OIL & OIL PRODUCTS

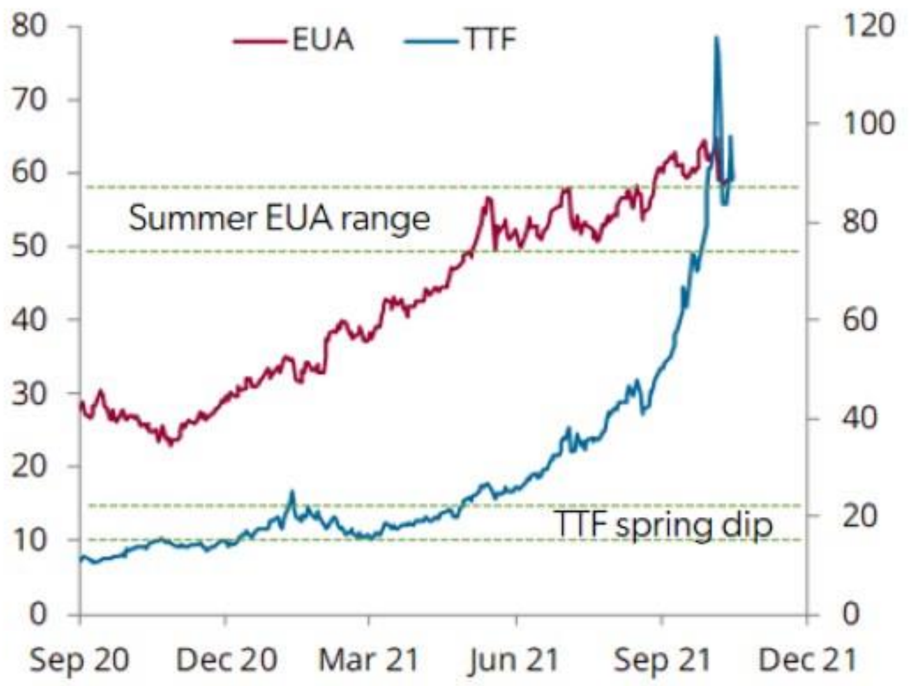
Presentation | November 2021

Oil Market Outlook

Three related bull runs: Global gas and emissions seeping into oil

Daily EUA and TTF price moves

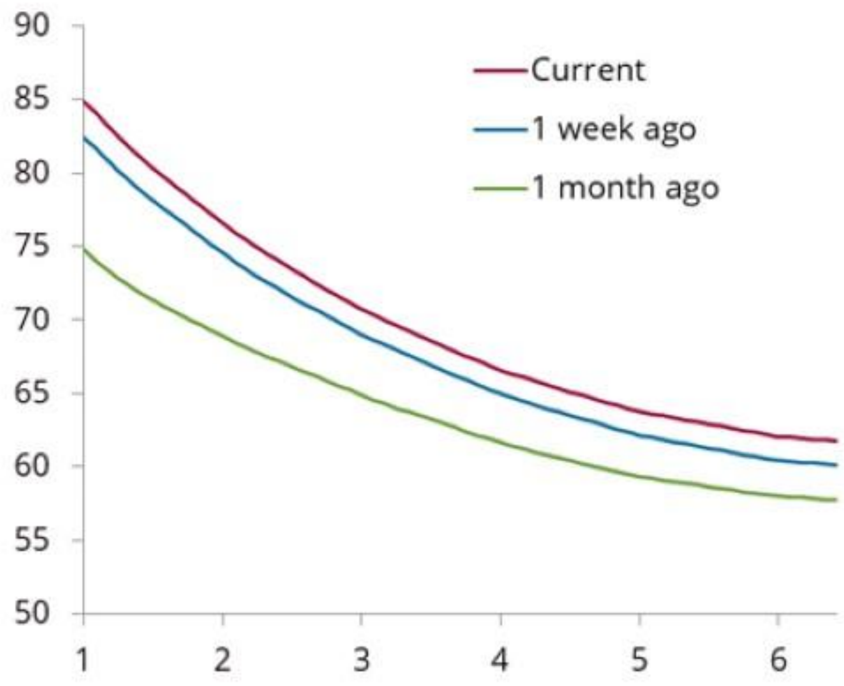
€/t (LHS); €/MWh (RHS)



Bull runs have taken place in both markets, although at slightly different times.

Brent crude forward curve

$/bbl



Tightness in wider global energy markets has contributed to a $10/bbl rise in the Brent forward curve over the last month.

Source: Refinitiv, Argus Media GroupEnergy Aspects

Energy Aspects

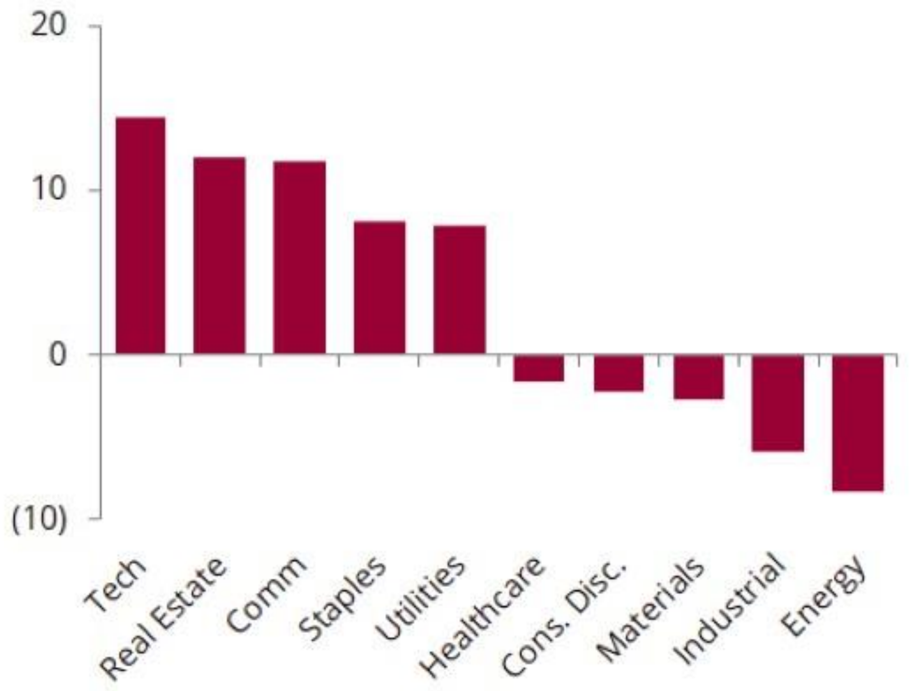
Energy transition: global E&P Capex is being constrained by ESG mandates

Global E&P spending
$ billion

Regions	2022E	2021E	2020A	2019A	2018A	2017A
Middle East	44	41	39	51	56	47
Asia-Pacific	76	71	68	76	67	54
FSU	36	32	32	36	34	37
Europe	7	7	7	8	7	6
Africa	18	15	15	19	18	13
Latin America	25	21	18	39	27	29
IOC International Capex	56	51	49	70	83	95
Total International (a)	**262**	**236**	**228**	**298**	**292**	**282**
US Independents	65	60	61	90	95	75
IOC North America	24	21	21	30	24	17
Canada	13	12	12	16	16	16
Mexico	9	9	5	5	4	5
Total North America (b)	**111**	**101**	**99**	**141**	**139**	**113**
Total World (a+b)	**374**	**338**	**327**	**439**	**432**	**395**

Capex directed toward fossil fuel development is expected to remain constrained despite the uptick in oil prices.

ETF flows by subsector
$ billion



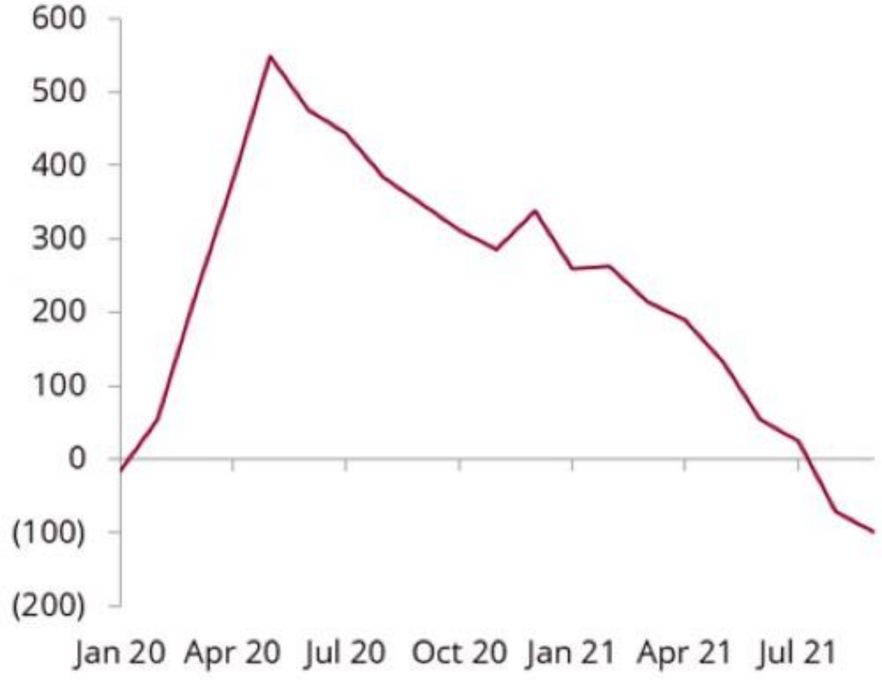
ESG mandates are limiting the investment flow from generalist/institutional investors into energy.

