

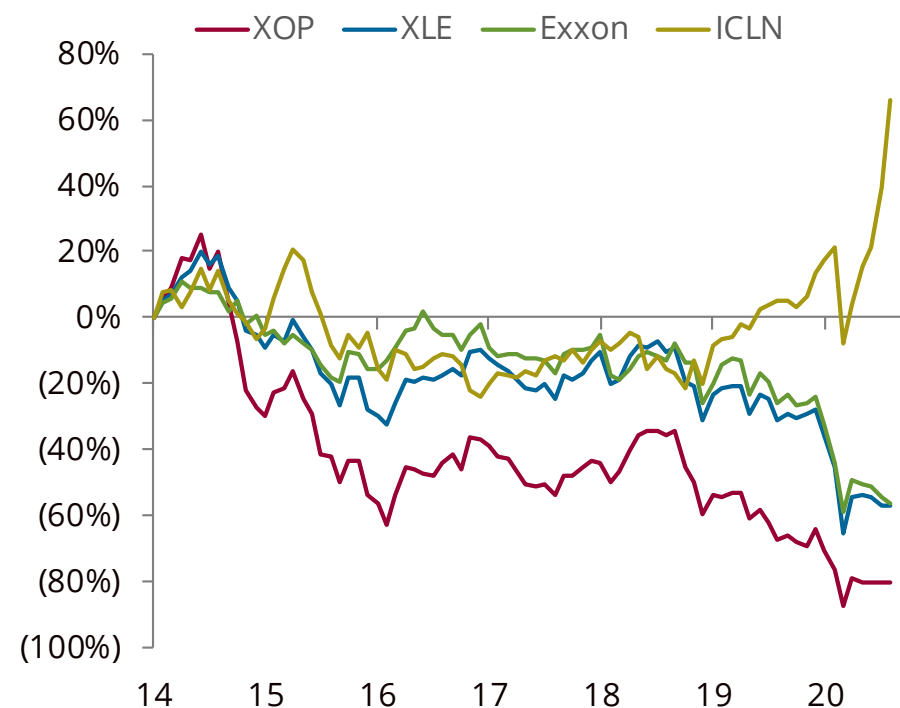
Oil markets in an energy transition world



Green with envy

Clean energy vs traditional energy ETFs

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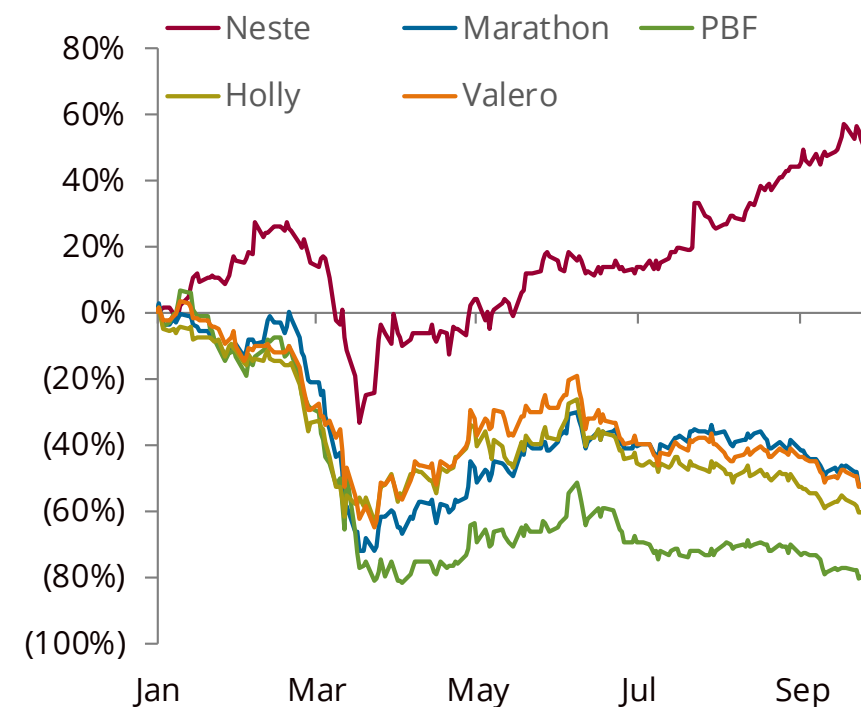


Clean energy funds and ETFs have attracted investor money at the expense of traditional IOCs

Source: Bloomberg, Energy Aspects

Share price performance of selected refineries

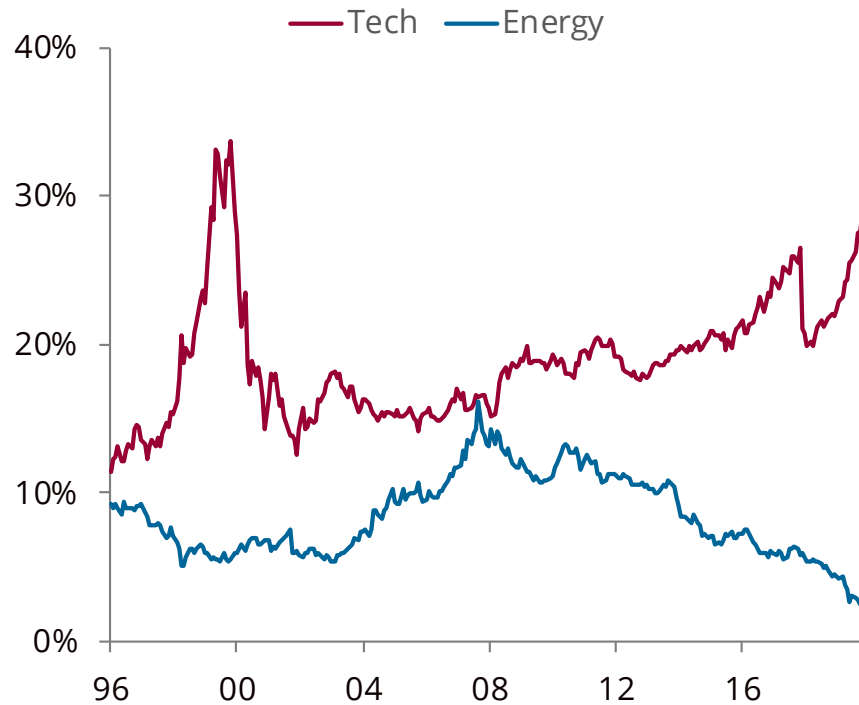
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Neste's share price has soared due to its commitment toward renewable and sustainable fuels

Investors flee hydrocarbons...

