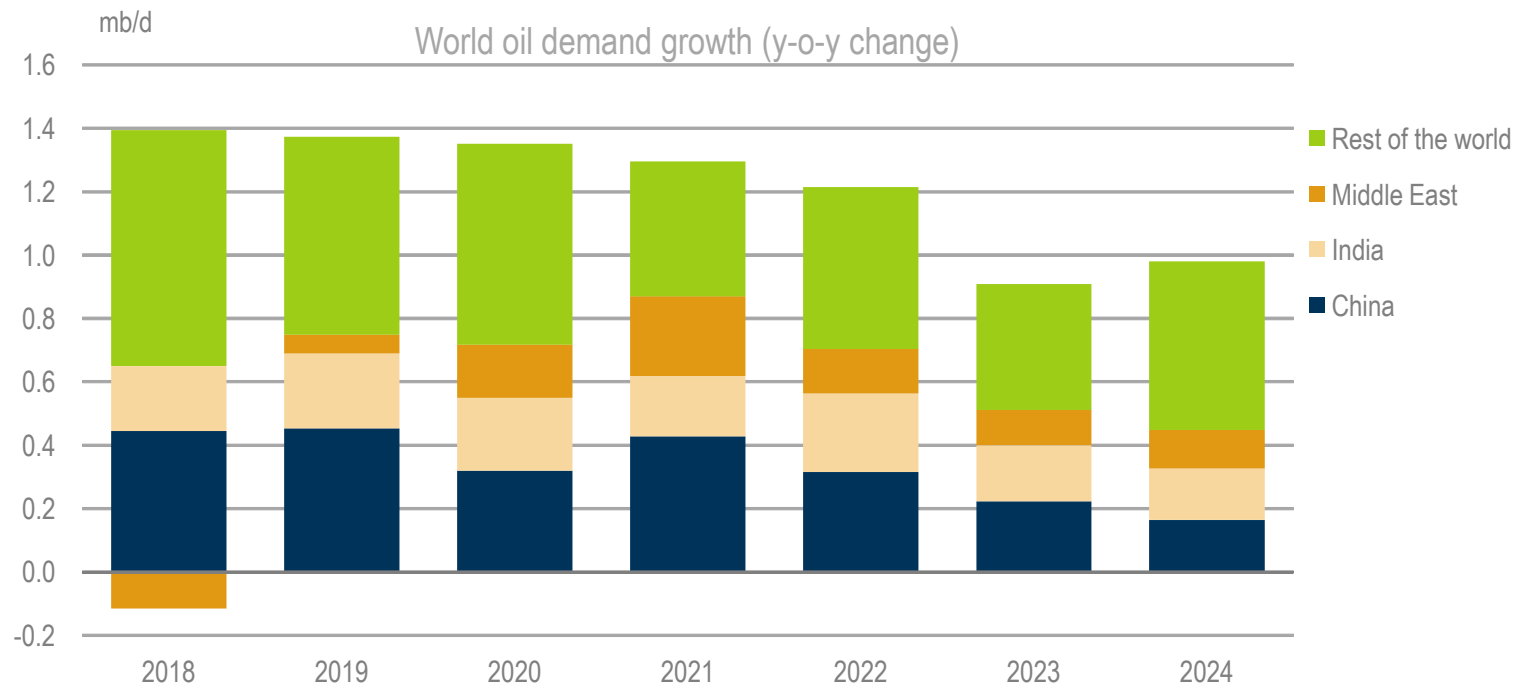
Inland gasoil/diesel demand growth slows. Marine sector accounts for 56% of growth in gasoil demand.

