



THE OXFORD
INSTITUTE
FOR ENERGY
STUDIES

Short-Term
Outlook

OIES Oil Monthly

OIES OM: 12

Special Issue

Implications of Ukraine war on short-term oil market outlook

14 March 2022

Outlook

Key insights

This month's *Special Issue* assesses the implications of the Ukraine war on our short-term oil market outlook for market balances and prices to 2023.

The analysis considers two principal scenarios. A **Reference case** in which self-sanctioning measures and obstacles in redirecting Russian crude flows due to financing and shipping constraints results in a loss of 1 mb/d of Russian supplies in March 2022, that persists throughout our forecast horizon but it is not exceeded; and a **Full curtailment case** either due to an extension of direct sanctions on Russia or a retaliatory tit-for-tat oil embargo from Russia that results in the loss of 4 mb/d of Russian supplies by May 2022 and corresponds to an 85 per cent decline in Russia's oil exports relative to February. Both scenarios are presented against a **no-disruption baseline** to assess the impact of the negative effects of Russia's disruptions on supply/demand and price dynamics.

- **Depending on the size of the supply disruption and its duration, we estimate that global oil demand could lose between 1 mb/d and 2 mb/d of growth in 2022 and 2023.** Our reference growth projections remain robust in both 2022 and 2023 at 2.8 mb/d and 1.4 mb/d, respectively, but the demand outlook is highly vulnerable to the duration, magnitude and macro-effects of the supply shock.

In terms of regions, OECD Europe appears the hardest hit region throughout, contributing to total OECD demand losing 0.5 mb/d of growth in our reference case and the losses extending to 1.2 mb/d in the worst case, as y/y growth falls to negative territory in 2023. The negative impacts in non-OECD demand become more acute towards the end of the year and extend to 2023 with some 0.9 mb/d of growth at risk.

Nearly half of the total losses in global oil demand will be impacting fuels for industrial use as high input costs restrict industrial activity and manufacturing, followed by the demand for transport fuels and in particular road fuels and jet that each will account for 20 per cent of a potential negative demand response due to high retail prices. The latter will be exacerbated by the pressure

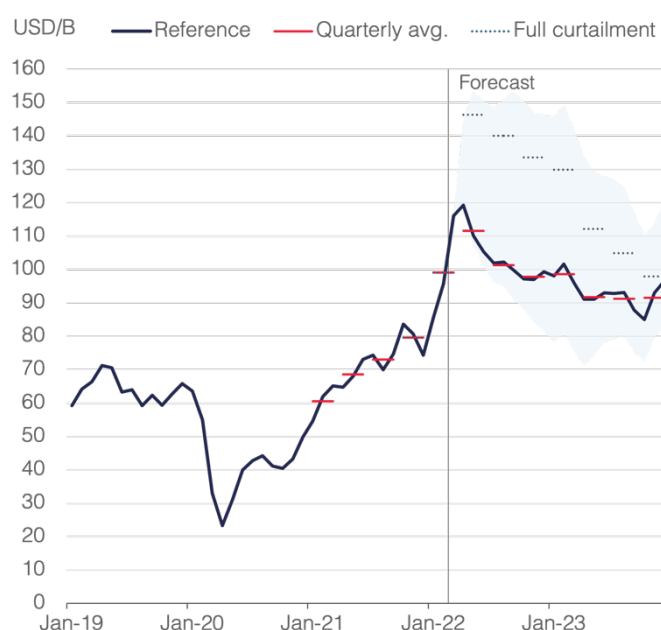
on product markets, especially on middle distillates availability and prices, and to a lesser extent gasoline.

- **Global oil supply could fail to return to pre-COVID levels before 2024, as the expected response to a severe shock will be limited in the short-term.**

Analysis shows that production losses from Russia of up to 1 mb/d will be manageable in the short-term, but a more severe supply shock will need a collective response from the supply side, albeit this will be extremely difficult to achieve.

So far, OPEC+ has stuck to the current agreement of gradually increasing supply on a monthly basis by 0.4 mb/d till September 2022. Also, logistical constraints and underinvestment in the oil sector has led to most OPEC+ producers nearing their maximum capacity limits and we expect total OPEC+ excluding Russia to be able to return another 1.6 mb/d between March and September 2022, 0.6 mb/d below target. This means that out of the total 4 mb/d of Russian crude supplies at risk, the OPEC+ production hikes will account for 39 per cent of the total replacement barrels.

Brent price outlook



Source: OIES

Outlook

New obstacles have emerged with regards to the Iranian nuclear deal, with Russia requesting a written guarantee that the current process triggered by the US does not damage Russia's right to free and full trade, economic, investment and military technical cooperation with Iran. If an Iran deal is reached, the ramping of Iranian production will certainly improve balances and moderate prices in the full curtailment scenario. Also, Iran has large volumes of crude and condensates in storage which could be immediately released, but this will be a one-time shock to the market. The impact of full return of Iran on prices is expected to remain limited to -\$2/b in 2022 and -\$4/b in 2023 notwithstanding the impact on sentiment.

Outside OPEC+, our full curtailment scenario sees non-OPEC production responding to elevated prices by an additional 0.6 mb/d of growth by 2023, with the capital discipline in US shale restraining US growth beyond 2022 and Canada and Norway leading with modest increases from elsewhere.

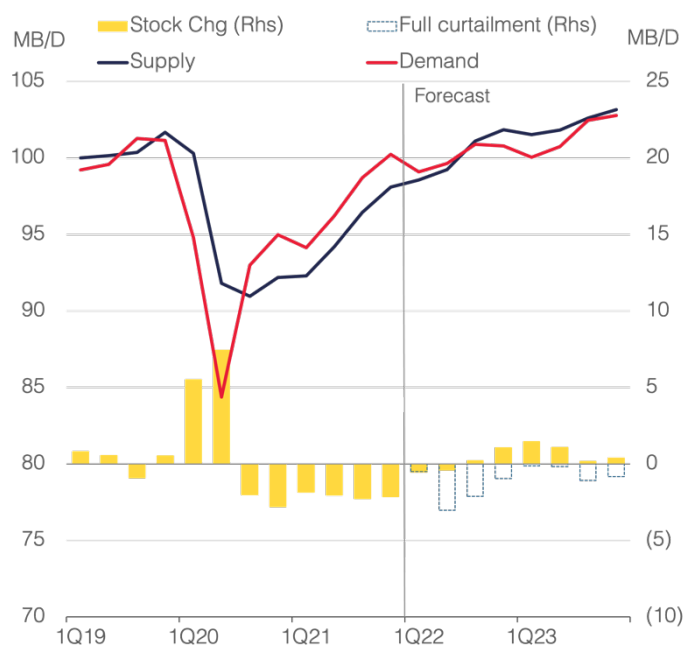
- **The Russian oil disruption is also having wide repercussions on products markets, as Russia is an important exporter of key products and feedstocks.** For European refineries which rely heavily on Russian Urals for their diet, the search for alternatives grades has already started, but given the tightness of the market, this is a challenging task and refineries are being forced to rely on local or regional crudes and could cut runs, disrupting the supply of products such as diesel gasoline.

Distillates markets are already under severe pressure. Any relief for European distillates from Russia is unlikely as self-sanctioning extends to products and as Russian refineries themselves could cut runs as buyers are reluctant to purchase Russian products. The very high prices in Europe are opening the arbitrage from Asia, although distillates markets in Asia are also tight due to increased demand as economies re-open. But the impact on products markets extends beyond distillates and the US ban on Russian supplies will also impact US refineries which rely on Russian crude and unfinished products such as VGO and fuel oil as key ingredients to US refineries' diet. Gasoline and distillate stocks in the

US have already been falling and wholesale gasoline and diesel prices are at a record high.

- **Oil prices and volatility will remain on edge in 2022 with the Brent price outlook ranging between \$102/b and \$130/b on an annual basis.** The price impact of supply disruptions will be sizeable in the near-term, as supply/demand responses are limited resulting in elevated geopolitical risk pressures persisting to Q1 2023 before easing in 2023. Market responses are expected to significantly ease the price pressure in 2023, with Brent falling below \$100/b by year end. The projected price bound for 2022 ranges between \$82/b and \$153.2/b and for 2023 between \$71.4/b and \$149.2/b, on a monthly basis.
- **The most plausible scenario for 2022 is for the market to remain in deficit, as previously expected surpluses are now nearly eliminated.** Our best-case scenario now sees supply/demand conditions only balanced in 2022, with the risk of deficits building in an already tight stocks environment across all quarters. The supply/demand gap in 2022 ranges between -1.9 mb/d and 0.5 mb/d, with the prospect of a more balanced market reappearing again towards the end of 2022 and in 2023.

Global balance



Source: OIES

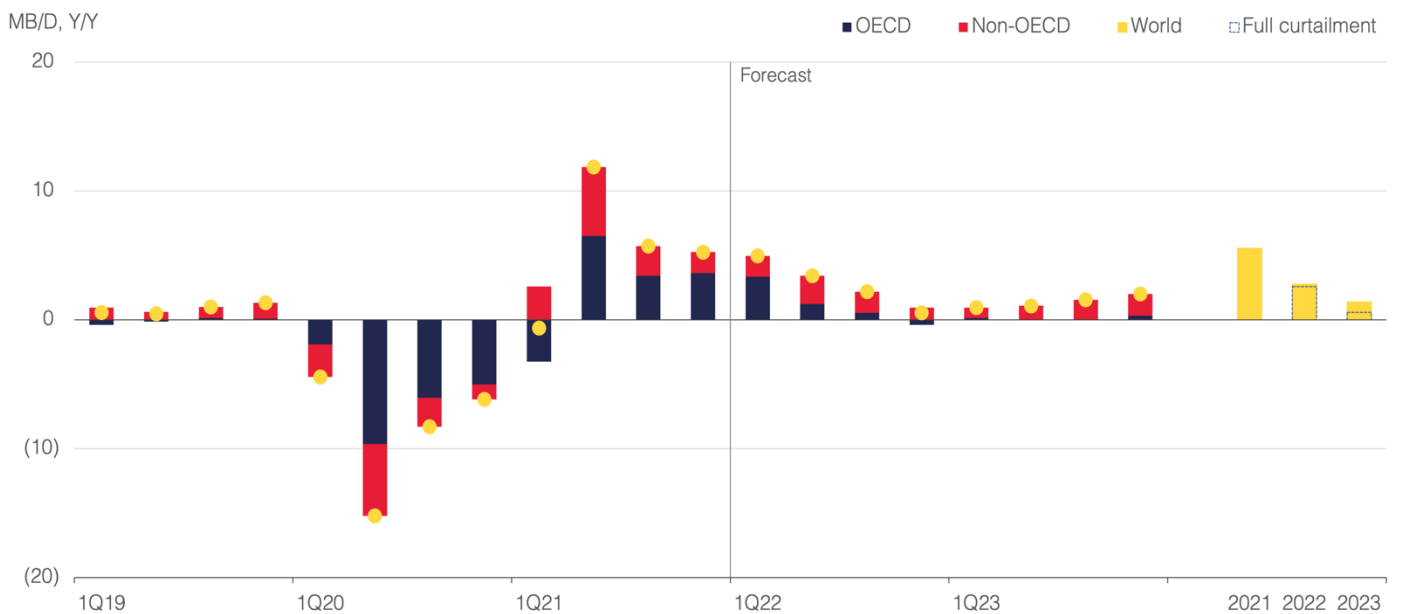
Outlook

Demand

Disruptions to energy markets taking a toll on global oil demand

High commodity prices and persistent economic disruptions are already stressing global oil demand, with bigger disruptions leading to significant spillovers in 2023.

Global oil demand



Notes: The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022 and the full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies between February and May 2022. Source: OIES

Global oil demand

MB/D

	Total		Y/Y	
	Ref ¹	Full ²	Ref ¹	Full ²
2022	100.1	99.9	2.8	2.6
± base ³	-0.4	-0.6	-0.4	-0.6
2023	101.5	100.5	1.4	0.6
± base ³	-1.0	-2.0	-0.6	-1.4

¹ Reference.

² Full curtailment case.

³ Difference versus no-disruption baseline.

Global oil demand loses between 1 mb/d and 2 mb/d of growth in 2022 and 2023

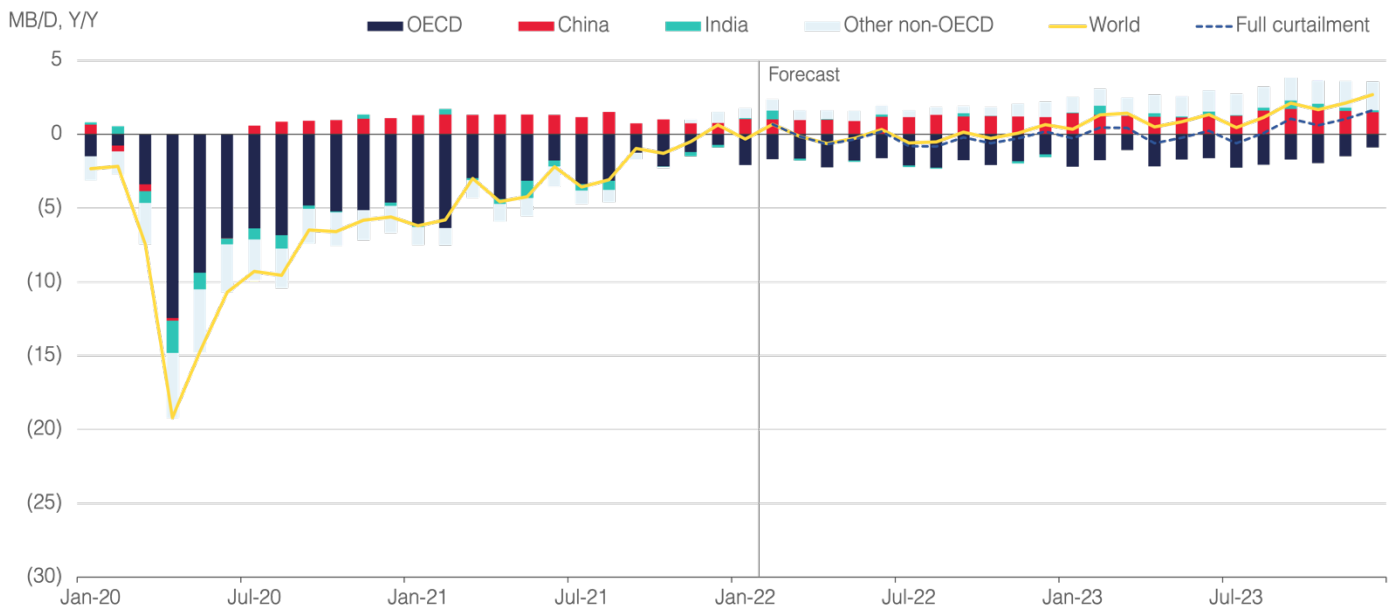
Our reference forecast, in which the Ukraine war results in limited energy disruptions, sees global demand growth cut by 0.4 mb/d in 2022 and 0.6 mb/d in 2023 compared to the no-disruptions baseline. Tougher, broader and/or tit-for-tat energy sanctions, leading to bigger disruptions in oil supply and higher prices as a response, would shave-off another 1 mb/d of global demand growth by 2023.

Outlook

Risks to the demand outlook are further skewed to the downside

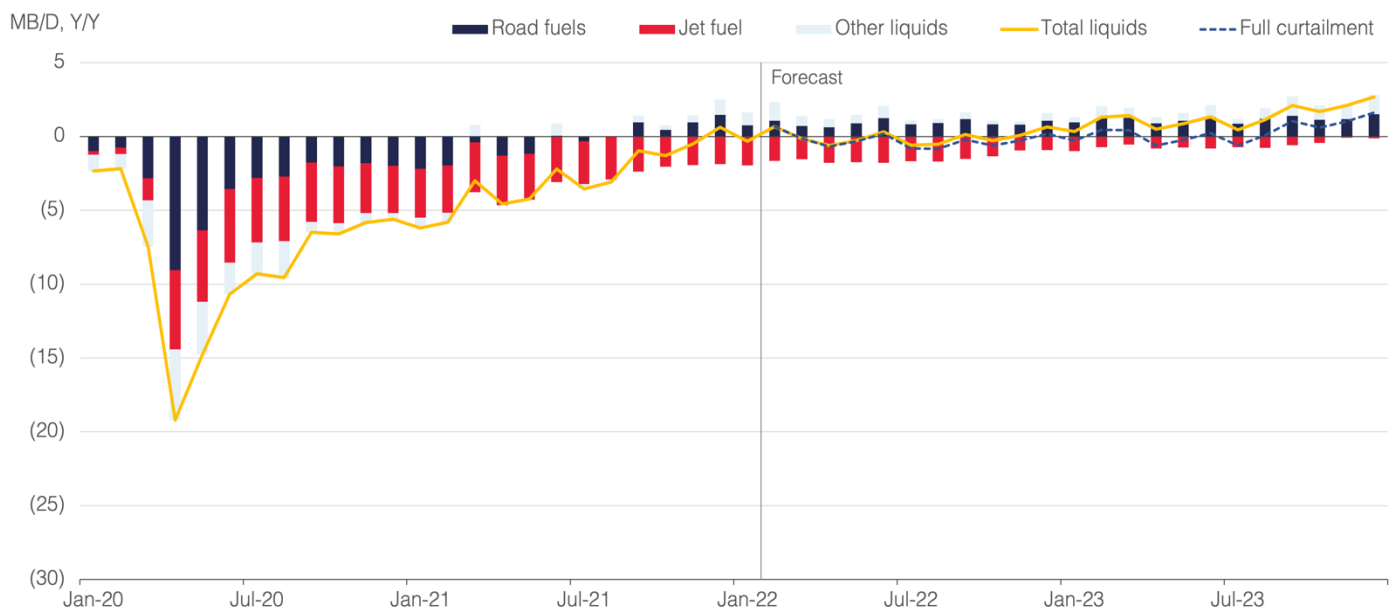
For 2022, global demand fails to surpass 2019 levels and averages 100.1 mb/d versus 100.3 mb/d, while the full curtailment case sees demand averaging 99.9 mb/d.