Energy and Tech stocks as % of S&P 500



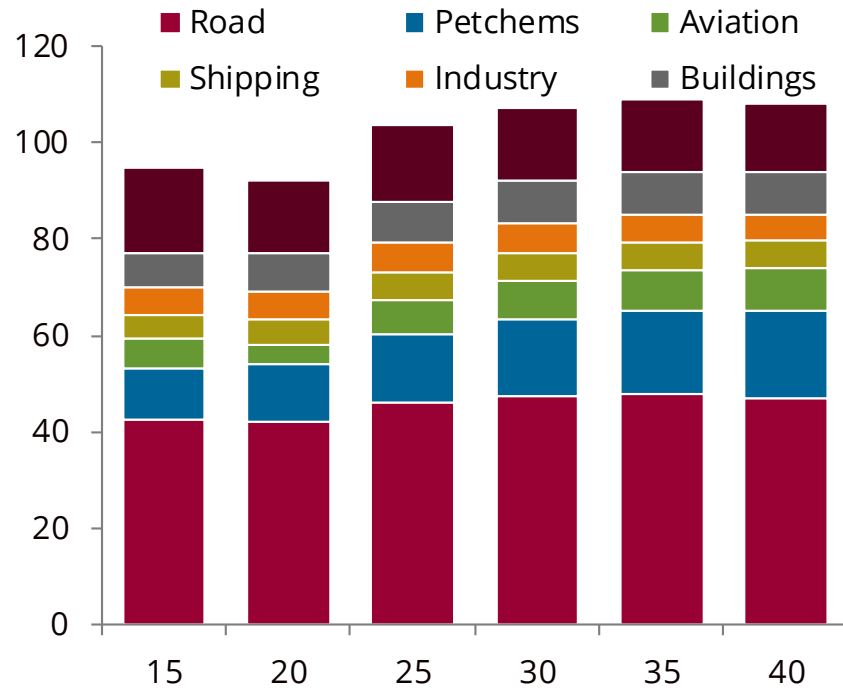
Source: Bloomberg, EnergyAspects

- BlackRock makes climate change central to its investment strategy (WP)
- Church of England fund managed by CCLA exits from fossil fuel investments (Guardian)
- Danish pension provider ATP to halt fossil fuel investments (Reuters)
- UBS exits arctic oil, coal mines and tar sands projects (WSJ)
- Dutch asset manager Robeco cuts fossil fuels from all its funds (Reuters)
- Hertfordshire LGPS fund cuts fossil fuel investment by almost half (PensionsAge)
- Firms must justify investment in fossil fuels, warns Mark Carney (Guardian)
- University of California is now largest university system in the US to divest from fossil fuels (CNN)

...but we do not believe oil demand has peaked

Oil demand by sector

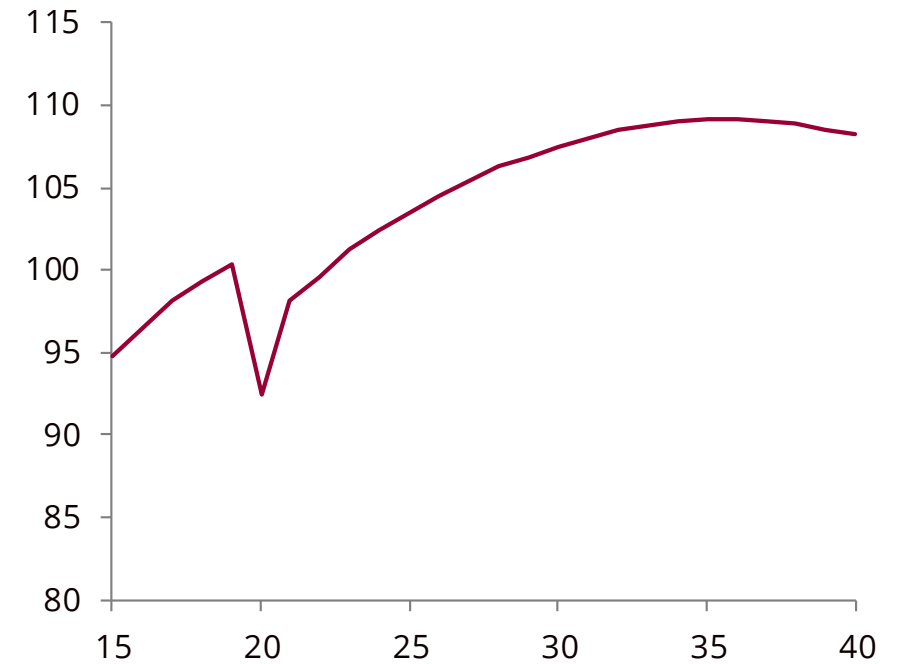
Mb/d



Aviation will take until 2025 to recover to pre-pandemic levels, but other sectors will recover by 2022

Global oil demand

Mb/d



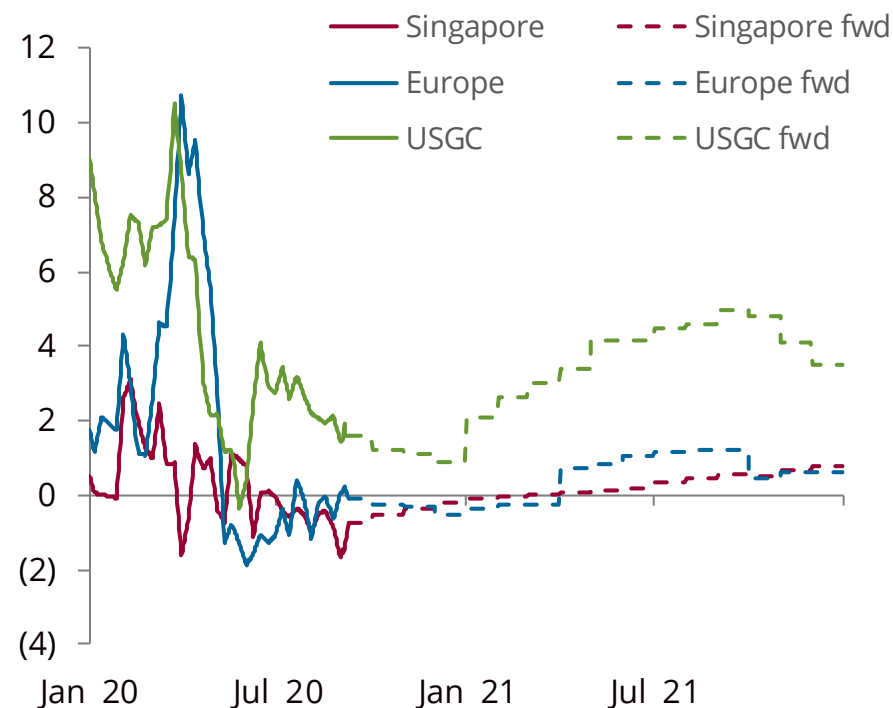
Western hemisphere demand may have peaked due to COVID-19, but eastern demand will accelerate