Some HSFO finds its way in the power sector



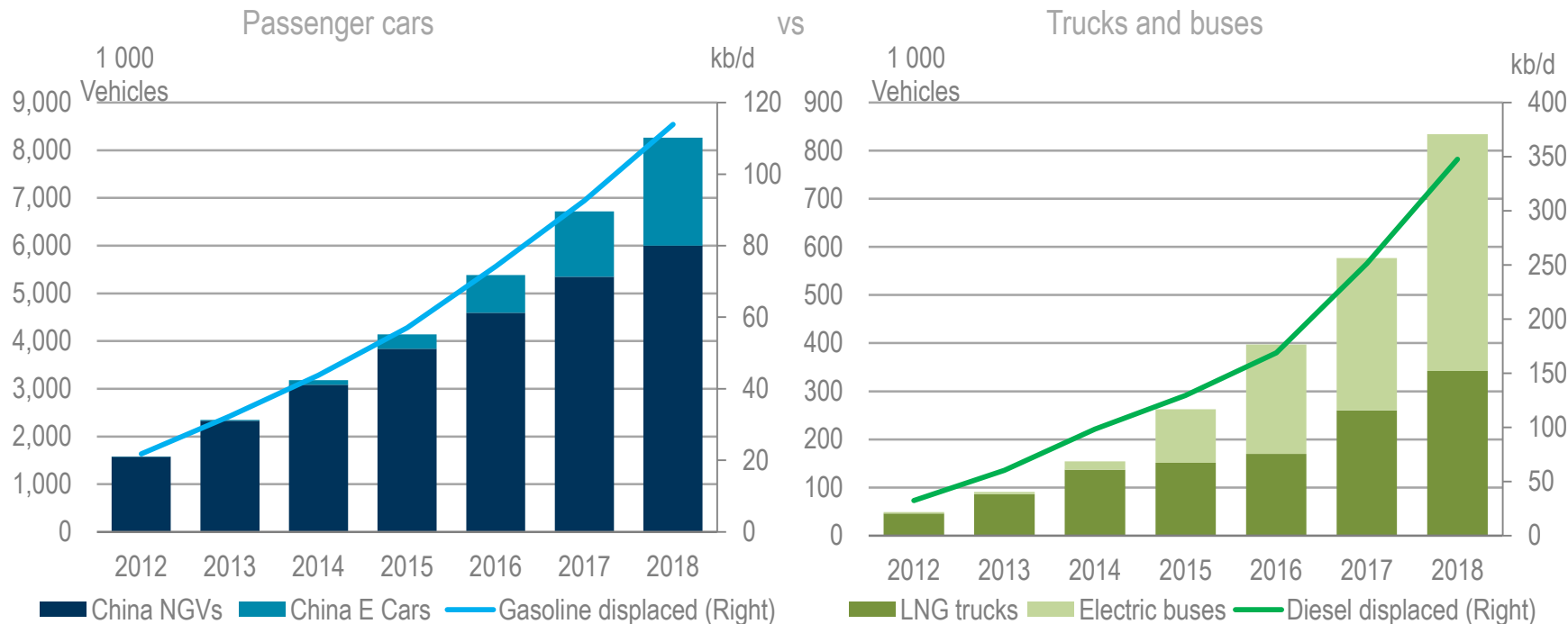
Middle East power sector demand grows, mainly in Saudi Arabia