Source: Company reports, Bloomberg, Energy Aspects

Oil fundamentals are sound, with hefty stockdraws continuing

Cumulative visible crude inventory change vs Jan 20

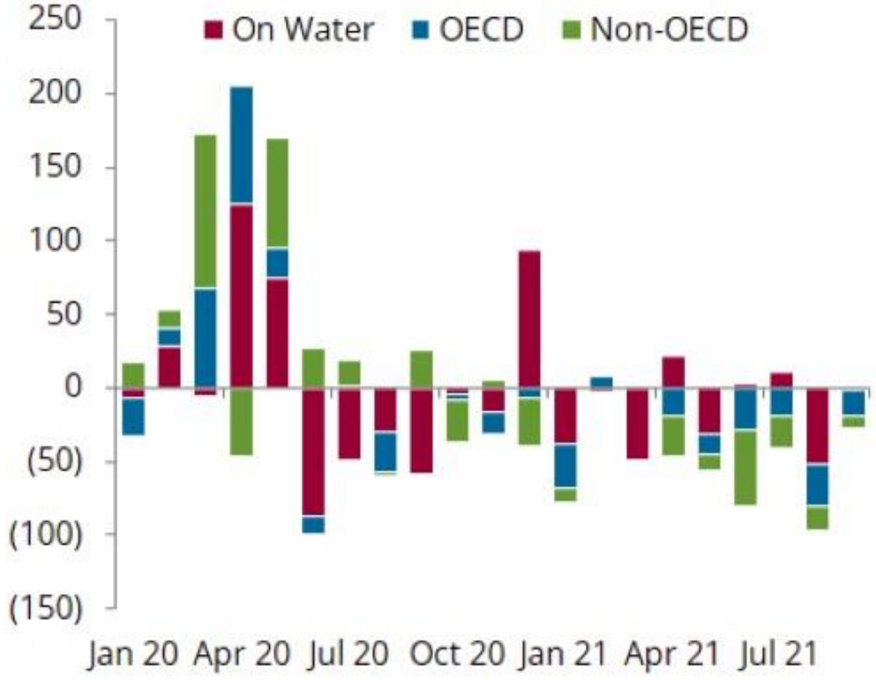
mb



In September, global crude stocks fell to 100 mb below January 2020 levels.

Global crude stockdraws

mb



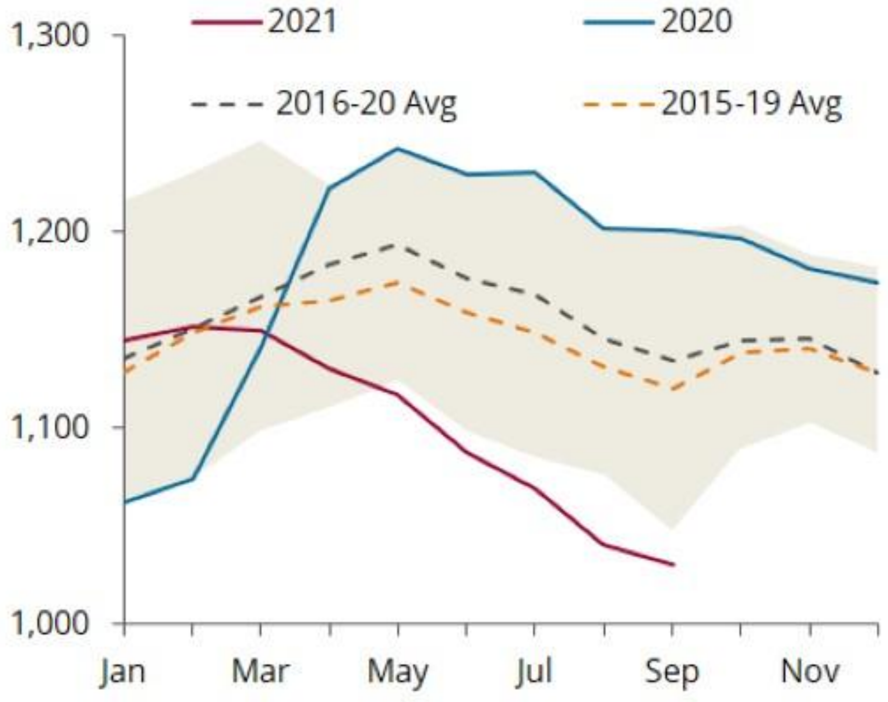
Onshore crude stocks have been consistently drawing in both the OECD and non-OECD since April.

Source: Kpler, EIA, PAJ, Energy Aspects

Energy Aspects

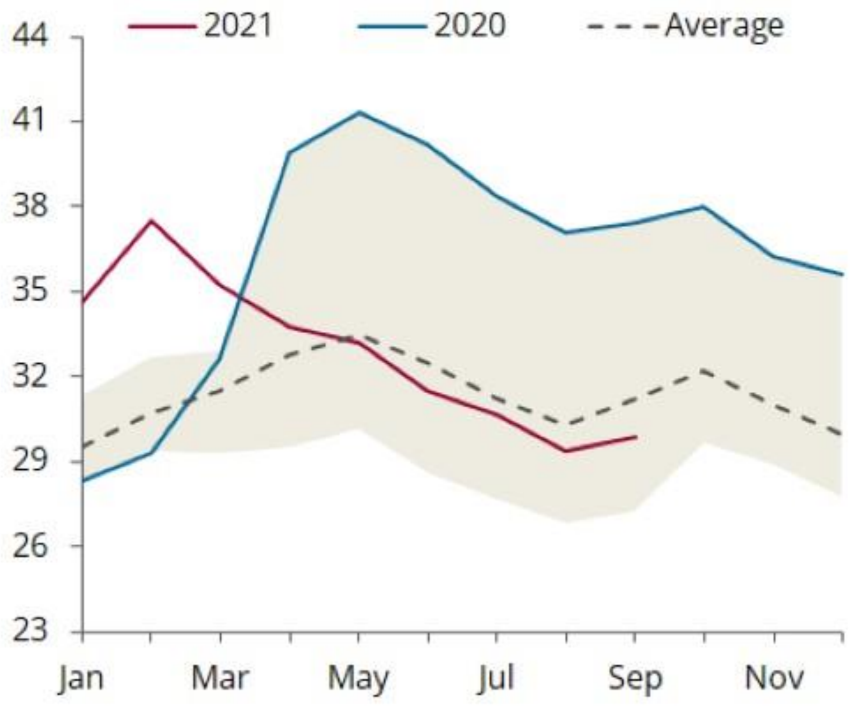
OECD crude stocks are below the five-year minimum

OECD crude stocks
mb



Crude stocks have plummeted to below the five-year minimum, led by the US and Europe.