Global oil demand by region vs 2019



Source: OIES

Global oil demand by sector vs 2019



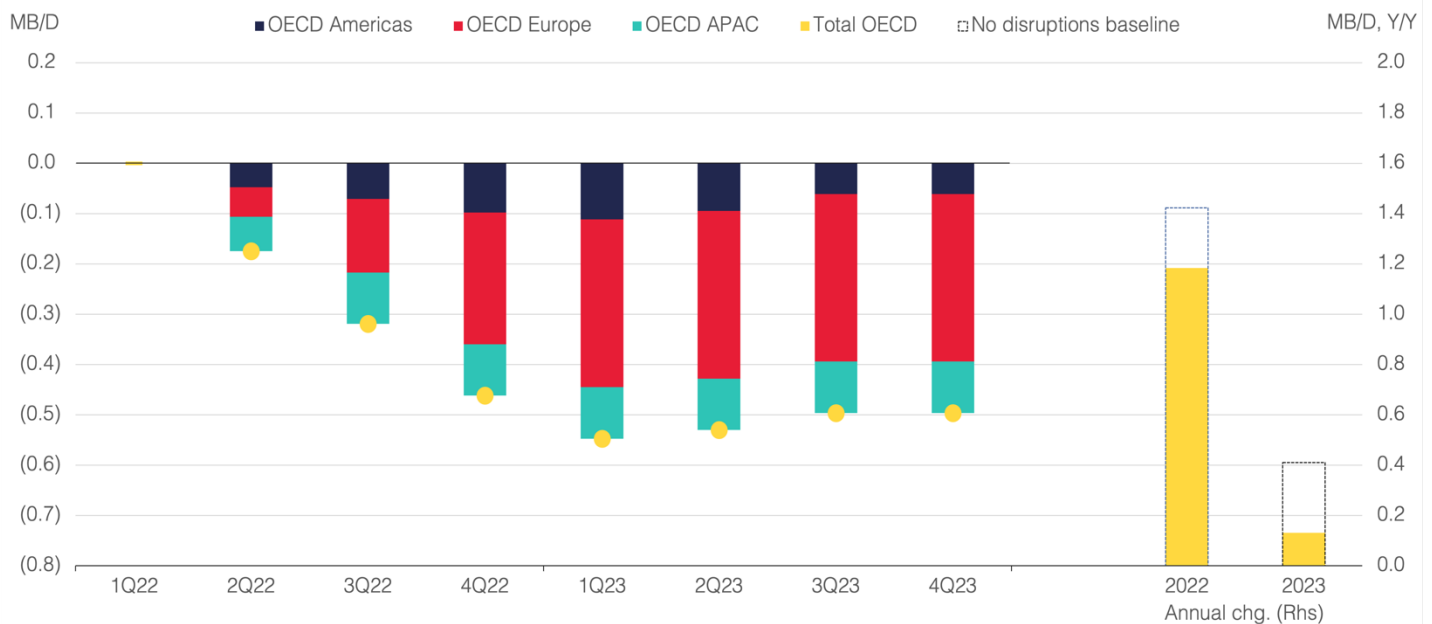
Notes: Other liquids include fuels for other transport, commercial/residential use, industry and other uses. Source: OIES

Outlook

OECD Europe will be the hardest hit region

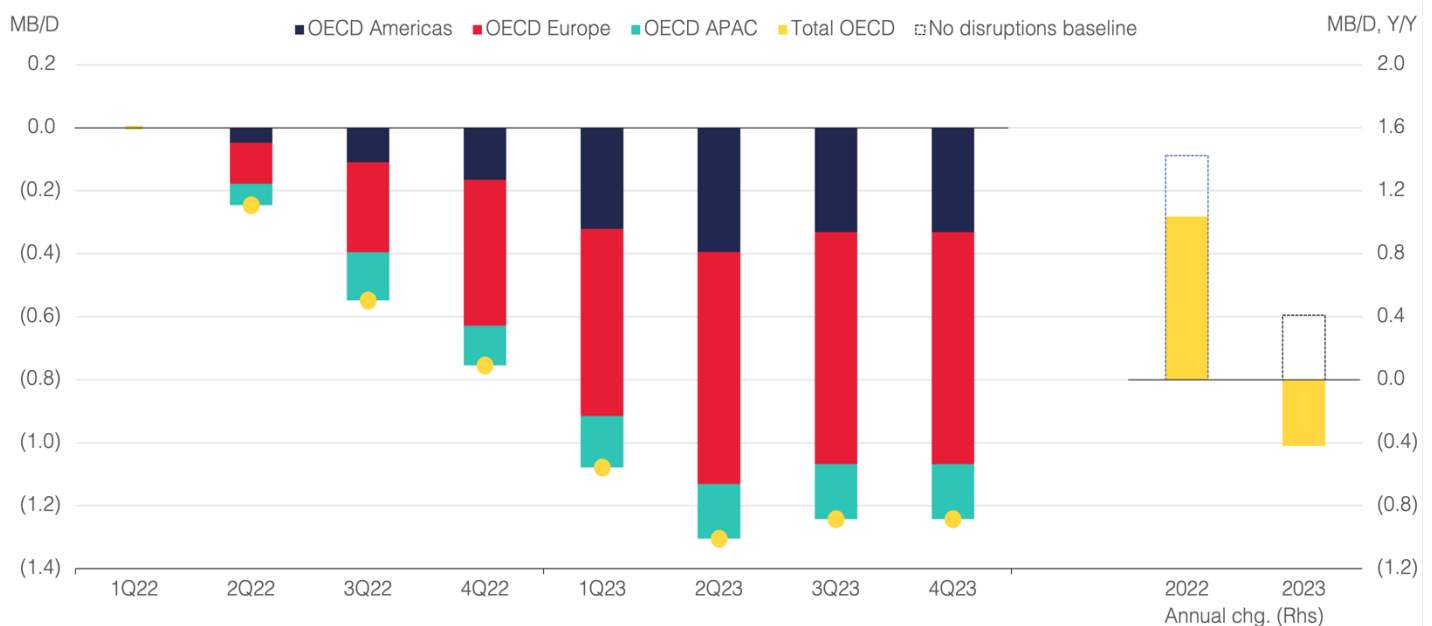
The impact on OECD demand is significant with growth lowered by 0.5 mb/d and the loss extending to 1.2 b/d in the worst case, as growth falls to negative territory in 2023.

OECD oil demand response in *Reference case*



Notes: The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022. Source: OIES

OECD oil demand response in *Full curtailment case*



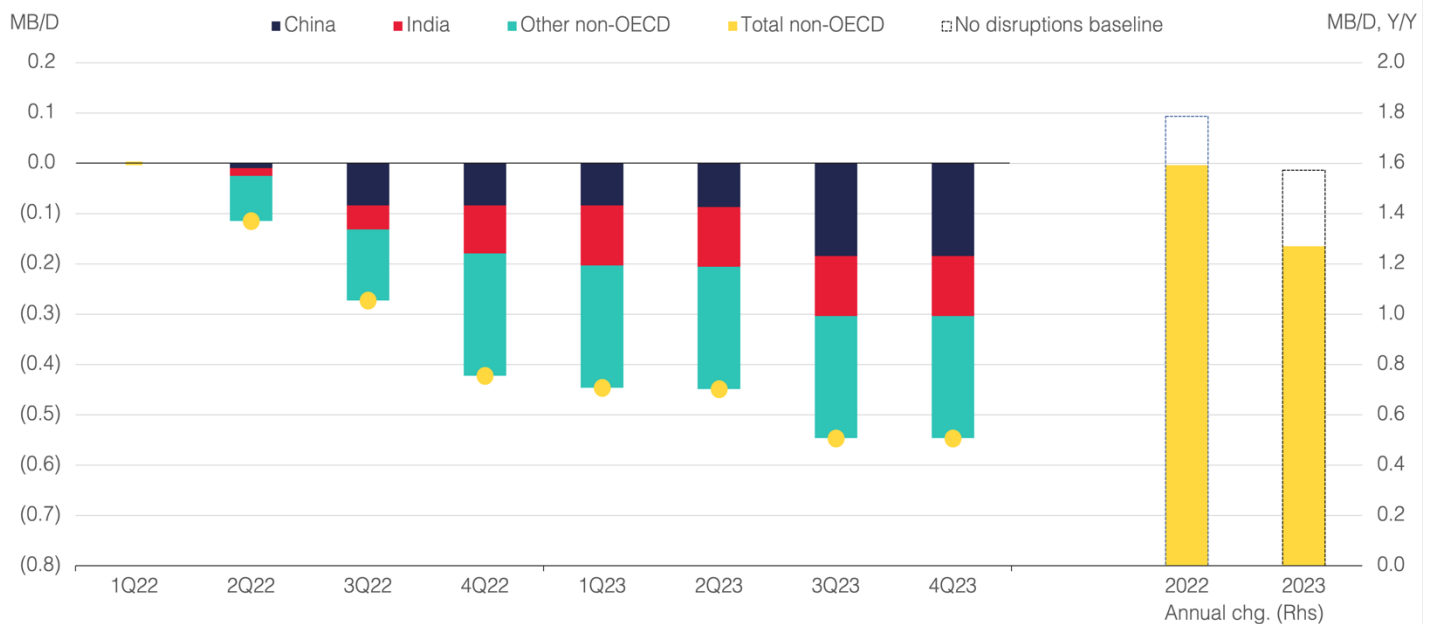
Notes: The full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies by May 2022. Source: OIES

Outlook

Risks to non-OECD demand rise in 2023

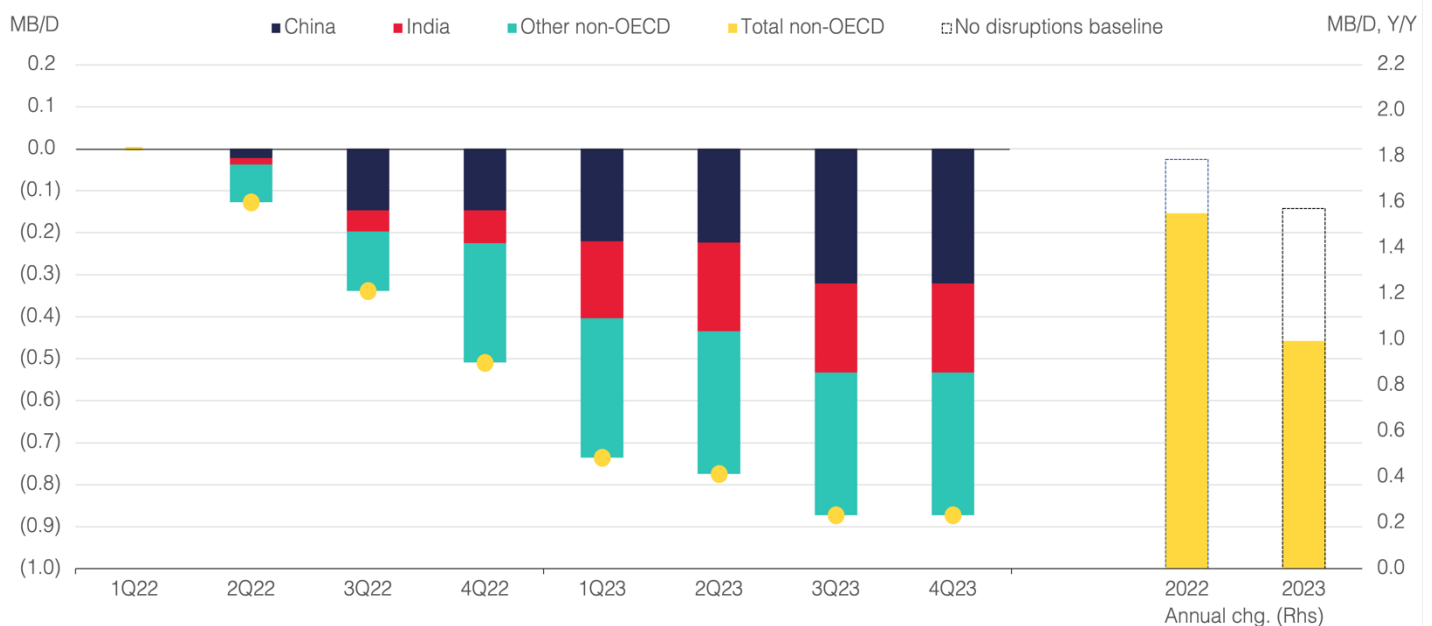
The negative impacts in non-OECD demand become more acute towards the end of 2022 and extend into 2023 with some 0.9 mb/d of total growth at risk.

Non-OECD oil demand response in *Reference case*



Notes: The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022. Source: OIES

Non-OECD oil demand response in *Full curtailment case*



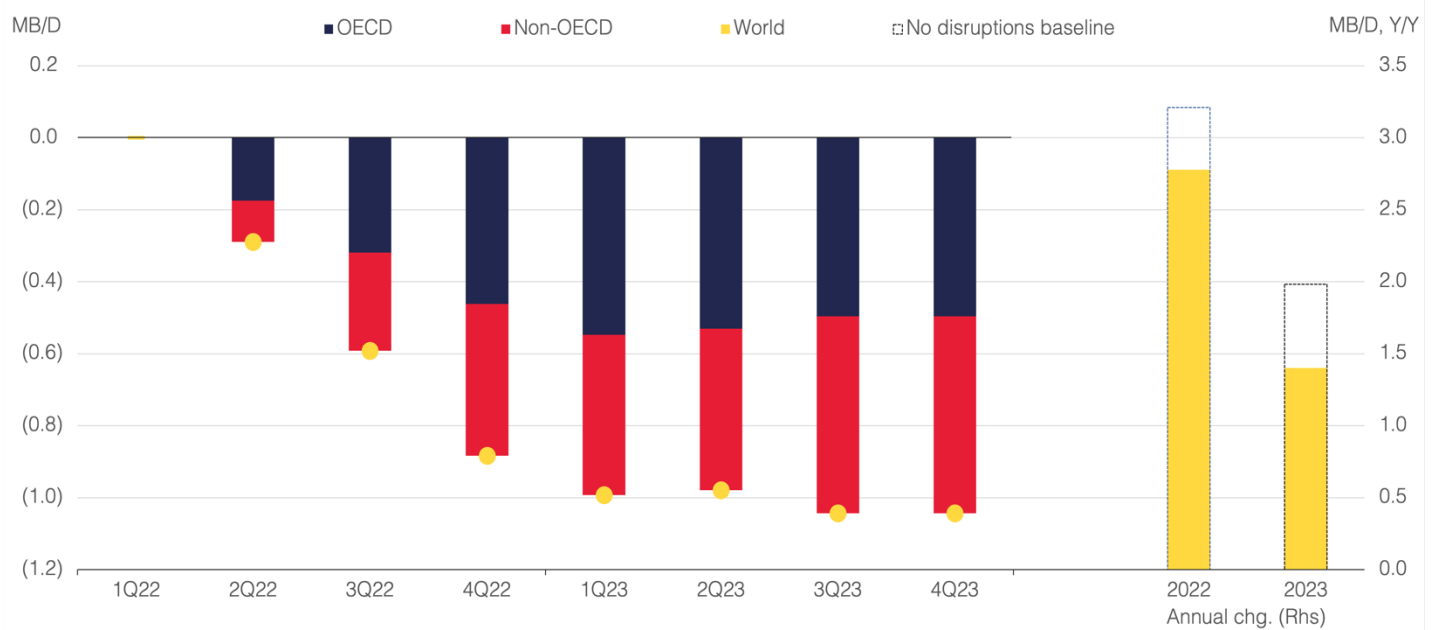
Notes: The full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies by May 2022. Source: OIES

Outlook

The magnitude of the supply shock will be key for global oil demand

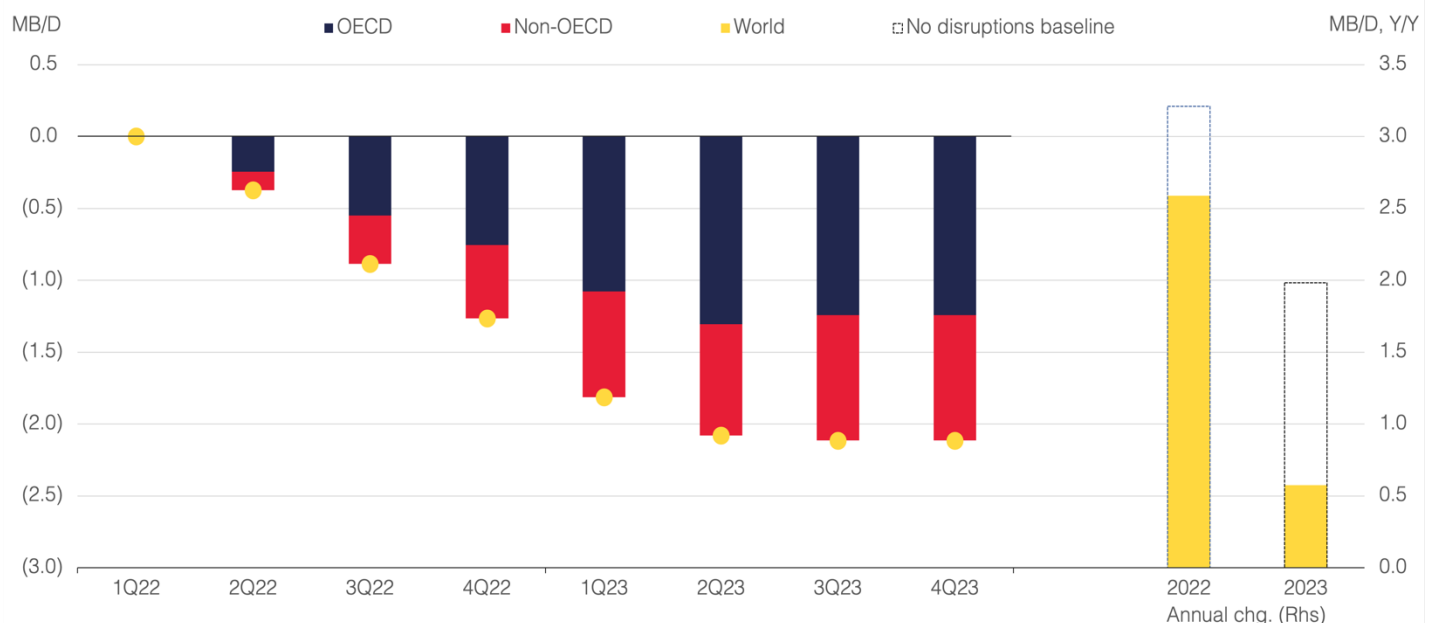
Oil demand growth remains robust in our reference forecast for 2022/23, but the outlook is highly vulnerable to the duration, magnitude and macro-effects of the supply shock.