Source: IEA, Energy Aspects

Refining margins weakness due to overcapacity more than demand weakness

Refining margins: East vs West

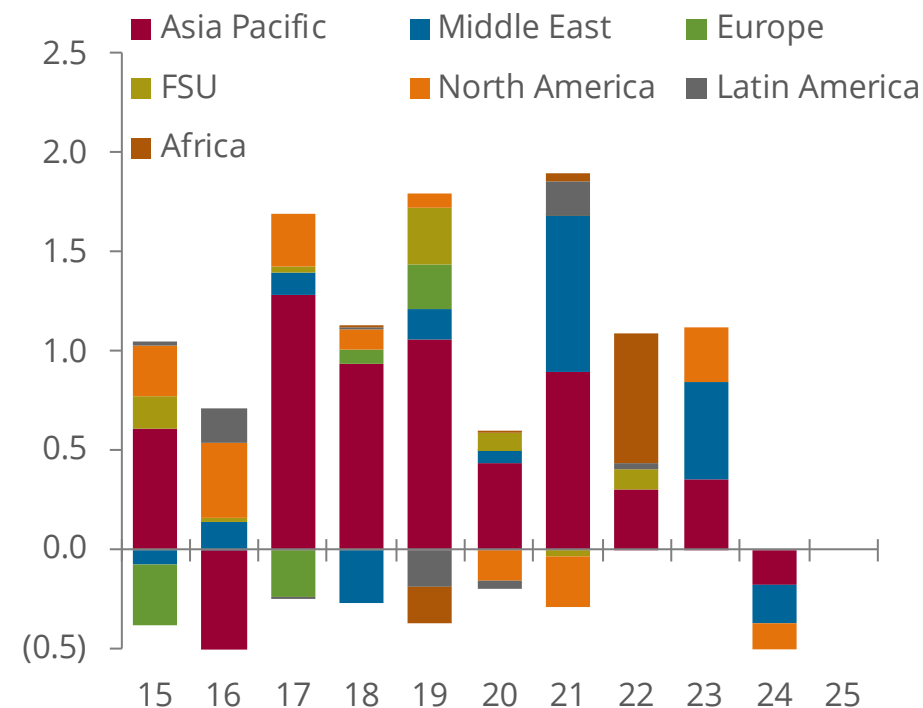
\$/Bbl



Weak margins will cap refinery runs in Europe, while USGC margins justify crude buying for 2021

Global refinery start-ups

Mb/d

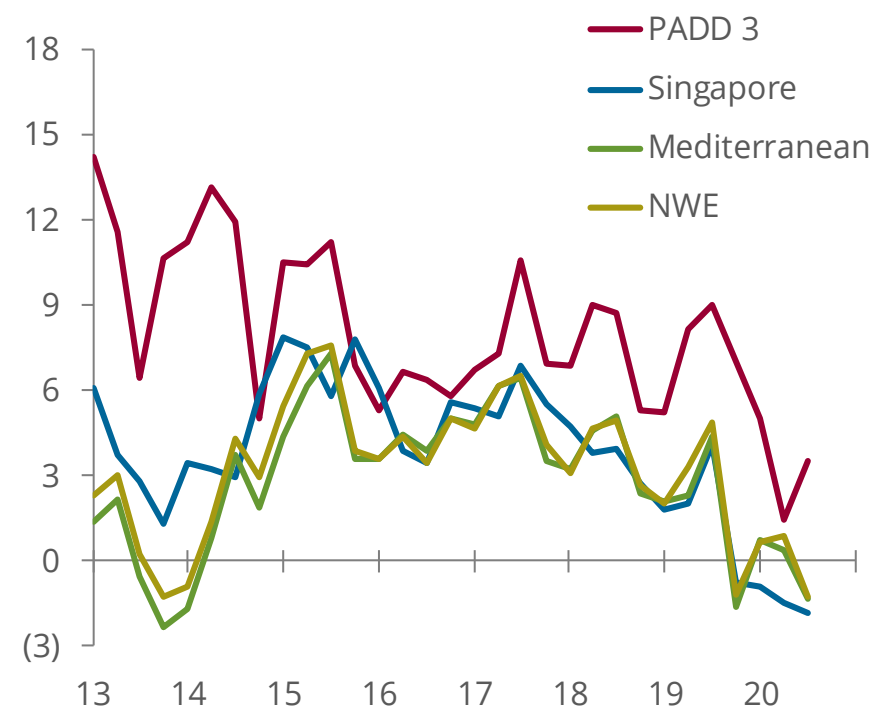


Some projects have slipped, but gross capacity additions are still at nearly 0.4 mb/d this year and 1.6 mb/d for 2021