OECD crude stocks forward cover
#



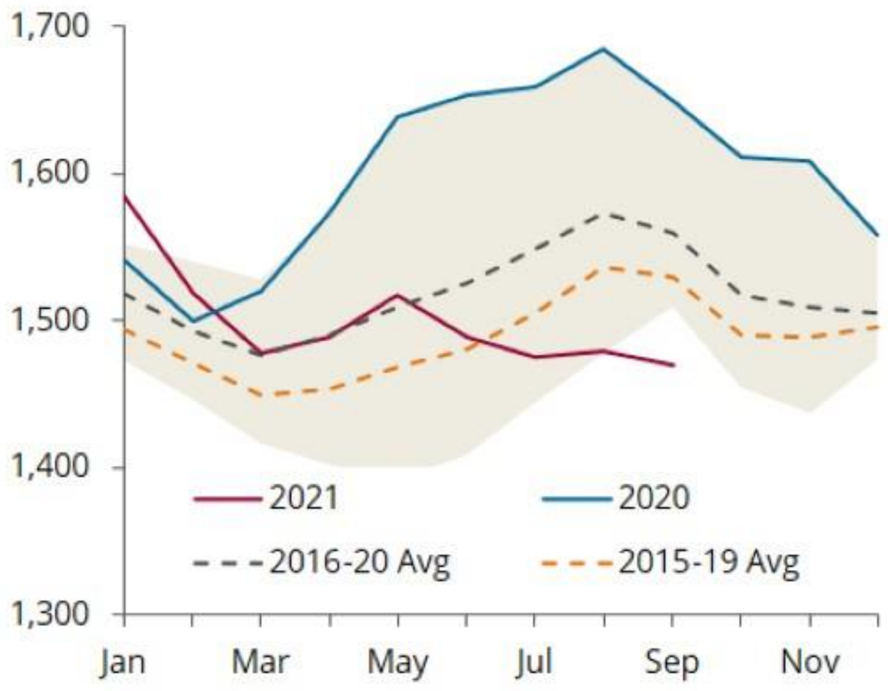
Even adjusting for lower runs, OECD crude stocks are below the five-year average.

Source: IEA, Energy Aspects

OECD products stocks have plummeted on low refinery runs

OECD products (ex other oils) stocks

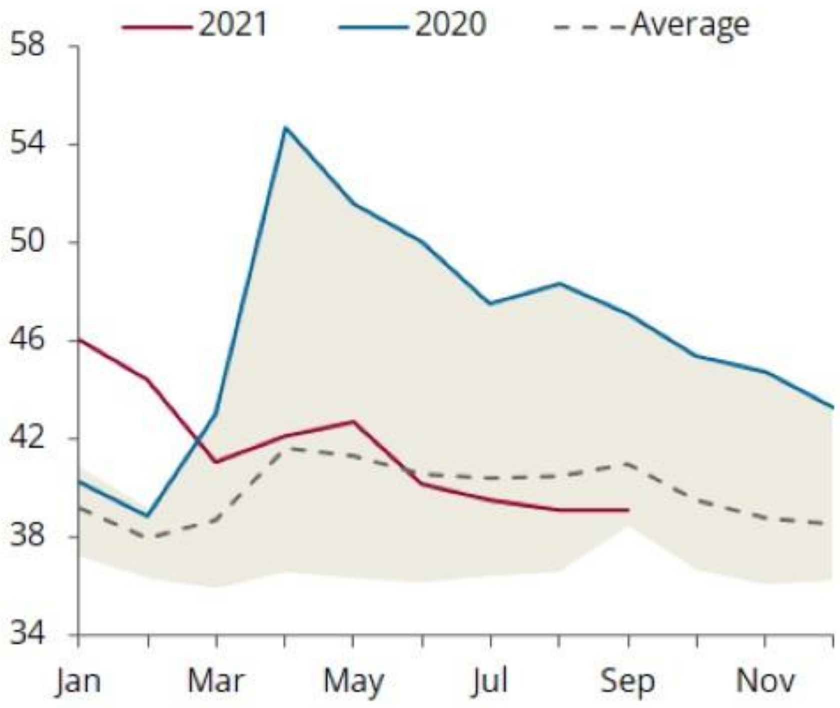
mb



Product stocks have also fallen below the five-year minimum as demand recovered but runs lagged.

OECD products (ex other oils) stocks forward cover

#

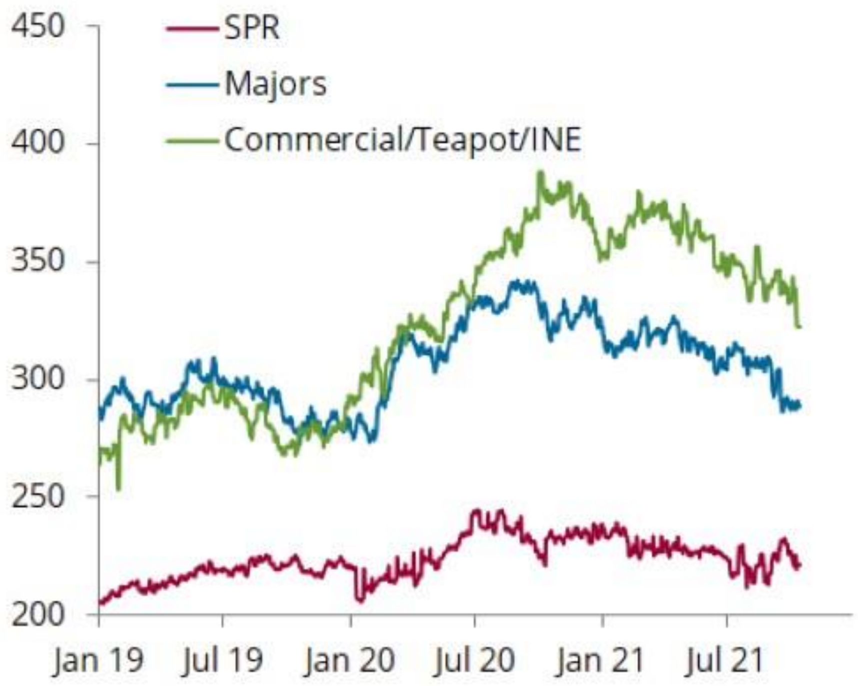


Stocks are less tight on a forward cover basis, but they still are below the five-year average.

Source: IEA, Energy Aspects

China releases SPR to tamp down inflation, but stocks are low

Chinese crude storage by type
mb



Crude stocks have been drawing since August 2020 across all tank sites, with majors' stocks back at 2019 levels.

Chinese majors' days of cover
days

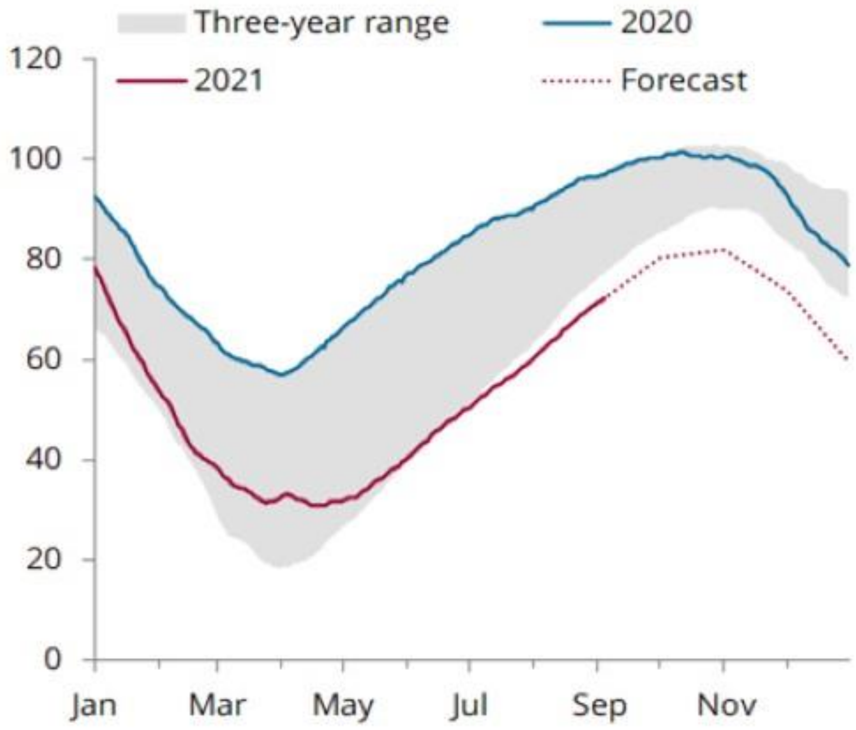
We expect more SPR releases in early 2022, but Chinese buying will pick up amid low stocks.

Source: Kpler, Energy Aspects

TTF tightness driven by storage adequacy concerns and supply issues

European gas storage

bcm



With Ukrainian storage also around 12 bcm lower y/y, aggregate storage in Europe is 28 bcm lower y/y in total.

