Russia’s invasion of Ukraine and global oil market scenarios

Bassam Fattouh and Andreas Economou
Oxford Institute for Energy Studies
Key assumptions
Russian output disruption scenarios

- **Reference case** sees the loss of 1.1 mb/d of Russian oil production by May 2022.
- **Full curtailment case** sees the more severe 3.9 mb/d disruption in Russian oil by May 2022.
Several Russian oil firms are facing limited access to the Transneft system amid high volumes of stored oil, while Russian refineries are cutting crude runs forcing firms to cut output.

**Russia crude oil exports**

- Europe
- Asia
- Americas
- Africa
- Oceania
- Unknown

**Urals crude on water**

- Moving
- Floating storage

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

Source: Kpler
In both cases we assume OPEC+ stick to their current agreement with producers gradually increasing supplies on a monthly basis by 0.4 – 0.432 mb/d till September 2022.

**OPEC+ baseline targets vs sustainable capacity**

Notes: Baseline is based on October 2018 except for Saudi Arabia, Russia, Kuwait, Iraq and the UAE which was revised in July 2021.

Source: OPEC, IEA, OIES
But with most OPEC+ producers already producing near maximum capacity, we expect total OPEC+ to be able to return only 1.5 mb/d between March and September 2022, versus the pledged 2.9 mb/d.

**Target vs projected OPEC+ production increases in Reference case**

Notes: Projected OPEC+ production levels consider implied production capacity and maximum historical production levels sustained over a period of 3 to 6 months.

Source: OIES

**KEY ASSUMPTIONS**
OPEC spare capacity in focus

By the OPEC+ deal exit in September 2022 the size of available spare capacity is seen falling to 2.4 mb/d.

OPEC(10) spare capacity

Notes: Based on IEA estimates of sustainable capacity excluding Iran, Libya and Venezuela.

Source: OIES
Iran oil production returns to the market in H2 2022 and reaching 3.6 mb/d by year end, adding nearly 1 mb/d between June and December 2022 (from 2.7 mb/d).

**Iran oil exports and production**

Source: Kpler, TankerTrackers, OIES

**KEY ASSUMPTIONS**

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The Iranian return is expected to be gradual with the bulk of sanctioned supplies returning within 6 months and the headline 3.8 mb/d level reached over a 12-month period.
The war is projected to shave off between 1% and 2.4% of global GDP by 2023, as the negative effects of higher energy/commodity prices and wider macro disruptions spillover outside Russia and the EU.
Implications for the short-term oil market outlook

• *Reference case*
  
  *(loss of 1.1 mb/d of Russian output)*
The Brent price averages $108.6/b in 2022 and $92.4/b, with near-term price pressure pushing Brent at $122.7/b in Q2 2022 before gradually retreating from H2 onwards and falling below $100/b year end.

Notes: The no-disruption base reflects the latest forecast prior Russia’s invasion of Ukraine.

Source: OIES
Impact on global oil demand

Global oil demand growth is revised downwards by 0.6 mb/d to 2.6 mb/d in 2022 and by 0.5 mb/d to 1.5 mb/d in 2023, resulting to a total disruption of 1.1 mb/d relative to the no-disruption case.

Global oil demand response by region in Reference case

Notes: The no-disruption base reflects the latest forecast prior Russia’s invasion of Ukraine.
Source: OIES
Impact on oil demand by region

OECD demand is projected to lose 0.6 mb/d of growth by 2023, with Europe accounting for half the total disruption, and non-OECD demand 0.5 mb/d with the bulk of the losses confined in 2023.
Impact on oil demand by sector

Fuel demand for industry accounts for nearly half the total demand losses at 40%, 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 no-disruption base reflects the latest forecast prior Russia’s invasion of Ukraine.

Source: OIES
Impact on OECD products demand

In OECD, gasoline and gas/diesel demand are hit the hardest accounting for 60% of the total disruption, followed by petchem at 15% and jet at 8%.

OECD oil demand impact by product in *Reference case*

Notes: Other products include lubricants, bitumen, paraffin waxes, petroleum coke, white spirit and SBP, among others.

Source: OIES
Impact on OECD Americas products

2020 was a particularly tough year for US shale producers. OECD Americas oil demand impact by product in Reference case.

OECD Americas see the largest disruption in gasoline demand at 28%.

Notes: Other products include lubricants, bitumen, paraffin waxes, petroleum coke, white spirit and SBP, among others. Source: OIES.
Impact on OECD Europe products

2020 was a particularly tough year for US shale producers.

OECD Europe oil demand impact by product in Reference case

Notes: Other products include lubricants, bitumen, paraffin waxes, petroleum coke, white spirit and SBP, among others.

Source: OIES

Diesel demand in Europe takes a massive hit accounting for 55% of the total losses in the region.

REFERENCE CASE

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Impact on OECD APAC products

Gas/diesel and gasoline demand account for half the total loss in APAC.