Global oil demand response by region in *Reference case*



Notes: The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022. Source: OIES

Global oil demand response by region in *Full curtailment case*



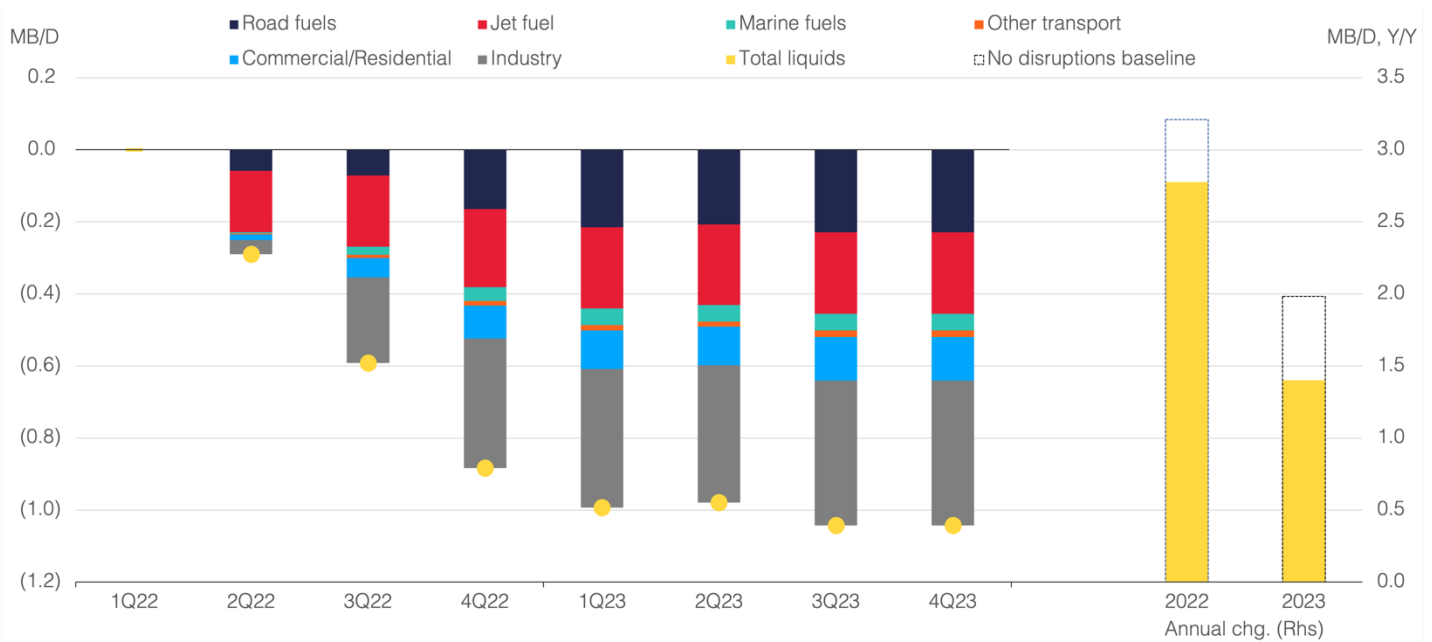
Notes: The full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies by May 2022. Source: OIES

Outlook

Demand for industrial use accounts for nearly half the disruptions

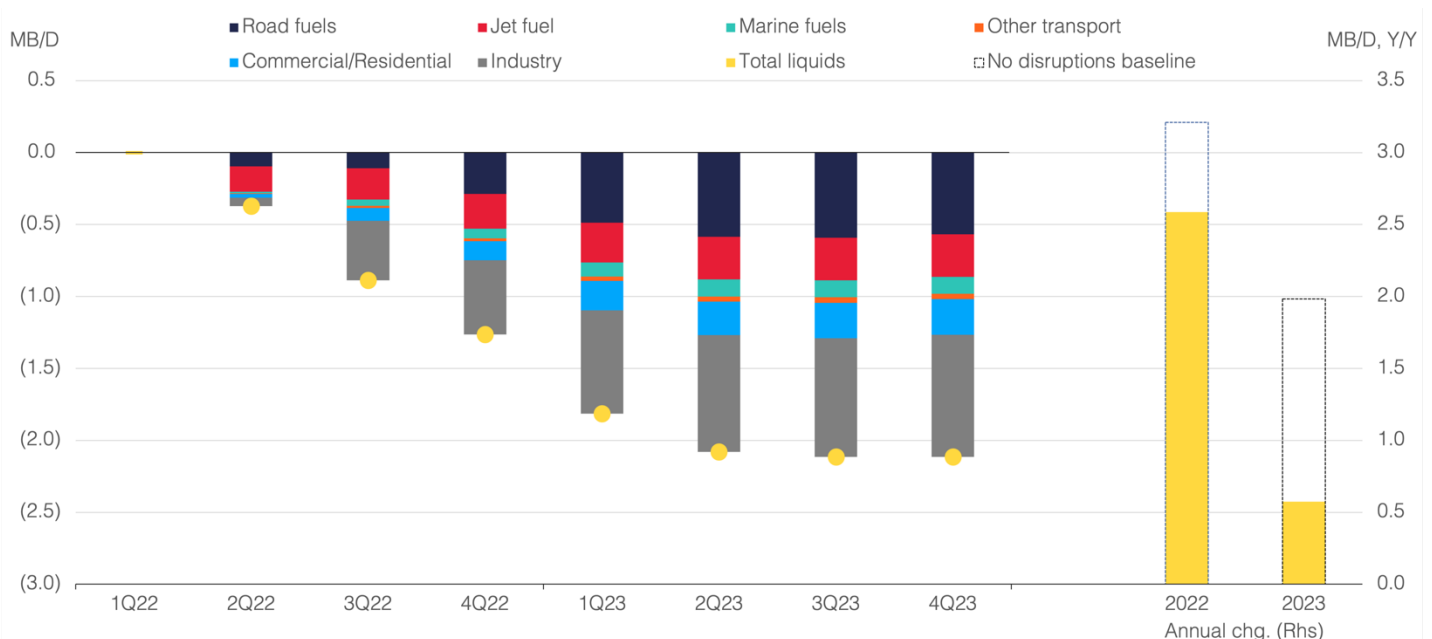
The disruption in fuel demand for industry is estimated at 40% of total demand losses, followed by road fuels and jet at 20% each, and commercial/residential use at 12%.

Global oil demand response by sector in *Reference case*



Notes: The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022. Source: OIES

Global oil demand response by sector in *Full curtailment case*



Notes: The full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies by May 2022. Source: OIES



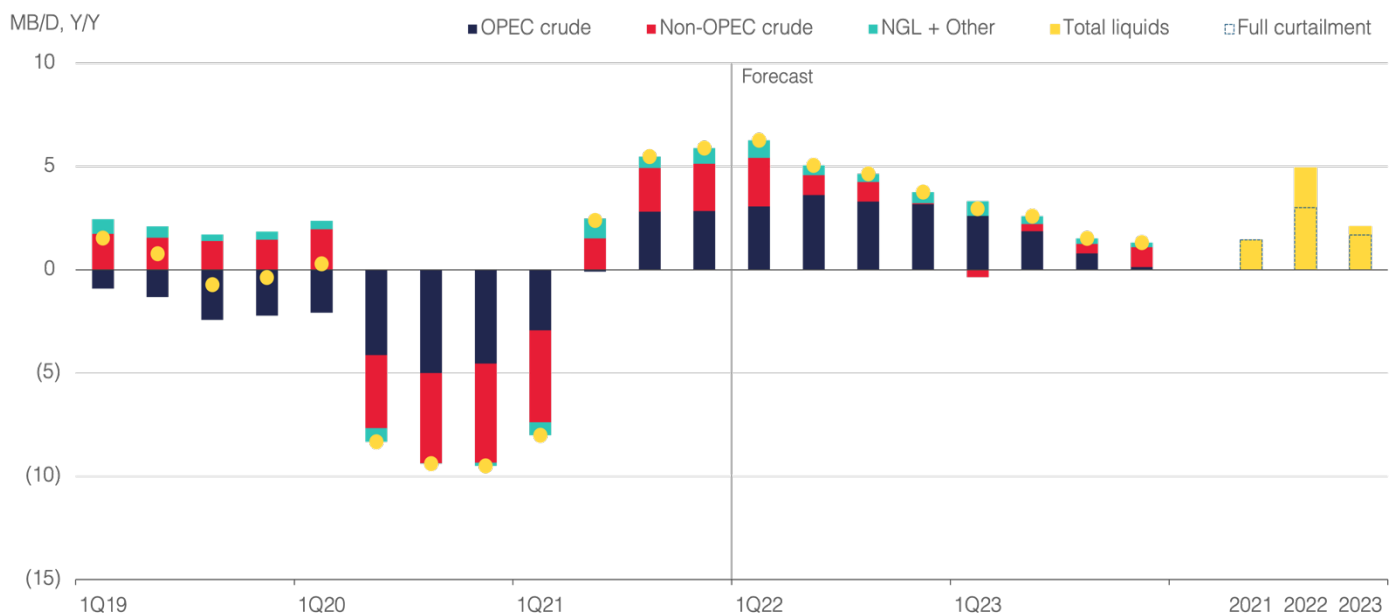
Outlook

Supply

Russia's disruptions further worsen the supply crunch

Loss of Russia's oil supplies would create a perfect storm of supply disruptions amid capacity constraints and low buffers with enduring effects on market dynamics.

Global oil supply



Notes: The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022 and the full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies between February and May 2022. Source: OIES

Global oil supply

MB/D

	Total		Y/Y	
	Ref ¹	Full ²	Ref ¹	Full ²
2022	100.2	98.3	4.9	3.0
± base ³	-0.8	-2.7	-0.8	-2.7
2023	102.3	99.9	2.1	1.7
± base ³	-0.7	-3.0	+0.1	-0.3

¹ Reference.

² Full curtailment case.

³ Difference versus no-disruption baseline.

Global oil supply could fail to return to pre-COVID levels before 2024

In our worst case of a full curtailment of Russia's oil supplies, global supply growth loses over 3 mb/d by 2023 and global supplies fail to grow in both years. The ability of the rest of the producers to respond to such a shock is limited by underinvestment and reduced capacity. The use of spare capacity to fill any gap by the few OPEC producers that can, will act as a double-edged sword as the system will be left with no buffers. Our analysis however shows that Russia's production losses of up to 1 mb/d will be manageable in the short-term even without the release of spare capacity.

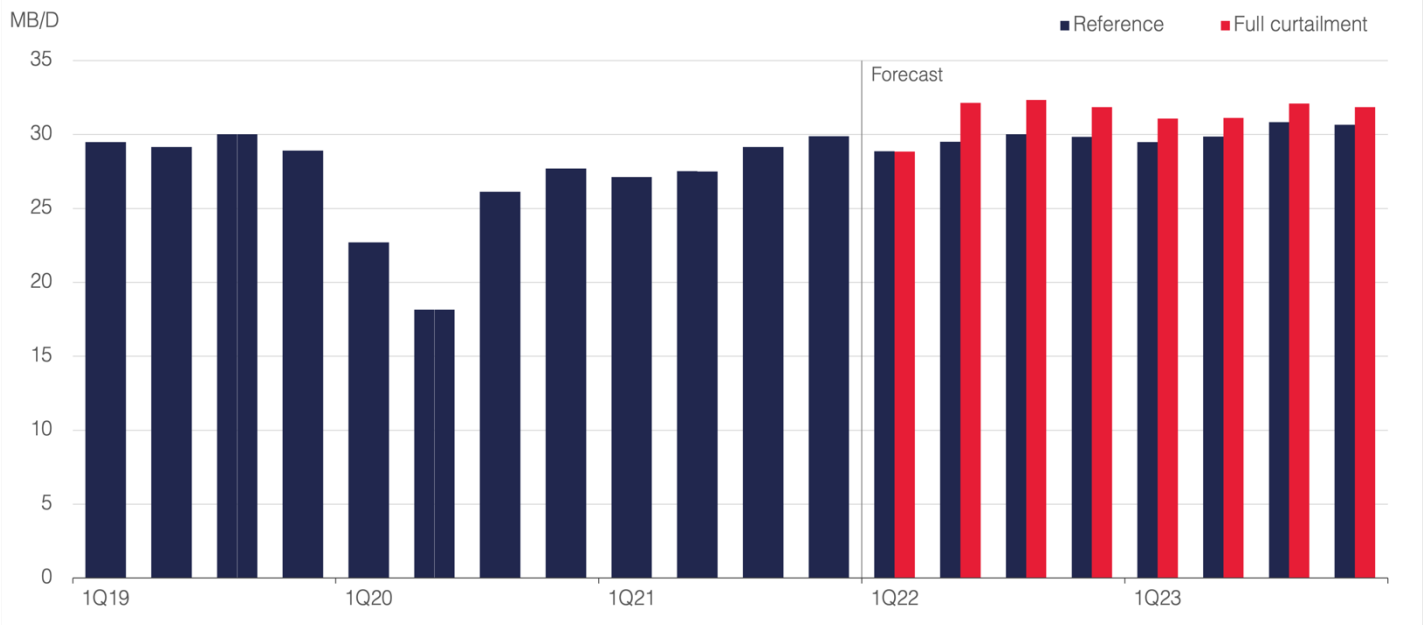
Outlook

OPEC

Current agreement remains the OPEC+ response for now

OPEC+ has stuck to the current agreement of gradually increasing supplies on a monthly basis by 0.4 mb/d till September 2022, returning on paper 2.9 mb/d.

OPEC call



Notes: The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022 and the full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies between February and May 2022. Source: OIES

OPEC call

MB/D

	Reference	Full curtailment
2022	29.6	31.3
± base ³	+0.4	+2.1
2023	30.2	31.5
± base ³	-0.2	+1.1

¹ Difference versus no-disruption baseline.

The OPEC call could rise to 2.9 mb/d in 2022, with the OPEC pledge at 1.9 mb/d

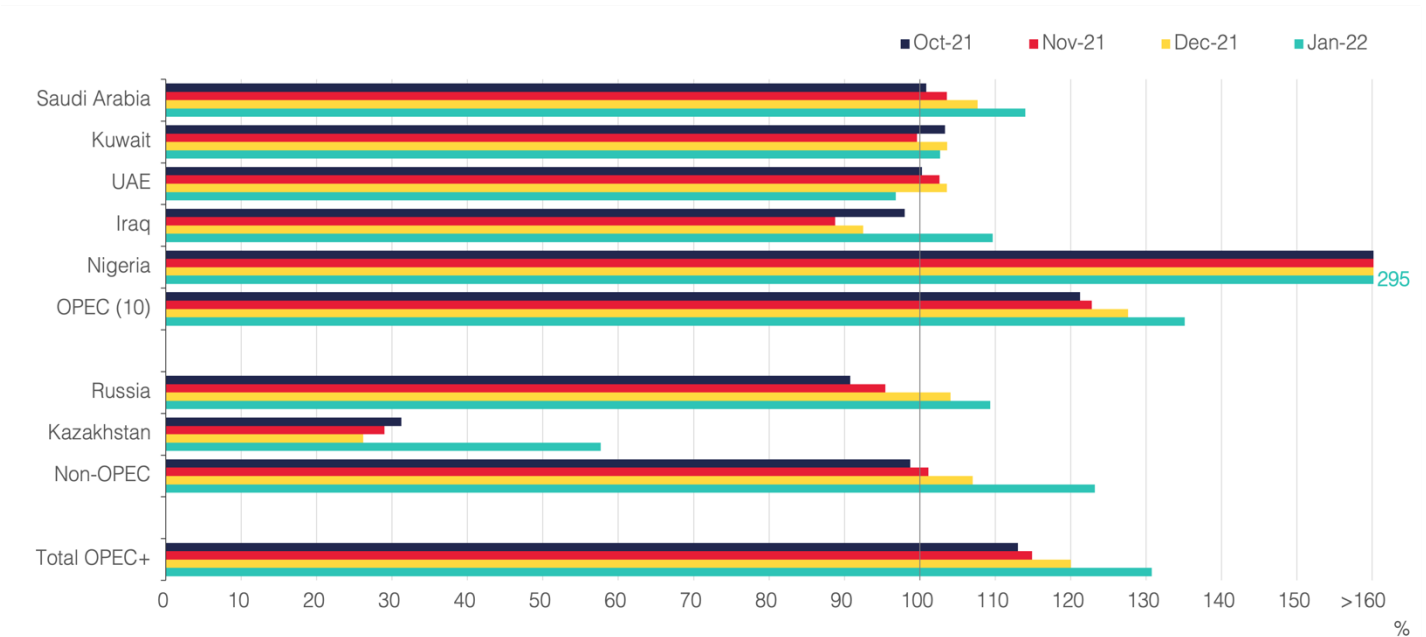
Under the current agreement, OPEC+ is targeting to bring back to the market 2.9 mb/d between March and September 2022, of which OPEC producers (excluding Iran, Libya and Venezuela) account for 1.9 mb/d. Assuming that OPEC producers can reach their targets, this still remains 1 mb/d below the call under our worst case.