World oil demand growth easing



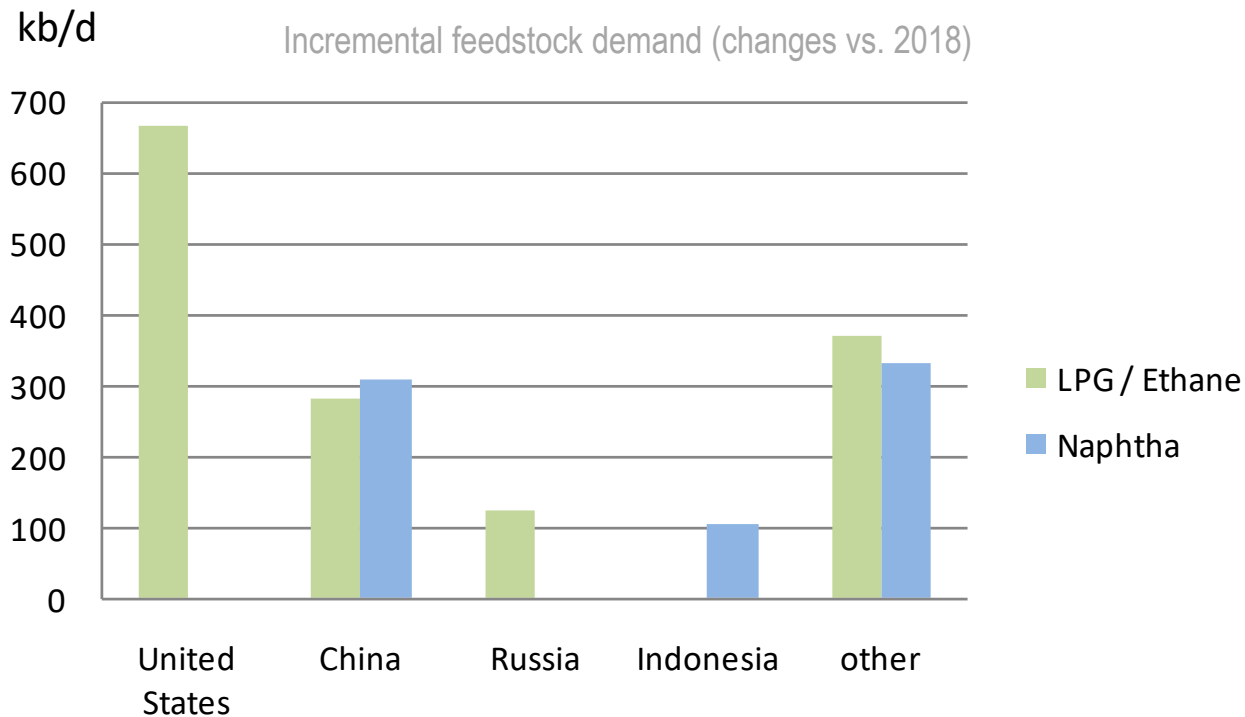
China slowdown reflects structural shift in the economy and environmental policies. Middle East fuel oil demand boosted after IMO 2020. India growth robust: similar to China by 2024.