Imports of Russian gas into the EU market

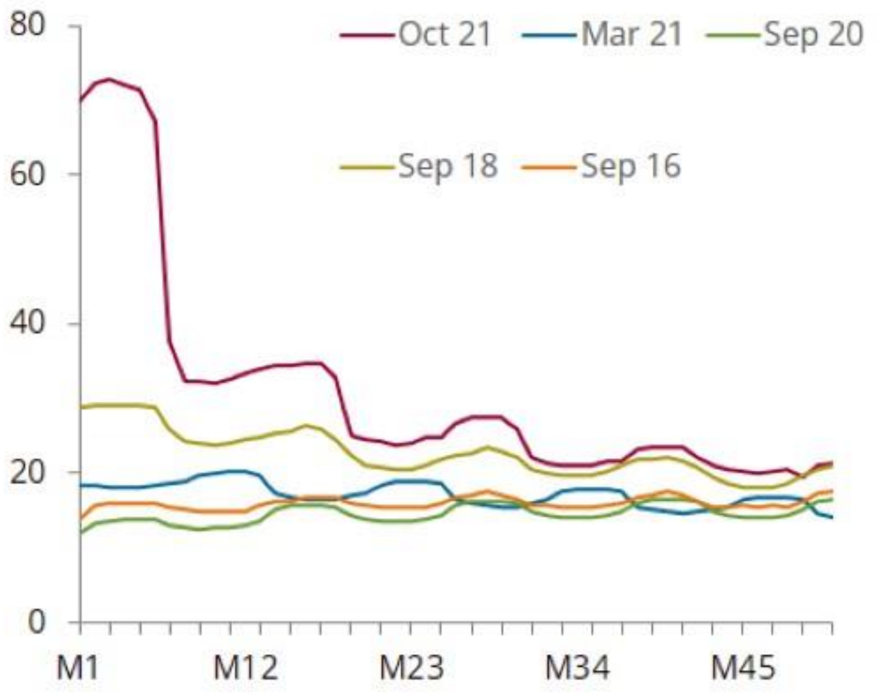
bcm/d

Russian gas supplies fell after a 25 bcm reduction in Ukraine transit capacity. Net flows stronger given limited backflows.

Source: Energy Aspects

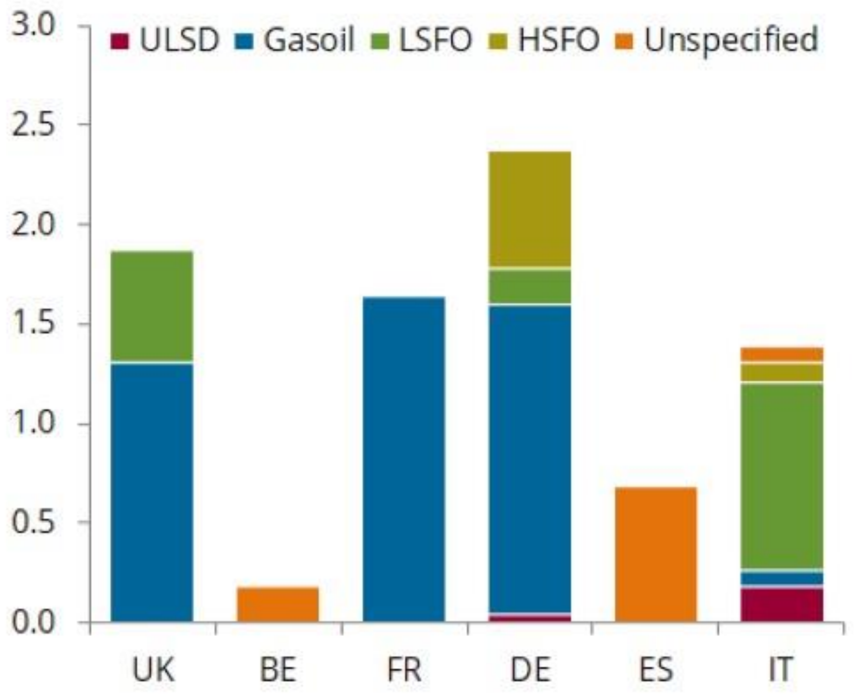
Soaring gas prices are boosting liquids demand at the margin

TTF forward curve
€/MWh



Soaring gas prices could lead to 0.45 mb/d of incremental liquids demand y/y this winter.

Oil-fired capacity by fuel in Europe
GW



There are limits to gas-to-oil switching in Europe, amounting to no more than 0.16–0.24 mb/d of liquids.

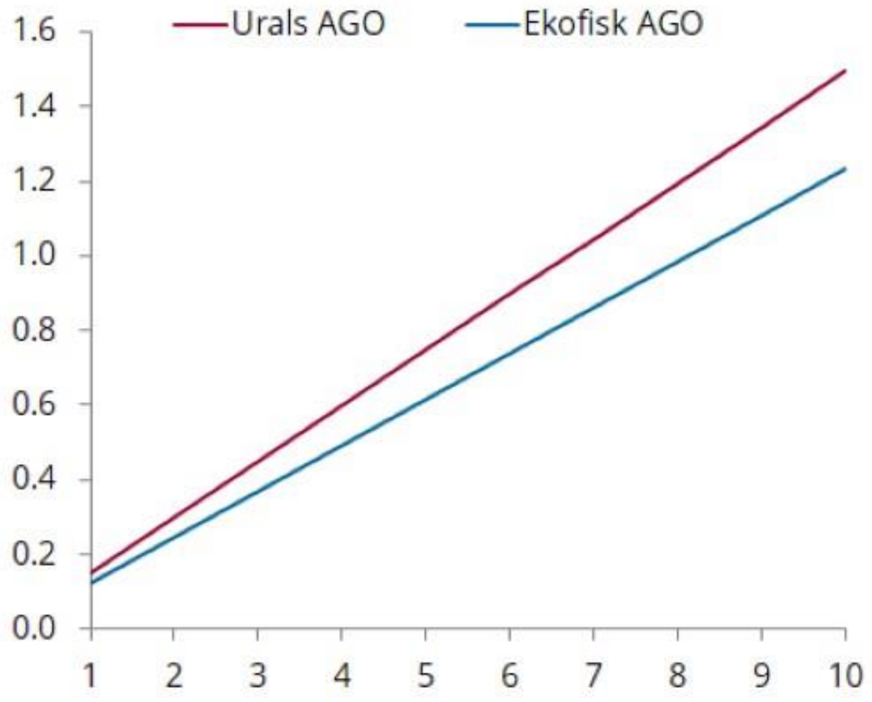
Source: Bloomberg, Company websites, Government websites, Energy Aspects

Energy Aspects

Gas prices are eating into refinery profitability

Desulphurisation hydrogen cost vs natural gas

$/bbl; $/mmbtu



The surge in gas prices is eroding complex margins by raising the cost of hydrogen production.

Hydrocracking unit margins

$/tonne

Rising cost of hydrogen production suppresses hydrocracking unit margins, depending on spot gas value exposure.

Source: Argonne National Laboratory, Energy Aspects

Energy Aspects

Global oil demand 100 mb/d from September

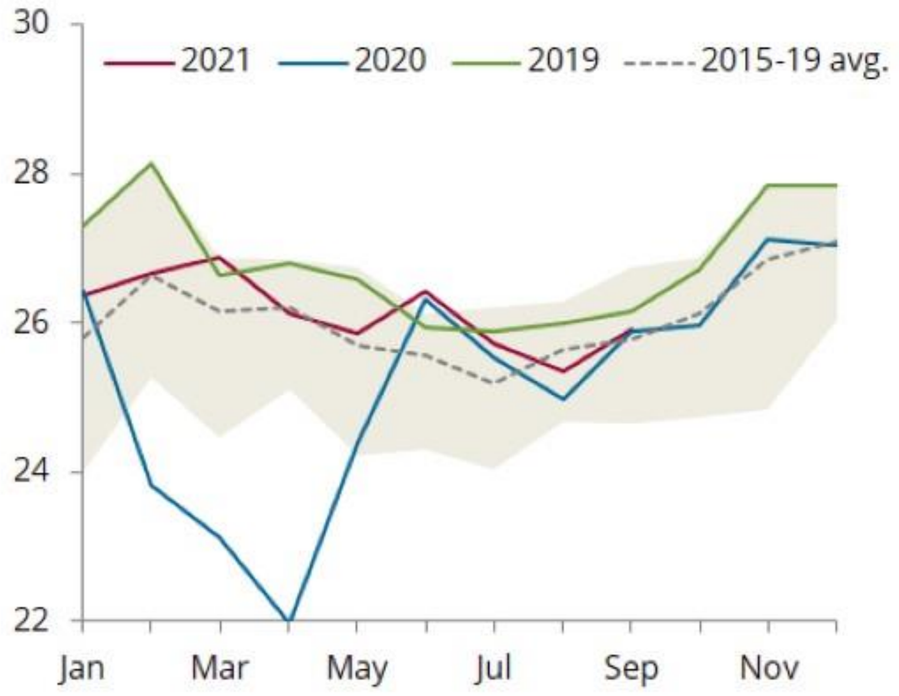
Global oil demand, y/y

mb/d

Vaccination rollouts will unleash significant pent-up demand from Q4 21.