Outlook

OPEC+ underproduction to rise further in 2022

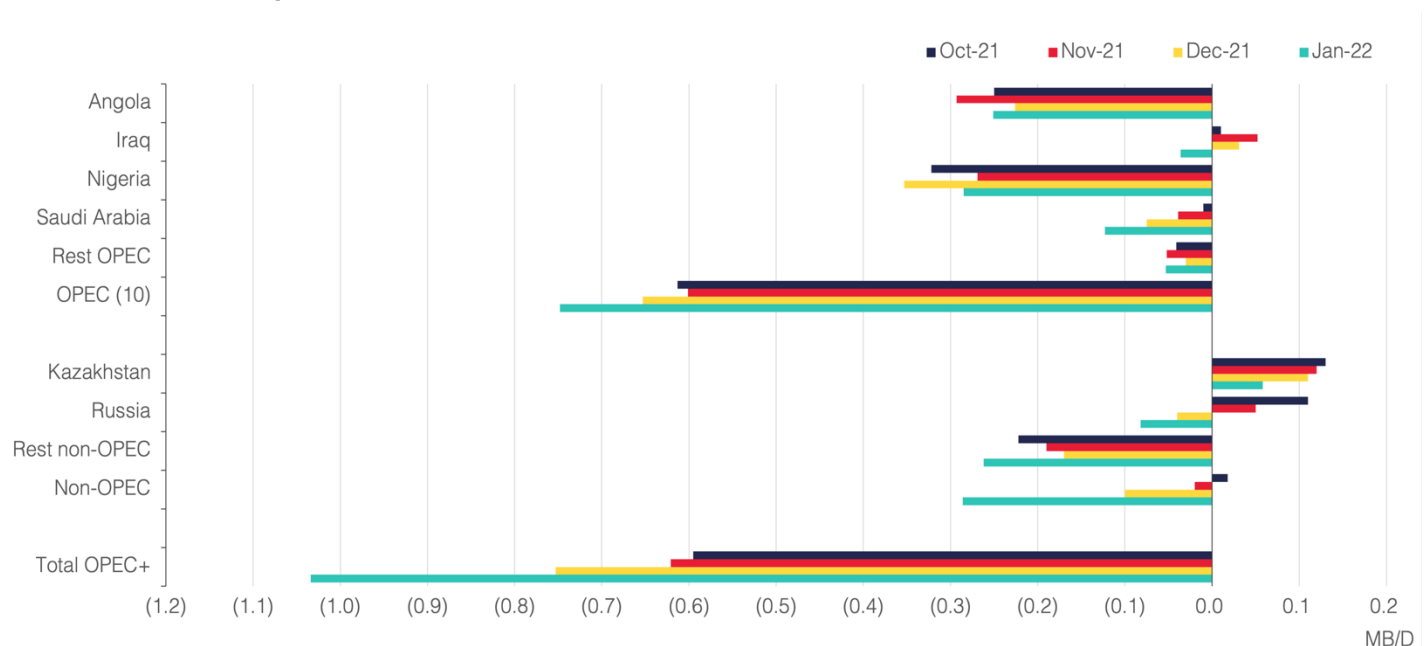
Total OPEC+ production excluding Russia reached 0.8 mb/d below planned target in January 2022 and it is expected to rise further to 1.5 mb/d by the end of the deal.

OPEC+ output compliance



Source: OIES

OPEC+ over/under production



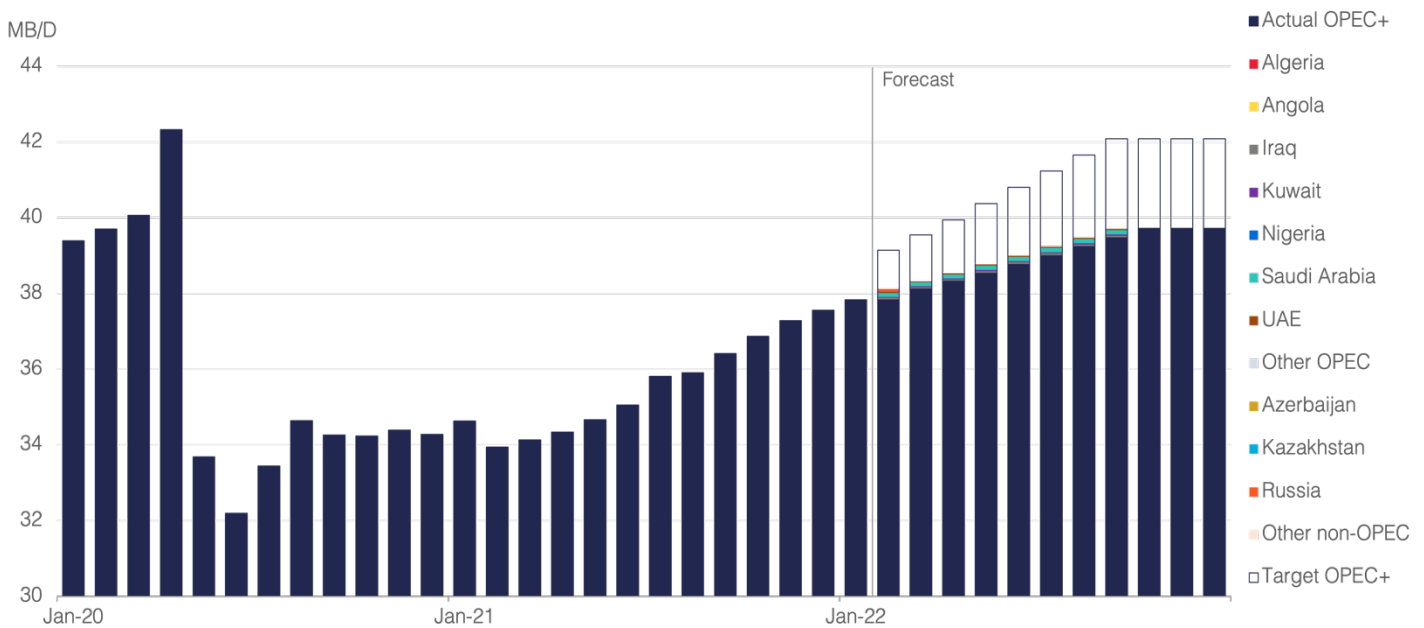
Source: OIES

Outlook

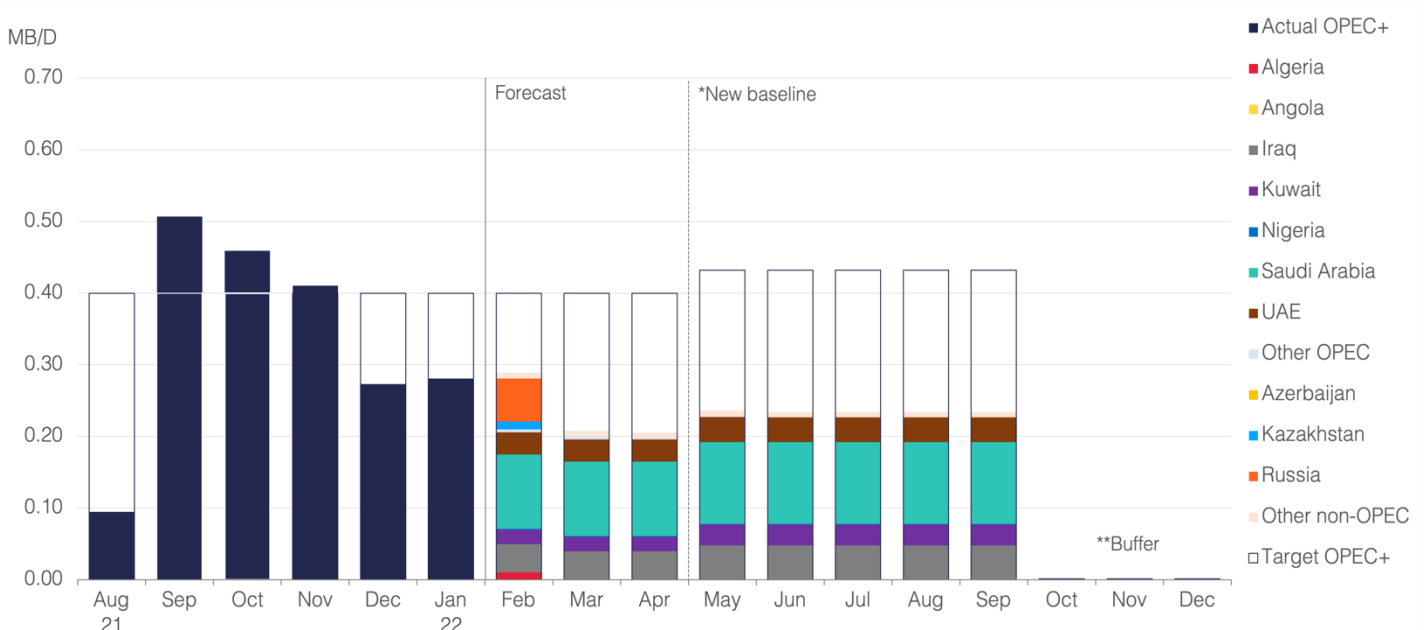
Most OPEC+ producers are now producing near maximum capacity

We expect total OPEC+ excluding Russia to be able to return 1.6 mb/d between March and September 2022, 0.6 mb/d below the headline target of 2.2 mb/d.

Target versus projected OPEC+ production



Target vs projected OPEC+ production increases by country

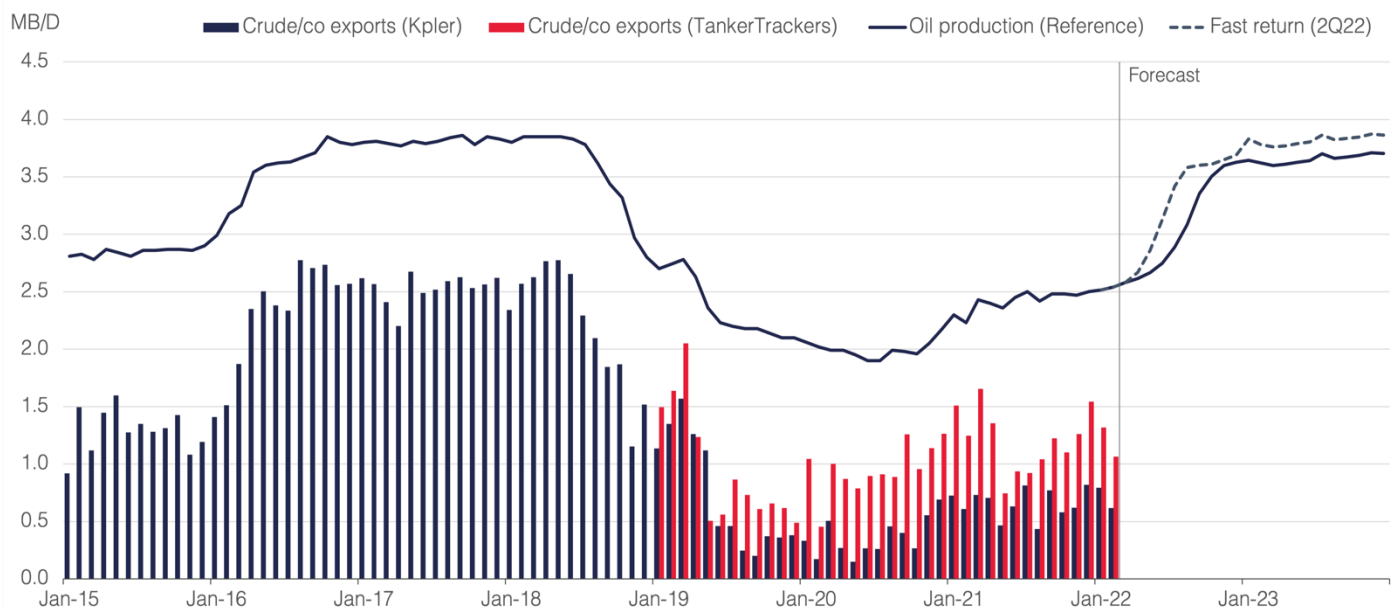


Outlook

Iran's return is seen to moderate prices but only marginally

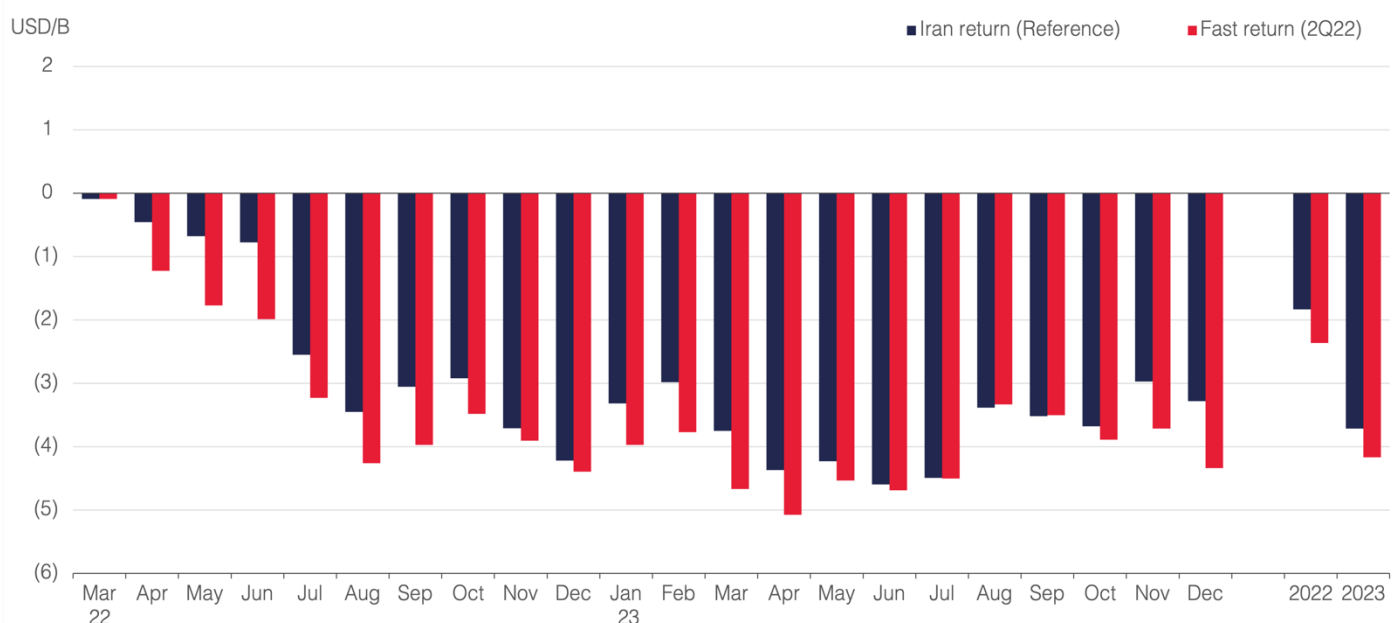
Even if Iranian output resumes as soon as Q2 2022, we expect the impact on prices to remain limited and peak near $-\$2/\text{b}$ in 2022 and $-\$4/\text{b}$ in 2023 on annual terms.

Iran oil exports and production



Source: Kpler, TankerTrackers, OIES

Brent price impact of Iran's return under *Full curtailment case*



Source: OIES

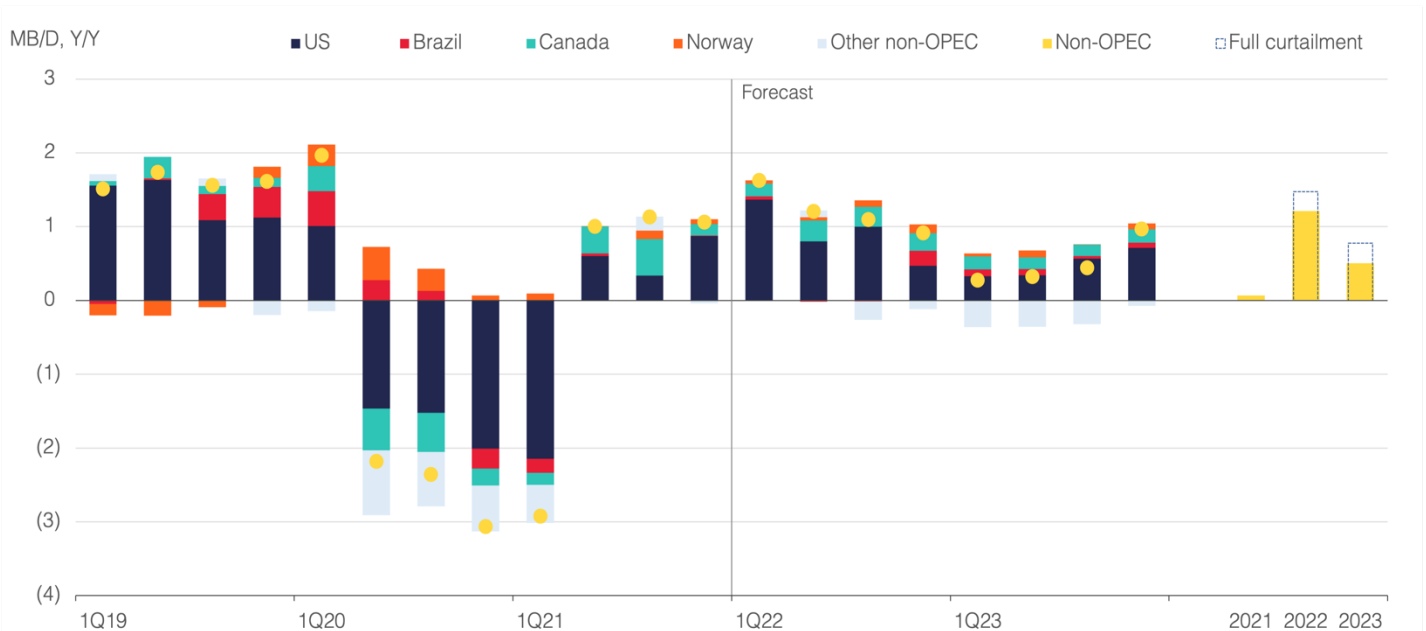
Outlook

Non-OPEC

Non-OPEC supply response is limited in the short-term

US growth constraints beyond 2022 weigh on total non-OPEC response to the crisis, while upstream underinvestment limits further responses from elsewhere.