Source: Argus Media Group, Refinitiv, Energy Aspects

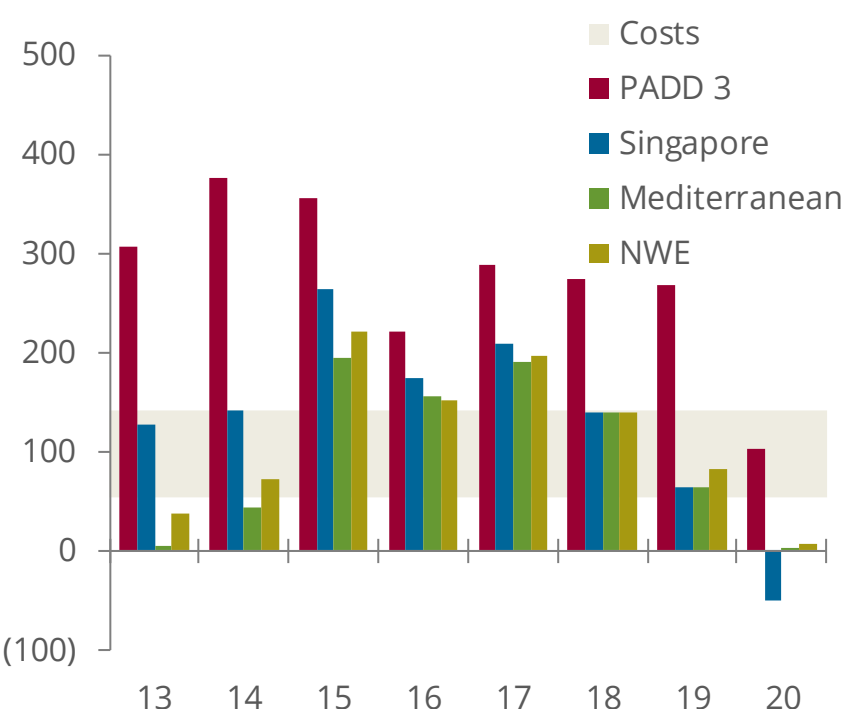
Refineries are not covering costs due to persistently weak margins

Historical margins
\$/Bbl



2020 has seen the lowest margins since 2013, but 2013's weakness was only in Europe and lasted six months at most

Gross annual refining profit for a 0.1 mb/d refinery
\$ Million/year



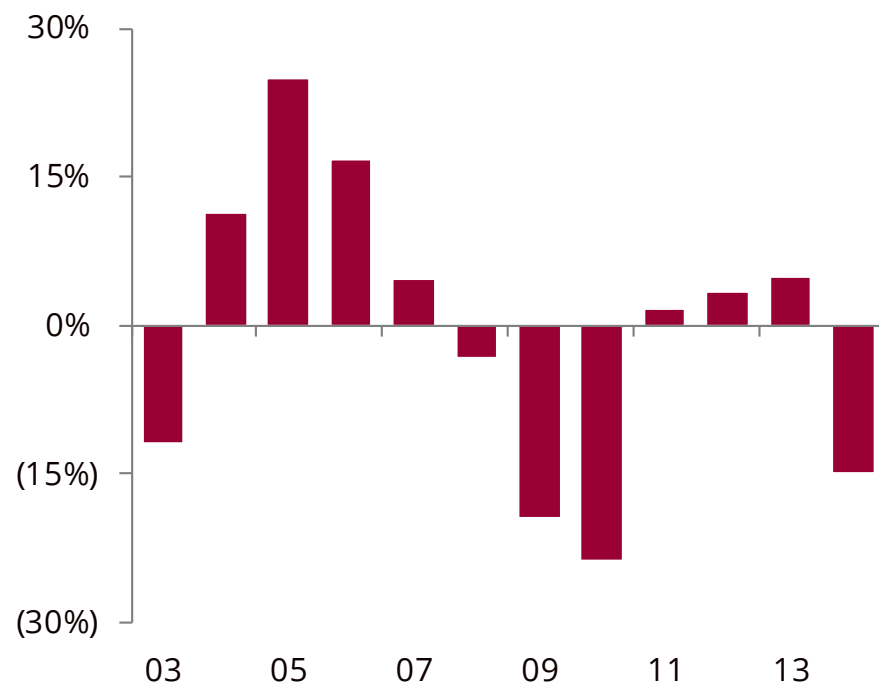
For the first time, margins have contributed negatively due to the unprecedented length of their weakness (~1 year)

Source: Argus Media, Refinitiv, Energy Aspects

We are sleepwalking into a supply crunch as investment in oil collapses

Global spending trends, y/y

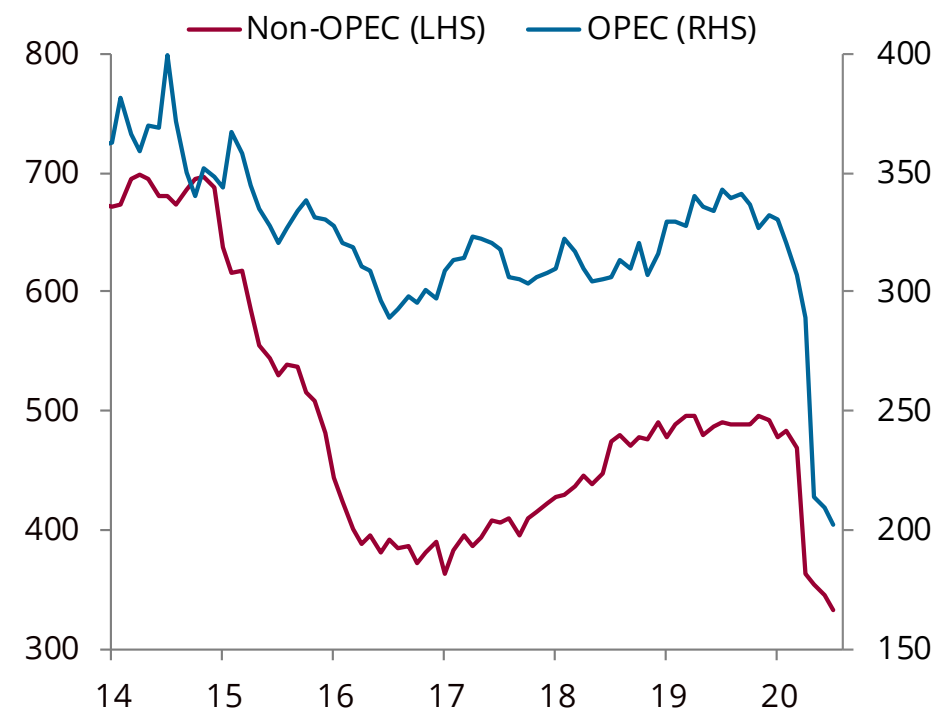
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The supply response to lower spending will become visible earlier than the 2014–16 price downturn