OECD APAC oil demand impact by product in *Reference case*

Notes: Other products include lubricants, bitumen, paraffin waxes, petroleum coke, white spirit and SBP, among others.

Source: OIES
Supply response

A collective supply response could bring in total 3 mb/d of additional supplies by year end, suggesting that the market can manage a small to medium size Russian disruption, but near-term pressures persist.

Replacement barrels versus Russian crude supplies at risk in Reference case

Notes: Other supply includes crude oil from rest producers and global NGLs, biofuels and other liquids.
Source: OIES
Non-OPEC supply response

Non-OPEC outside OPEC+ sees a modest response by 0.3 mb/d in 2022 and 0.1 mb/d in 2023, relative to the no-disruption case, with NAM leading the non-OPEC growth in both years.

**Non-OPEC crude response in 2022 (Reference)**

**Non-OPEC crude response in 2023 (Reference)**

**Notes:** Crude oil only.  
**Source:** OIES
Our best-case scenario now sees supply/demand conditions only balanced in 2022 by 0.15 mb/d, with a small surplus of 0.63 mb/d building in 2023.

**Global balance in Reference case**

Notes: The no-disruption base reflects the latest forecast prior Russia’s invasion of Ukraine.

Source: OIES
Impact on OECD stocks

Tight stocks pressure is projected to persist for most of 2022, with a small rebuild towards year end returning OECD stocks near their 2010-2014 average by H2 2023.

OECD commercial stocks vs 2010-2014 avg in Reference case

Notes: The no-disruption base reflects the latest forecast prior Russia’s invasion of Ukraine.
Source: OIES
Implications for the short-term oil market outlook

• Full curtailment case
  (loss of 3.9 mb/d of Russian output)
Price outlook

Brent averages $131.3/b in 2022 and $112/b in 2023, $22.6/b and $19.6/b above Reference, respectively, reaching a monthly high of $156.7/b in May 2022 and falling below $100/b only by Q4 2023.

Brent price outlook in *Full curtailment case*

[Chart showing Brent price outlook in Full curtailment case]

Source: OIES
Impact on global oil demand

The global oil demand impact intensifies with growth losses totaling 2.5 mb/d by 2023, from 1.1 mb/d under Reference, with y/y global demand growth averaging 2.2 mb/d in 2022 and 0.5 mb/d in 2023.

Global oil demand response by region in Full curtailment case

Notes: The no-disruption base reflects the latest forecast prior Russia’s invasion of Ukraine. Source: OIES
Impact on oil demand by region

OECD demand takes a big hit with total loss extending to 1.5 mb/d from 0.6 mb/d and y/y growth falling to negative territory in 2023, while non-OECD demand losses double to 1 mb/d from 0.5 mb/d.
The impact on fuel demand for industry reaches 60% or 1 mb/d out of the total 2.5 mb/d loss, followed by road fuels at 25% or 0.6 mb/d, while jet fuel share falls to 12% as the impact rises only by 0.1 mb/d.

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

Notes: The *no-disruption base* reflects the latest forecast prior Russia’s invasion of Ukraine.

Source: OIES
Impact on OECD products demand

2020 was a particularly tough year for US shale producers.

OECD oil demand impact by product in Full curtailment case

Massive revisions in gasoline/diesel demand with combined disruption reaching 1.2 mb/d from 0.58 mb/d under Reference.

Notes: Other products include lubricants, bitumen, paraffin waxes, petroleum coke, white spirit and SBP, among others. Source: OIES

FULL CURTAILMENT CASE
Impact on OECD Americas products

Gasoline/diesel demand in Americas take a larger hit with their respective shares to total impact rising by 5% each.

OECD Americas oil demand impact by product in *Full curtailment case*

Notes: Other products include lubricants, bitumen, paraffin waxes, petroleum coke, white spirit and SBP, among others.

Source: OIES
Impact on OECD Europe products

The impact on distillates in Europe remains massive accounting for 85% of the total loss in OECD.

OECD Europe oil demand impact by product in *Full curtailment case*

Notes: Other products include lubricants, bitumen, paraffin waxes, petroleum coke, white spirit and SBP, among others.

Source: OIES

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Impact on OECD APAC products

In APAC the demand impact remains widespread across products with gas/diesel and naphtha demand the most severely affected.

OECD APAC oil demand impact by product in *Full curtailment case*

Notes: Other products include lubricants, bitumen, paraffin waxes, petroleum coke, white spirit and SBP, among others.

Source: OIES
A severe curtailment of Russian supplies above 3 mb/d would see a significant near-term pressure persisting well into Q3 2022, with a collective supply response filling the gap only by year end.

**Replacement barrels versus Russian crude supplies at risk in Full curtailment case**

Notes: Other supply includes crude oil from rest producers and global NGLs, biofuels and other liquids.

Source: OIES
Non-OPEC supply response

Non-OPEC response outside OPEC+ gains momentum in 2022 with the US leading the pack and accounting for nearly half the 0.6 mb/d gains, but further gains in 2023 remain modest at 0.4 mb/d.

