THE OXFORD INSTITUTE FOR ENERGY STUDIES

Oil market volatility: Assessing the bullish and bearish narratives

Bassam Fattouh and Andreas Economou
Oxford Institute for Energy Studies

Oxford UK, 4 August 2022

THE OXFORD INSTITUTE FOR ENERGY STUDIES

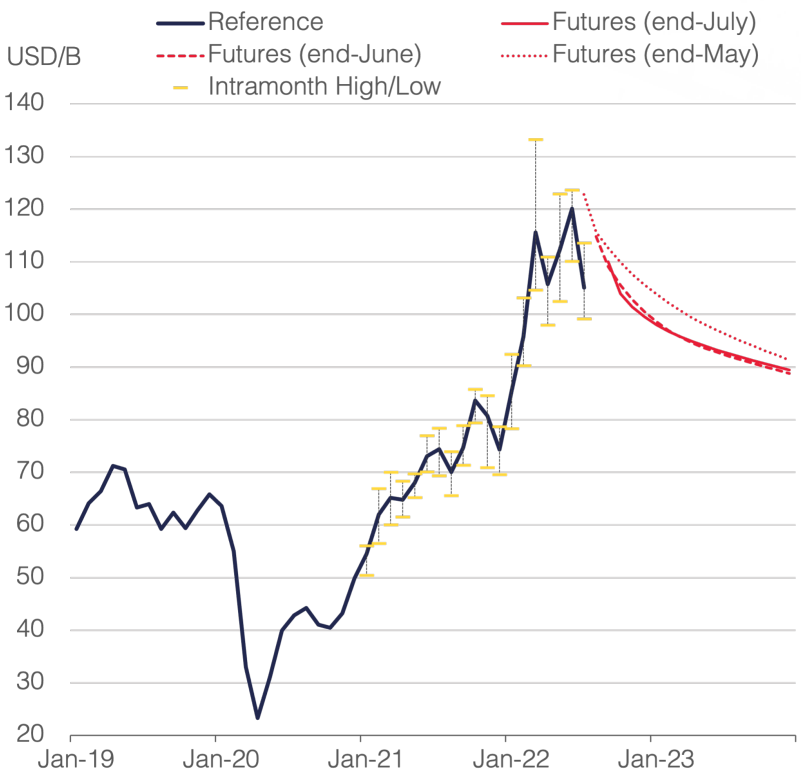
Oil market overview

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Price dynamics

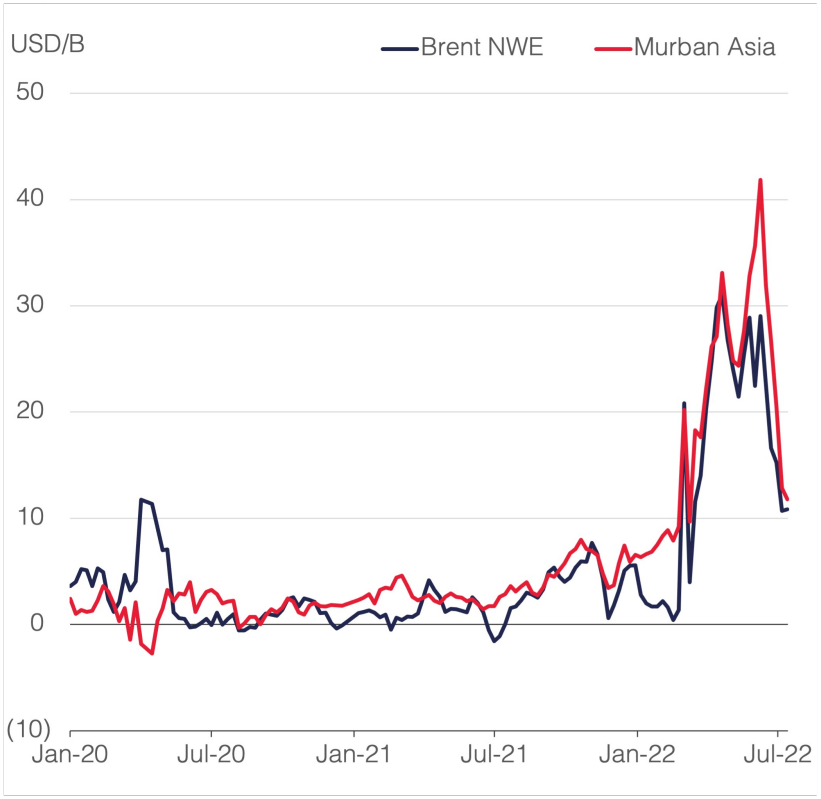
Brent prices have exhibited high volatility amidst low liquidity, while refining margins have also fallen from their highs in recent weeks.

Brent price



Source: World Bank, ICE

Refining margins



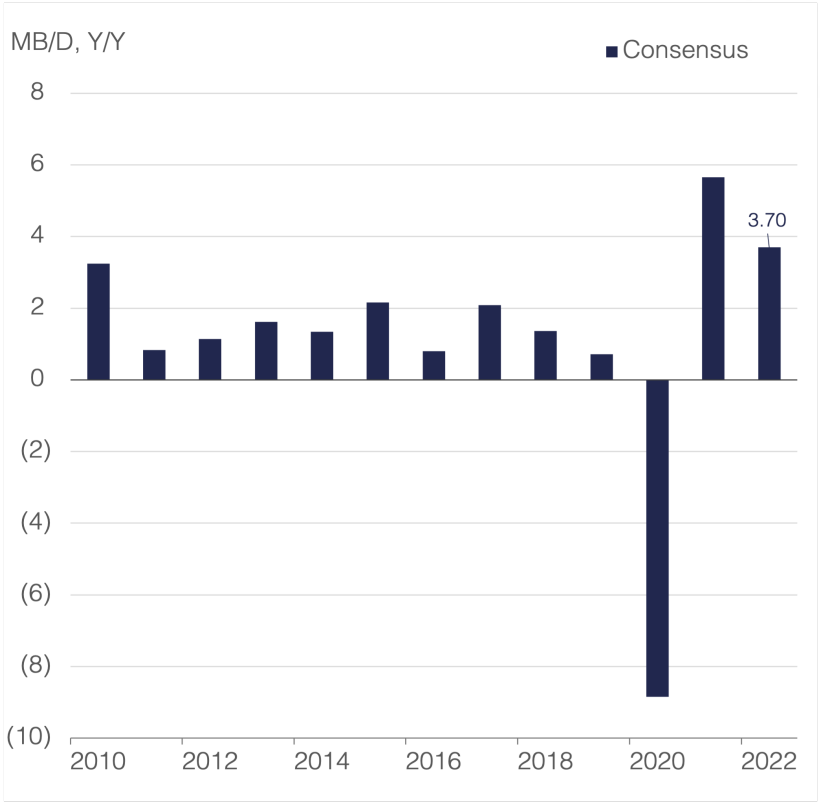
Source: Argus

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Market fundamentals

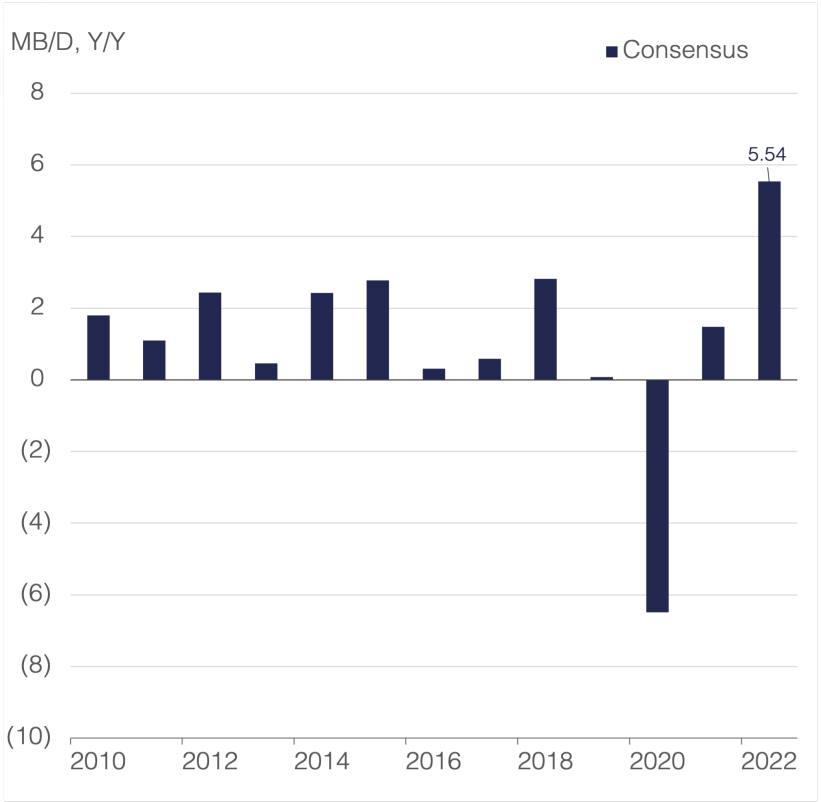
Preliminary estimates suggest that global demand grew y/y by 3.7 mb/d in H1 2022 and global oil supply also grew by 5.5 mb/d supported by the SPR releases.

Global oil demand growth



Notes: Estimate in 2022 refers to H1.
Consensus averages estimates from IEA, US EIA and OPEC.
Source: IEA, US EIA, OPEC, OIES

Global oil supply growth



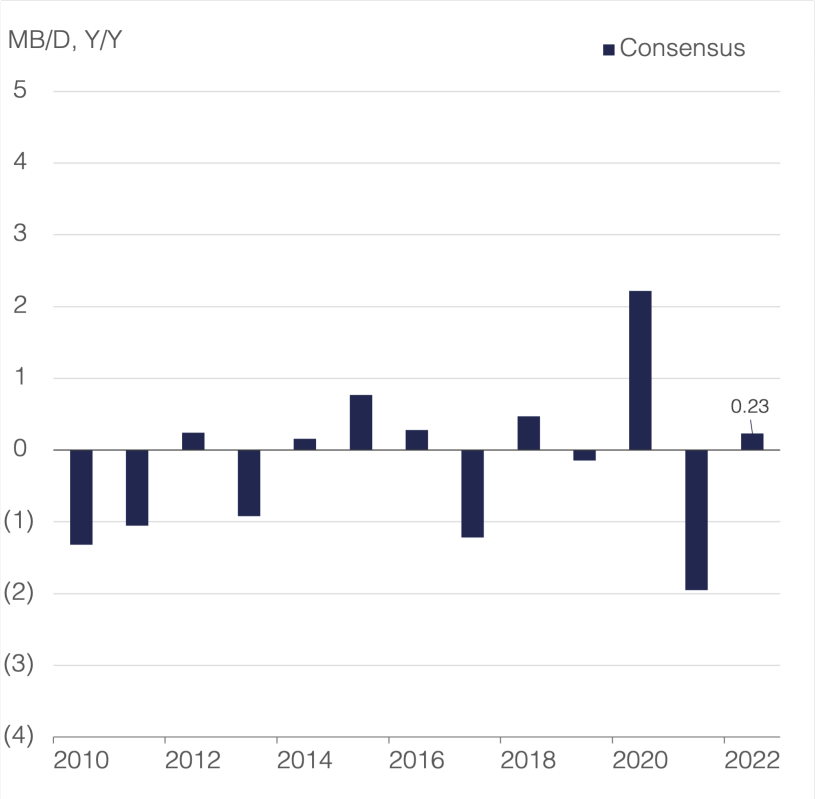
Notes: Estimate in 2022 refers to H1.
Consensus averages estimates from IEA, US EIA and OPEC.
Source: IEA, US EIA, OPEC, OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Global balance

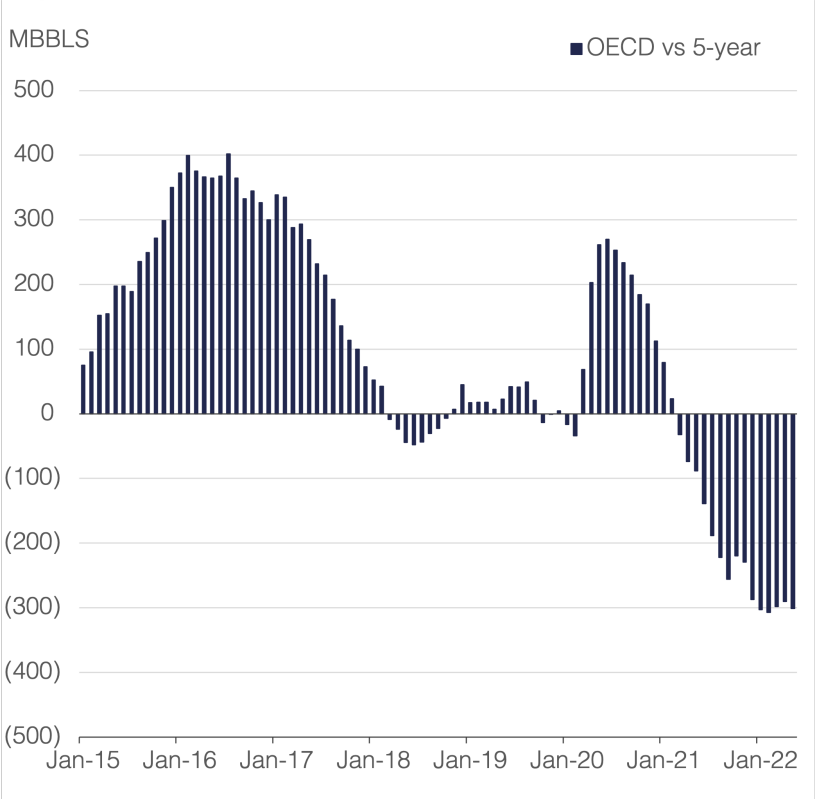
The oil market appears to have shifted to a small surplus of 200,000 b/d in H1 2022, albeit stocks remained extremely tight and as of May they were standing 322 mbbls below their 5-year average.