Non-OPEC supply excluding OPEC+



Notes: Crude oil only. The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022 and the full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies between February and May 2022. Source: OIES

Non-OPEC crude supply

MB/D

	Total		Y/Y	
	Ref ¹	Full ²	Ref ¹	Full ²
2022	52.6	50.7	1.1	(0.8)
± base ³	-1.0	-2.9	-1.0	-2.9
2023	53.0	50.5	0.4	(0.2)
± base ³	-1.2	-3.6	-0.2	-0.7

¹ Reference.

² Full curtailment case.

³ Difference versus no-disruption baseline.

Non-OPEC crude supply could add an additional 0.6 mb/d by 2023

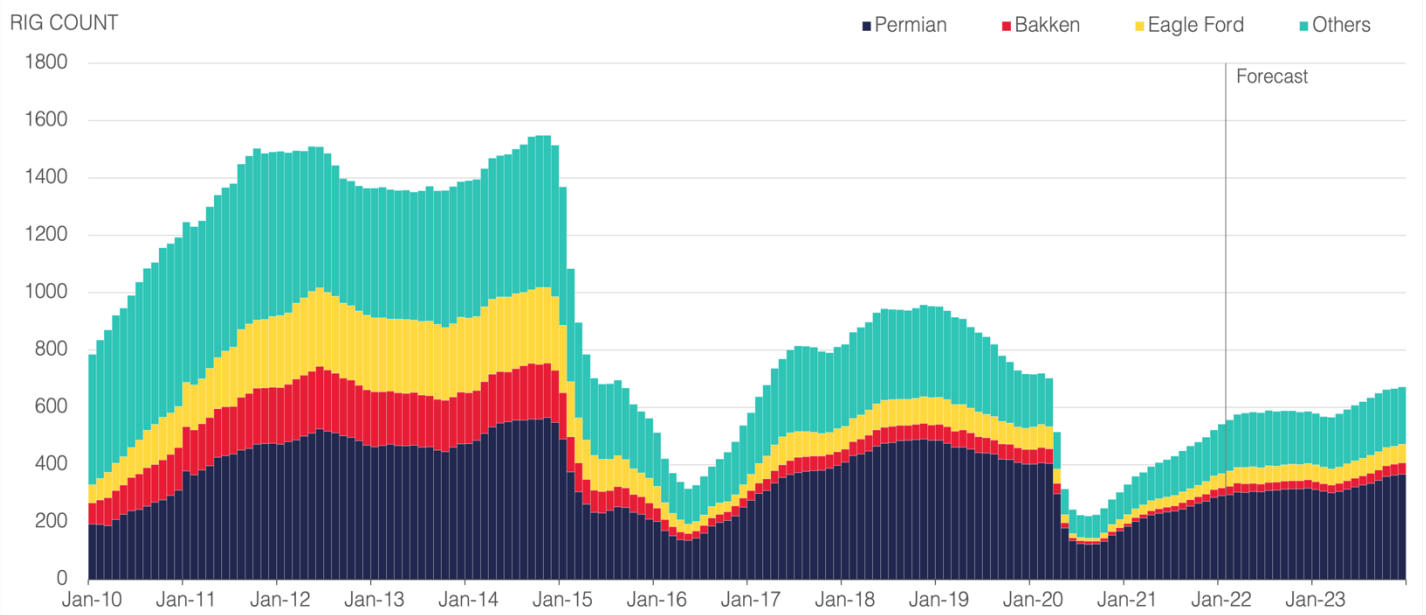
Outside OPEC+, our full curtailment scenario sees non-OPEC production responding to elevated prices by an additional 0.3 mb/d of growth each year in 2022 and 2023, compared to our no-disruption baseline. The non-OPEC growth responses originate mainly from the US that accounts for half of the total non-OPEC response by 2023 (0.3 mb/d), Canada that accounts for 0.2 mb/d of additional growth and Norway that adds 0.1 mb/d.

Outlook

Capital discipline continues to restraint US shale response

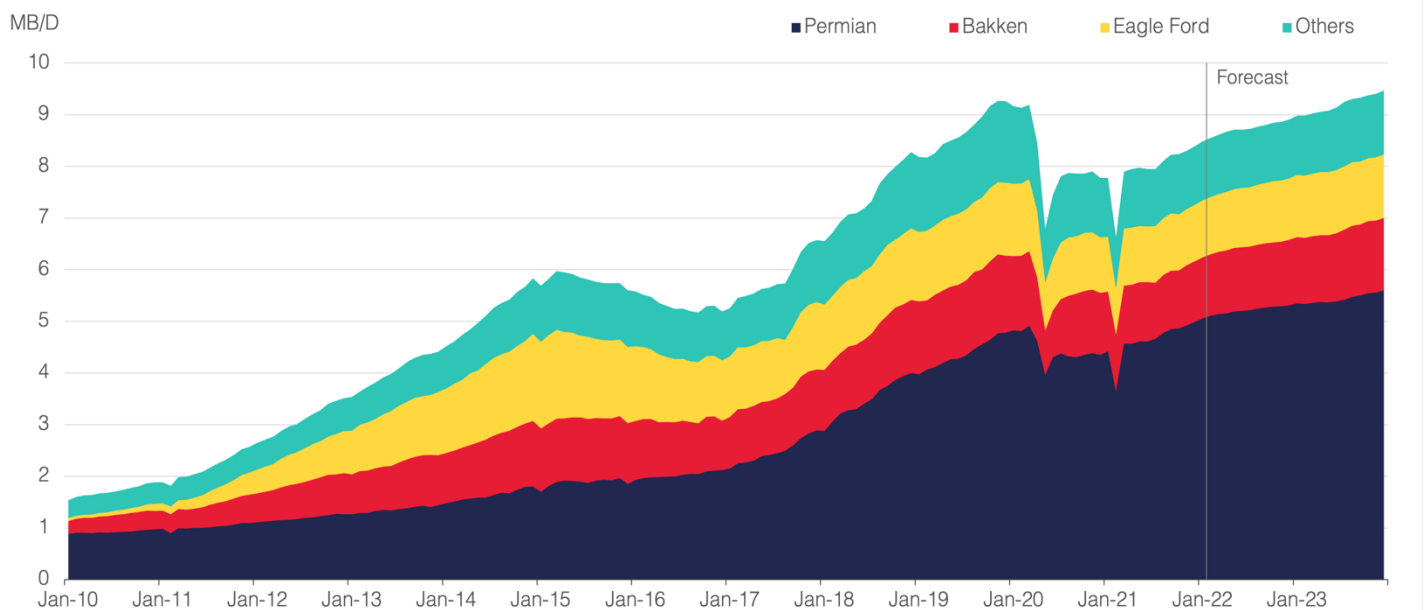
Despite the increase in cash flows, these have not been translated into a similar increase in capex and a big part is being returned to shareholders or paying off debt.

US shale drilling activity by play



Source: OIES

US shale production by play



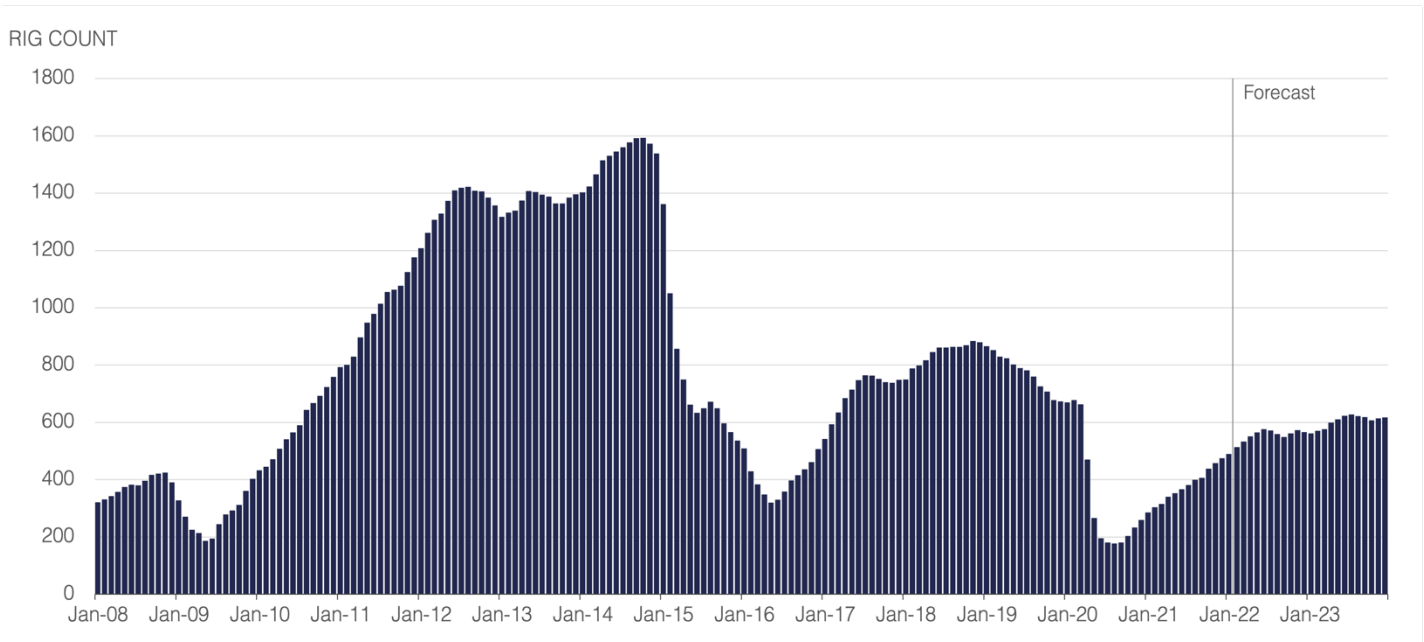
Source: OIES

Outlook

US production accounts for half the total non-OPEC response

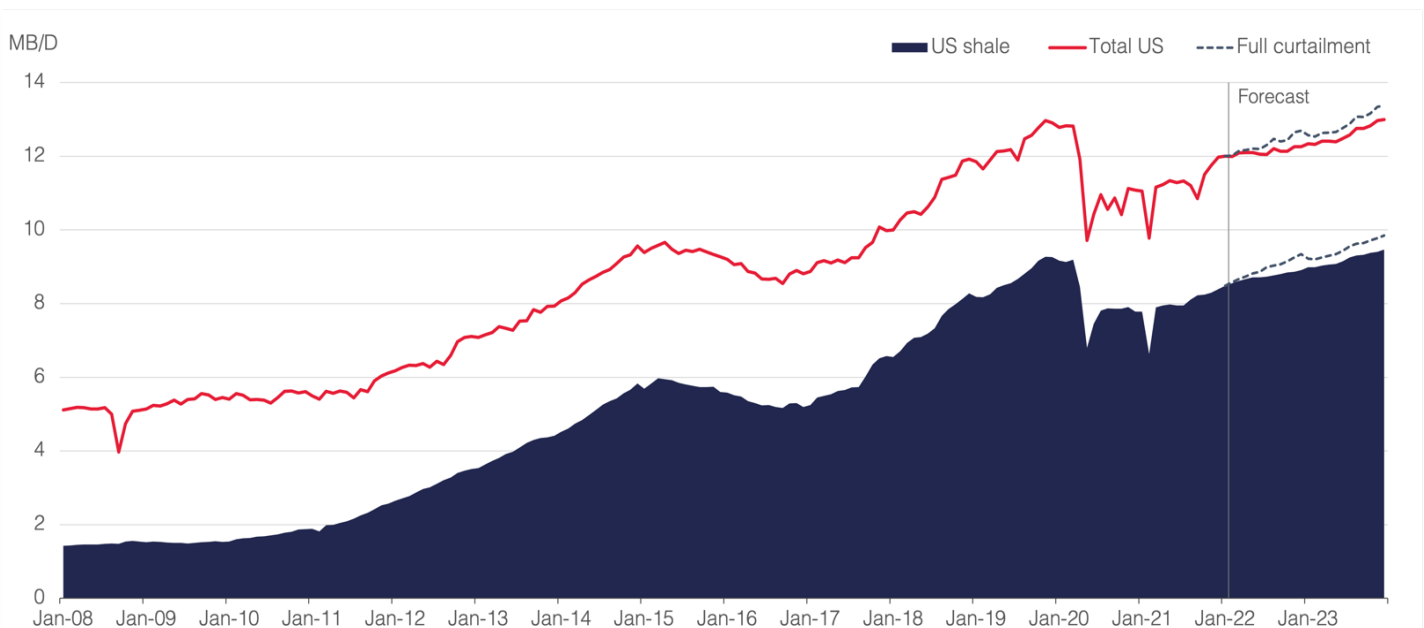
US crude growth could reach 1.1 mb/d in 2022, compared to our reference 0.9 mb/d, and 0.6 mb/d in 2023 (vs 0.5 mb/d) as growth prospects beyond 2022 remain limited.

US drilling activity, oil-directed



Source: OIES

US supply



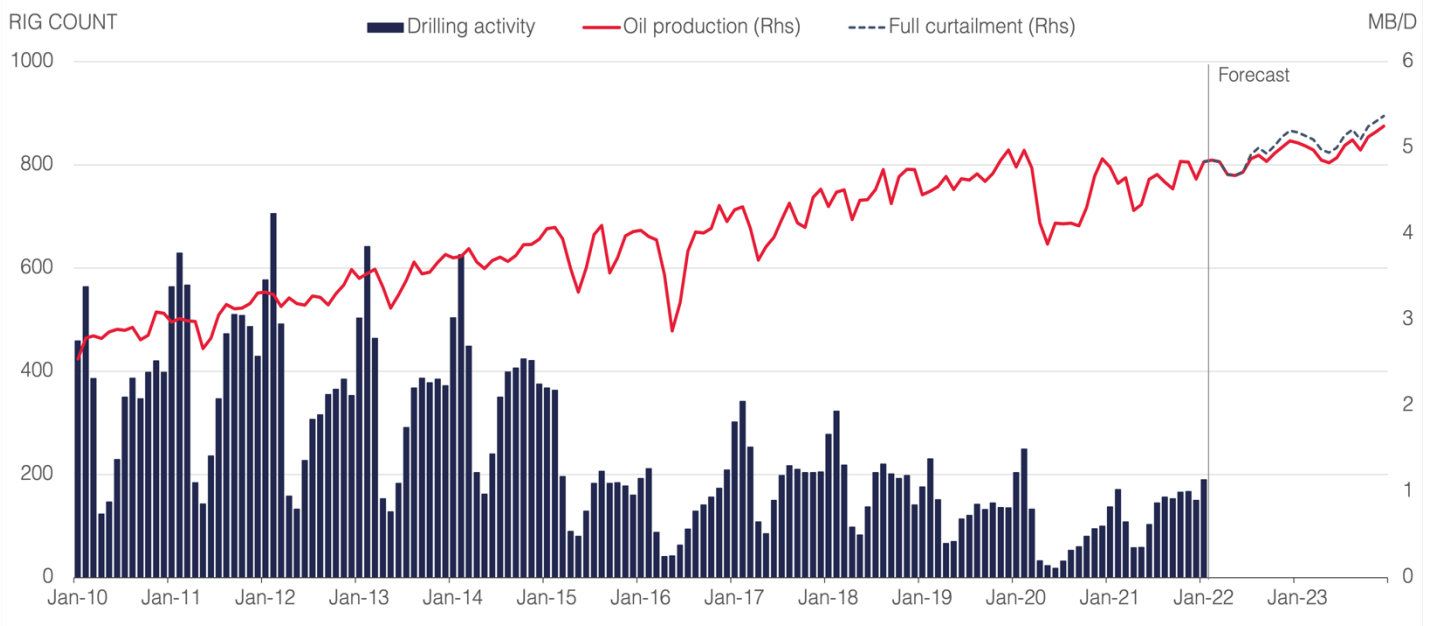
Notes: Crude oil only. The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022 and the full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies between February and May 2022. Source: OIES

Outlook

North America will lead the non-OPEC response

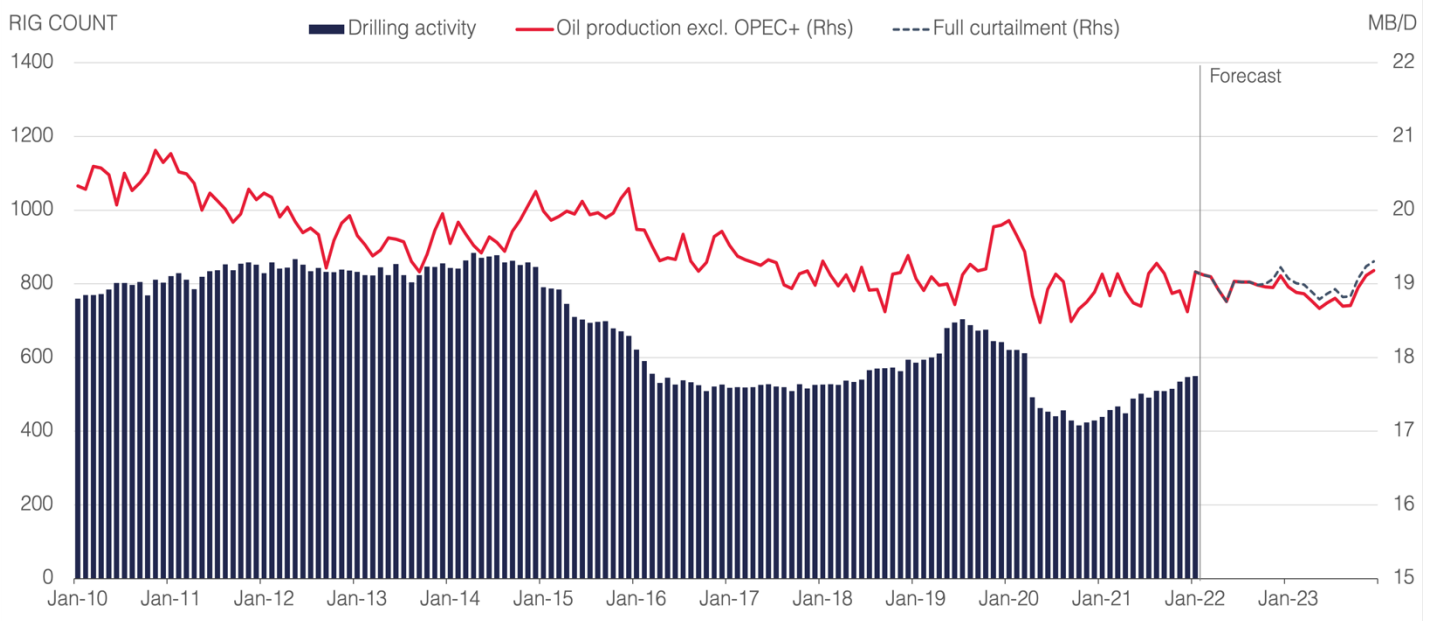
Outside the US, Canada leads the non-OPEC response adding 0.2 mb/d of growth by 2023, followed by Norway that adds 0.14 mb/d but with most gains confined to 2023.