Global rig count

#



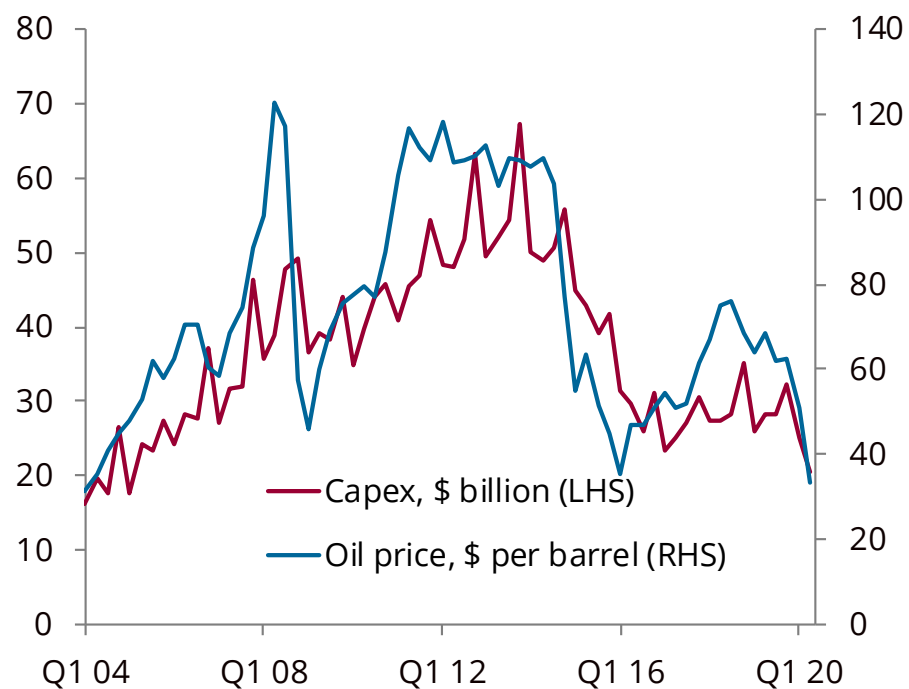
By July, the global rig count had plunged to 535, its lowest level since 2003, with lasting implications for supply

Source: Company reports, Baker Hughes, Energy Aspects

Supply gap looms as the shale 'floor' has been removed

Capex vs oil price

\$ Billion and \$/bbl



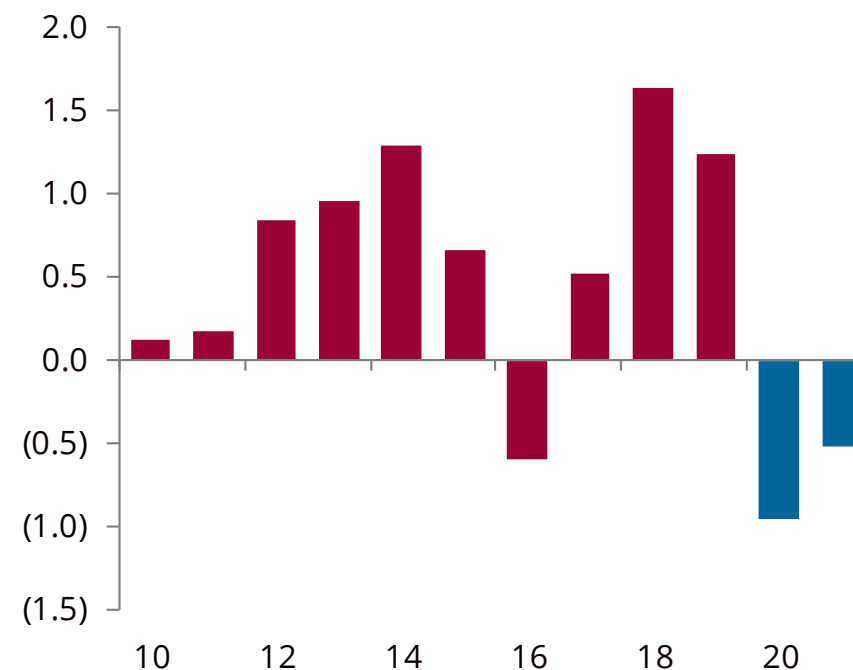
At \$20 billion, Q2 20's quarterly spend for the IOCs crashed to its lowest level since 2004

Blue bars denote forecasts.

Source: Company reports, Bloomberg, Energy Aspects

US crude, y/y change

Mb/d

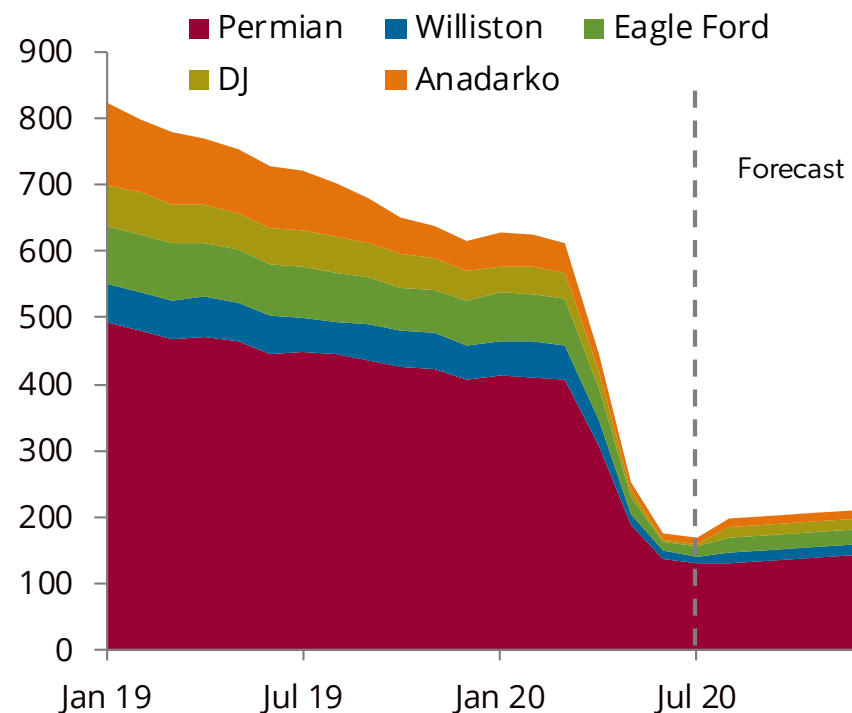


US producer guidance suggests the decade of growth is behind us, at least for now