Global balance



Notes: Estimate in 2022 refers to H1.
Consensus averages estimates from IEA, US EIA and OPEC.
Source: IEA, US EIA, OPEC, OIES

OECD commercial stocks



Source: IEA, OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

THE OXFORD INSTITUTE FOR ENERGY STUDIES

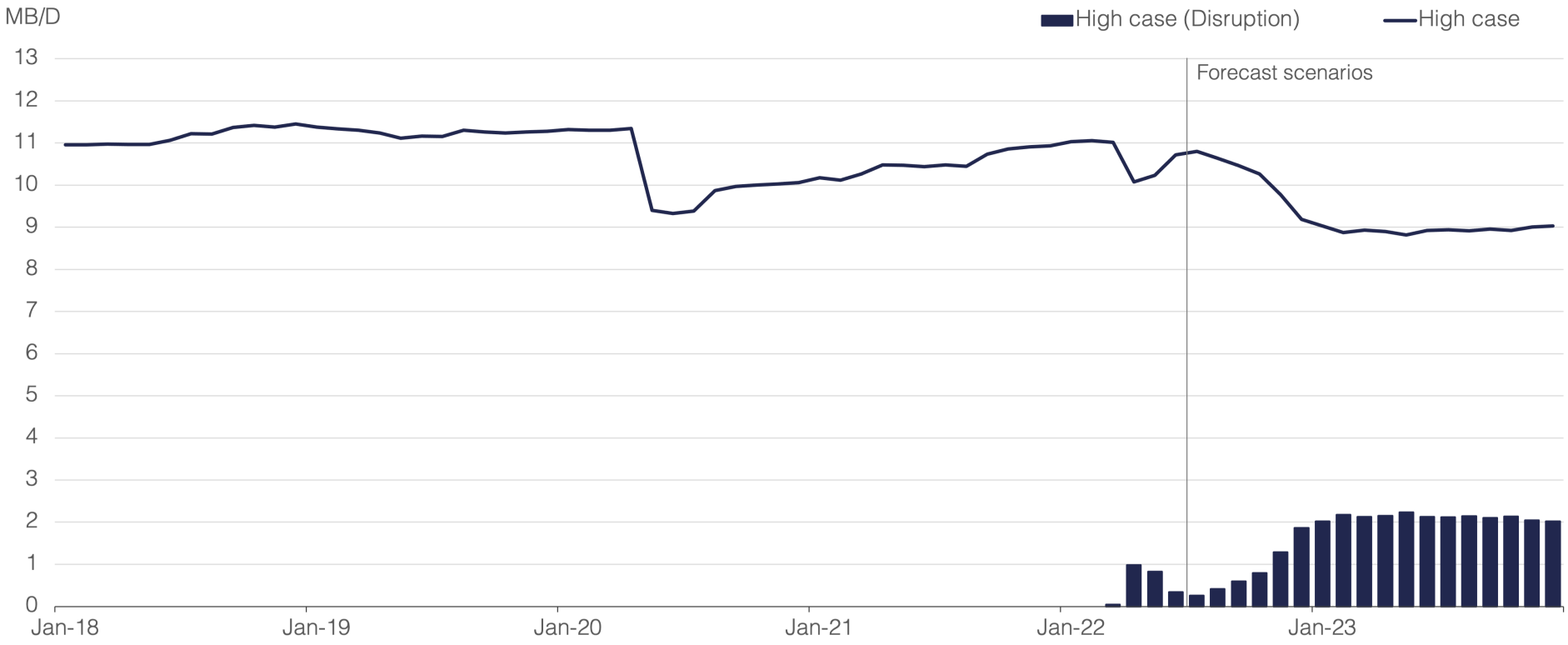
Bullish narrative

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bullish scenario 1: Russia disruptions (1/2)

The *high disruption case* sees the recent gains in Russian oil production reversing from August-onwards and falling 1.8 mb/d below its 11 mb/d pre-war level year-end and averaging 2.1 mb/d lower in 2023.

Russia oil production scenarios: High disruption case



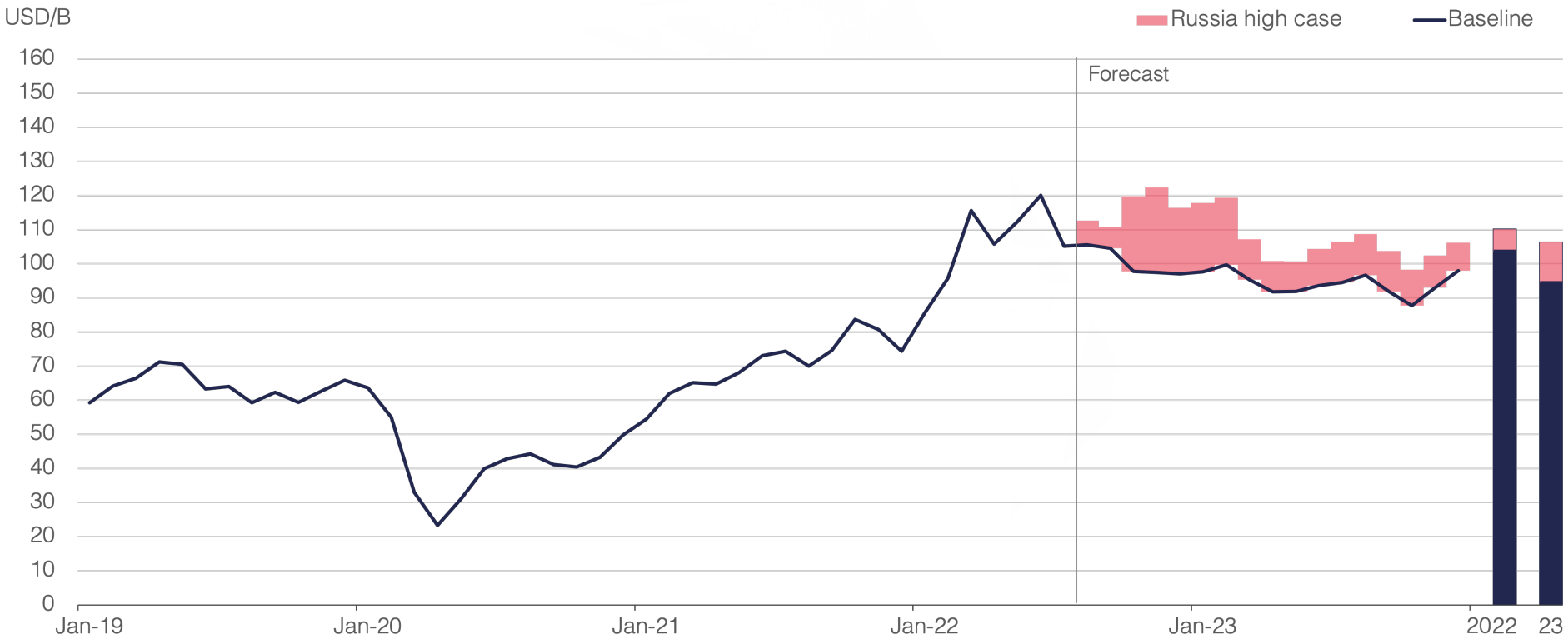
Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bullish scenario 1: Russia disruptions (2/2)

The price impact is significant in Q4 2022 and Q1 2023, averaging $20/b higher than the baseline forecast, but it eases close to $10/b in the remainder of 2023 as negative demand pressures intensify.

Brent price forecast scenario: Russia high disruption case



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

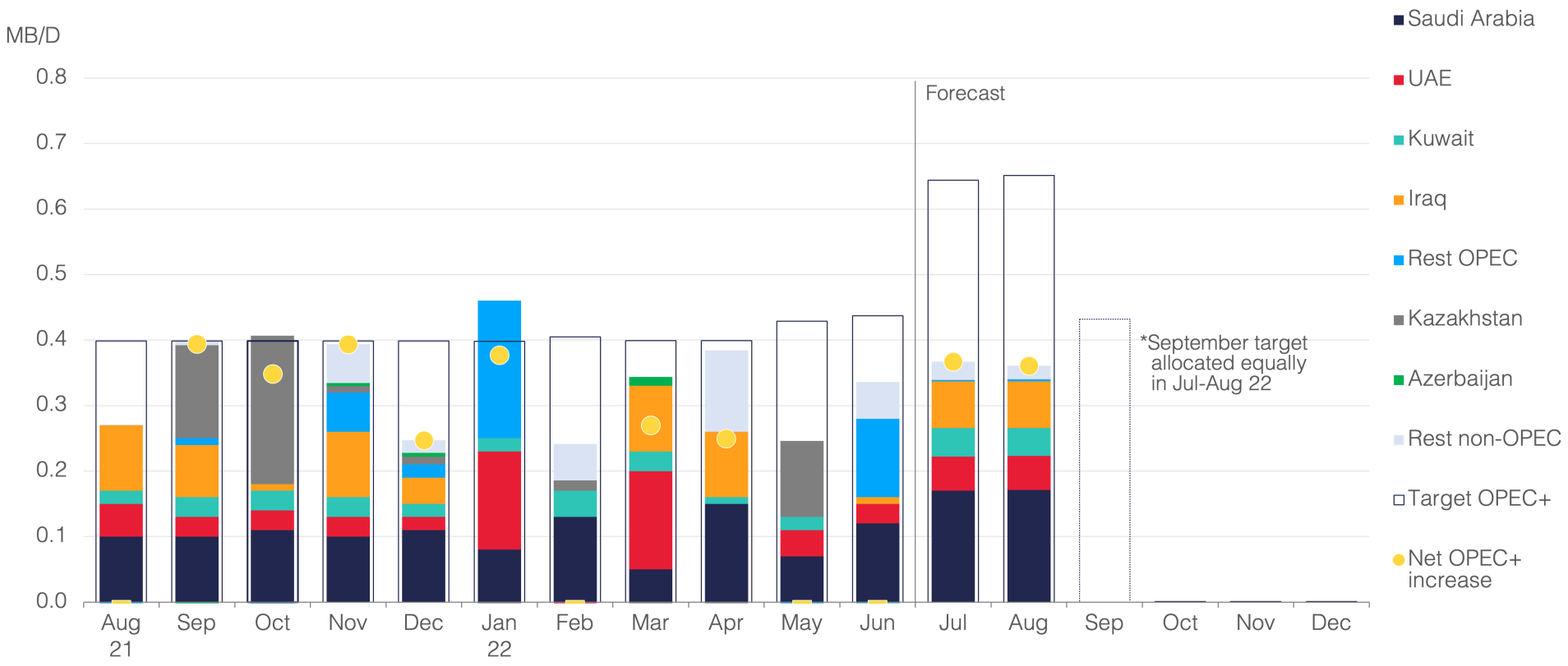
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bullish scenario 2: OPEC+ struggle (1/2)

The *OPEC+ low case* sees OPEC+ excluding Russia returning only 728,000 b/d versus the agreed 1.3 mb/d in July/August and underproduction in August reaching at 2 mb/d below set target.

OPEC+ production increases by country



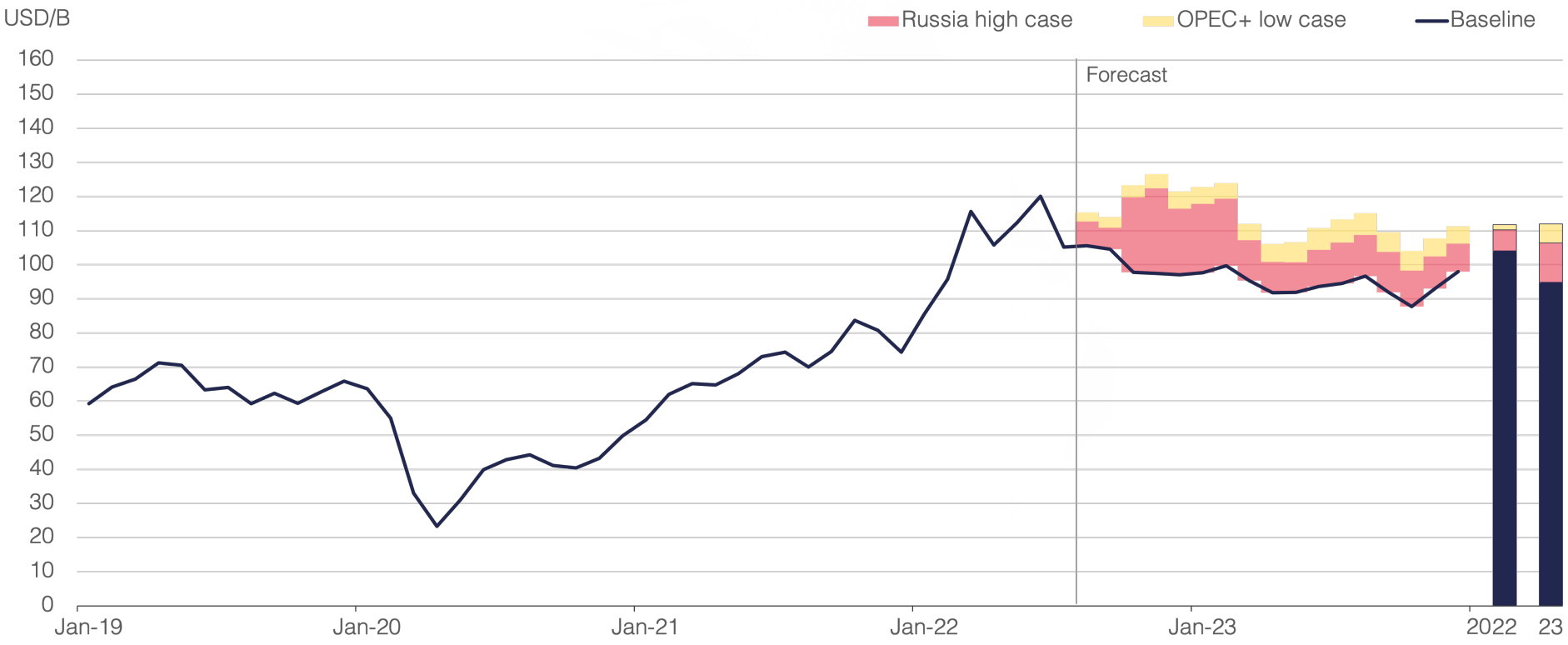
Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bullish scenario 2: OPEC+ struggle (2/2)

Brent prices could see an additional pressure between $2/b and $5/b building to the upside and persisting in 2023.

Brent price forecast scenario: OPEC+ low case



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

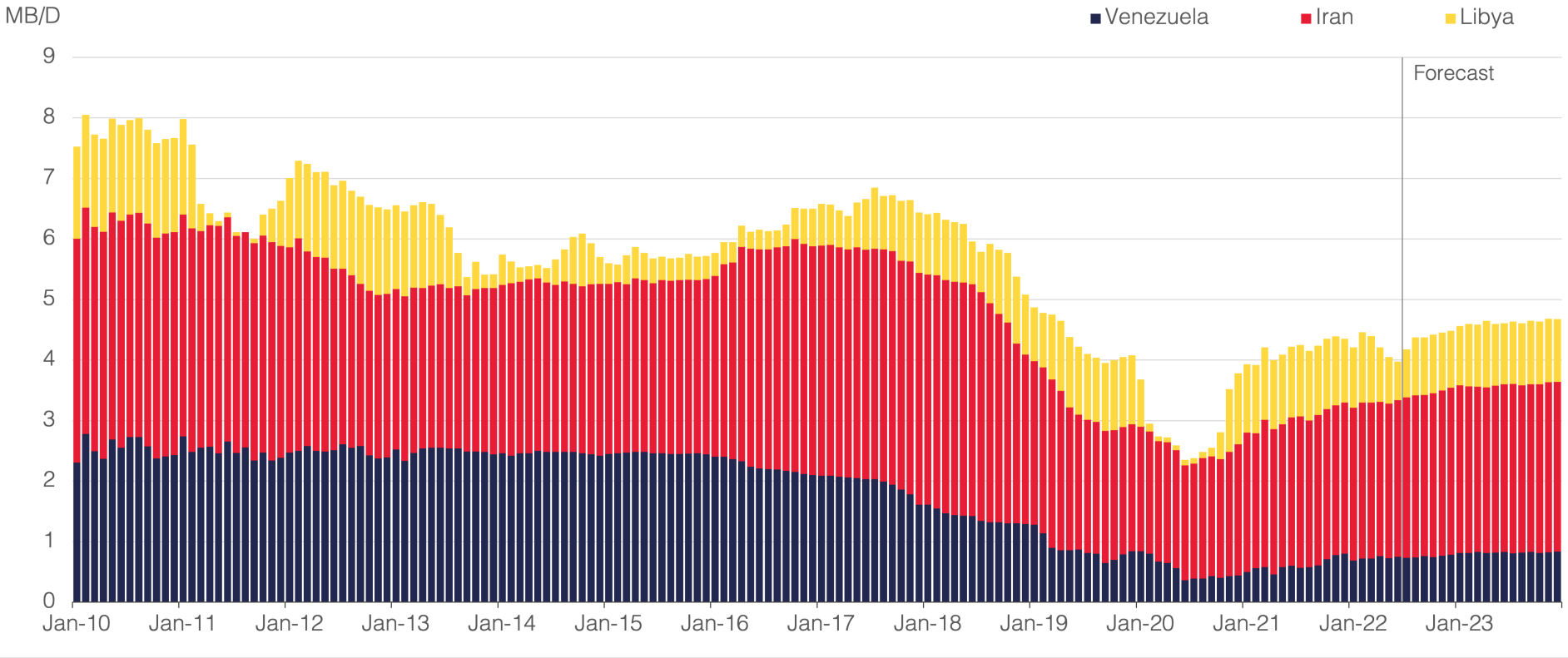
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bullish scenario 3: Geopolitical risks (1/2)

The *geopolitical risks case* sees the Iranian nuclear deal failing to materialise in 2022/2023, Libya's production remaining volatile and no significant gains in Venezuelan output.