Asian oil products demand

mb/d



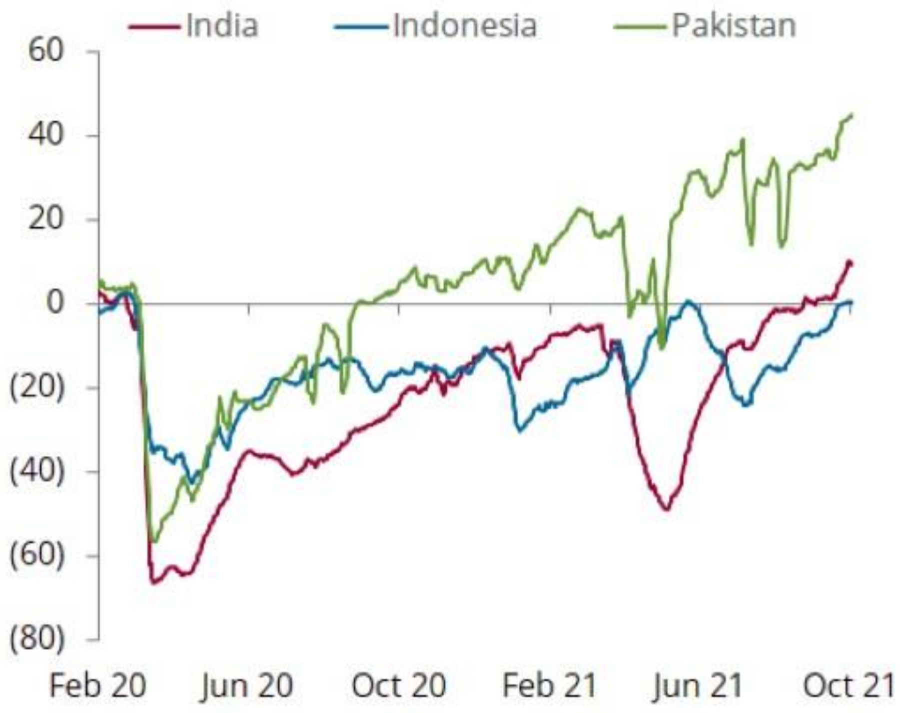
Asian oil demand is recovering quickly at the start of Q4 21 as restrictions continue to ease.

Source: Energy Aspects

Asia slowly abandoning zero-Covid cases policy

Google mobility data, non-OECD Asia

%



Vaccination rollouts is unleashing significant pent-up demand from Q4 21, two quarters ahead of expectations.

Google mobility data, OECD Asia

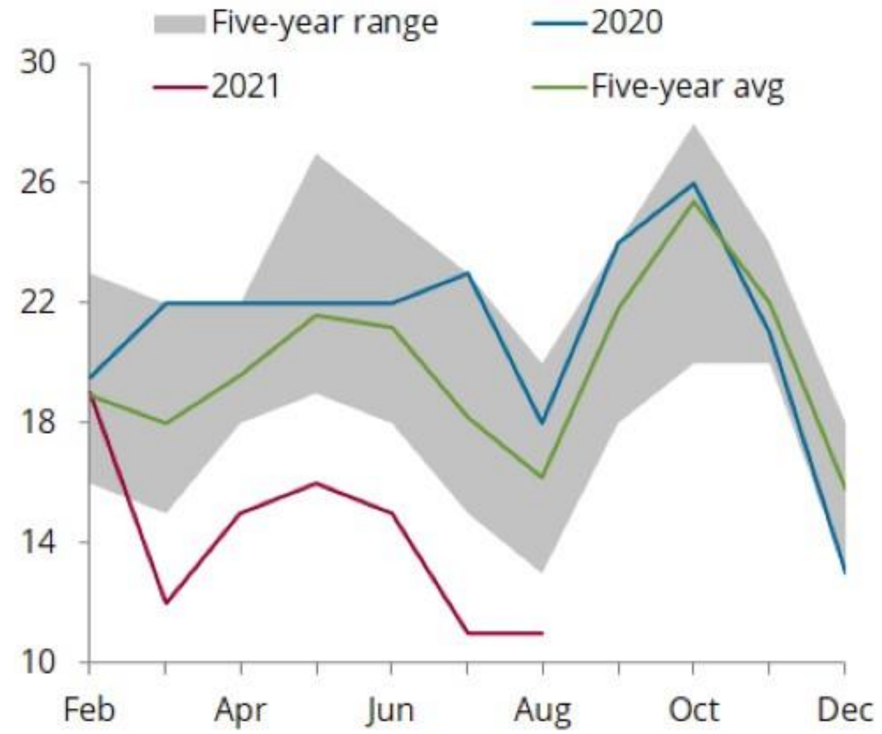
%

Restrictions around Asia continue to ease as governments are slowly reopening the economies.

Source: Google, Energy Aspects

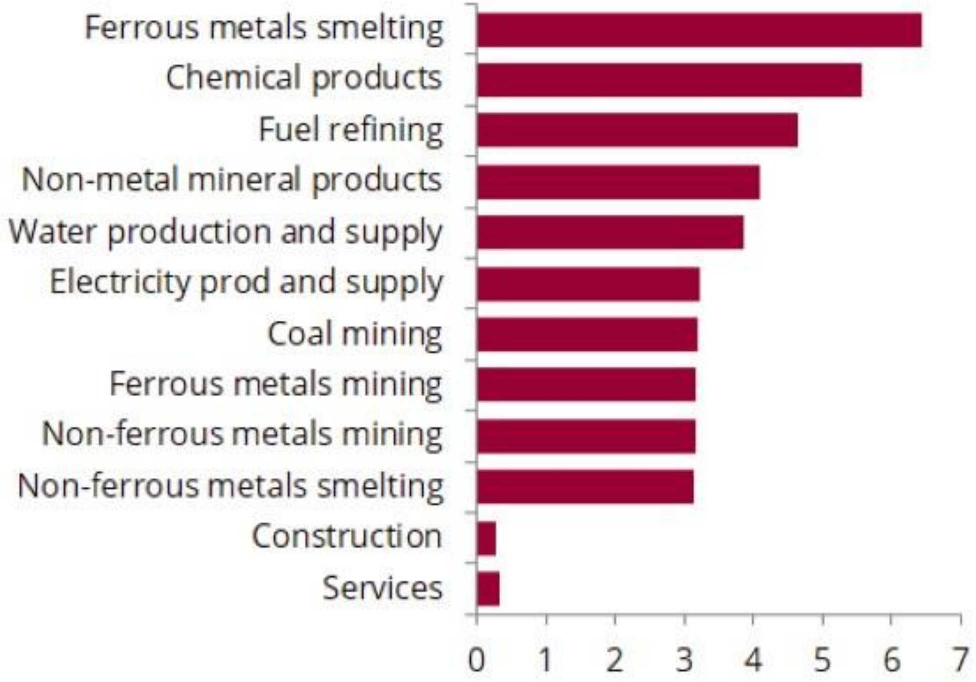
Power crisis in China: buy energy at any cost

Coal stocks at major Chinese power utilities
days



Sharply lower coal stocks have spurred a power crisis in China, with the government now ready to secure energy at any cost.

Power usage to unit of GDP produced by sector
Economy-wide average = 1

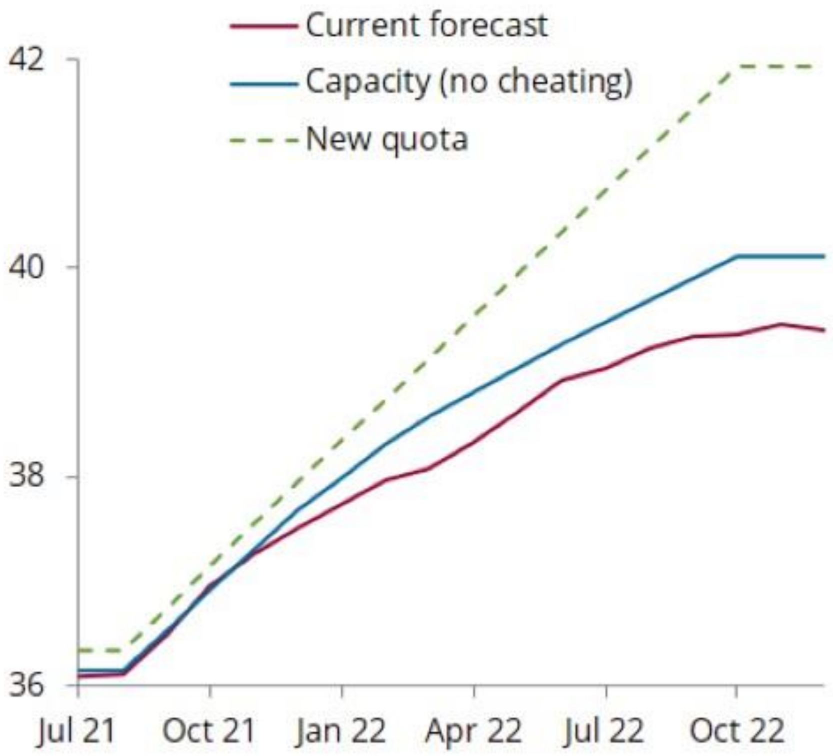


But power curbs on some energy-intensive sectors will continue to meet China's emissions targets.