US activity fell sharply in Q2 20, and recovery is set to be modest

US oil rig count

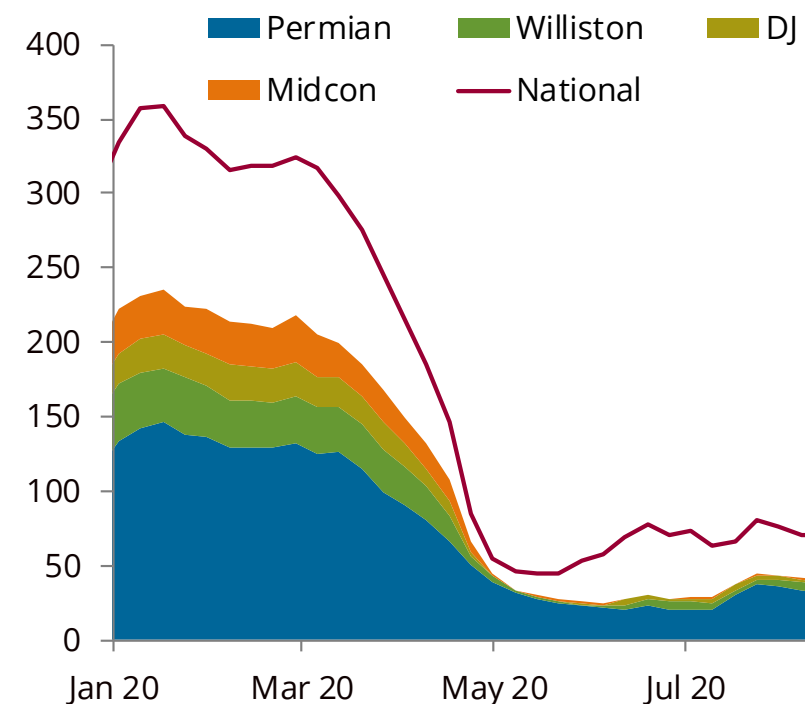
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We expect US oil rig counts to increase to over 200 by year-end, supporting an increase in activity

US frac crew count

#

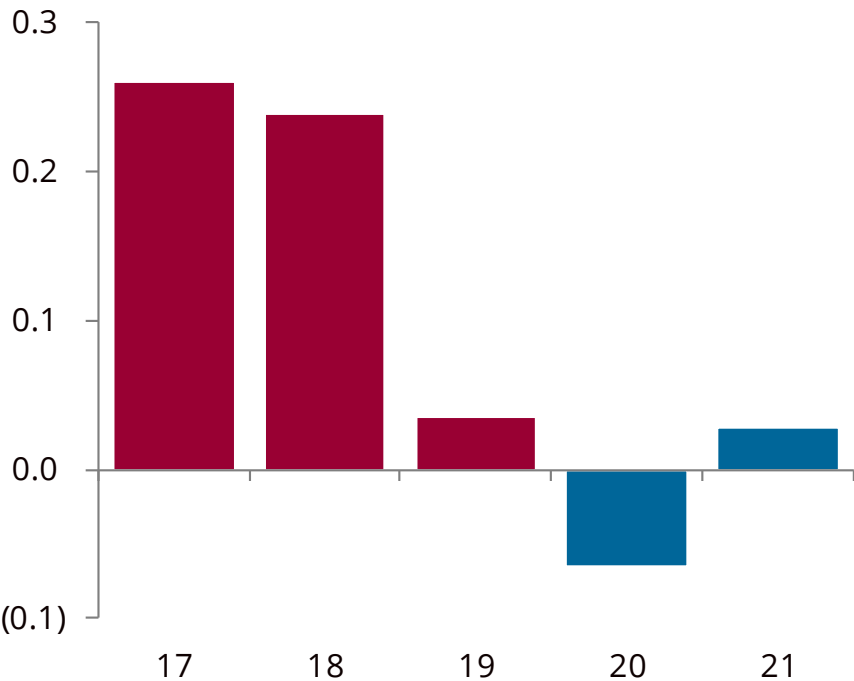


Well completions will increase as frac crews slowly return, hitting 85 crews in the US for the week ending 28 August

Source: EIA, Baker Hughes, Bloomberg, Energy Aspects

High-cost, high-decline supply centres are suffering from low prices

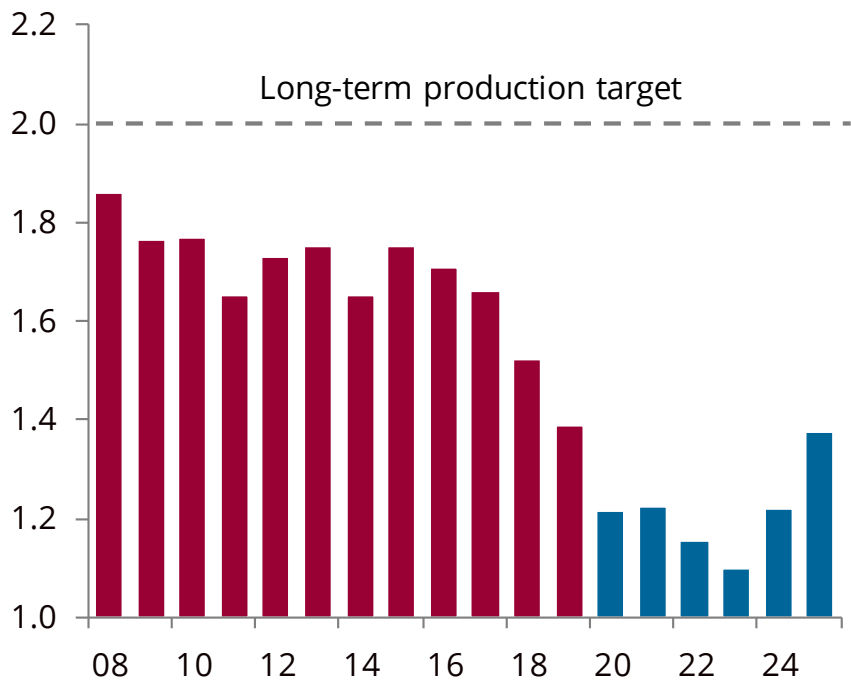
Canadian oil sands, y/y change
Mb/d



Oil sands being capped by politics, prices and, most recently, investor pressure to cut supply's carbon intensity