OPEC(3) oil production



Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bullish scenario 3: Geopolitical risks (2/2)

Albeit the impacts appear to be small, they add however nearly $1/b on annual terms to the Brent price in 2022 and $2/b in 2023, relative to the baseline forecast.

Brent price forecast scenario: Geopolitical risks

Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

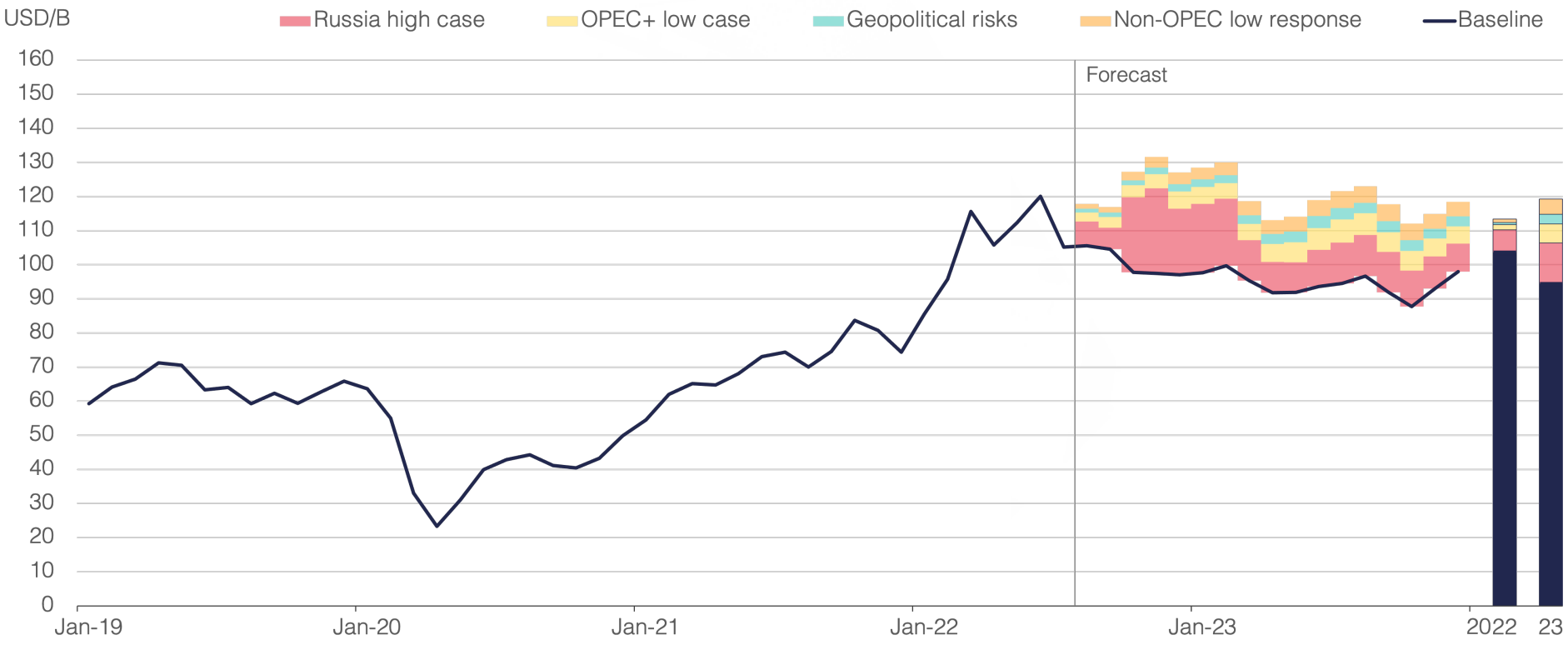
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bullish scenario 4: Non-OPEC constraints

The *low non-OPEC response case* sees gains in non-OPEC production outside OPEC+, mainly NAM, undershooting expectations and driving prices higher by $1/b in 2022 and $4/b in 2023.

Brent price forecast scenario: Non-OPEC low response



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

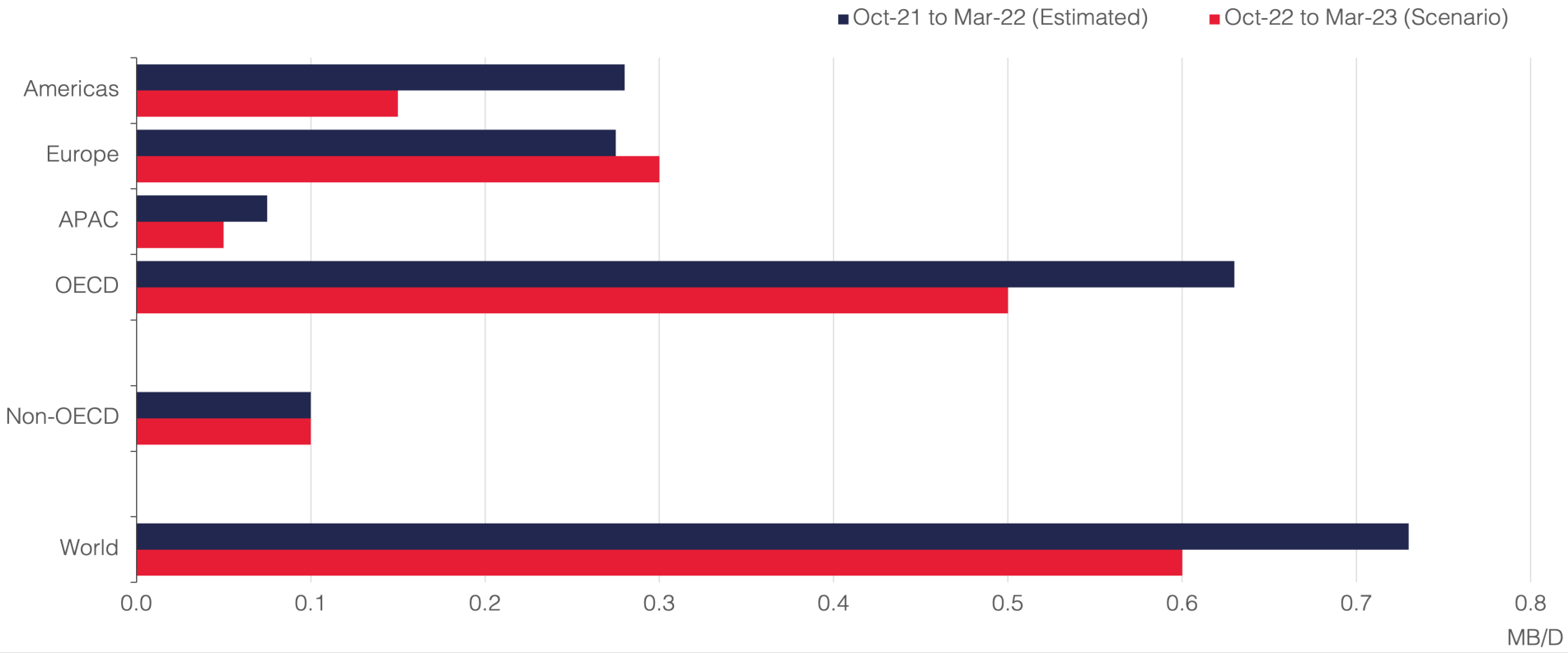
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bullish scenario 5: Oil switching (1/2)

The *gas-to-oil switching case* sees winter gas shortages resulting to a 600,000 b/d incremental demand between Oct-22 and Mar-23 (50% in Europe), associated with power generation, industry and refining.

Oil switching assumptions



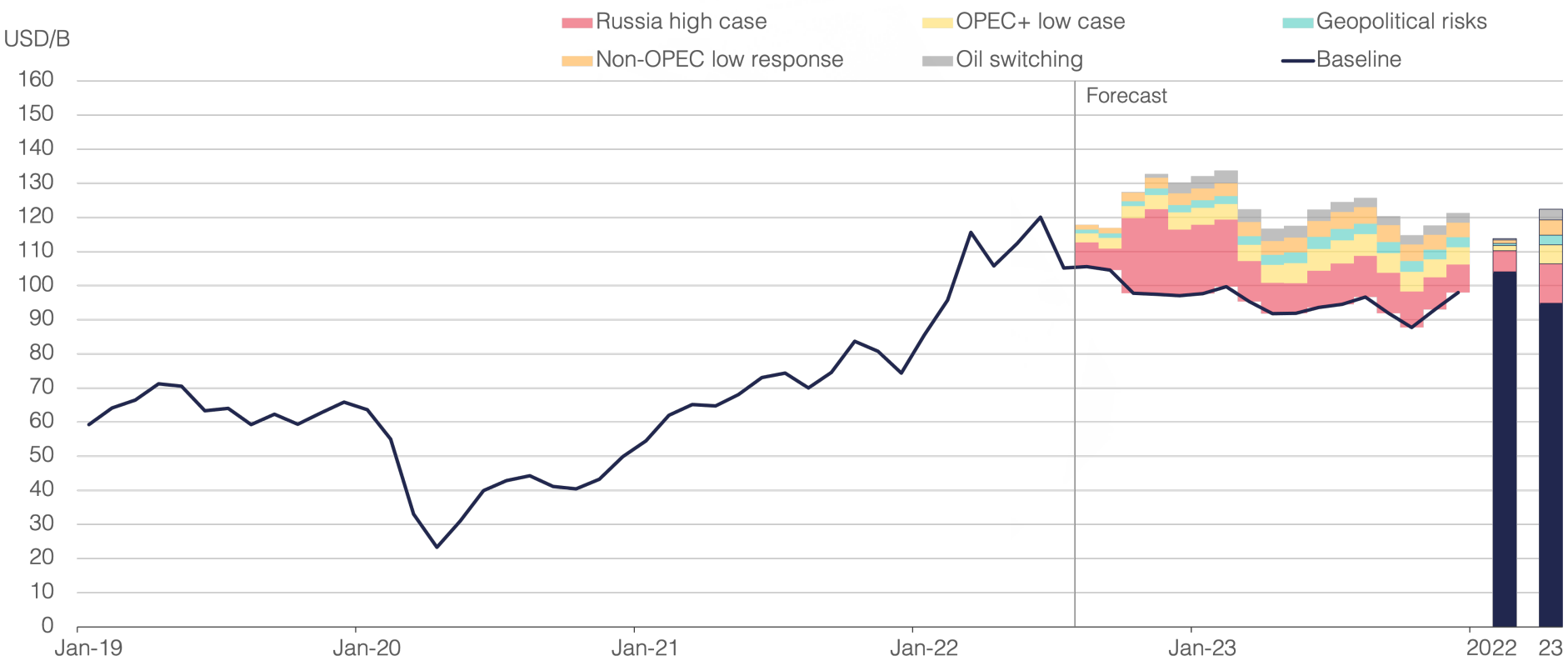
Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bullish scenario 5: Oil switching (2/2)

Price pressures are building year-end and persist for the entire H1 2023, adding $3.2/b versus the baseline case before gradually easing in the remainder of the year.

Brent price forecast scenario: Oil switching



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

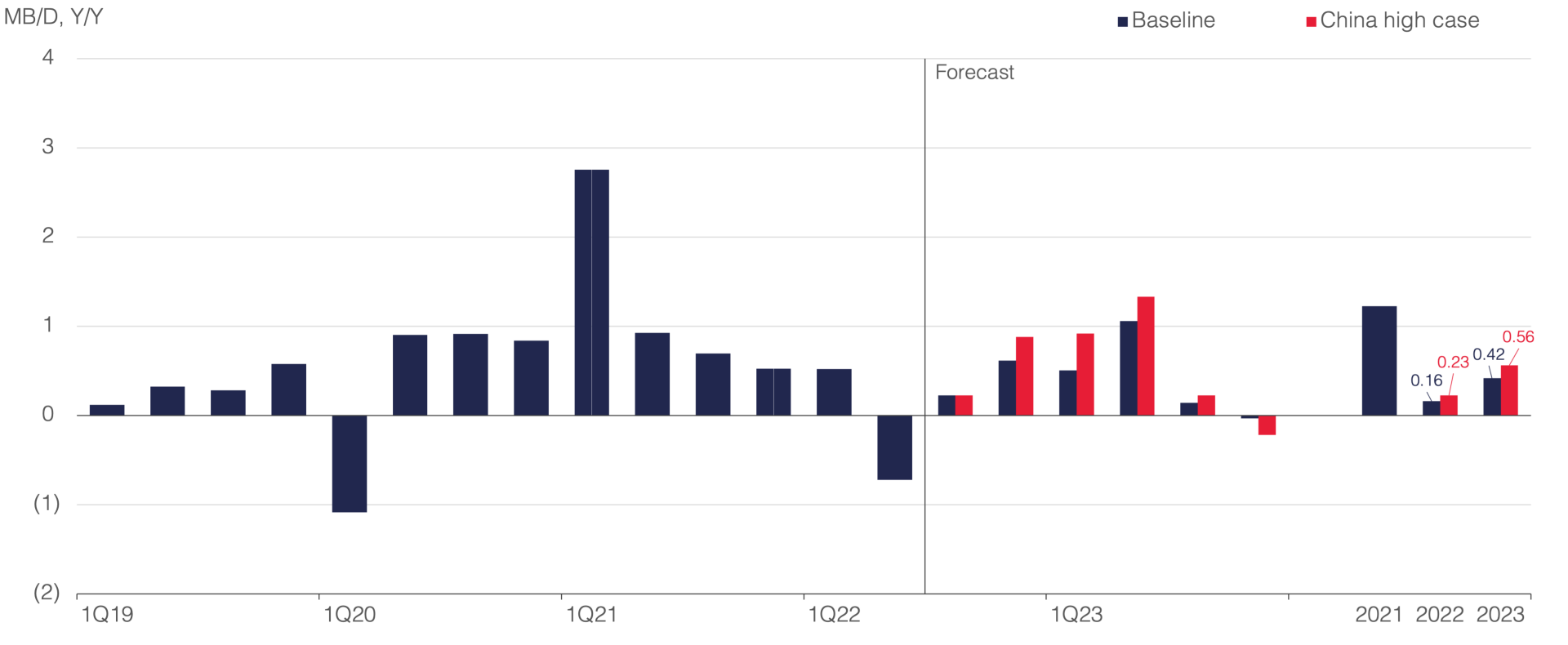
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bullish scenario 6: Chinese demand (1/2)

The *China high case* assumes that the Chinese demand rebound from H2-onwards exceeds expectations with growth overperforming by 100,000 b/d in 2022 and by 210,000 b/d in 2023.