China: LNG trucks and electric buses impact is x3 that of cars

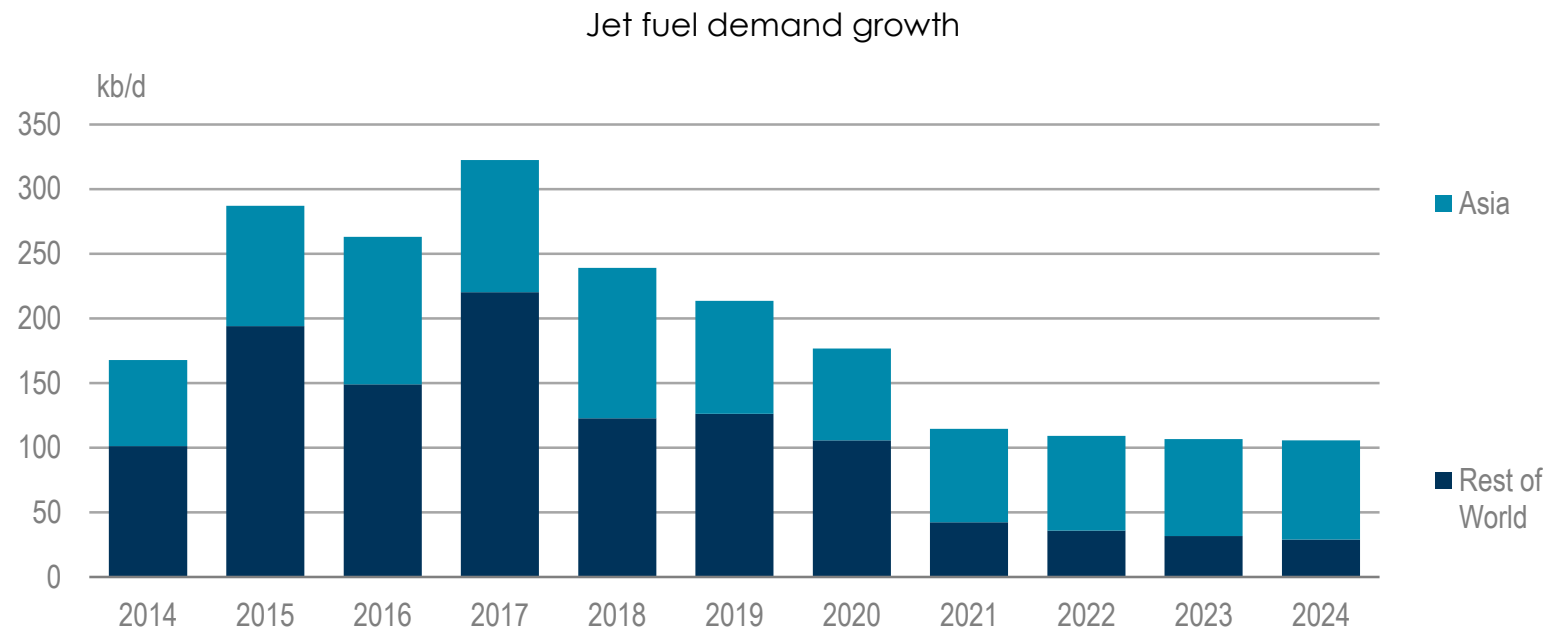


Policy decisions supporting alternative energies for trucks and buses.

Petrochemicals will be pillar of support for oil demand



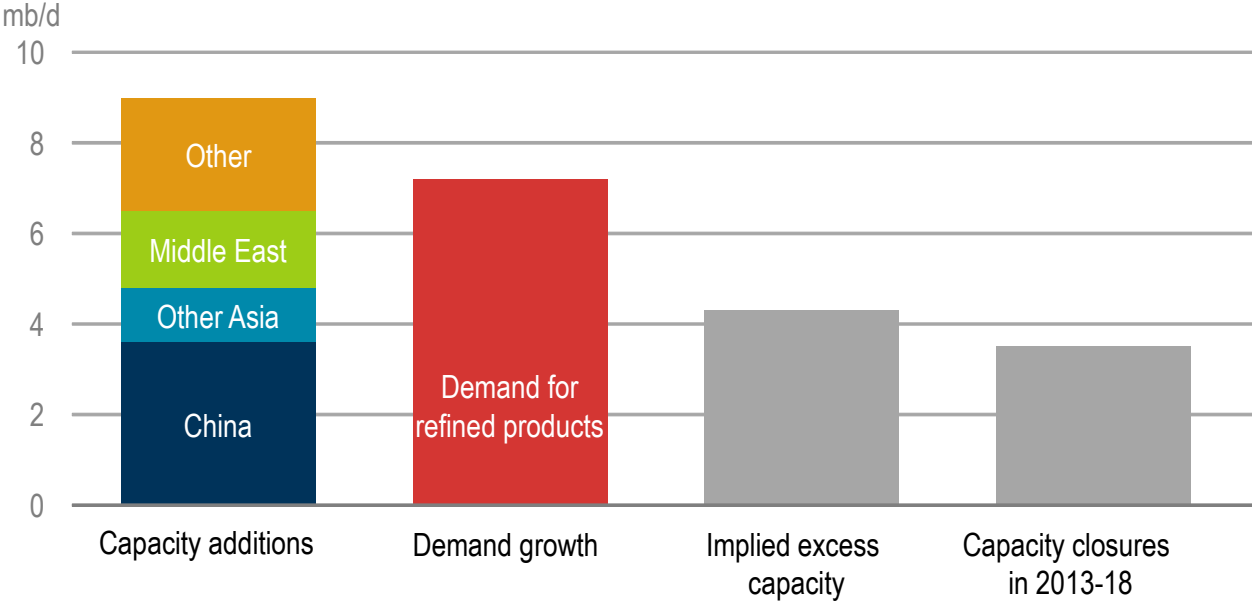
Petrochemicals demand accounts for 30% of total demand growth



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.