Canada supply



Notes: The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022 and the full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies between February and May 2022. Source: Baker Hughes, OIES

Non-OPEC supply outside NAM



Notes: The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022 and the full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies between February and May 2022. Source: Baker Hughes, OIES

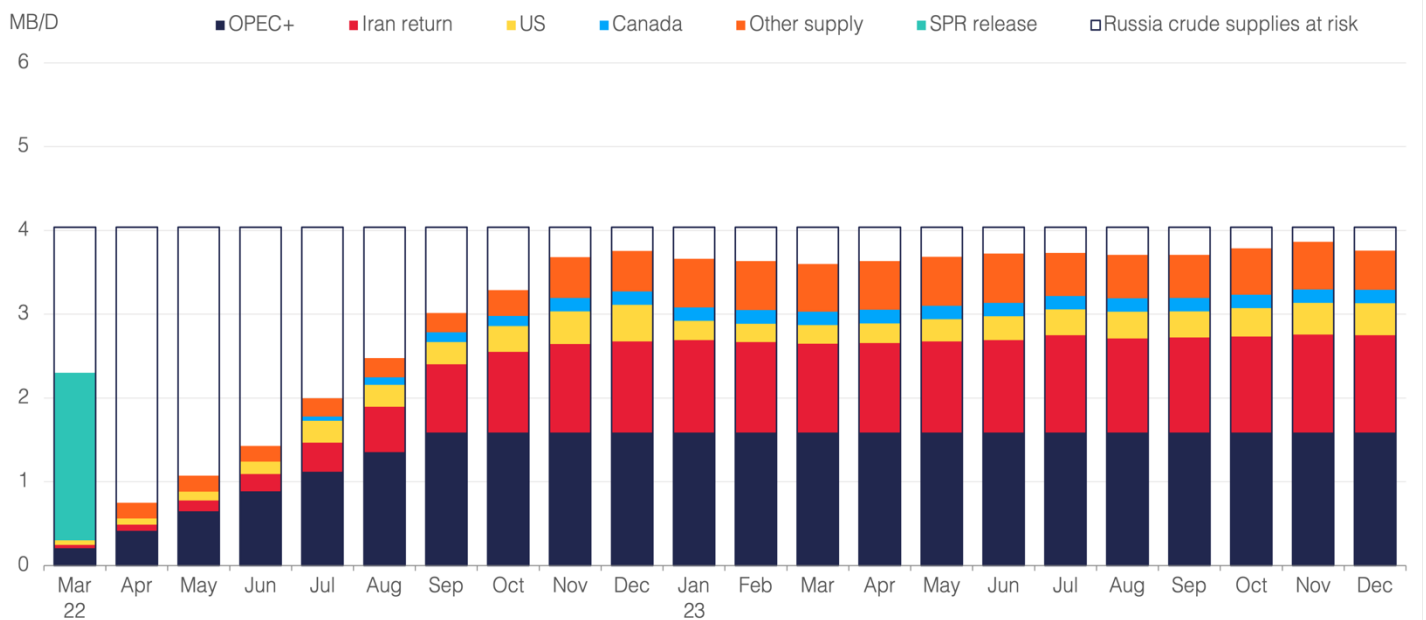
Outlook

Supply response

Oil supply needs a collective response for a material impact

Several supply responses need to occur simultaneously to have a material impact on a potential shock, but such a collective response is extremely difficult.

Replacement barrels versus Russian crude supplies at risk



Source: OIES

Supply response

MB/D

	Russia crude at risk	Replacement barrels
OPEC+	4.0	1.6
Iran	2.5	1.2
US	1.3	0.4
Canada	0.9	0.2
Other ¹	0.7	0.5
Balance	0.3	(0.3)

¹ Includes other non-OPEC crude, NGLs and other liquids.

A collective supply response can fill up to 93% of the total Russian gap by year end

Under the full curtailment scenario in which the disruption in Russia's oil supplies reaches 4 mb/d, we expect 93% or 3.7 mb/d of that gap to be filled by Q4 2022. OPEC+ production hikes based on the current deal will account for 39% or 1.6 mb/d of total replacement barrels, the return of Iran will account for 28% or 1.1 mb/d and non-OPEC and other liquids will account for the remaining 25% or 1 mb/d. As of 2023, the supply response falls short of the total supply gap by 0.3 mb/d.

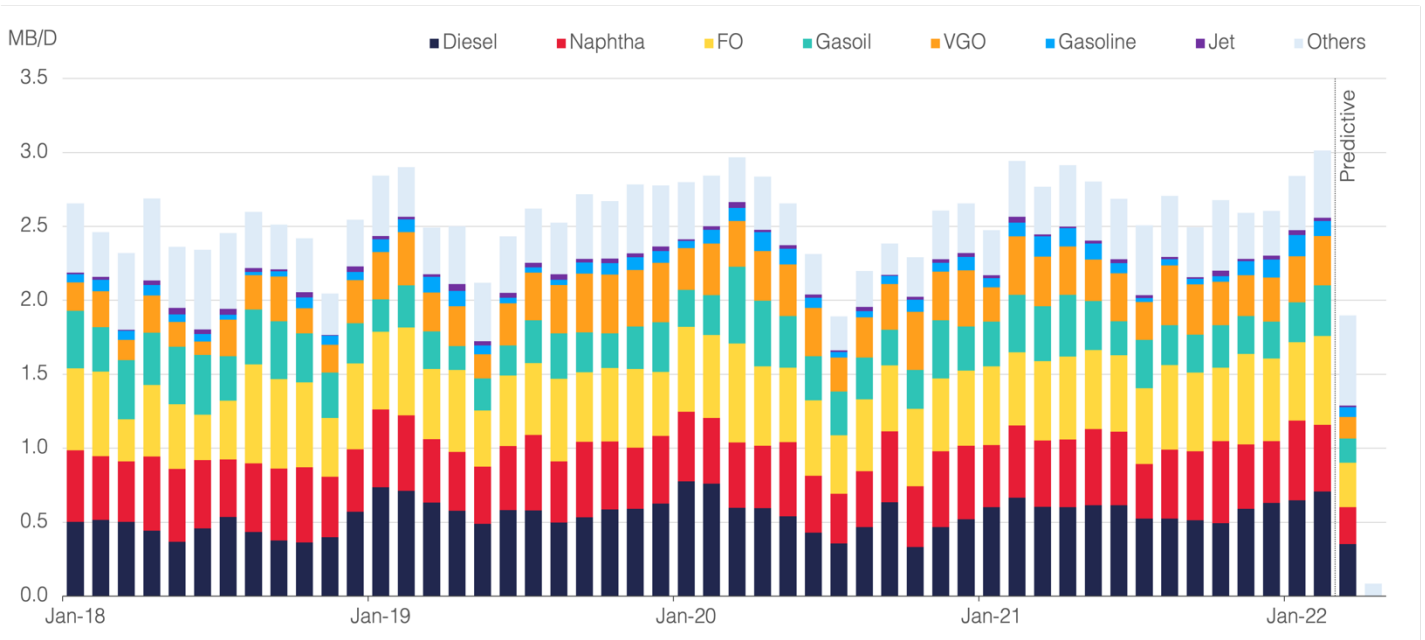
Outlook

Products

Russia's disruptions are having wide repercussions on product markets

Disruption in Russian oil supplies could cause refineries to cut runs limiting the supply of products and increasing the price of key products that consumers use.

Russia oil exports by product



Notes: Predictive exports refer to the cargoes that are scheduled to load from the exporting location, currently loading and are on the way to their destinations. Source: Kpler

Russia crude exports by destination

2021 AVG

	MB/D	% of TOTAL
Europe	2.6	61
Asia	1.4	34
Americas	0.2	5
Others ¹	0.0	0
TOTAL	4.3	100

¹ Includes Africa, Oceania and Unknown destinations.
Source: Kpler

Russia is an important exporter of key products and feedstocks

For European refineries which rely heavily on Russian Urals for their diet, the search for alternative grades has already started. But given the tightness of the market, this is a challenging task and refineries are being forced to rely on local or regional crudes and could cut runs, disrupting the supply of products. Also, EU refineries are facing a cost shock on rising crude, natural gas and hydrogen prices.



Outlook

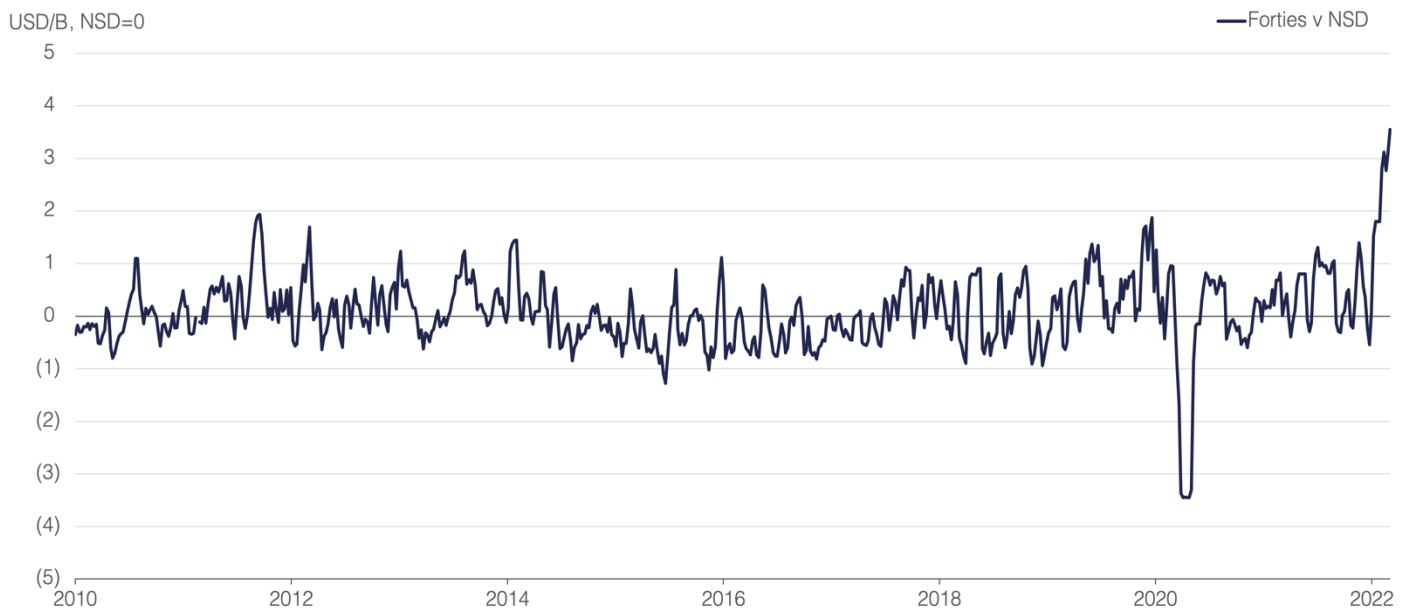
EU refineries not able to replace Russian Urals may be forced to cut runs

The replacement of Russian Urals by grades such as Forties and Johan Sverdrup has pushed the premiums of these crudes relative to Brent to record levels.

Urals NWE v North Sea Dated



Forties v North Sea Dated

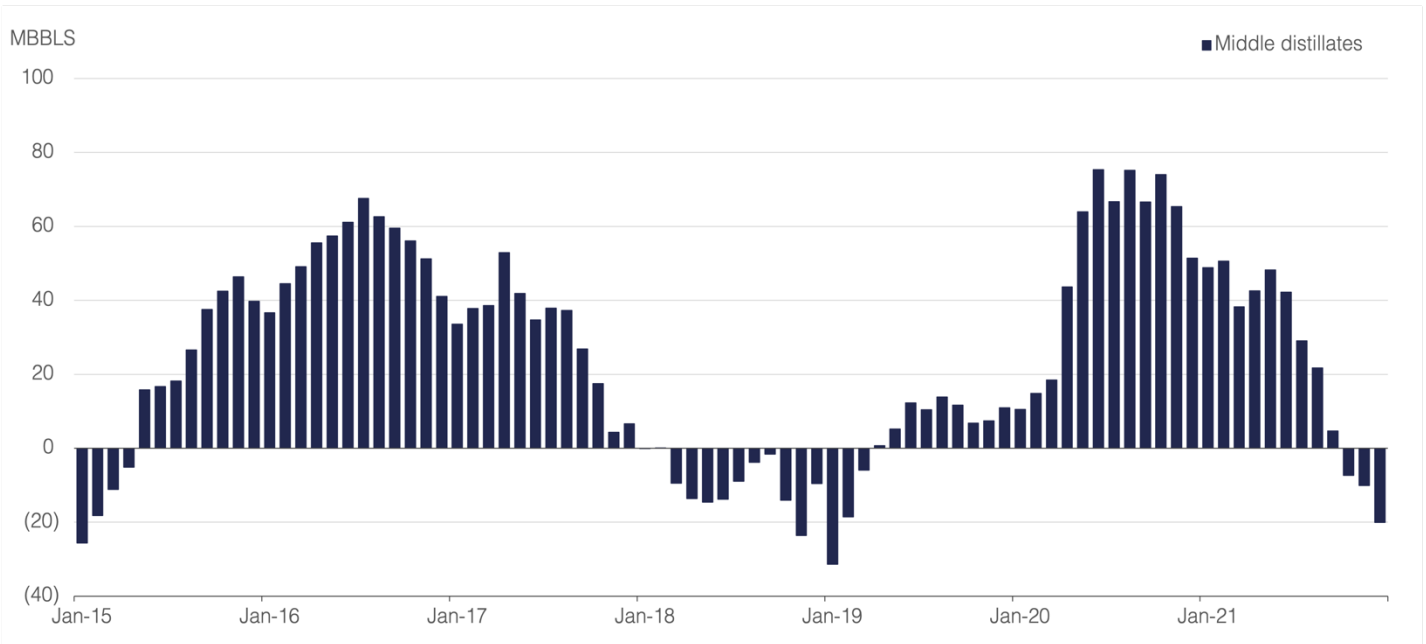


Outlook

Distillate markets are already under severe pressure

In Europe, distillates have been in a tight stocks position before the Ukraine war and prices have been on the rise, while recently they have been exhibiting high volatility.