China oil demand growth scenarios



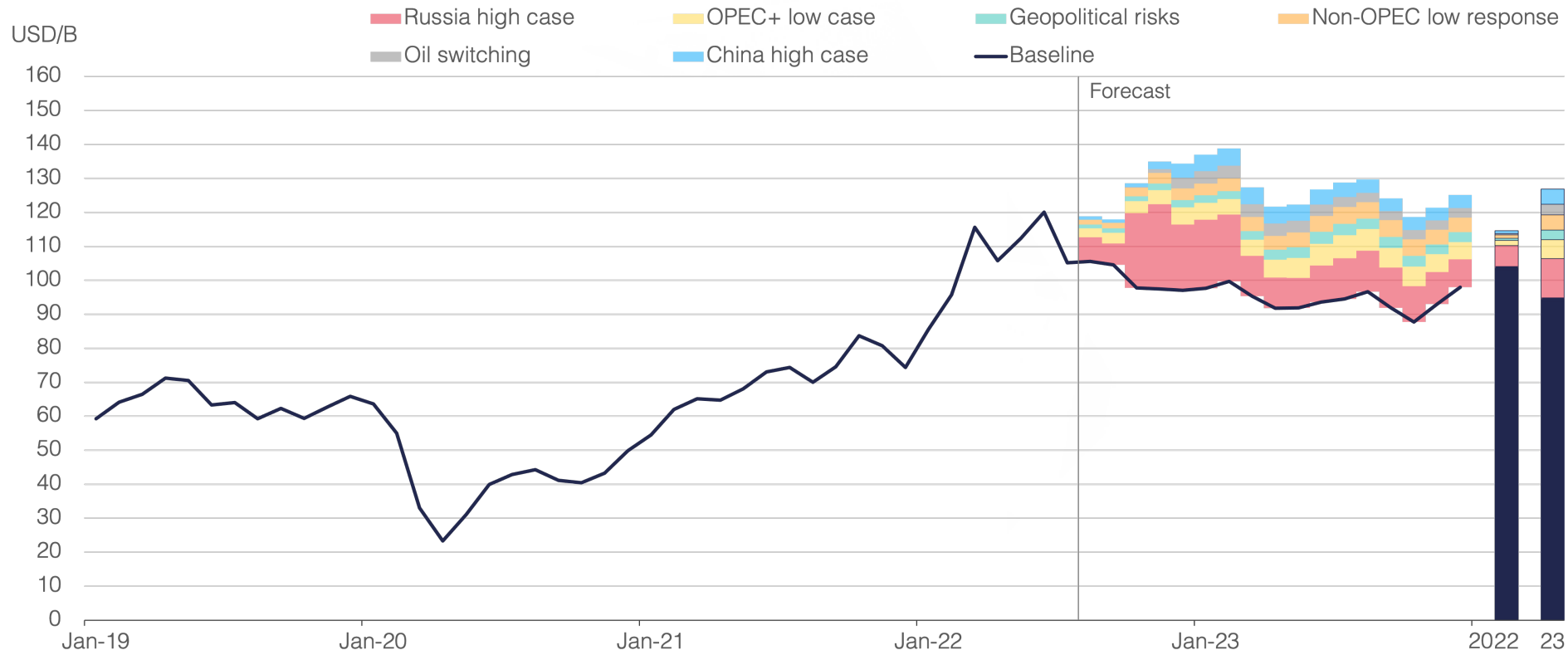
Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bullish scenario 6: Chinese demand (2/2)

Upward demand pressure originating from China is seen gradually building towards year-end, but it is mostly confined in 2023 lifting prices by further $4/b on average compared to the baseline.

Brent price forecast scenario: China high case



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

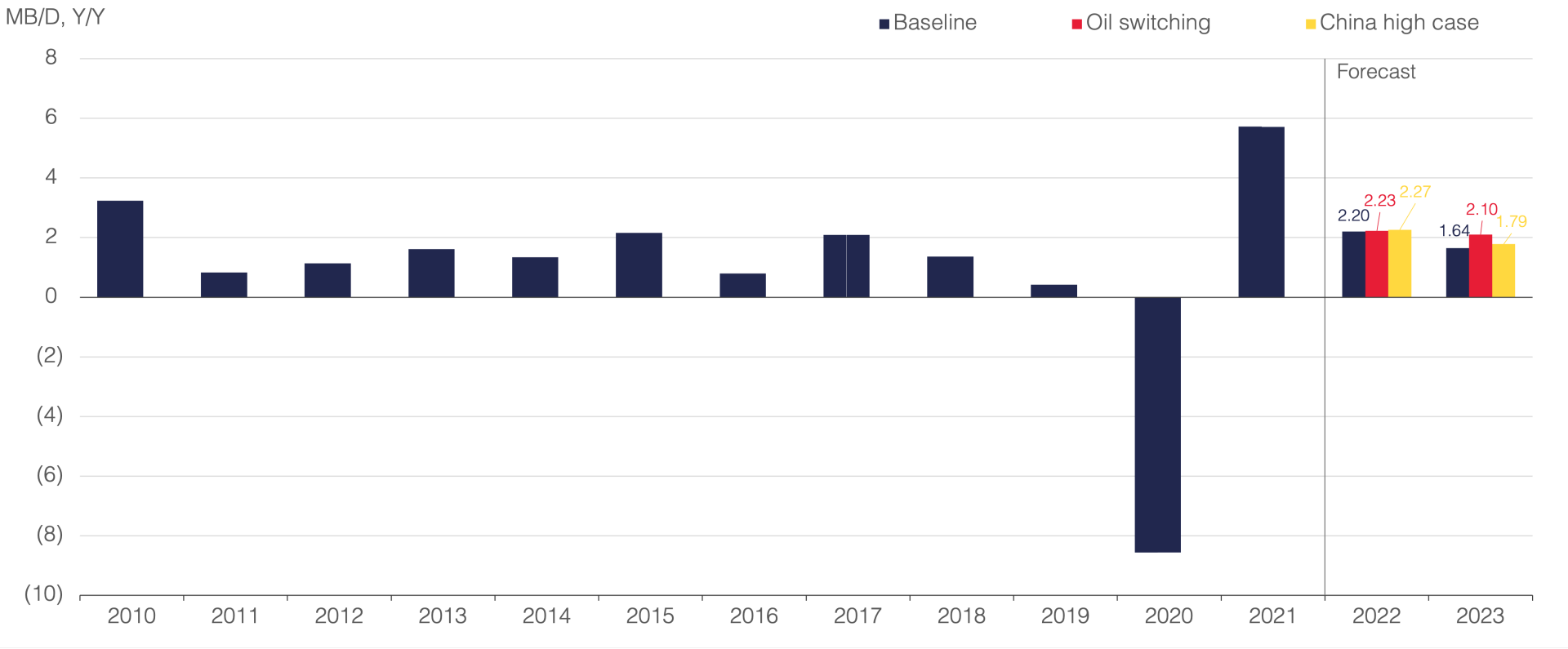
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bullish scenarios: Oil demand

Based on our bullish forecast scenarios, the upside potential for global demand growth reaches at 2.3 mb/d in 2022 and 2.1 mb/d in 2023.

Global oil demand growth forecast scenarios



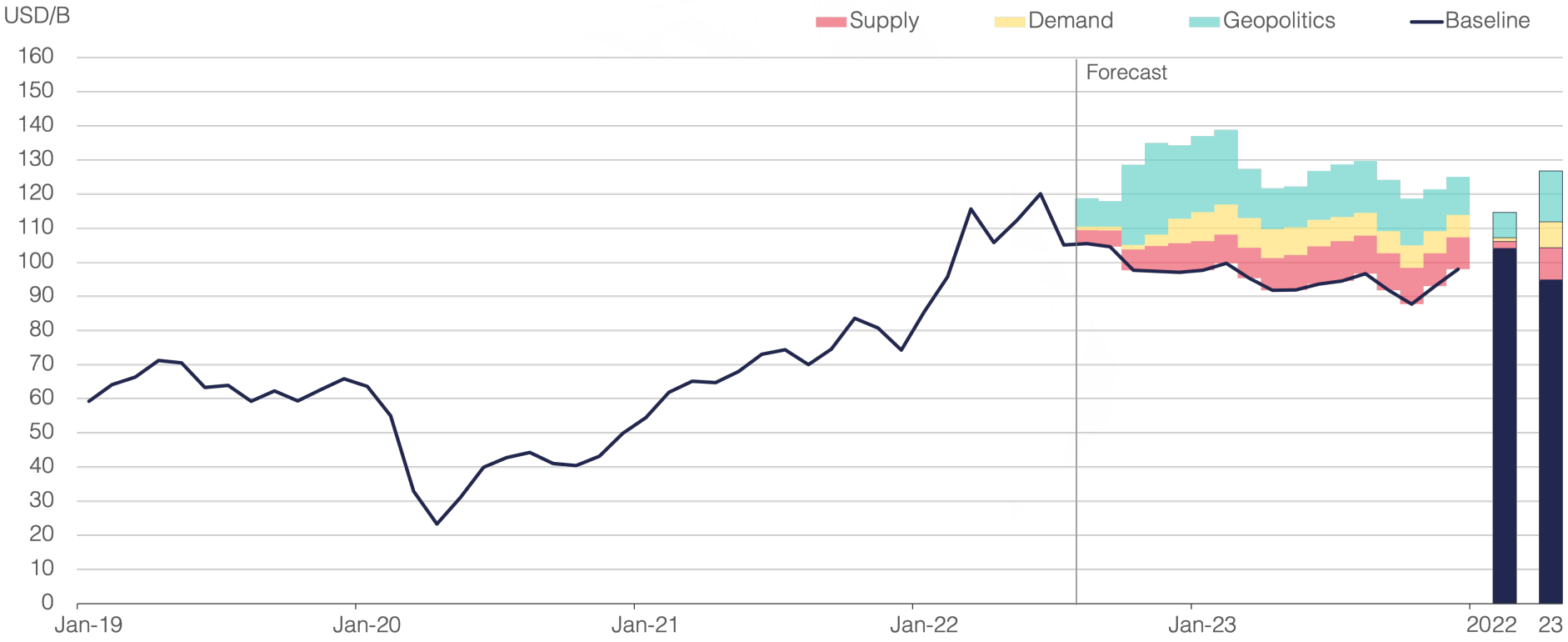
Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Price ceiling (1/3)

Analysis suggests that even if all these bullish factors converge together to generate a *perfect storm*, oil prices do not exceed $140/b and cannot be sustained for more than two quarters in the $130s.

Brent price upside risks



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Price ceiling (2/3)

The dominant bullish driver will be the eventual realization of the Russian disruptions, but for prices to reach and maintain high levels, one needs to make the unrealistic assumption that high prices due to the supply shock don't impact demand.

Brent price forecast scenario: Russia high disruption case *(no demand impact)*

Notes: *Other bullish factors* sums the price impact of all other bullish scenarios.

Source: OIES

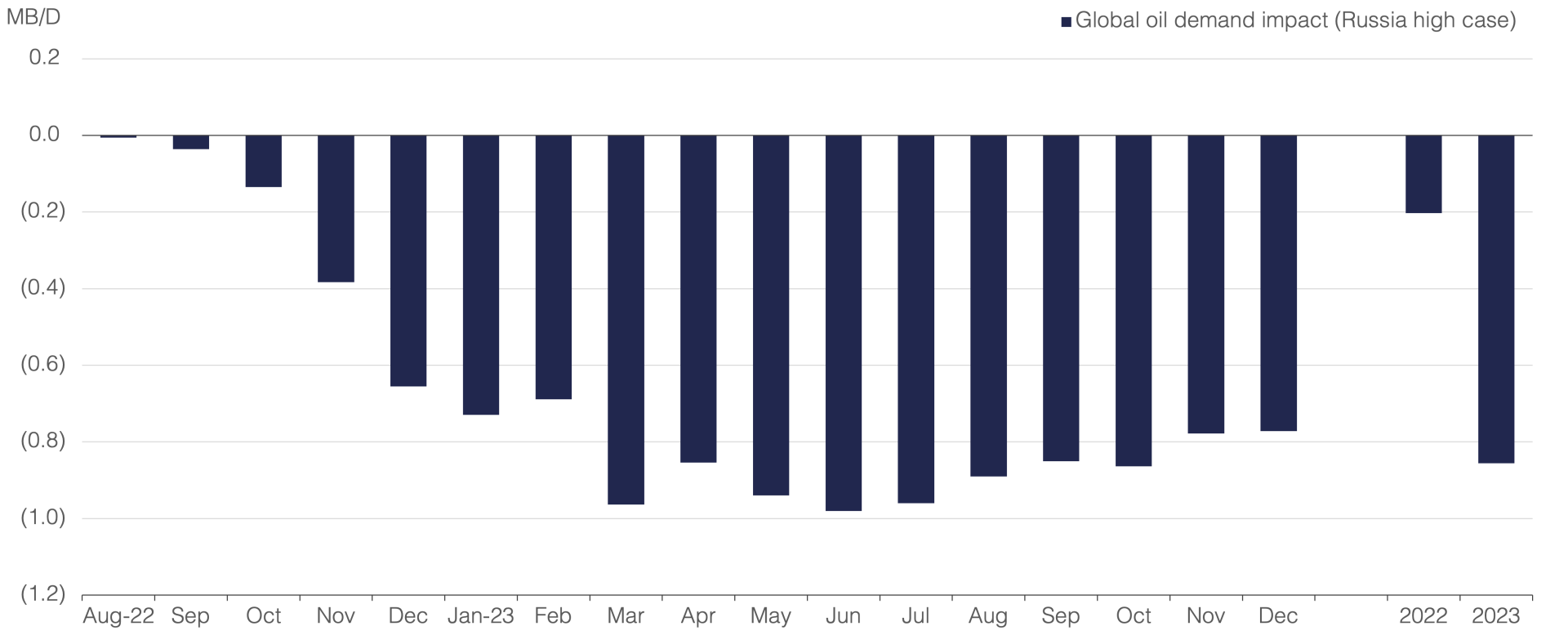
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Price ceiling (3/3)

If the demand response to the *Russia high case* is switched-off and all other bullish factors play out, only then Brent could break above $140/b, albeit 800,000 b/d of demand losses will be unaccounted for.

Global oil demand impact in Russia high disruption case scenario



Notes: Modelled estimates based on the difference between the impacts of the two scenarios on global growth and global oil demand via price.

Source: OIES

The contents of this presentation are the authors' sole responsibility.

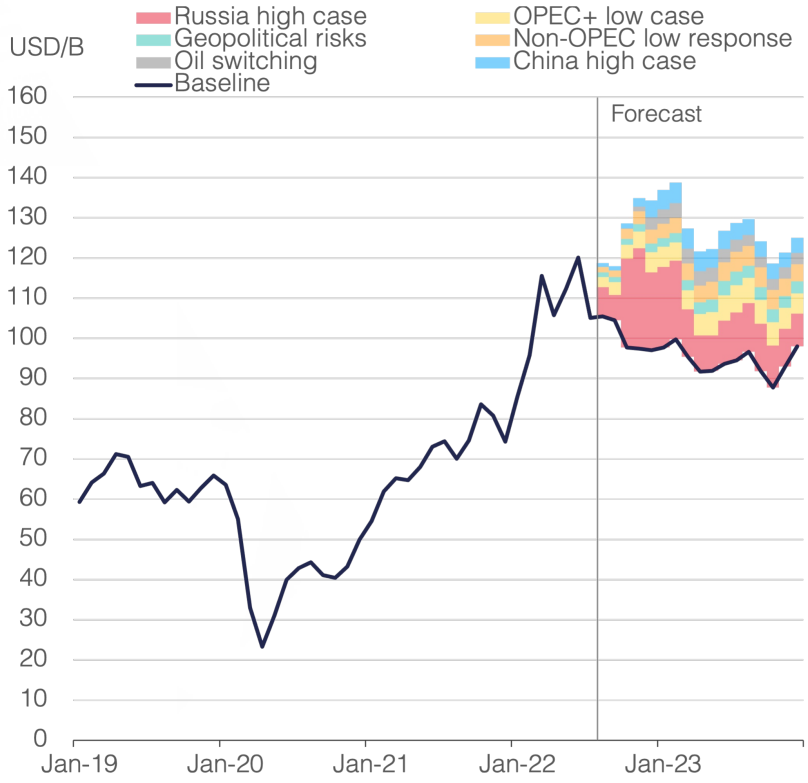
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Summary of the Bullish case

Perfect storm of:

- High Russian crude and products supply disruption.
- The associated sharp increase in oil and products price due to the Russian supply shock will not have significant impact on the global economy and oil demand.
- Strong rebound in China's demand as the Chinese government stimulates the economy.
- Large substitution from gas-to-oil as natural gas prices remain elevated.
- Confluence of other supply factors, e.g., geopolitical outages, no Iran nuclear deal, moderate non-OPEC supply response.