Refining & Trade

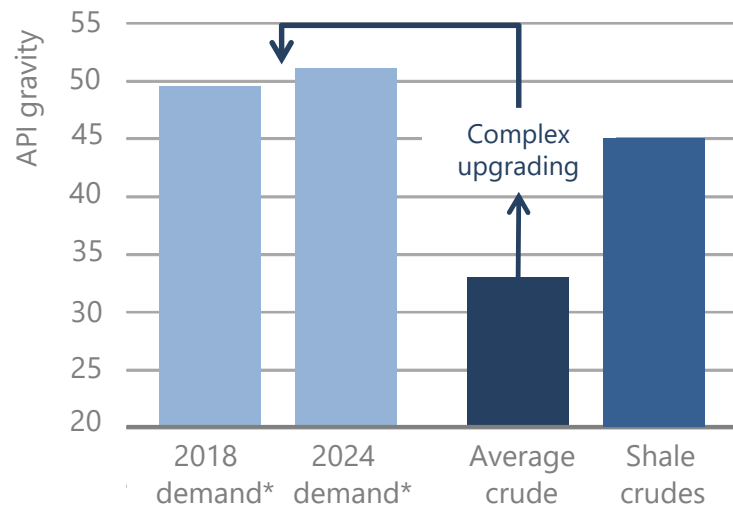
Downstream capacity additions challenge refiners



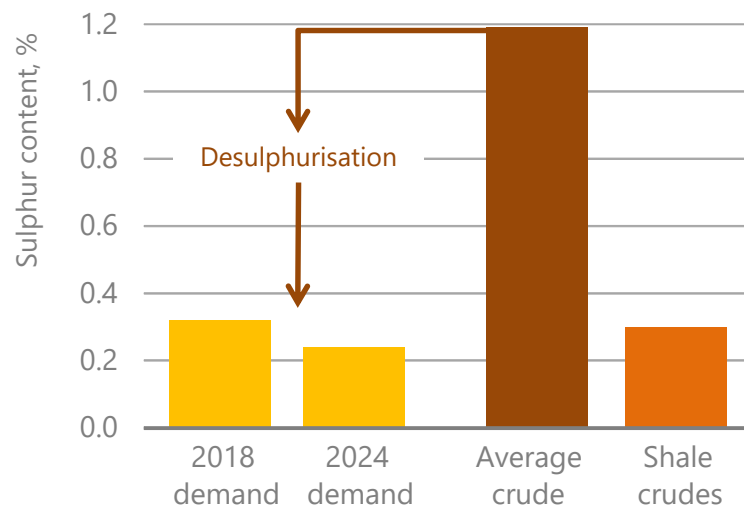
Global capacity growth to 2024 far exceeds refined products demand growth.