Source: Wind, Energy Aspects

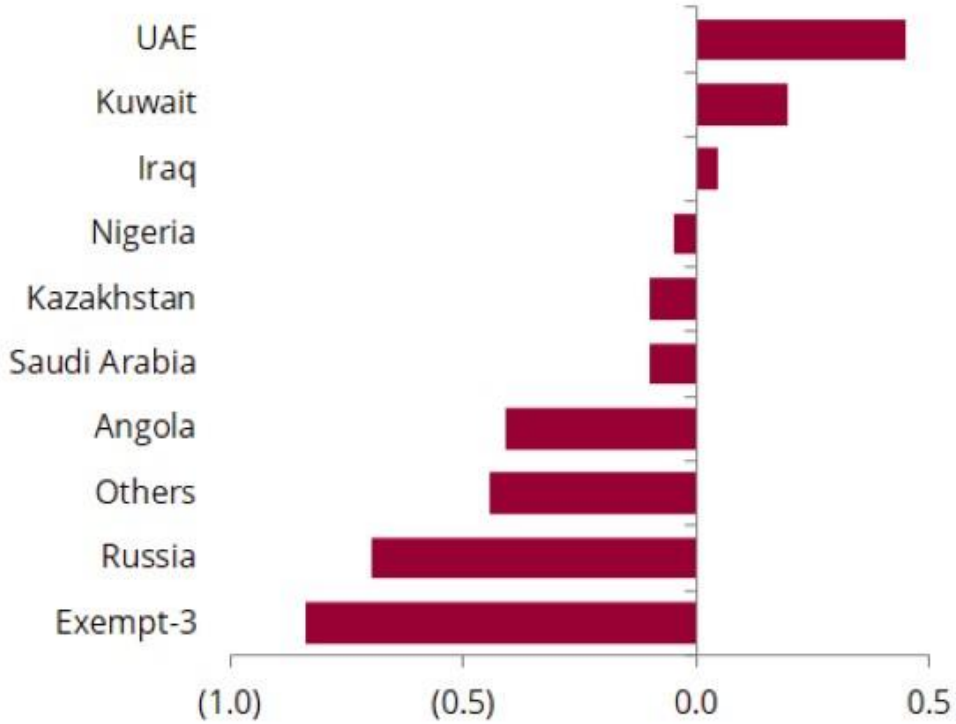
OPEC+ is only gradually restoring supply

OPEC+ production (ex exempt countries)
mb/d



OPEC+ deal now runs to end-2022. Actual production will rise by less than quotas, with option to pause output three times.

Change in production capacity since October 2018
mb/d



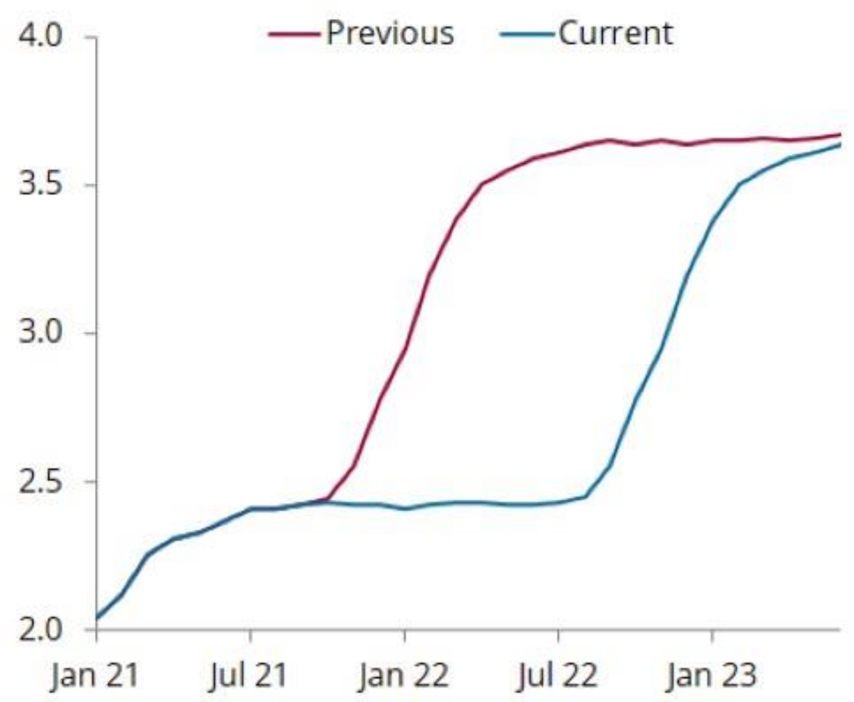
Several countries received higher baselines from May 2022, but monthly quota increases will still be around 0.4 mb/d.

Source: Energy Aspects

Energy Aspects

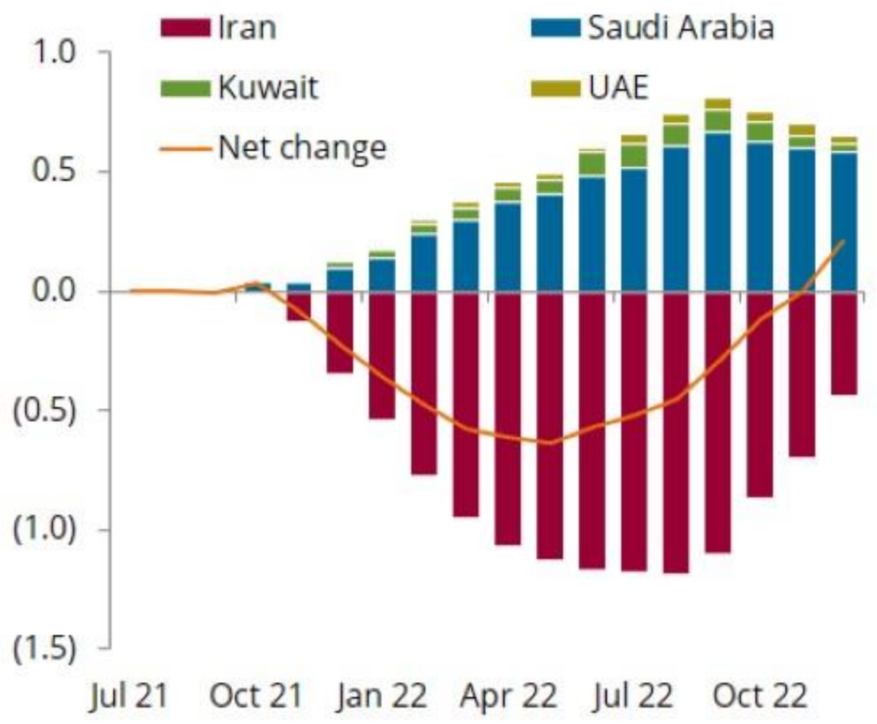
Impact of stalling Iran nuclear talks

Iran crude production forecast
mb/d



Base case in our balances now shows a post-sanctions Iranian recovery starting in H2 22. Diplomatic timeline is uncertain.