Brent price forecast scenarios: Bullish



Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

THE OXFORD INSTITUTE FOR ENERGY STUDIES

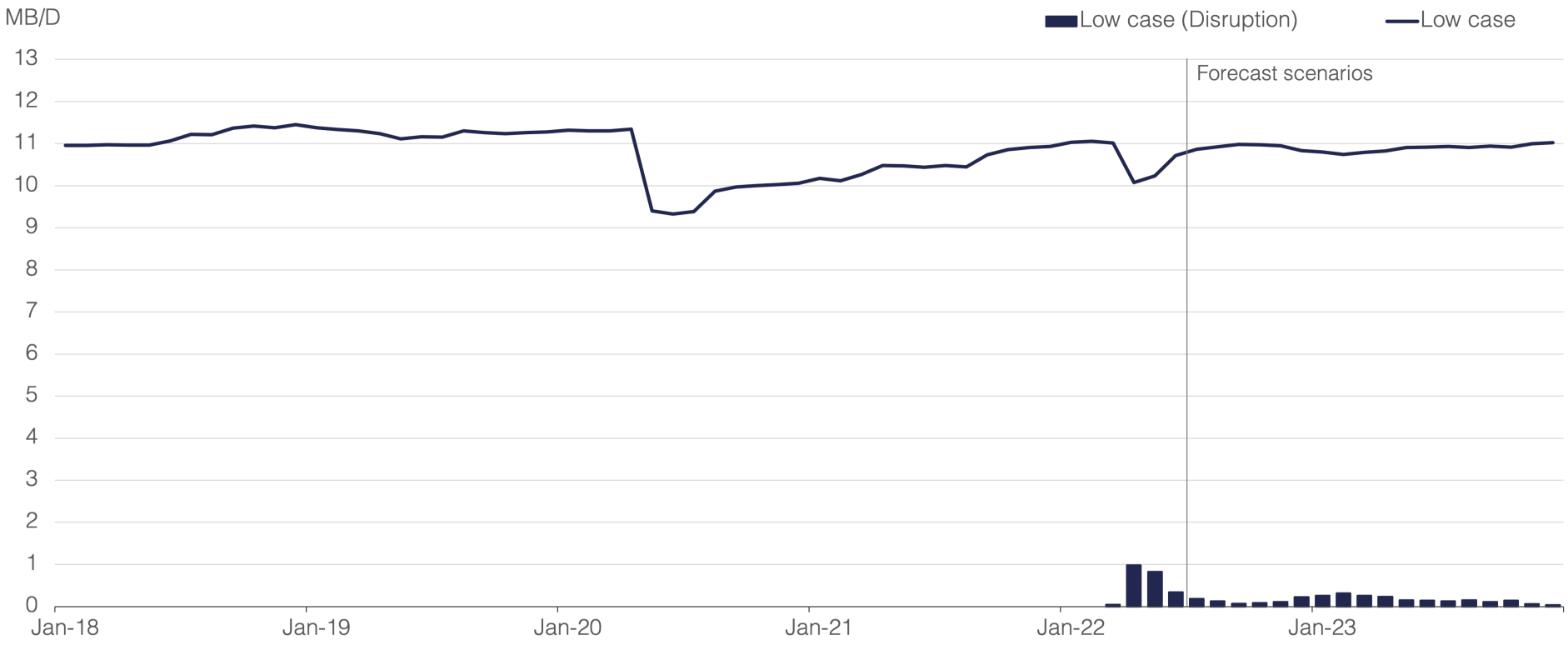
Bearish narrative

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bearish scenario 1: Russia resilience (1/2)

The *low disruption case* sees Russian oil production averaging near the current levels of 200,000 b/d and 300,000 b/d below pre-war levels for the entire forecast horizon.

Russia oil production scenarios: Low disruption case



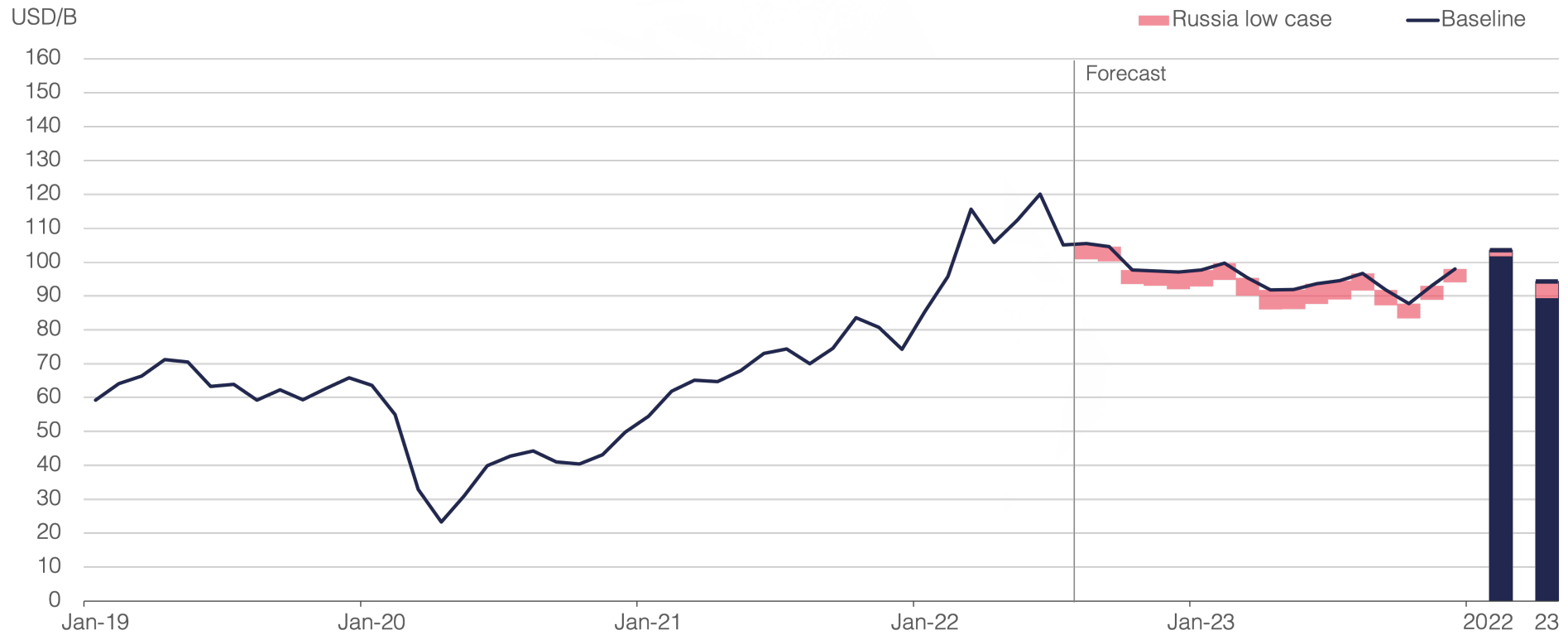
Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bearish scenario 1: Russia resilience (2/2)

The impact on prices is immediate and persistent to the end of 2023, pushing the baseline price lower by $5/b on average for the entire period.

Brent price forecast scenario: Russia low disruption case



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

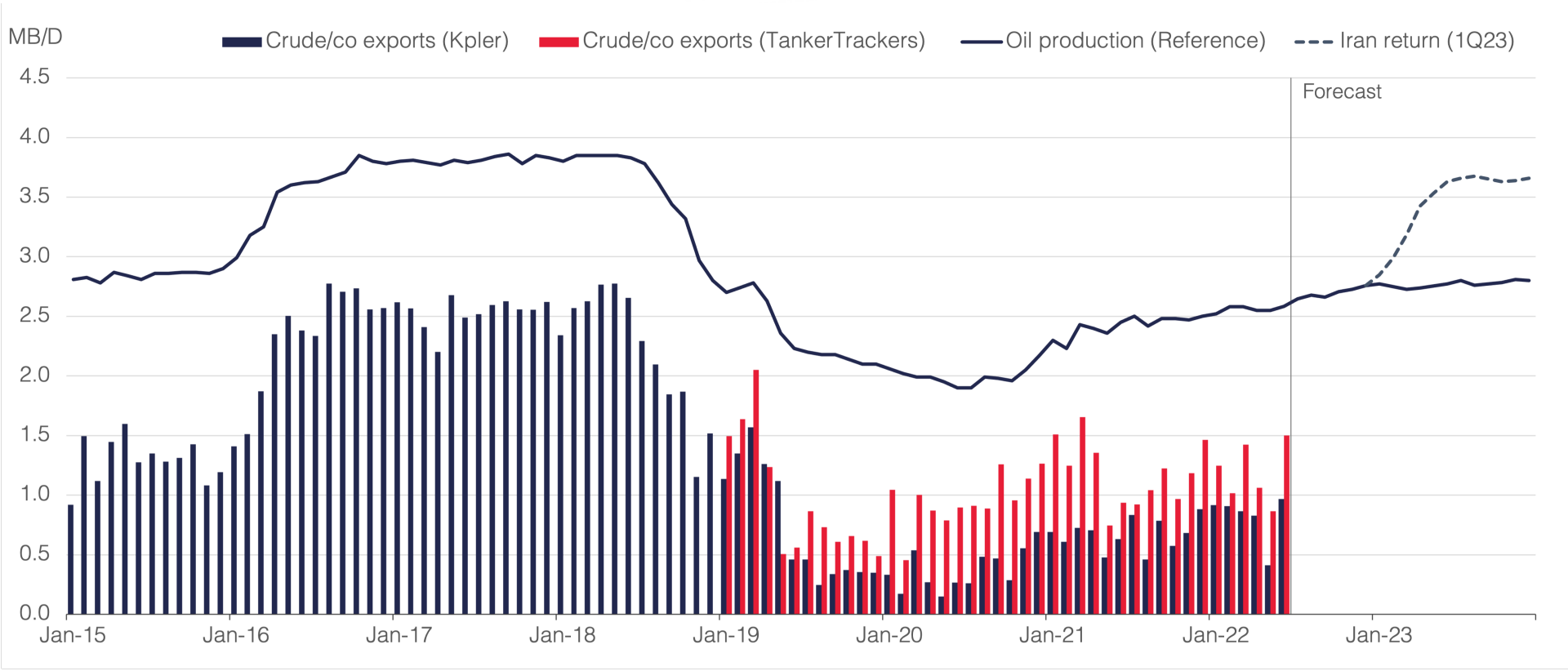
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bearish scenario 2: Iran returns (1/2)

The *Iran return case* assumes that a nuclear deal is reached in Q4 2022 with some 900,000 b/d of Iranian production gradually returning in H1 2023 and averaging 3.6 mb/d in H2.

Iran oil exports and production



Source: Kpler, TankerTrackers, OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bearish scenario 2: Iran returns (2/2)

By design, the impact from the return of Iranian production on prices is confined in 2023 and averages $3.1/b for the year as whole, relative to our baseline.

Brent price forecast scenario: Iran return

Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

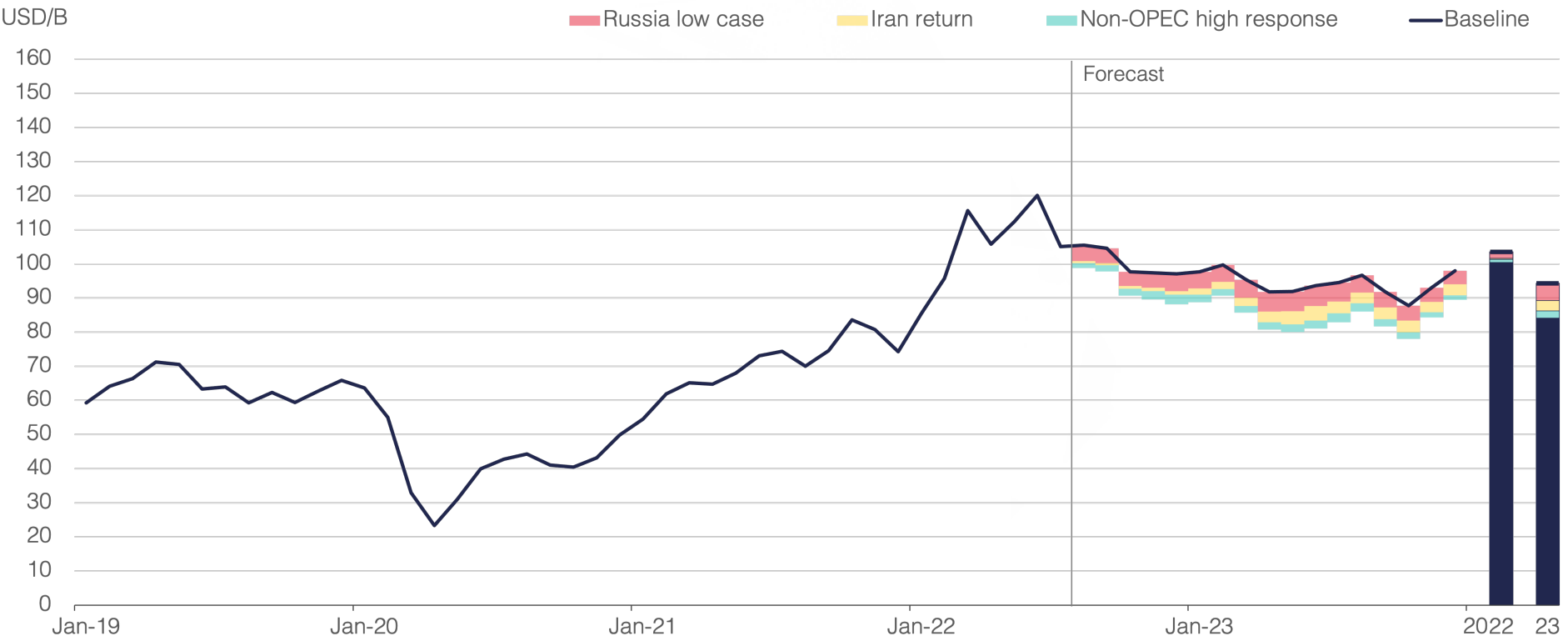
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bearish scenario 3: Non-OPEC boost

The *high non-OPEC response case* sees modest improvements to the non-OPEC production outlook outside OPEC+ led by the US, trimming another $2/b from Brent versus the baseline price.