OECD Europe middle distillate stocks v 2010-2014 average



Source: IEA

Gasoil diesel 10ppm German/Rotterdam v North Sea Dated



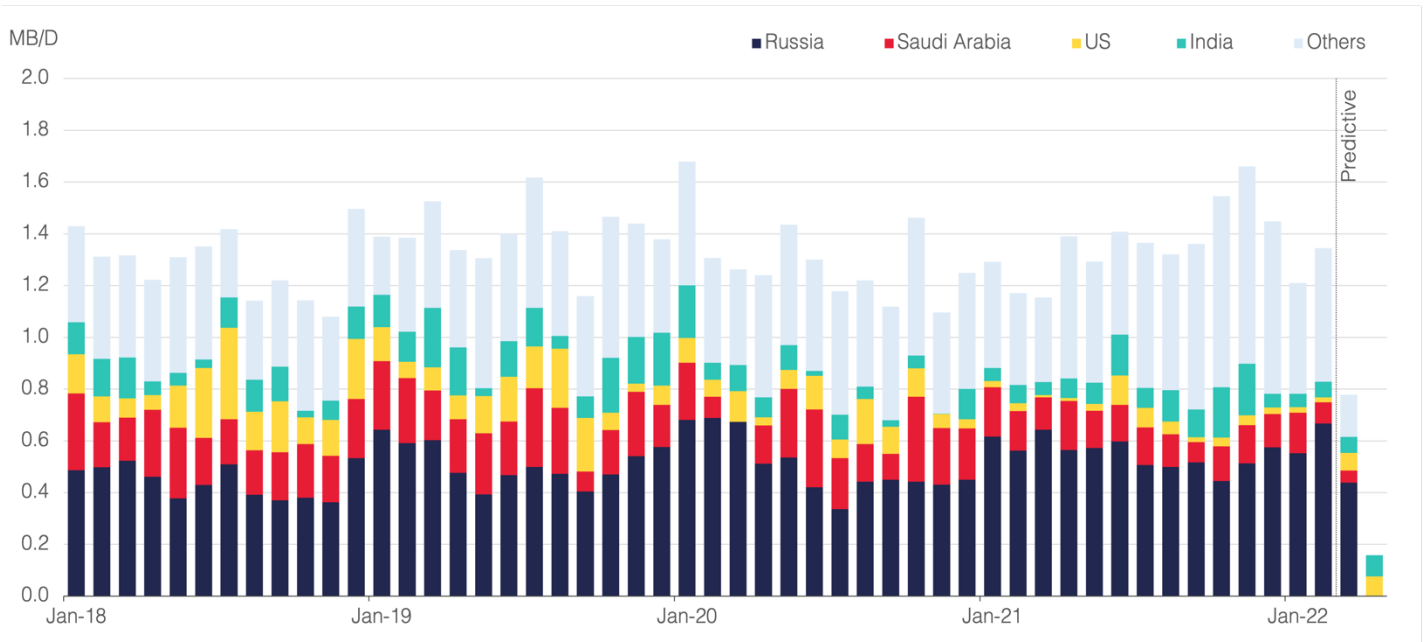
Source: OIES

Outlook

The very high prices in Europe could open the arbitrage from Asia

Diesel cargoes from India are already heading to EU to fill some of the gap, but Asian markets are also tight pressuring the availability of further supplies from East to West.

Europe imports of diesel by origin



Notes: Predictive exports refer to the cargoes that are scheduled to load from the exporting location, currently loading and are on the way to their destinations. Source: Kpler

Gasoil 0.005% Singapore v Dubai



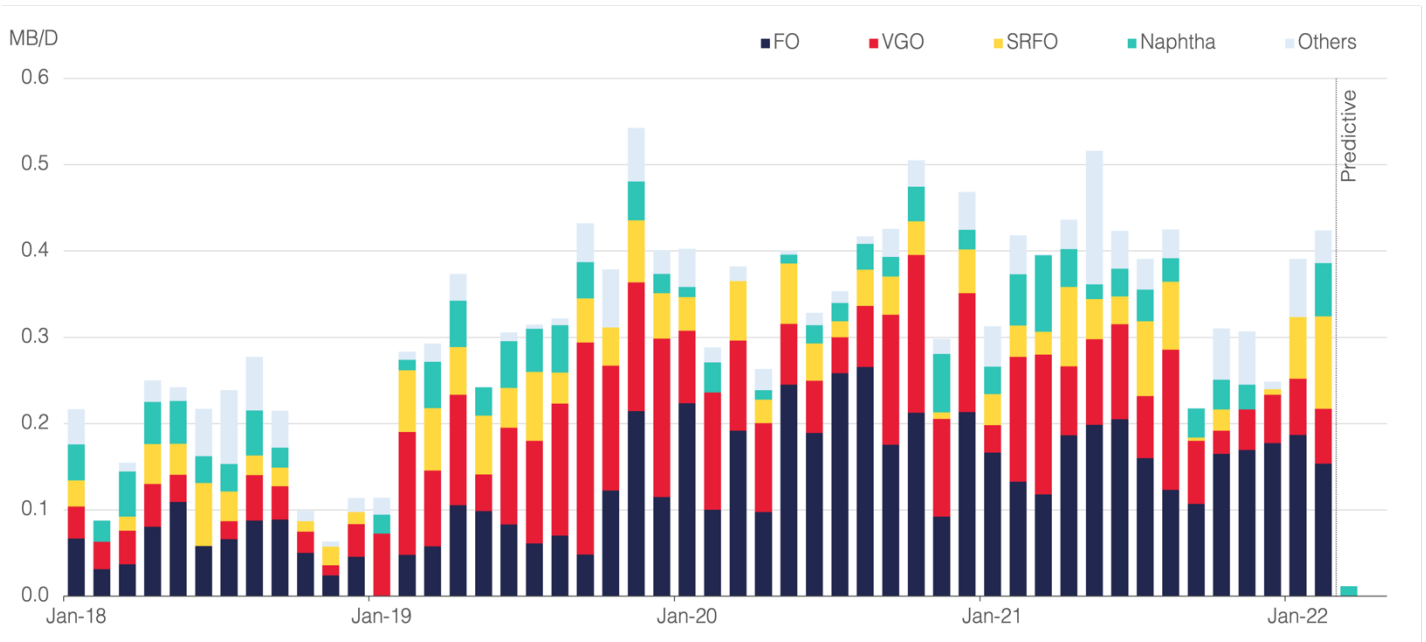
Source: OIES

Outlook

The US ban on Russian supplies will also impact US refineries

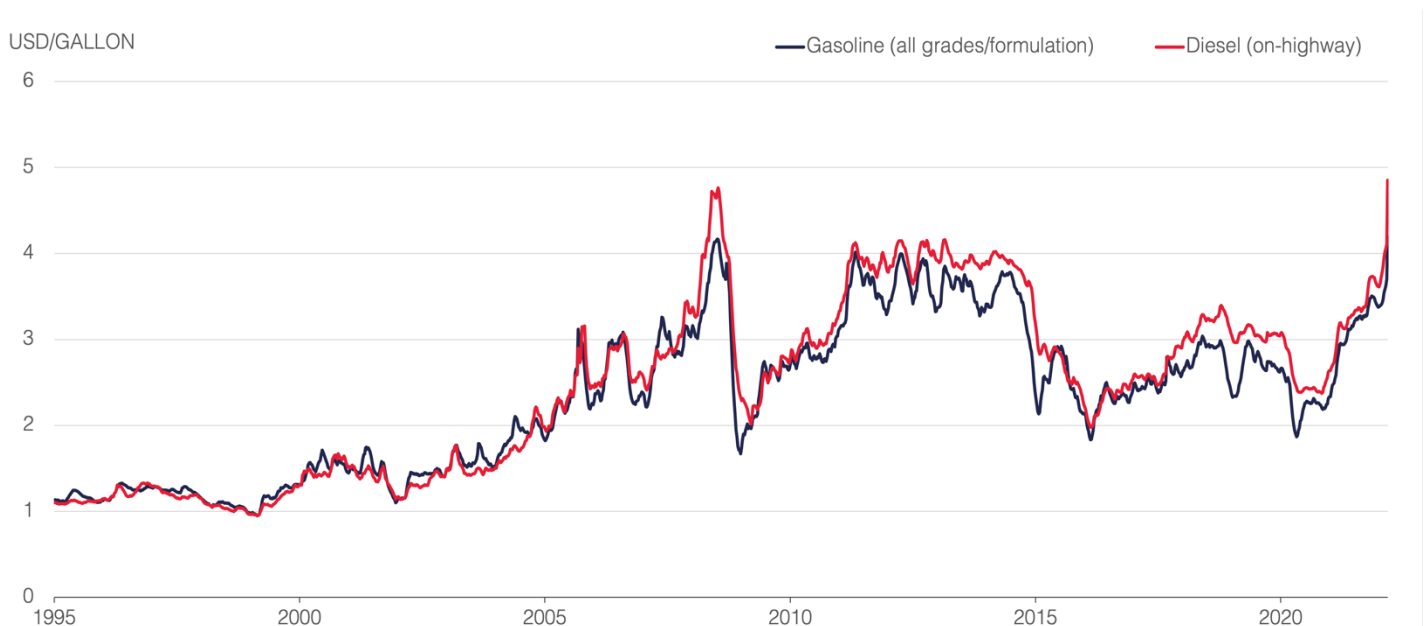
US refineries rely on Russian crude and unfinished products such as FO and VGO which are essential feedstocks in complex refineries and difficult to replace.

Russia oil exports to the US by product



Notes: Predictive exports refer to the cargoes that are scheduled to load from the exporting location, currently loading and are on the way to their destinations. Source: Kpler

Weekly US retail gasoline and diesel prices



Source: EIA



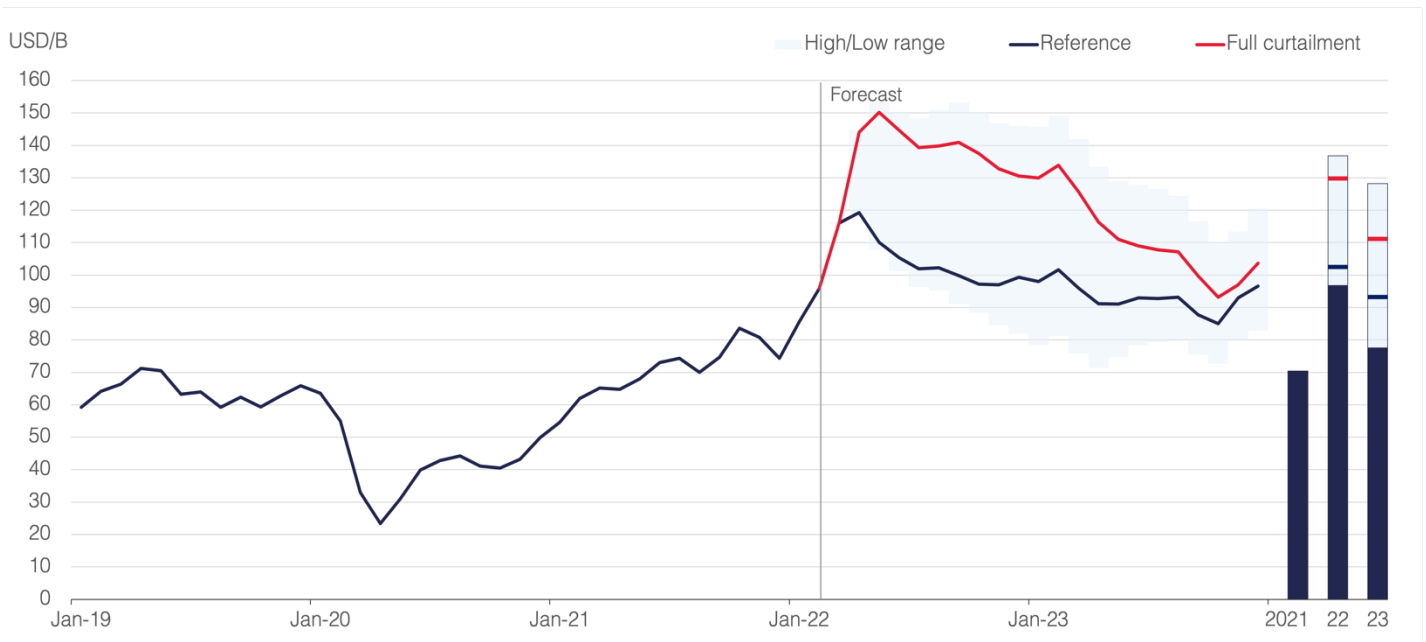
Outlook

Price Outlook

Oil prices and volatility will remain on edge in 2022

Higher supply disruptions would sustain prices above current levels of \$110/b for the remainder of 2022, but market responses to significantly ease price pressure in 2023.

Brent price outlook



Notes: The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022 and the full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies between February and May 2022. Source: OIES

Brent price outlook

USD/B

	2022		2023	
	Ref ¹	Full ²	Ref ¹	Full ²
Q1	99.1	99.1	98.6	129.9
Q2	111.6	146.3	91.7	112.1
Q3	101.3	140.0	91.3	104.9
Q4	97.8	133.6	91.5	98.0
Annual	102.5	129.7	93.3	111.2

¹ Reference.

² Full curtailment case.

Brent price outlook ranges between \$102/b and \$130/b in 2022

Our reference forecast for Brent that assumes disruptions in Russia's oil supplies will not escalate in the coming months and won't exceed 1 mb/d it stands at \$102.5/b in 2022 and \$93.3/b in 2023. A prolonged conflict and higher disruptions up to 4 mb/d under our full curtailment case would cause prices to spike close to \$150/b in April/May 2022, pushing the annual average at \$129.8/b in 2022 and \$111.2/b in 2023, \$27.3/b and \$17.9/b higher than our reference forecast, respectively.

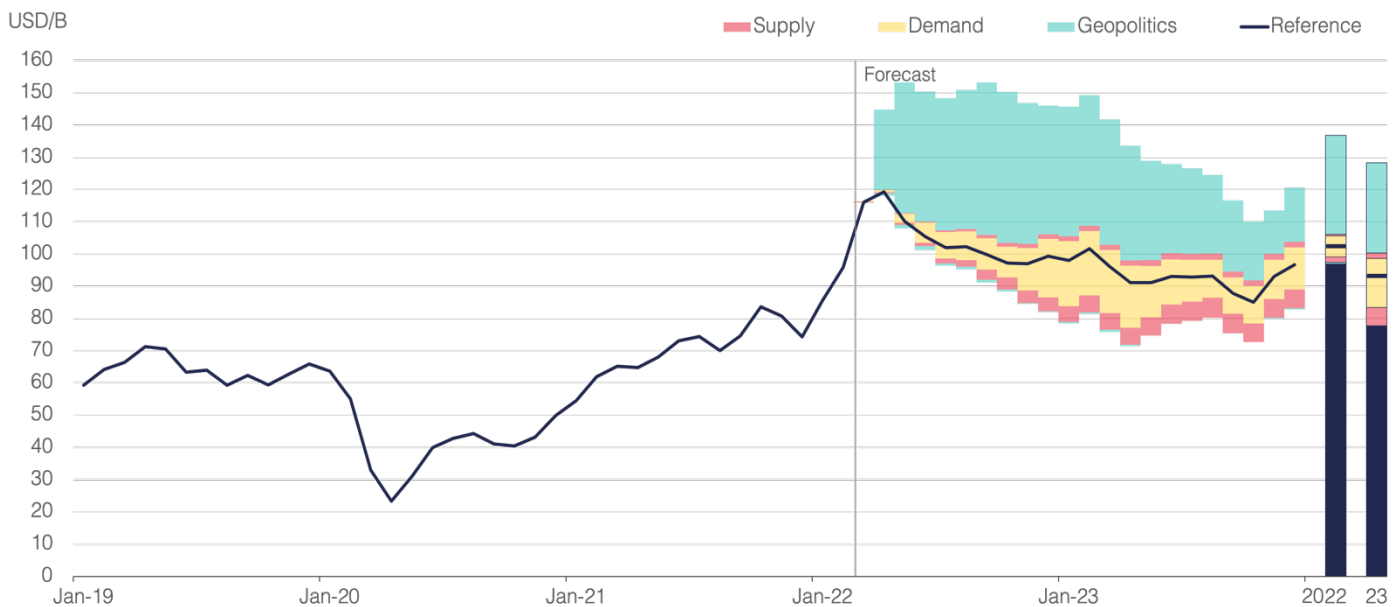
Outlook

Balance of Risks

Price impact of supply disruptions will be sizable, but less so in 2023

In the immediate near-term, both supply/demand responses are limited resulting in elevated geopolitical risk pressures persisting to Q1 2023 before easing by year end.

Balance of risks



Notes: Brent price. Source: OIES

Balance of risks

USD/B

	2021	2022	2023
Reference	70.4	102.5	93.3
Low		96.8	77.5
High		136.8	128.2
Supply risks ¹		(1.3)	(3.9)
Demand risks ¹		(0.3)	(4.6)
Geopolitical risks ¹		32.9	27.7
Balance of risks		31.3	19.2

¹ On balance.

Oil price volatility in both 2022 and 2023 appears extremely high

The ripple effects of Russia's war on Ukraine extending beyond crude markets to products, heightened uncertainty over the duration and magnitude, and in response, the macroeconomic effects of the conflict, mean we do not rule out more abrupt price movements in both directions throughout –albeit shortlived–, but the model assigns a high degree of confidence to the projected price bounds ranging between \$82/b and \$153.2/b in 2022 and between \$71.4/b and \$149.2/b in 2023, on a monthly basis.