US shale fits the new demand landscape

Global refined product barrel vs crude barrel

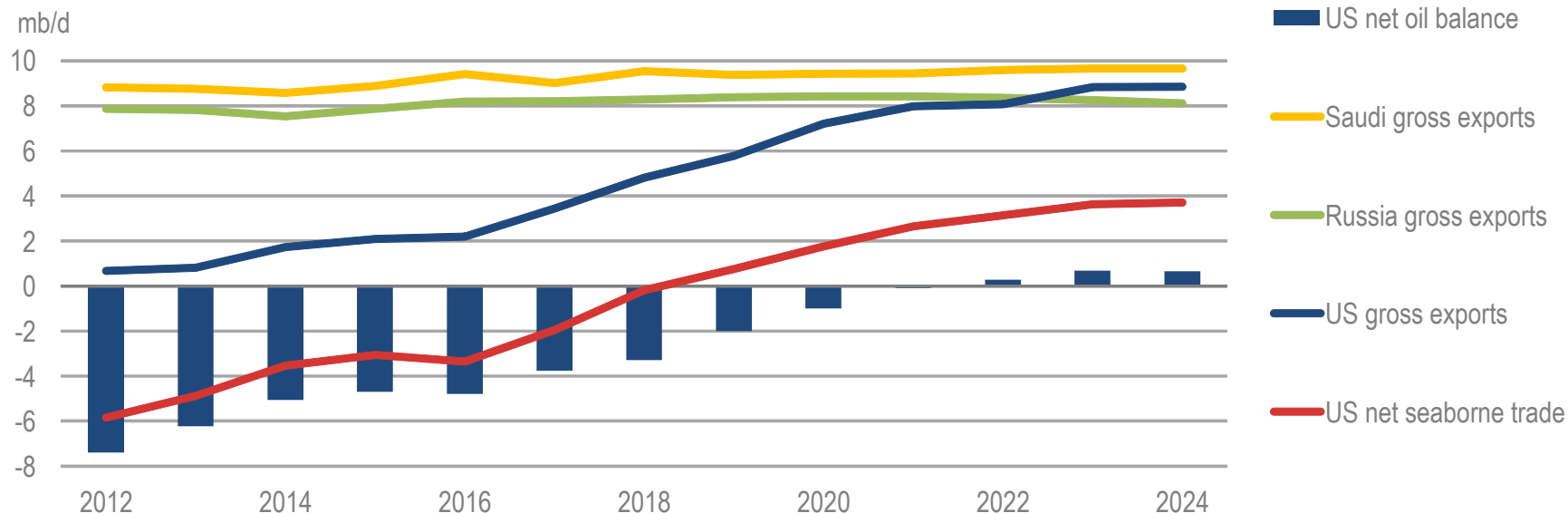


*excludes natural gas liquids and other non-refinery products



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

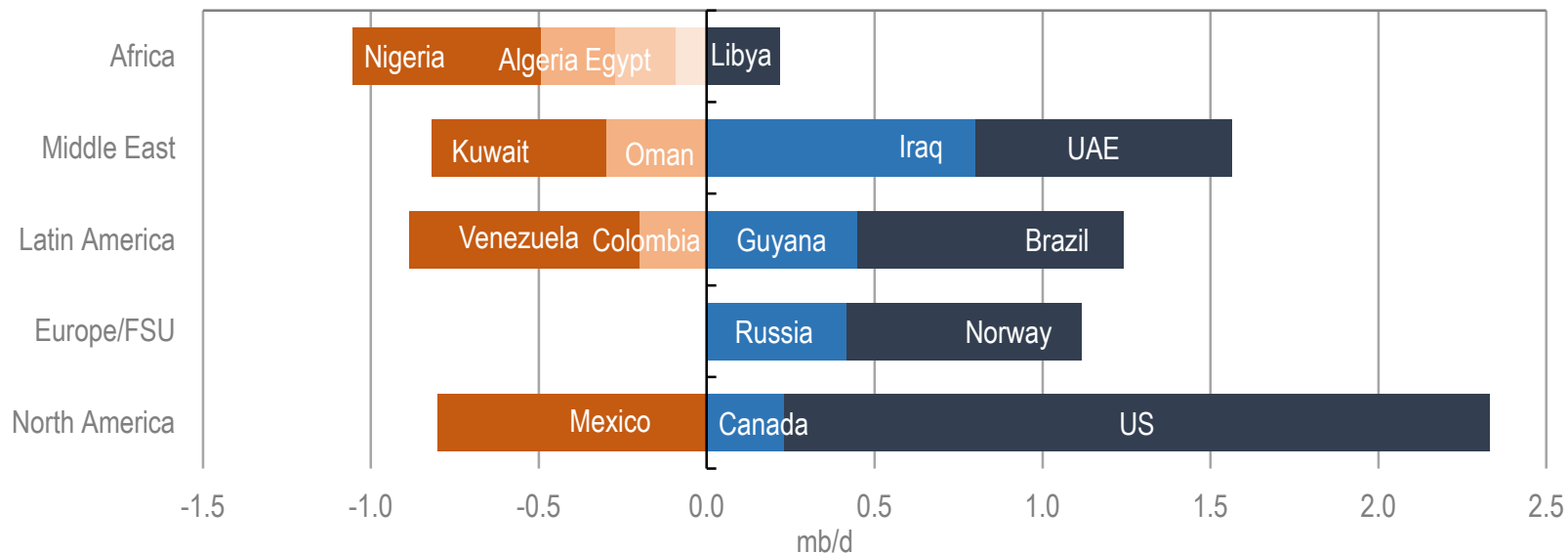
US gross exports overtake Russia, close in on Saudi Arabia