Brent price forecast scenario: Non-OPEC high response



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

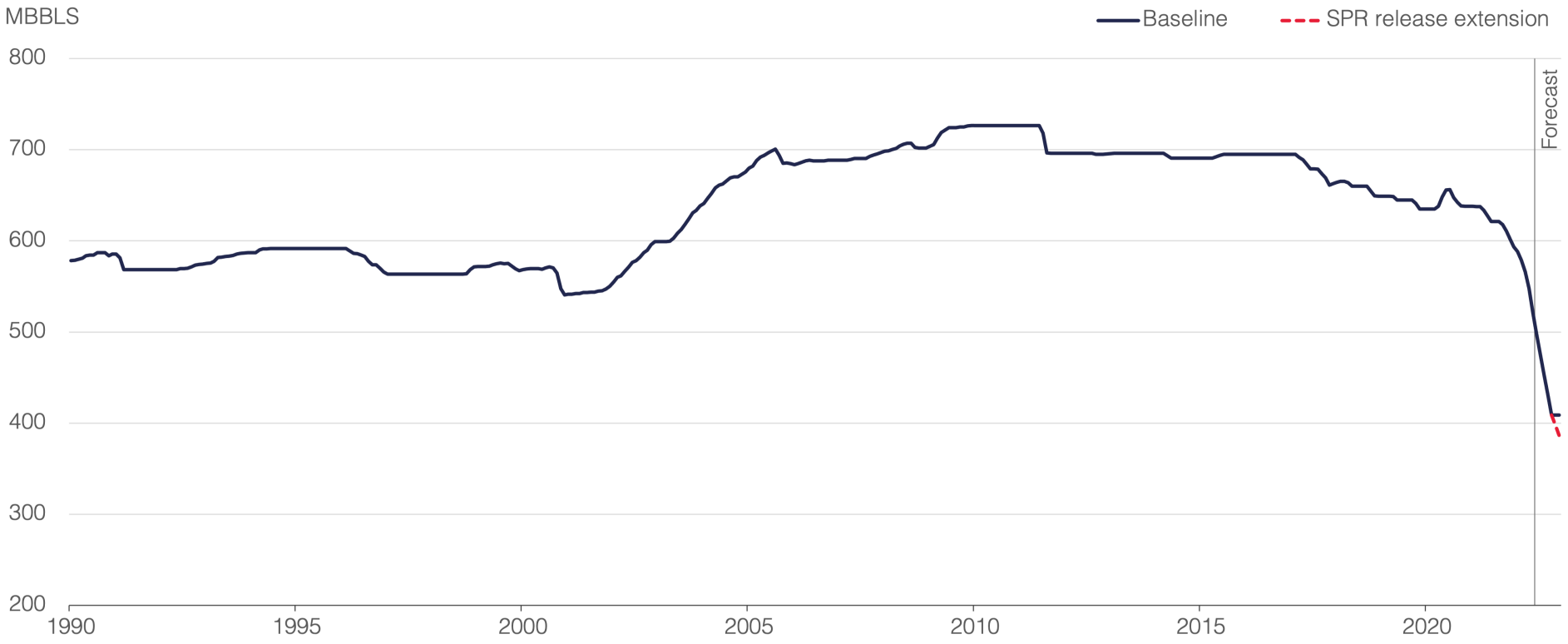
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bearish scenario 4: Strategic stocks (1/2)

The *SPR release extension case* assumes the US extending the scheduled release of crude from SPR beyond October to the end of the year, adding another 1 mb/d between November and December.

US strategic stocks of crude oil



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: IEA, OIES

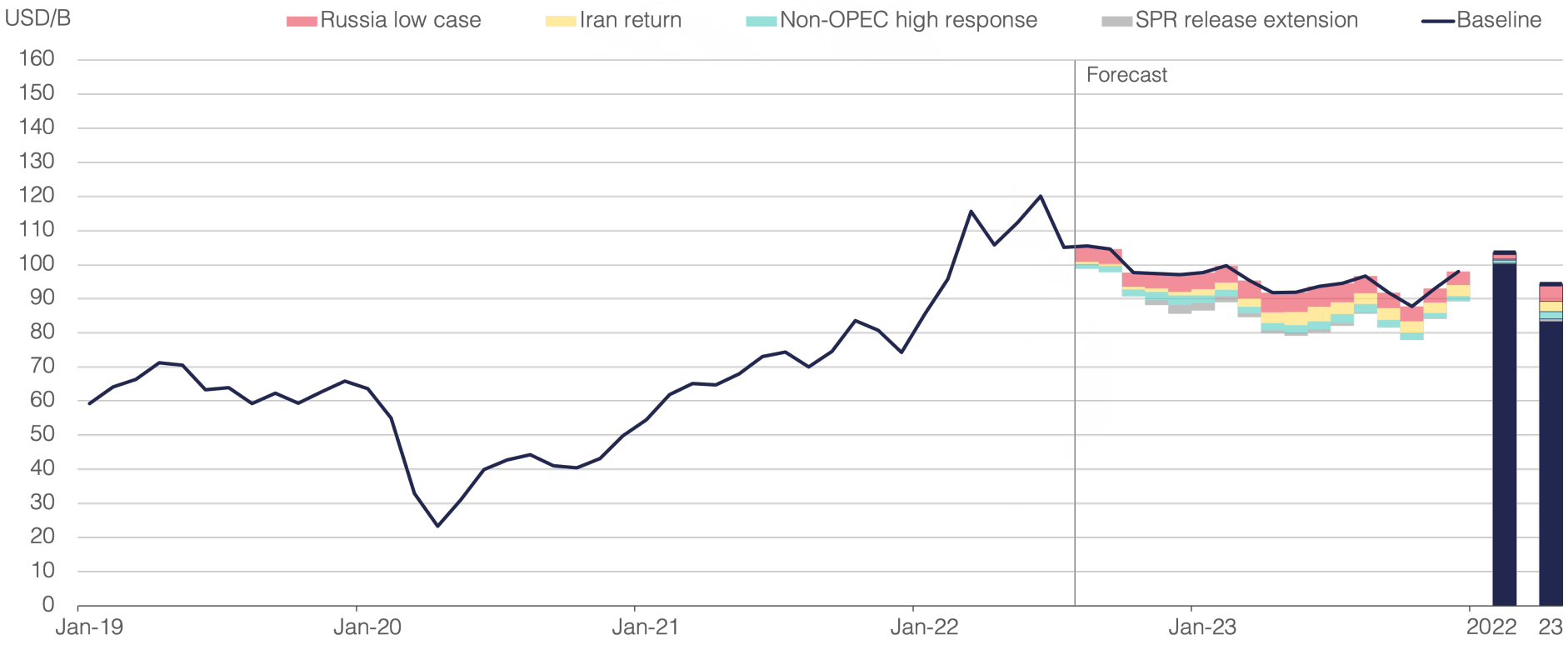
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bearish scenario 4: Strategic stocks (2/2)

Negative price pressures of up to $2/b build anew towards Q1 2023, but the impact effect of the SPR release is temporary and ebbs in its entirety by the end of H1.

Brent price forecast scenario: SPR release extension



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

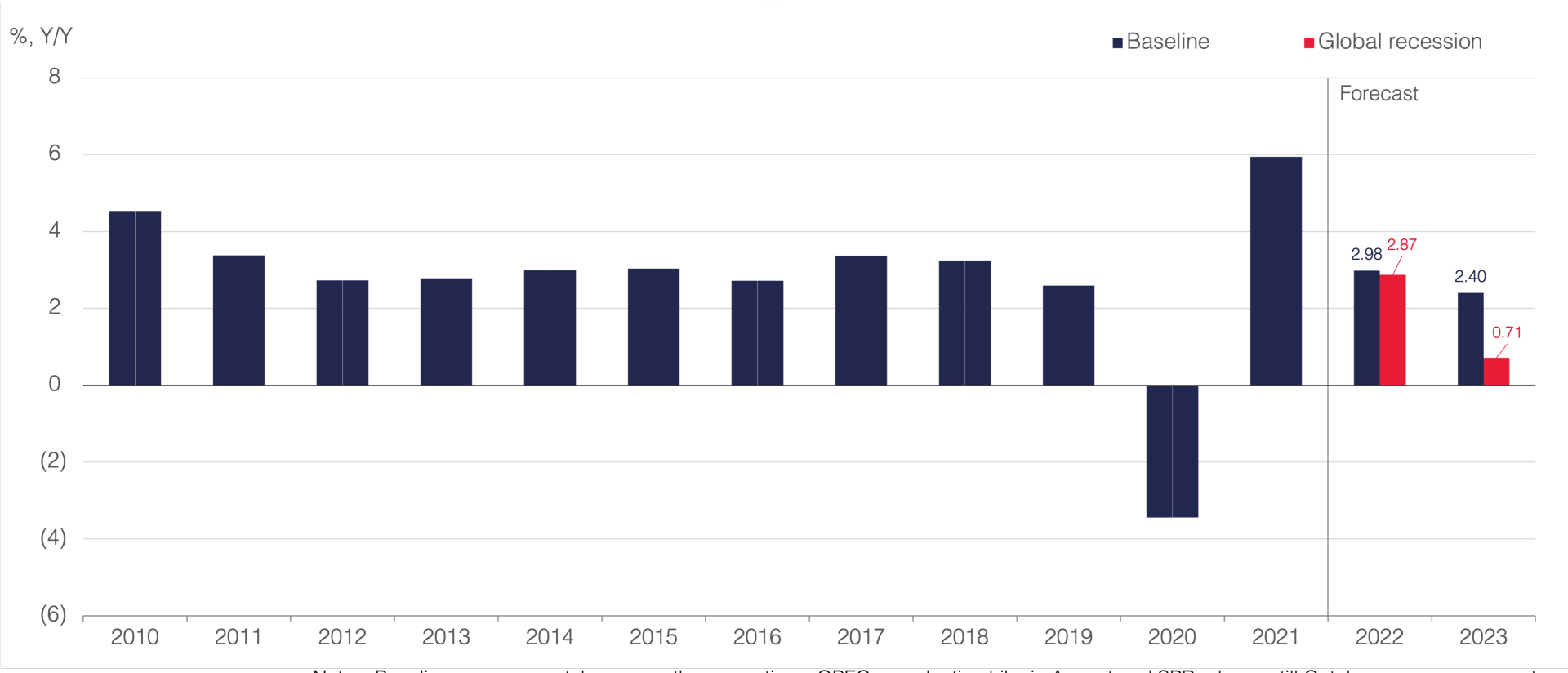
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bearish scenario 5: Recession (1/2)

The *global recession case* sees global growth slowing sharply to 0.7% in 2023 from 2.9% the year before, as supply-chain disruptions and persistent inflationary pressures squeeze the global economy.

Global growth scenarios



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: Oxford Economics, OIES

The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bearish scenario 5: Recession (2/2)

A global recession appears to be the dominant bearish driver weighing heavily to the outlook, with price losses progressively becoming aggressive ending-2022 and accelerating in 2023 to average $11.6/b.

Brent price forecast scenario: Global recession

Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

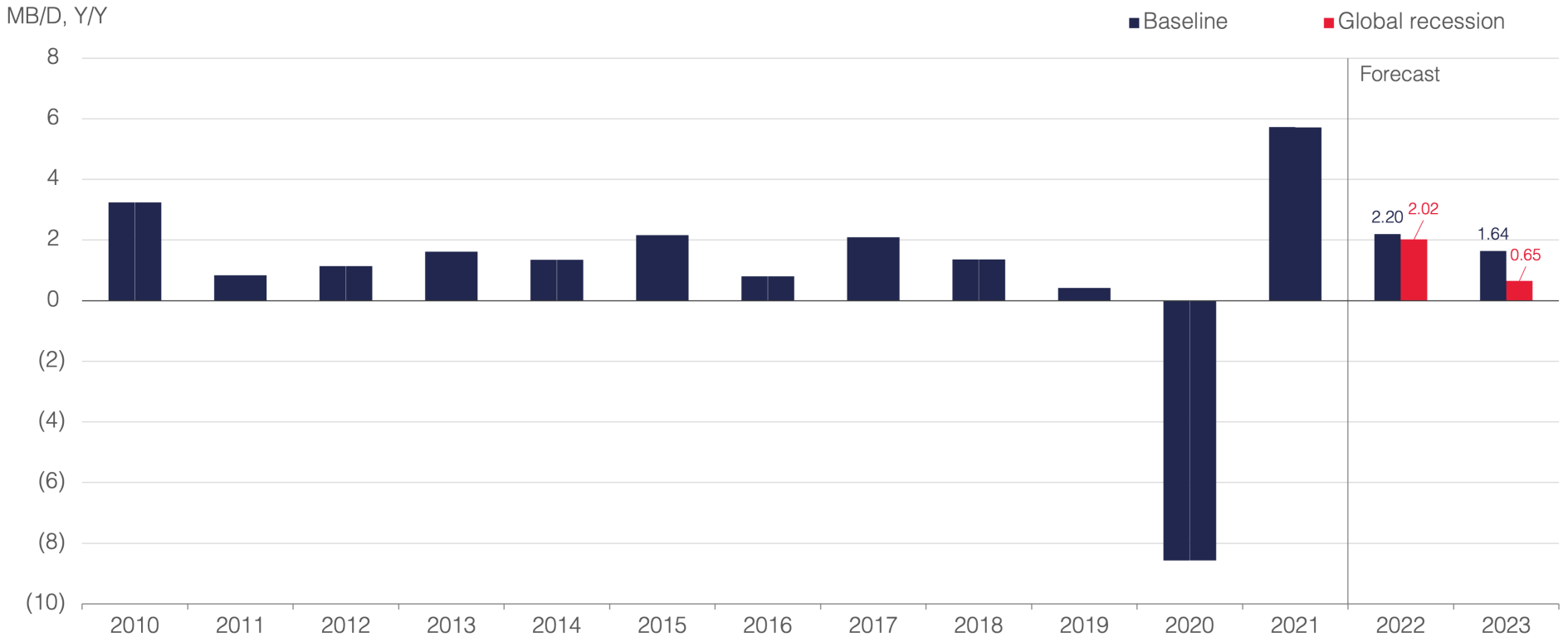
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Bearish scenarios: Oil demand

Based on our bearish forecast scenarios, the downside potential for global demand growth falls to 2 mb/d in 2022 and 0.7 mb/d in 2023 under the global recession case.

Global oil demand growth forecast scenarios



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

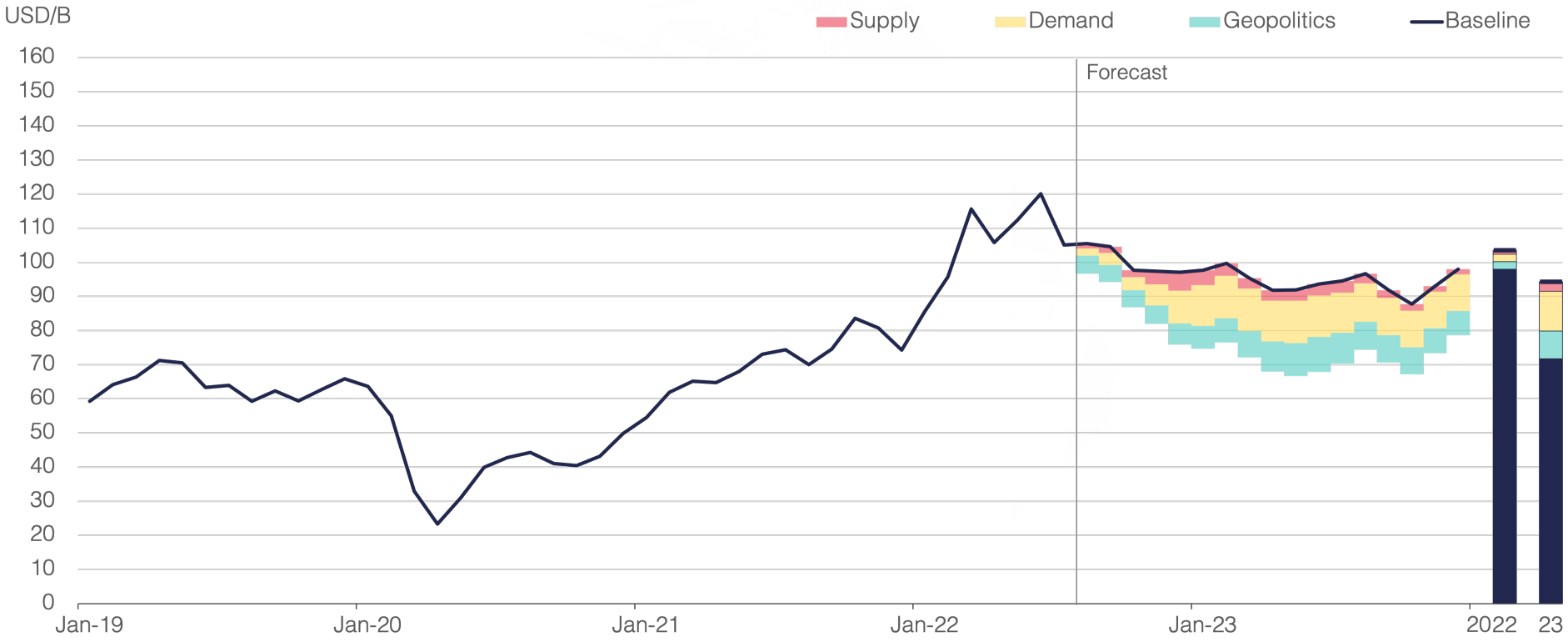
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Price floor

Oil prices could potentially fall just under $70/b under a *perfect storm* of negative drivers, but this will require all supply/demand drivers to converge with the Russian supply shock potentially *resolved*.