Country-level adjustments to OPEC supply
mb/d

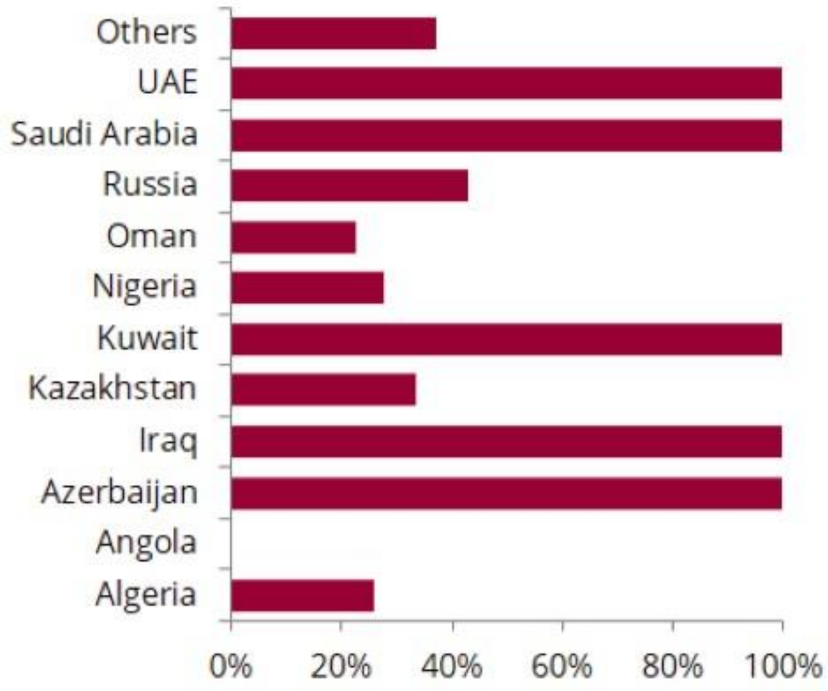


GCC producers will ramp up more quickly to partly offset this delay, but net impact still tightens 2022 balances by 0.4 mb/d.

Source: Energy Aspects

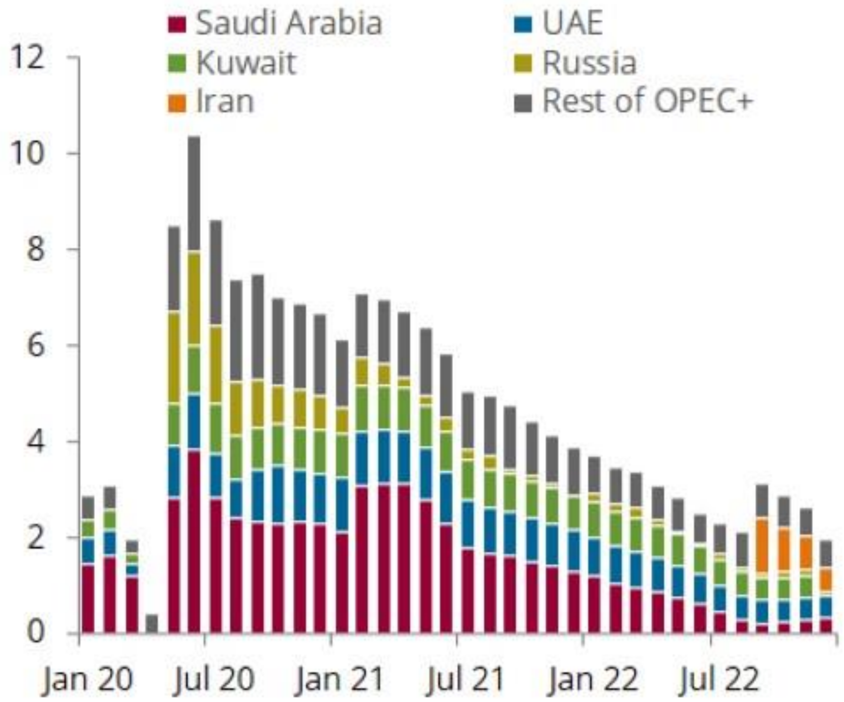
The focus will shift to spare capacity in 2022

Ability to use share of 5.8 mb/d quota increase
%



Even with higher baselines, a growing number of members will not be able to produce at their full quotas.

Available OPEC+ spare capacity
mb/d



OPEC+ has enough spare capacity to add more supply in H2 21, but this buffer will become increasingly thin next year.

Note: Production capacity offline because of sanctions, conflict and other involuntary causes excluded from spare capacity
Source: Energy Aspects

Capital discipline will limit US production growth

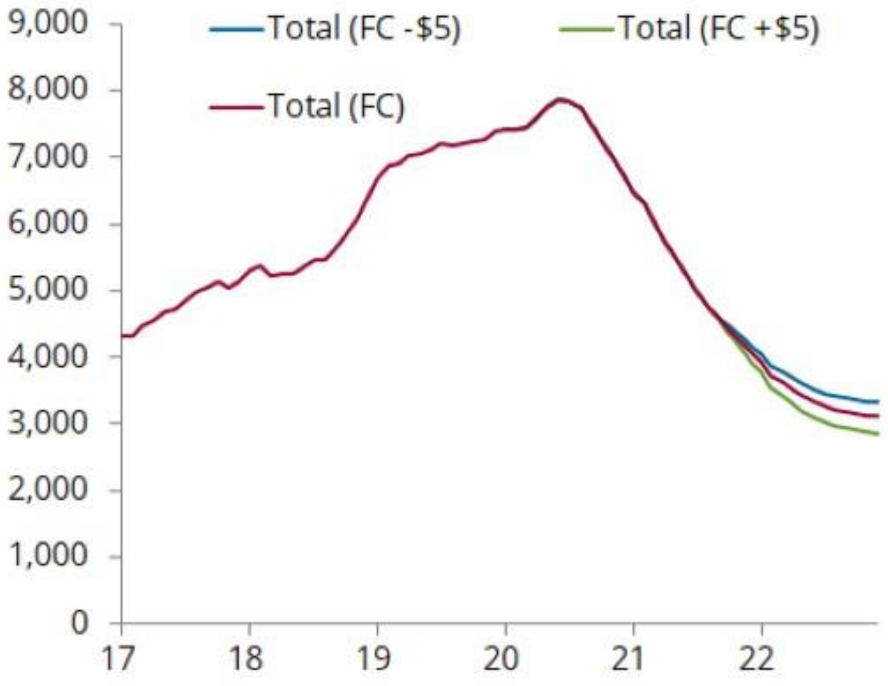
Permian completions by operator type

%

Large-cap completions have remained stable on a percentage basis, while privates have risen against small caps and IOCs.

US onshore DUCs and forecast

#

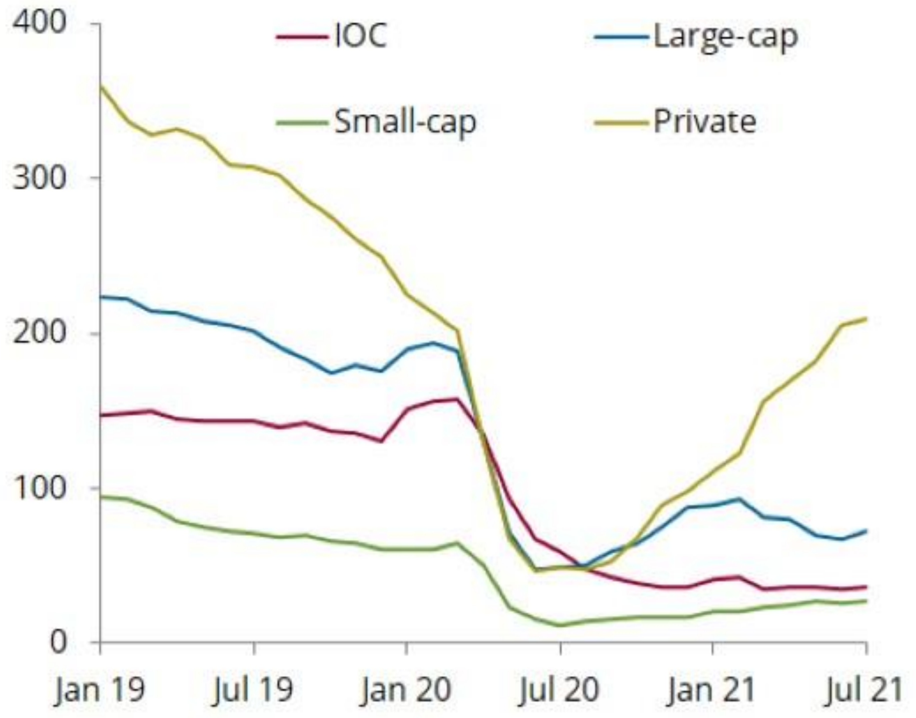


DUCs are drawing down rapidly, down to 2017 levels and rigs need to rise to sustain production in 2022.