Blue bars denote forecasts.
Source: Company reports, NEB, StatCan, EnergyAspects

Angola crude supply trends
Mb/d

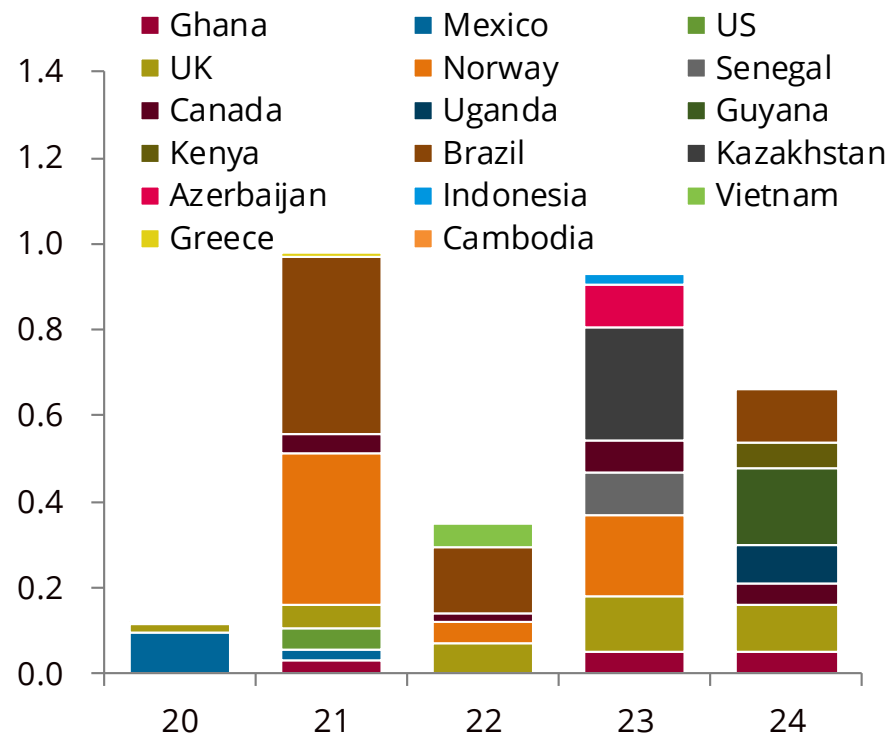


Project deferrals and steep declines to cap Angolan production well below its long-term target

Recouping lost conventional supply is a multi-year process

Impact of project delays on peak capacity by country

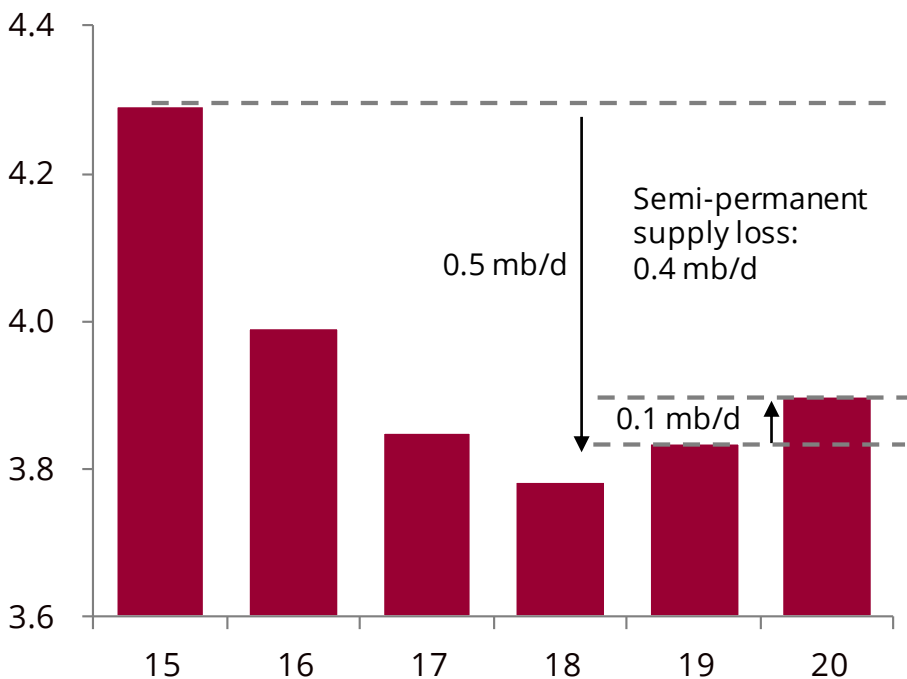
Mb/d



We estimate that conventional projects with a peak capacity of 3 mb/d have been delayed over the past three months

Chinese production losses

Mb/d



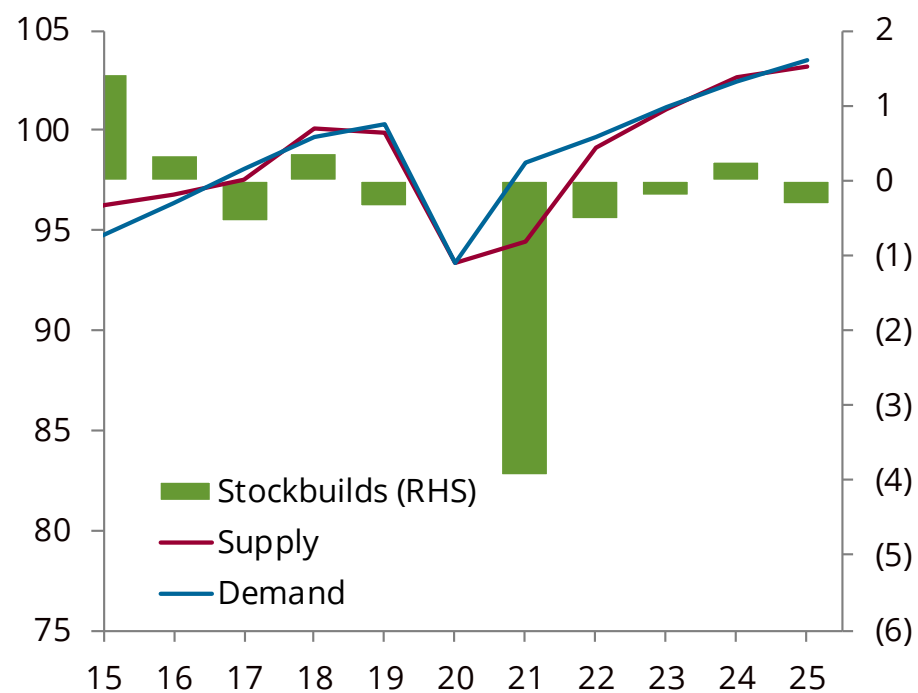
From its 2015 peak of 4.3 mb/d, Chinese oil supply has struggled to pass 3.9 mb/d despite substantial spending