Brent price downside risks



Notes: Baseline assumes *only* base growth assumptions, OPEC+ production hike in August and SPR releases till October as per agreements.

Source: OIES

The contents of this presentation are the authors' sole responsibility.

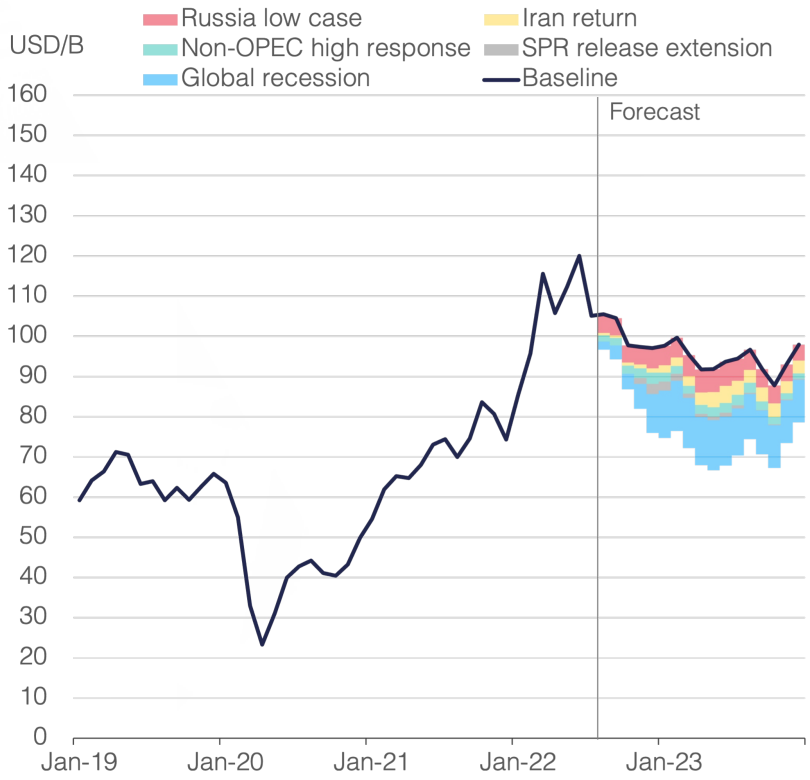
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Summary of the Bearish case

Perfect storm of:

- Global economic recession that would have big negative impact on demand (the key determinant).
- The supply disruption remains limited as Russia continues to redirect its crude and products exports to other parts of the world.
- The full return of Iranian supplies to the market.
- Strong supply in response to higher oil prices, for instance US shale surprising significantly to the upside.
- The US continues to release stocks from SPR beyond October for few additional months.

Brent price forecast scenarios: Bearish



Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

THE OXFORD INSTITUTE FOR ENERGY STUDIES

Outlook

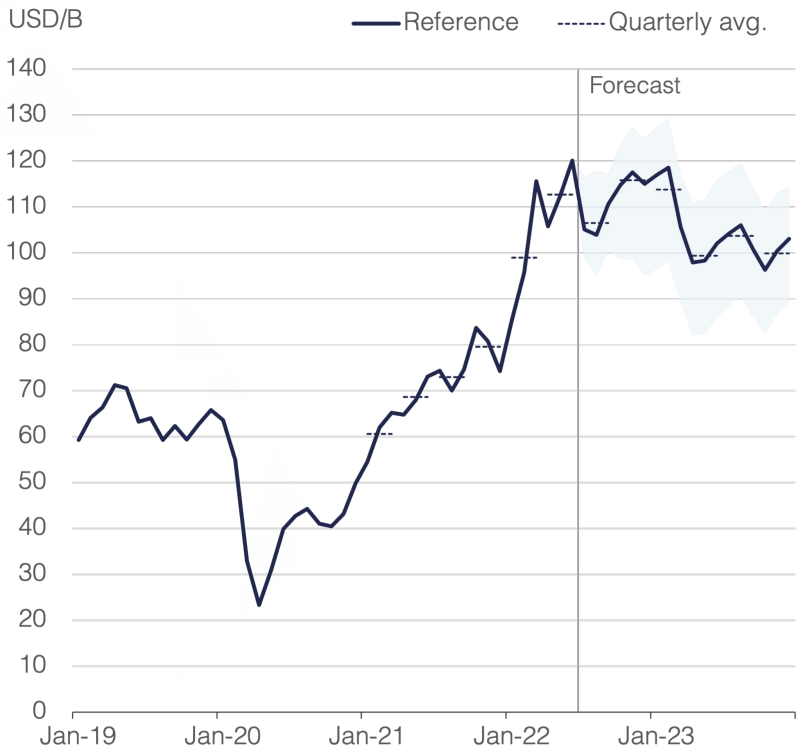
The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Many moving parts

Prospects for a perfect storm in either direction are very limited. There are many moving parts shaping oil markets and these are not moving in the same direction both on the demand and supply side.

- **Example on the demand side:** Higher oil and products prices and slower economic activity having their impact on demand, but pent-up demand and gas-to-oil substitution could offset some of the negative demand pressures.
- **Example on the supply side:** Russian disruption is lower than originally projected but risk of bigger Russian disruption still high and the capacity buffers in the system are low (OECD stocks below 5-year average, spare capacity thin) in an environment of heightened risks of outages (geopolitical, weather-related events)

Brent price outlook: Reference



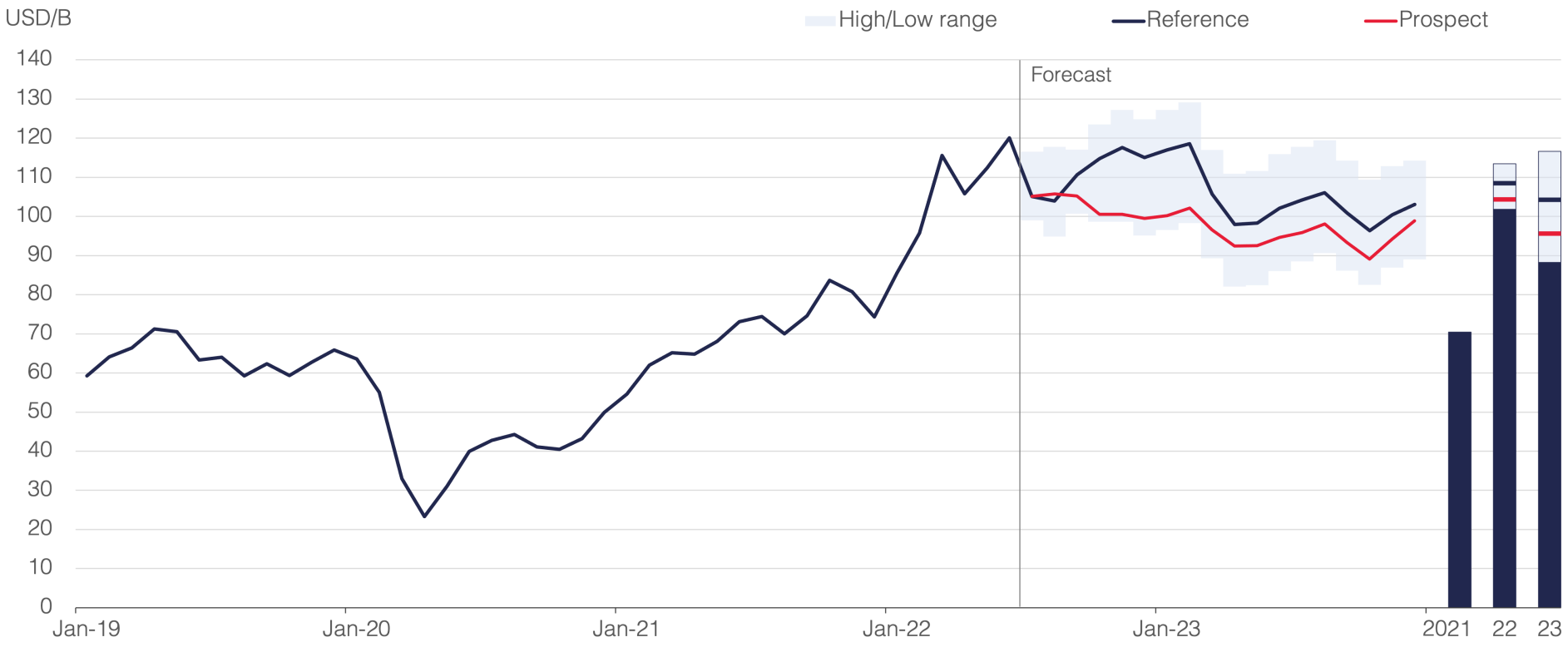
Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Price outlook

Brent price forecast averages $108.5/b in 2022 and $104.2/b in 2023, with Q4 2022 strengthening as price pressures are expected to return before easing again in the remainder of the year.

Brent price outlook



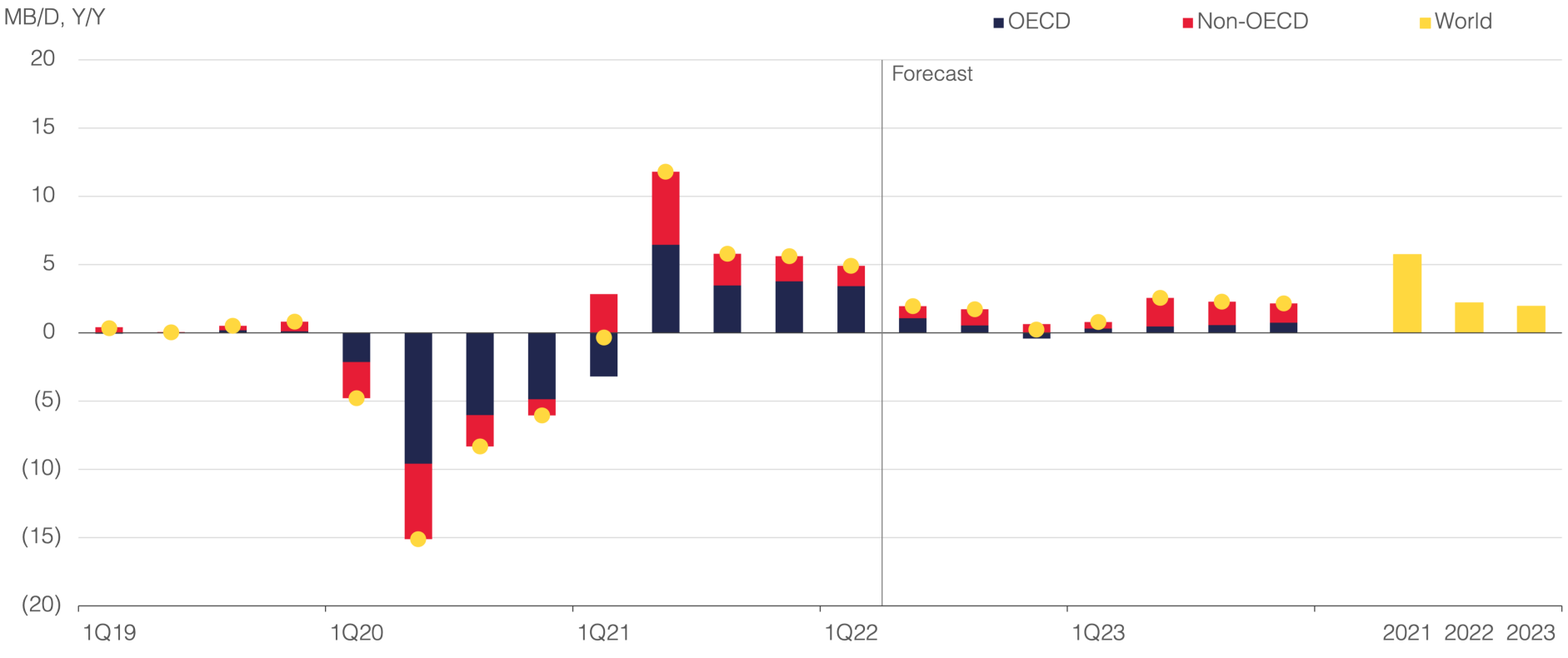
Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Oil demand outlook (1/2)

Global oil demand growth is forecast to 2.2 mb/d in 2022 and 1.9 mb/d in 2023 but risks to the demand outlook are skewed to the downside.

Global oil demand



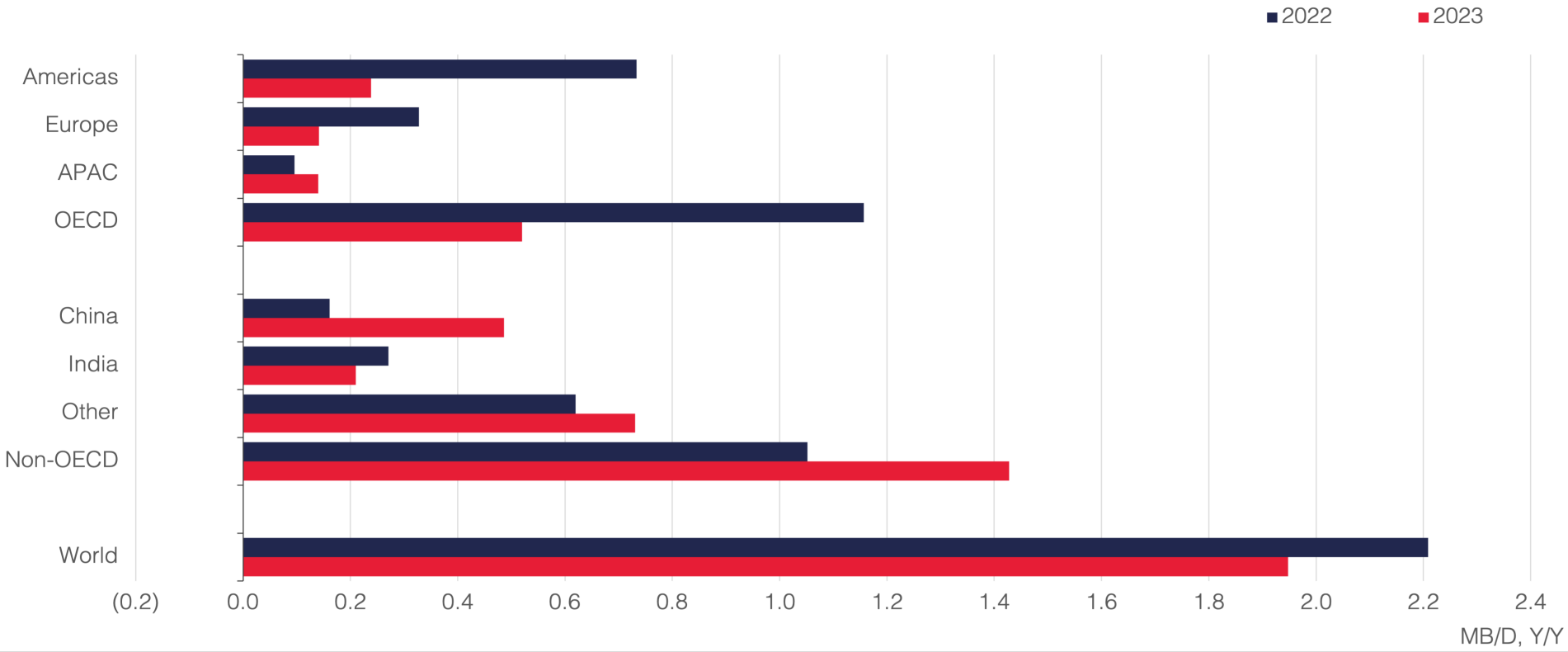
Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Oil demand outlook (2/2)

Pent-up demand is keeping OECD demand on track for another year of healthy recovery with some oil-switching coming into play ending-2022, while Chinese rebound supports outlook in 2023.