Source: EIA, Enverus, Energy Aspects

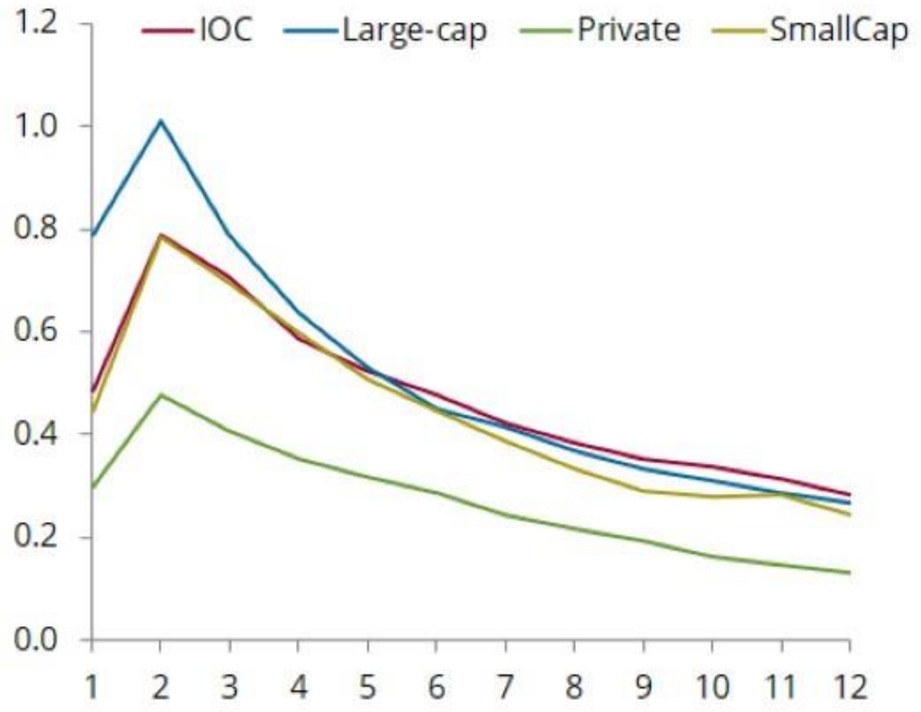
Private operators are adding rigs fastest, while large caps are the most efficient

US rig count
#



IOCs, large caps have kept oil rigs largely flat in 2021. Private producers have been adding rigs over the same time frame.

US shale production declines by producer class
b/d



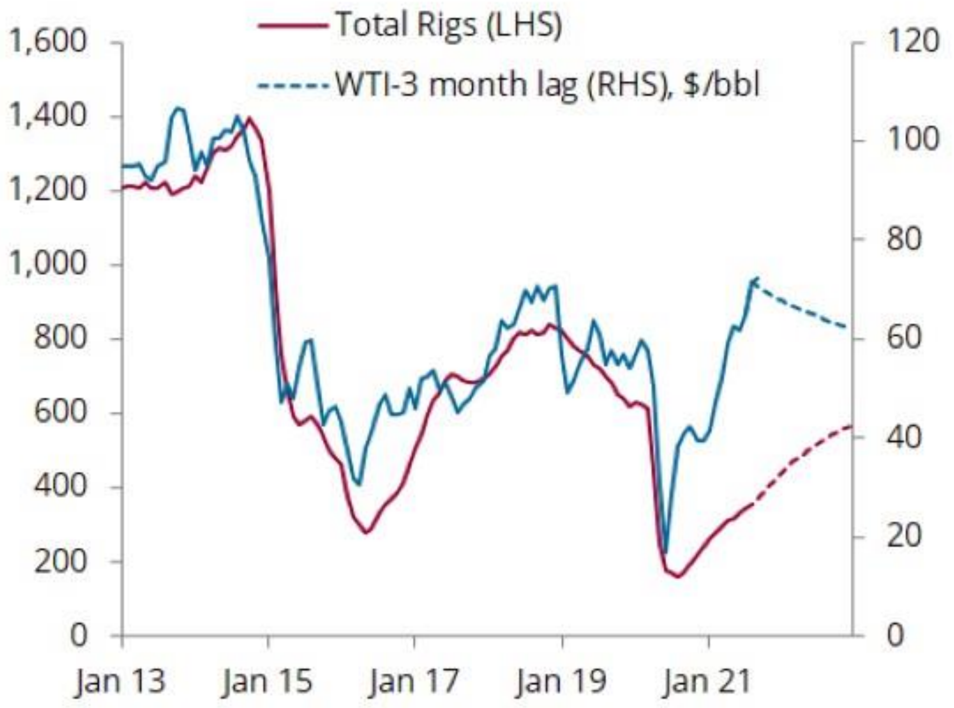
In the Permian, large caps have the most prolific wells among their peers, based on 2020 type curves.

Source: Enverus, Baker Hughes, Energy Aspects

US rig count will need to continue rising to support increased production

US rig count

#; $/bbl



Rig counts will need to continue rising for production to grow through 2022 as DUCs draw down.

Source: Baker Hughes, Energy Aspects

US shale production decline profile

mb/d

US shale production will decline at a steep rate, so producers must "run faster to stay in place" during recovery periods.

Energy Aspects

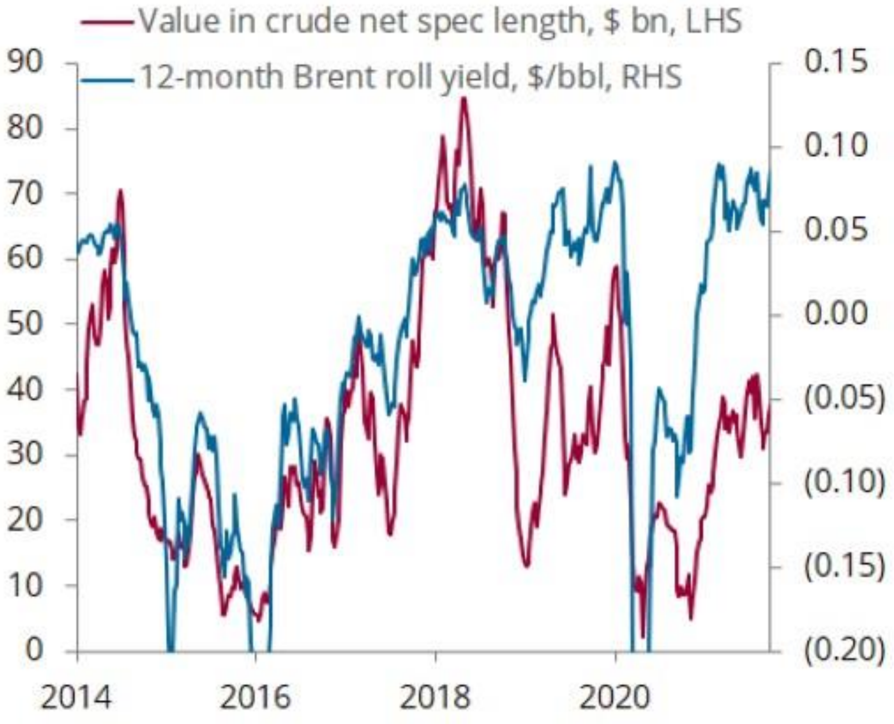
There is more upside to oil prices despite the recent rally

Brent and WTI net spec length

$ billion

Speculative capital deployed in oil is still $40bn lower than 2018, $30bn lower than 2014 and $20bn lower than 2019.

Net spec length and roll yield



Roll yields offer significant return for oil investors, many of whom are positioned in gas and power instead.

Source: CFTC, CIE, Energy Aspects

Crude oil price forecasts

Energy Aspects crude oil price forecasts (2020–24)

$/bbl

		Brent	WTI	LLS	Oman	Dubai
2020	***actual***	**43.2**	**39.5**	**41.3**	**43.2**	**42.3**
1st quarter	*actual*	51.0	46.2	48.2	51.7	50.9
2nd quarter	*actual*	33.5	28.4	30.5	33.0	30.9
3rd quarter	*actual*	43.3	40.9	42.4	43.2	42.8
4th quarter	*actual*	45.2	42.7	44.1	45.0	44.7
2021	***forecast***	***71***	***68***	***69***	***69***	***69***
1st quarter	*actual*	61.4	58.1	60.3	60.2	60.2
2nd quarter	*actual*	69.0	66.0	67.9	66.9	66.8
3rd quarter	*actual*	73.3	70.6	71.6	71.8	71.6
4th quarter	*forecast*	*78*	*75*	*77*	*75*	*75*
2022	***forecast***	***84***	***81***	***83***	***82***	***82***
1st quarter	*forecast*	*81*	*77*	*79*	*78*	*78*
2nd quarter	*forecast*	*83*	*80*	*82*	*80*	*80*
3rd quarter	*forecast*	*86*	*83*	*85*	*84*	*84*
4th quarter	*forecast*	*87*	*83*	*85*	*84*	*84*
2023	***forecast***	***106***	***104***	***105***	***102***	***102***
2024	***forecast***	***108***	***106***	***107***	***107***	***107***

Source: Argus Media Group (actuals), Energy Aspects

Energy Aspects

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

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

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