Source: Company reports, NBS, Energy Aspects

Medium-term balances setting up for a price spike

Global liquids balance

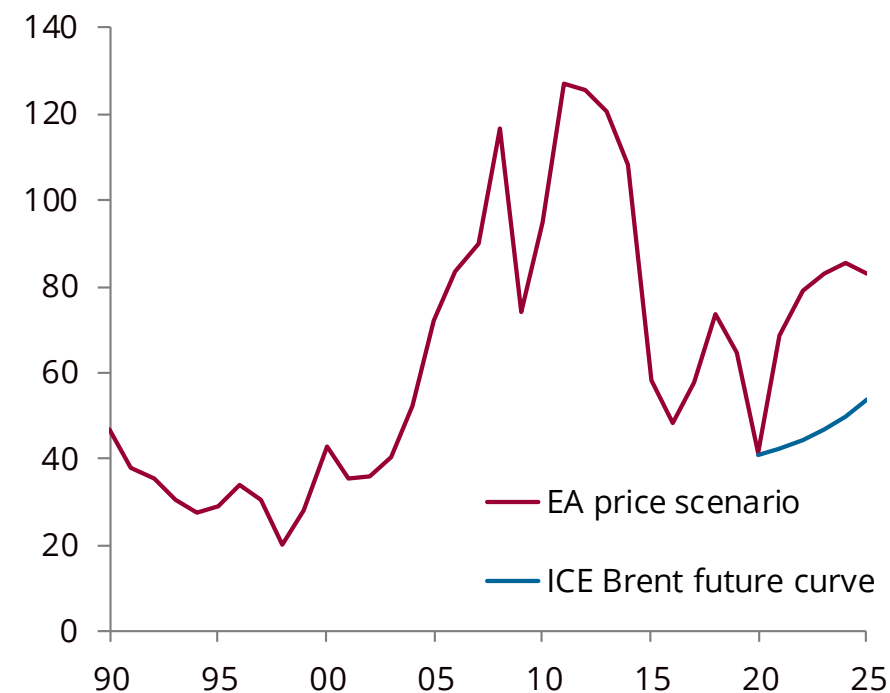
Mb/d (LHS)



Even as demand starts to normalise, the damage done to supplies will be long lasting, leading to sharp stockdraws

Brent price forecast (real terms)

\$2019/bbl



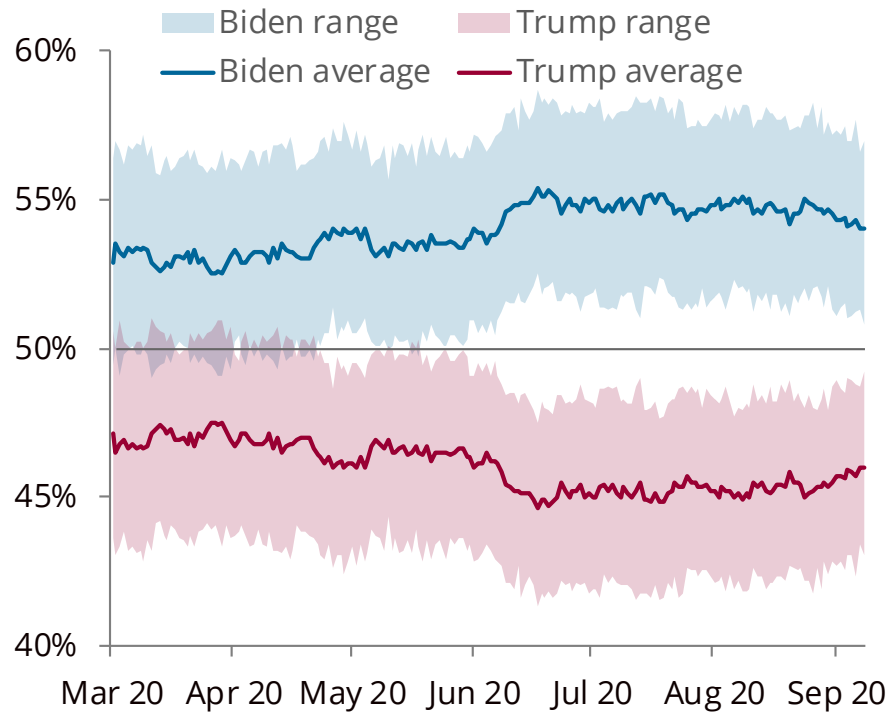
Absent higher prices, the required supply response will not materialise as shale's years of strong growth are behind us

Source: Argus Media Group, Energy Aspects

US may change course after election

US presidential election polling averages

%



Source: The Economist, Energy Aspects

- US election result may be delayed, or even contested, due to much higher-than-usual levels of mail-in balloting
- Minimal policy discussion as campaigns trade insults and talk to their electoral bases
- Control of the Senate will significantly influence how much the next president can do, especially domestically
- Biden would tighten regulations for US oil and gas producers but not ban fracking
- Democrats would also push decarbonisation, energy efficiency and other green measures
- In foreign policy, Biden wants to rebuild trust in the US and work more closely with allies
- US–China relations would remain strained as Biden also sees China as a strategic rival

Reports and publications

Crude oil

Oil products

Light ends, Middle distillates, Fuel oil

Global arbs and trade flows

LPG & NGLs

Natural Gas & Power

European Gas, North America Gas, Global LNG, US Power

Emissions

Macro energy

Long-term energy market outlook

LONDON
Canary Wharf

NEW YORK
One World Trade Center

Data service and forecasts

Crude oil data and forecasts

Oil products data and forecasts

Long-term data and forecasts

Global trade flows data

Refinery data

Refinery margin forecasts

LPG & NGLs data

Natural gas data and forecasts

Emissions data

HOUSTON
Louisiana St

SINGAPORE
One Raffles Place



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