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...

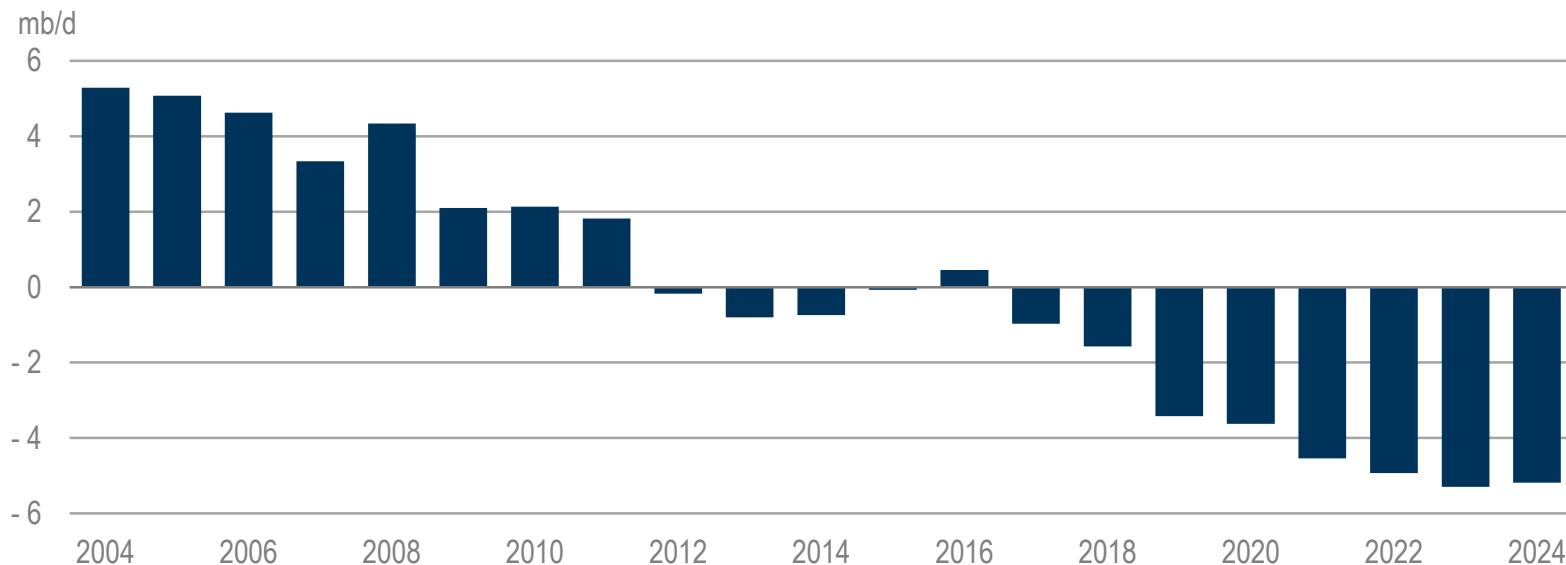
Largest changes in crude exports



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

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.

- 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
- While there may be teething problems, refiners & shippers are relatively well prepared to implement 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
- Up to and beyond 2024: oil industry must do more to cut its carbon footprint, e.g. flaring & methane leakages, and use of CCUS, EOR, hydrogen & renewables.



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