Global oil demand growth by region/country



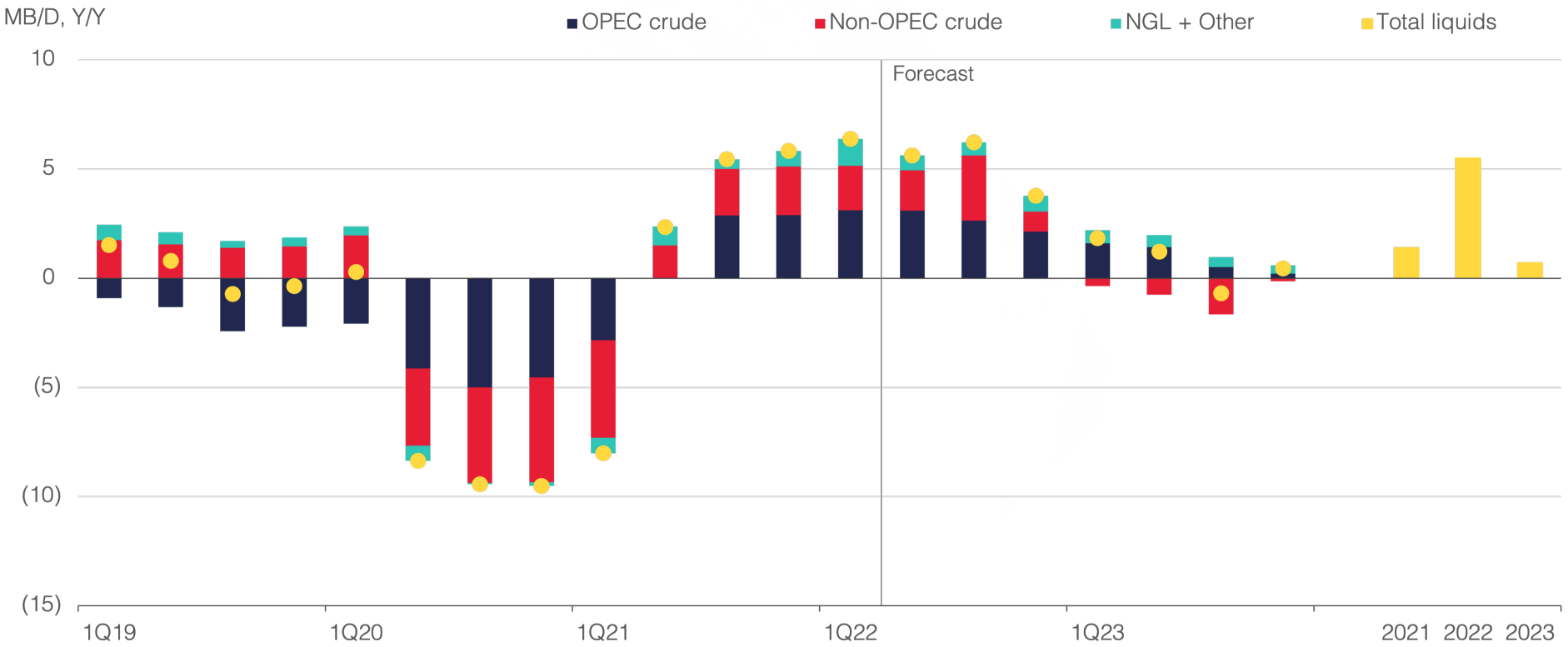
Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Oil supply outlook (1/2)

Global oil supply is forecast to grow by 5.5 mb/d in 2022 and 0.7 mb/d in 2023, but outlook remains tight despite the recent easing of Russian disruptions.

Global oil supply



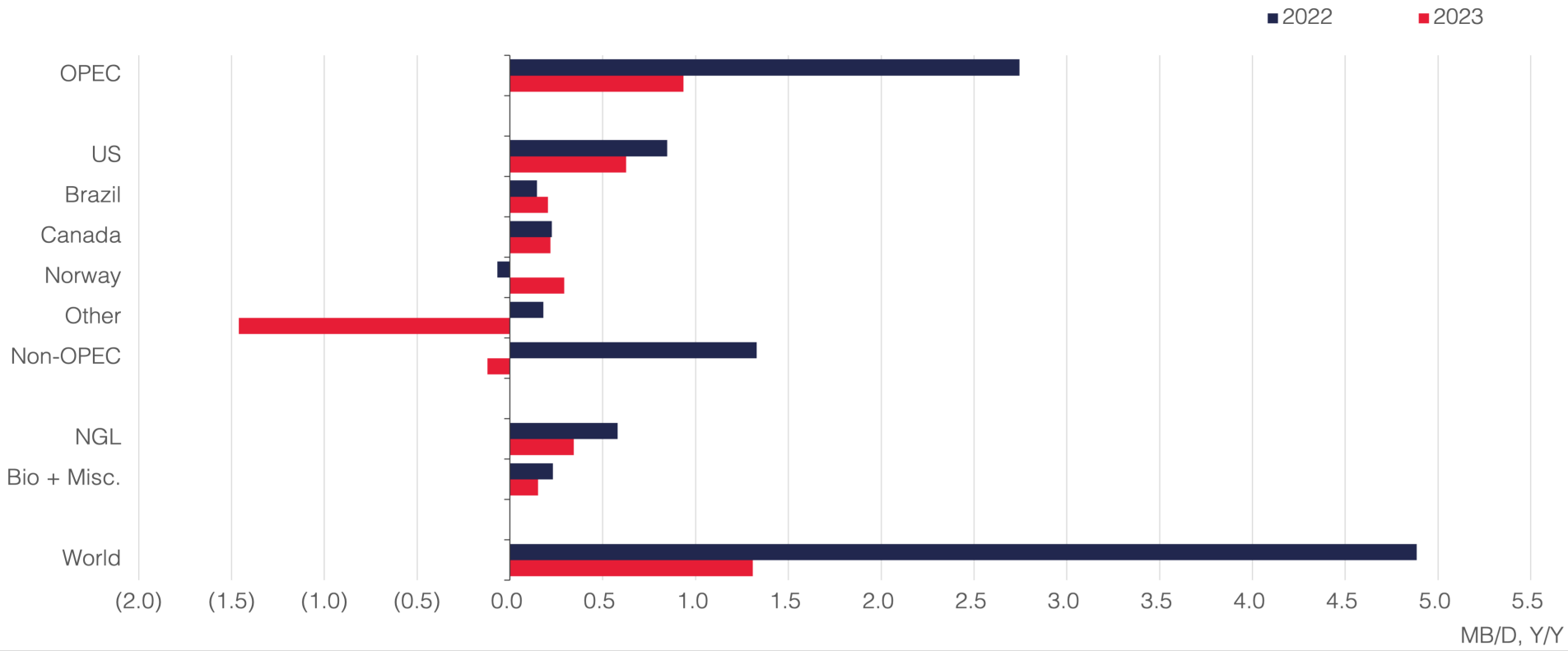
Notes: Non-OPEC includes the release of crude from strategic stocks.
Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Oil supply outlook (2/2)

OPEC+ underproduction outside Middle East, non-OPEC growth constraints and elevated geopolitical risks outside Russia continue to dampen the supply outlook despite robust recovery in NAM.

Global oil supply growth by producer



Notes: Crude oil production only.

Source: OIES

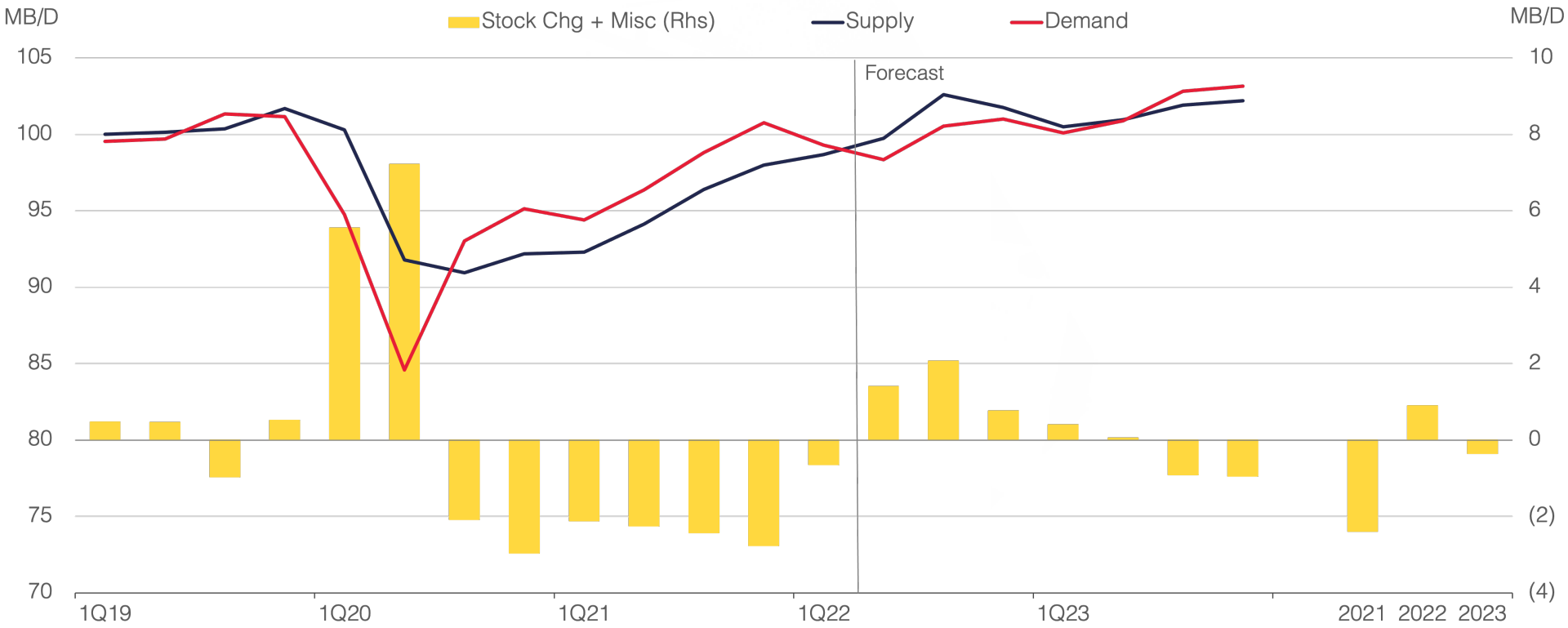
The contents of this presentation are the authors' sole responsibility.

They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Global balance (1/2)

We forecast a 0.9 mb/d surplus in 2022 followed by a -0.35 mb/d deficit in 2023, but the outlook is surrounded by elevated uncertainty in both the supply and demand sides of the market.

Global balance



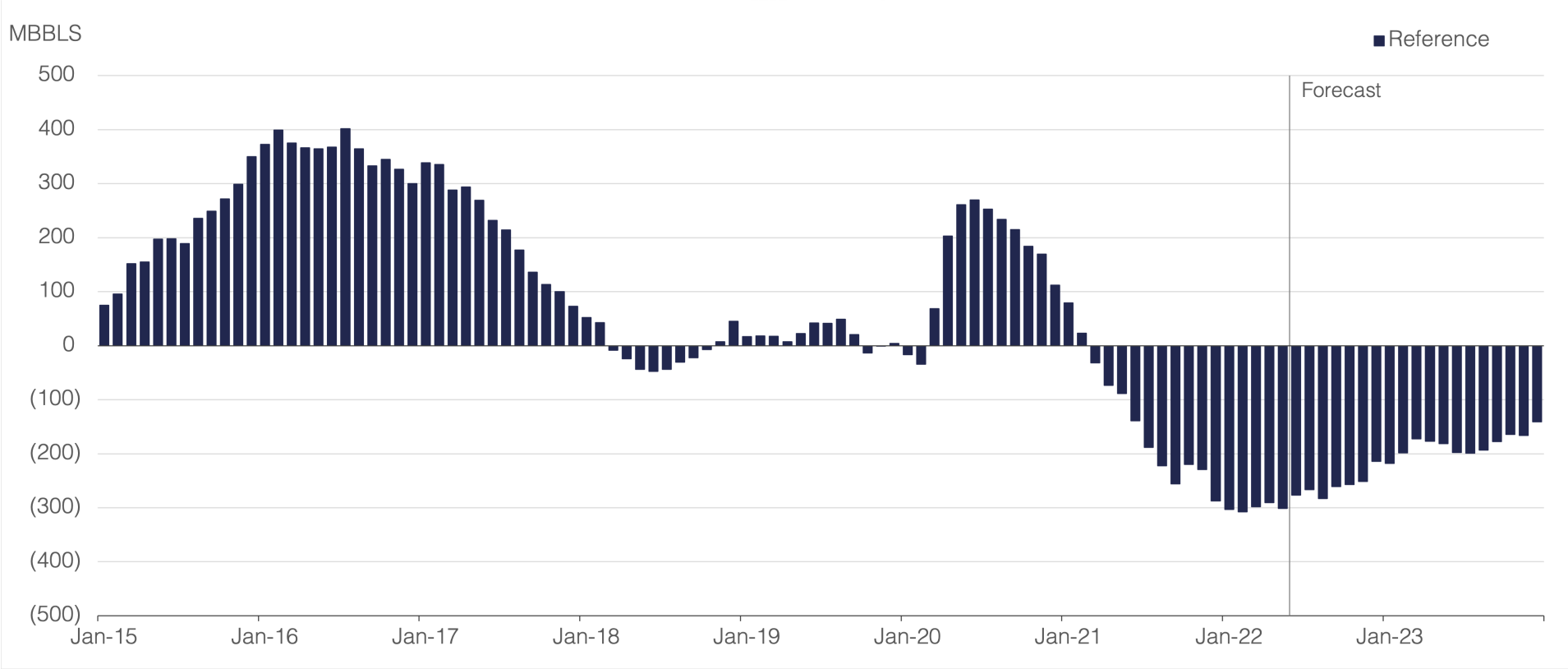
Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

Global balance (2/2)

The replenishment of OECD stocks is seen slow-moving throughout, expected to keep providing strong support to prices well into 2023.

OECD commercial stocks vs 5-year average



Source: OIES

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of the Oxford Institute for Energy Studies or any of its Members.

THE OXFORD INSTITUTE FOR ENERGY STUDIES

Bassam Fattouh
Director, OIES

Andreas Economou
Director, Oil Research Programme

The contents of this presentation are the authors' sole responsibility.
They do not necessarily represent the views of
the Oxford Institute for Energy Studies or any of its Members.

August 2022

THE OXFORD INSTITUTE FOR ENERGY STUDIES

OIES Oil Monthly

Short-term oil market outlook to 2023

For access please contact:
andreas.economou@oxfordenergy.org