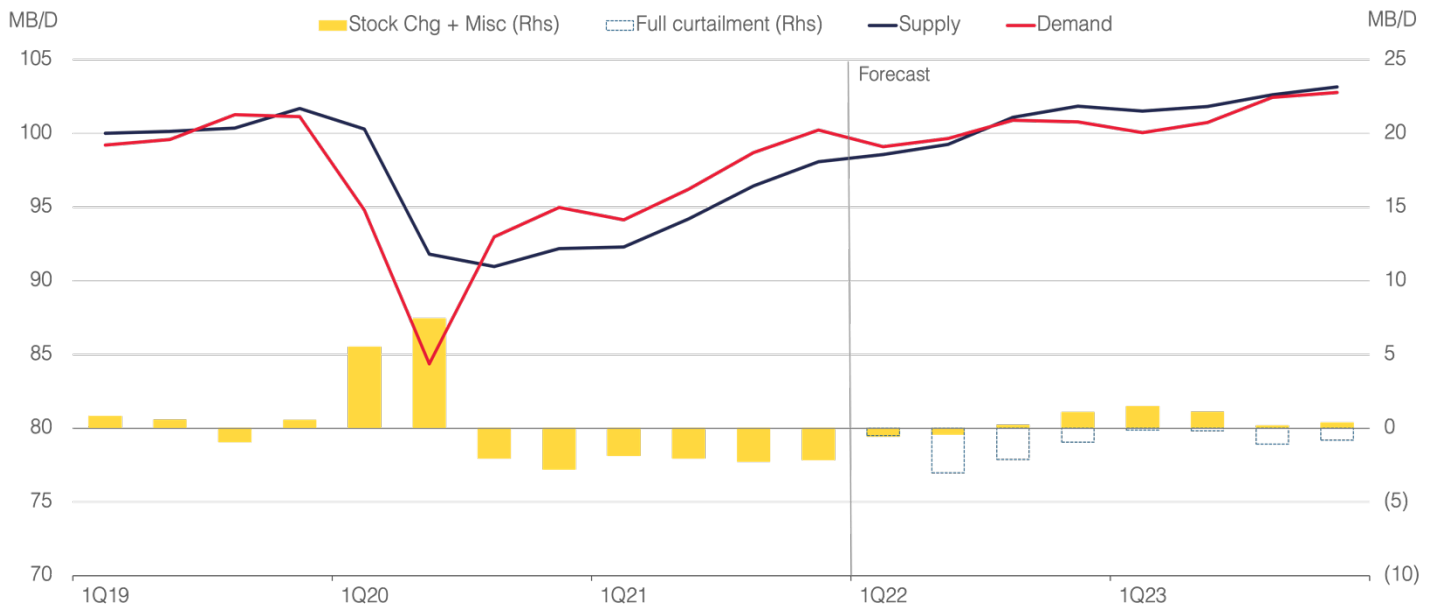
Outlook

Global Balance

The expected market surpluses in 2022 are largely eliminated

Our best-case scenario now sees supply/demand conditions only balanced in 2022, with the risk of deficits building in an already tight stocks environment in all quarters.

Global balance



Notes: The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022 and the full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies between February and May 2022. Source: OIES

Global balance

MB/D

	Reference	Full curtailment
2022	0.1	-1.7
± base ³	-0.3	-2.1
2023	0.8	-0.5
± base ³	+0.3	-1.0

¹ Difference versus no-disruption baseline.

Previously expected market surpluses throughout 2022 are now limited to H2

The supply/demand balance under our reference forecast sees deficits persisting in H1 2022 by -0.5 mb/d on average, before the market shifts into a 0.6 mb/d surplus in H2. For 2022 as a whole, the market is expected to remain balanced (+0.08 mb/d) and build into a 0.8 mb/d surplus in 2023. Our worst case of extended shortfalls in Russia's oil production sees deficits persisting in both 2022 and 2023 and averaging -1.7 mb/d and -0.6 mb/d, respectively, with severe repercussions for stocks availability and replenishment.



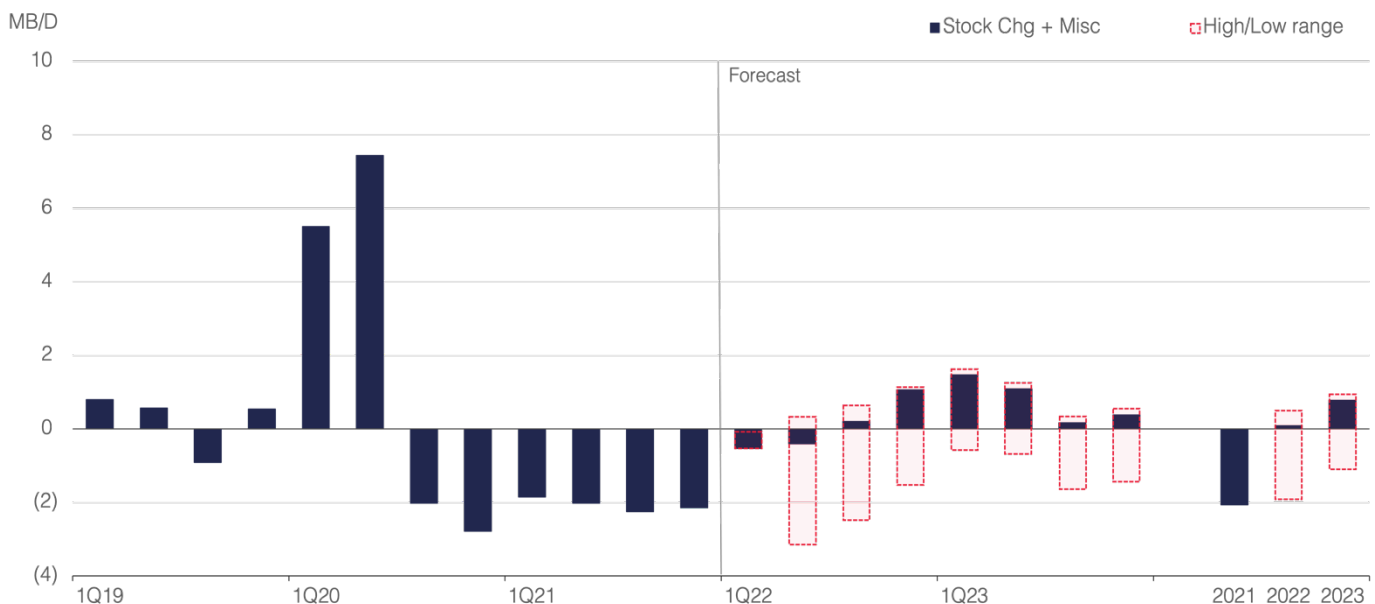
Outlook

Global balance risks

The most plausible scenario for 2022 is for the market to remain in deficit

The balance of risks favors an extremely tight market in 2022, with the prospect of more balanced supply/demand conditions towards the end of the year and in 2023.

Global balance risks



Source: OIES

Global balance risks

MB/D

	Reference	Low	High
2022	0.1	-1.9	0.5
± Ref ¹		-2.0	+0.4
2023	0.8	-1.1	0.9
± Ref ¹		-1.9	+0.2

¹ Difference versus reference case.

The supply/demand gap in 2022 ranges between -1.9 mb/d and 0.5 mb/d

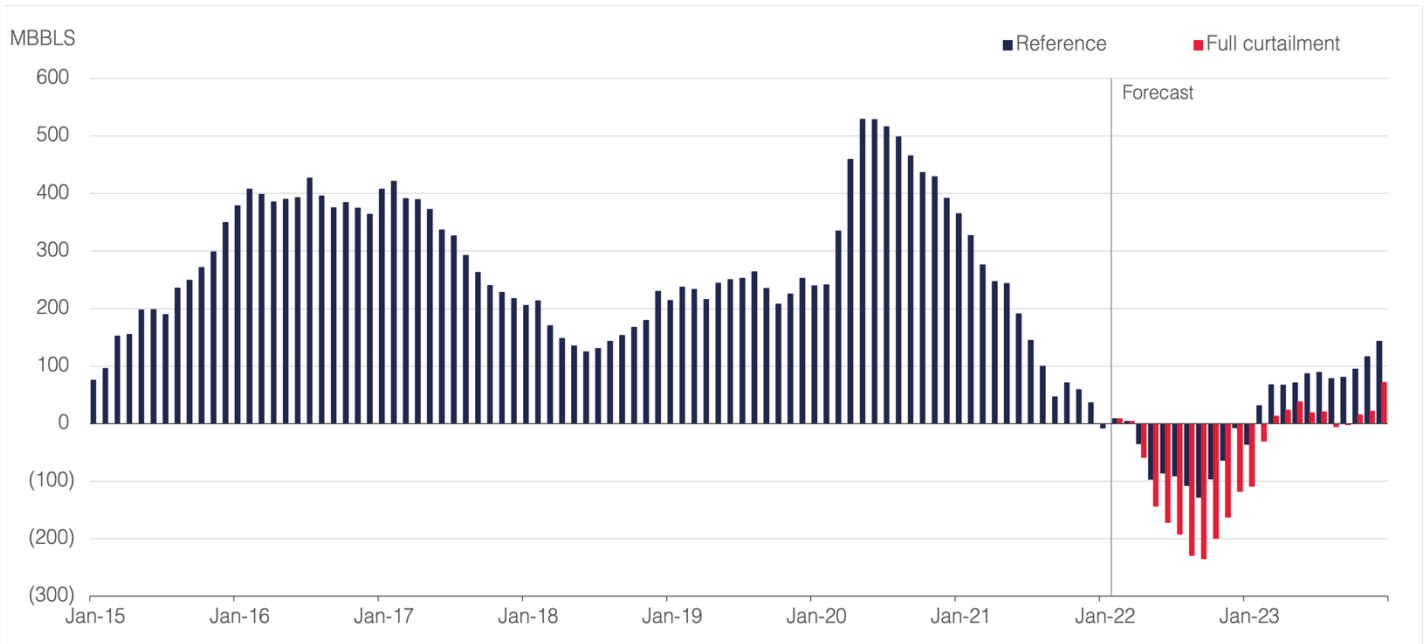
Global oil demand growth in our forecast scenarios ranges between 2.6 mb/d and 3.2 mb/d y/y in 2022 and 0.6 mb/d and 2 mb/d y/y in 2023. Global oil supply growth ranges between 2.7 mb/d and 5.7 mb/d y/y in 2022 and 1.4 mb/d and 2.1 mb/d y/y in 2023. These scenarios consider cases in which Russia's production is not disrupted and a maximum disruption of 4 mb/d, while Iran returns in all cases by the end of 2023.

Outlook

Exceptionally tight stocks dwarf planned SPR releases

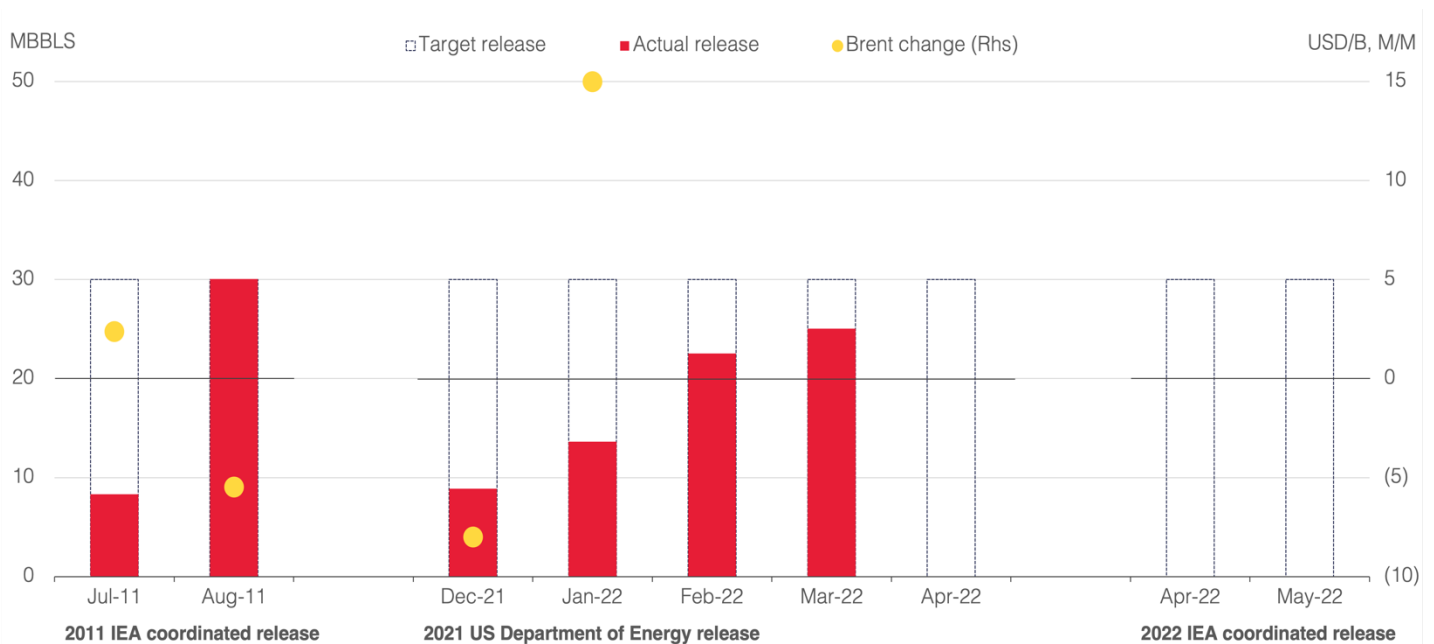
SPR releases of 60 mbbls will offer little support, as OECD stocks could draw further by 78–164 mbbls in H1 2022, down by as much as 705 mbbls from their peak in 2020.

OECD commercial stocks



Notes: The reference case assumes the loss of 1 mb/d of Russia's oil supplies in March 2022 and the full curtailment case assumes the loss of 4 mb/d of Russia's oil supplies between February and May 2022. Source: OIES

US SPR releases



Source: EIA, Kpler, OIES



Tables

	Forecasts											
	2020	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023
Price outlook												
USD/b												
Brent (Reference)	42.3	70.4	99.1	111.6	101.3	97.8	102.5	98.6	91.7	91.3	91.5	93.3
Brent (Full curtailment)	42.3	70.4	99.1	146.3	140.0	133.6	129.7	129.9	112.1	104.9	98.0	111.2
Price drivers			Price risks									
USD/b			USD/b									
Geopolitics	-0.6	-1.9	0.0	34.3	43.0	43.2	32.9	39.4	31.2	24.3	15.9	27.7
Supply	10.2	4.3	0.0	-0.4	-1.5	-2.7	-1.3	-3.5	-3.9	-4.2	-4.0	-3.9
Demand	-21.2	22.8	0.1	1.6	0.8	-3.4	-0.3	-8.8	-5.9	-1.8	-1.8	-4.6
Speculative	-10.1	2.9	-	-	-	-	-	-	-	-	-	-
Balance of risks	-	-	0.0	35.4	42.4	37.1	31.3	27.0	21.4	18.4	10.1	19.2
Brent low	-	-	99.1	109.1	94.2	85.0	96.8	78.5	74.8	78.3	78.5	77.5
Brent high	-	-	99.2	149.4	150.8	147.7	136.8	145.6	130.1	122.6	114.7	128.2
Global balance												
mb/d, Reference												
OECD	42.0	44.6	45.6	45.2	46.2	46.1	45.8	45.7	45.2	46.3	46.4	45.9
Americas	22.4	24.1	24.3	24.8	25.3	25.0	24.8	24.7	24.8	25.3	25.1	25.0
Europe	12.4	13.1	13.2	13.3	13.7	13.3	13.4	12.8	13.2	13.7	13.4	13.3
APAC	7.1	7.4	8.1	7.1	7.2	7.8	7.6	8.2	7.2	7.3	7.9	7.6
Non-OECD	49.8	52.7	53.5	54.5	54.7	54.7	54.3	54.3	55.5	56.2	56.4	55.6
China	14.3	15.5	15.8	16.0	15.9	16.1	15.9	16.1	16.1	16.2	16.5	16.2
India	4.5	4.7	5.1	5.1	4.8	5.0	5.0	5.1	5.2	5.1	5.3	5.2
Other non-OECD	30.9	32.5	32.6	33.4	33.9	33.6	33.4	33.1	34.1	34.9	34.6	34.2
Total Demand	91.8	97.3	99.1	99.7	100.9	100.8	100.1	100.1	100.7	102.5	102.8	101.5
(y/y chg.)	-8.5	5.5	5.0	3.4	2.2	0.5	2.8	1.0	1.1	1.6	2.0	1.4
OPEC	25.7	26.3	28.3	29.1	30.2	30.9	29.6	30.9	31.0	31.0	31.0	31.0
Non-OPEC	51.2	51.5	53.1	52.1	52.5	52.7	52.6	52.8	52.5	52.9	53.7	53.0
US	11.3	11.2	12.0	12.1	12.1	12.2	12.1	12.4	12.4	12.7	12.9	12.6
Brazil	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.0
Canada	4.4	4.6	4.8	4.7	4.9	5.0	4.9	5.0	4.9	5.0	5.2	5.0
Norway	1.7	1.8	1.9	1.8	1.9	1.9	1.9	1.9	1.9	1.9	2.0	1.9
Other non-OPEC	30.8	31.0	31.5	30.7	30.6	30.6	30.8	30.5	30.3	30.3	30.5	30.4
Total crude	76.9	77.9	81.5	81.2	82.7	83.6	82.3	83.7	83.4	84.0	84.7	84.0
NGLs	13.5	13.8	14.0	14.2	14.3	14.5	14.2	14.4	14.4	14.4	14.6	14.4
Biofuels/Misc.	3.4	3.6	3.2	3.8	4.1	3.8	3.7	3.4	4.0	4.3	3.9	3.9
Total Supply	93.8	95.3	98.6	99.2	101.1	101.8	100.2	101.5	101.8	102.6	103.2	102.3
(y/y chg.)	-6.7	1.4	6.3	5.0	4.6	3.8	4.9	3.0	2.6	1.5	1.3	2.1
Global balance	2.0	-2.1	-0.5	-0.4	0.2	1.1	0.1	1.5	1.1	0.2	0.4	0.8
OPEC call	23.7	28.4	28.9	29.5	30.0	29.8	29.6	29.5	29.9	30.8	30.7	30.2

Notes:

1/ OPEC estimates are based on current membership throughout.

2/ Non-OPEC crude supply includes crude oil, condensate and processing gains. OPEC includes crude oil only.

3/ NGLs and biofuels/misc. are global estimates and are excluded from OPEC, non-OPEC and country-specific crude supply estimates.

4/ Global balance is equivalent to global stock change.

5/ The OPEC call equals the arithmetic difference between total demand and non-OPEC crude plus NGLs and other liquids.



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