Non-OPEC crude response in 2022 (Full curtailment case)

Non-OPEC crude response in 2023 (Full curtailment case)

Notes: Crude oil only. Source: OIES
Market deficits persist in 2022 on the back of consecutive large deficits in the previous quarters and average -1.1 mb/d for the year, before the market balances in 2023 to 0.05 mb/d.
Impact on OECD stocks

OECD stocks draw massively to multiyear low levels, falling by 830 mbbls from their peak in 2020.

OECD commercial stocks vs 2010-2014 avg in *Full curtailment case*

**Source:** OIES
Implications for the short-term oil market outlook

• **US SPR release**
  
  *(1 mb/d per month May-Oct 2022)*
Price outlook

In the case of the US SPR release under Reference the price pressure eases but the impact is shortlived, with Brent averaging lower than the Reference forecast by $5.5/b in 2022 and by $3.1/b in 2023.

**Brent price outlook in Reference and US SPR release case**

Source: OIES
Supply response

The SPR release adds an extra layer to the supply response offsetting some of the near-term pressure, but this comes on the back of diminishing buffers at a time of considerable market uncertainty.

Replacement barrels versus Russian crude supplies at risk in Reference and US SPR release case

Notes: Other supply includes crude oil from rest producers and global NGLs, biofuels and other liquids.

Source: OIES
Relative to Reference, the market surplus builds further in 2022 by 0.38 mb/d to reach at 0.53 mb/d but falls by 0.25 mb/d in 2023 to 0.38 mb/d, mainly on demand growth gains that reach 0.14 mb/d by 2023.
The price impact of the SPR release declines under the larger Russian disruption case, with Brent averaging lower by $3.3/b in 2022 and by $1.9/b in 2023 than the Reference.

Brent price outlook in *Full curtailment and US SPR release case*

Source: OIES
Supply response

The SPR release has limited impact in the case of a more severe curtailment of Russian supplies, as the near-term gap remains significant and the difficult task of a collective supply response remains at risk.

Replacement barrels versus Russian crude supplies at risk in Full curtailment and US SPR release case

Notes: Other supply includes crude oil from rest producers and global NGLs, biofuels and other liquids.

Source: OIES
2020 was a particularly tough year for US shale producers. The SPR release is projected to ease the market deficit in 2022 by 0.42 mb/d to -0.72 mb/d and keep the market near balance in 2023 but with the supply/demand gap flipped into a small -0.23 mb/d deficit.
Implications for the short-term oil market outlook

- *Uncertainty scenarios*
The failure of Iran returning to the market maintains the price pressure with Brent holding above $100/b in both cases for 2022 and retreating only to a range between $98/b and $117/b in 2023.
No Iran return case (2/2)

Under *Reference* the market fails to build a surplus in 2023 and remains only balanced (-0.15 mb/d), with the market deficits persisting in all quarters under the *Full curtailment case*.

**Global balance under Reference**

[Graph showing global balance under Reference with MB/D on y-axis and quarters on x-axis, showing surplus and deficits.

**Global balance under Full curtailment**

[Graph showing global balance under Full curtailment with MB/D on y-axis and quarters on x-axis, showing surplus and deficits.

*Source: OIES*
The price pressure is also maintained in a lower-than-expected non-OPEC supply response case, with the best-case scenario for Brent in 2023 holding closer to $100/b.
2020 was a particularly tough year for US shale producers. Under Reference, the market surplus in 2023 is halved to 0.29 mb/d from 0.63 mb/d, with the market remaining in deficit in both 2022 and 2023 by -1.55 mb/d and -0.58 mb/d under the Full curtailment case.
Speculative premium case

Speculative pressure in the form expectations of higher disruptions in Russian supplies than assumed in both cases could add up to $10/b on a monthly basis in the near term with Brent reaching $164.7/b.

Brent price outlook under Reference

Brent price outlook under Full curtailment

Source: OIES

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Implications for the short-term oil market outlook

• *Balance of risks*
Oil price risks

Oil price volatility appears extremely high in both years but gradually eases towards H2 2023, with the annual Brent price bounds ranging between $95/b and $140/b in 2022 and $74/b and $123/b in 2023.

Balance of risks

Notes: Brent price in Reference case.
Source: OIES
Global balance risks

The balance of risks points towards tighter market conditions in 2022, with the prospect of more balanced supply/demand conditions and surpluses reappearing in 2023.

Global balance risks

Notes: In Reference case.
Source: OIES
Implications for trade flows

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EU refineries searching for alternatives to Urals

2020 was a particularly tough year for US shale producers.

European refineries competing to source local and regional crudes pushing these crudes into record premiums.

**Urals NWE v North Sea Dated**

**Forties v North Sea Dated**

Source: Argus
Spot premiums in Middle East could ease

As discounted Russian barrels start clearing in Asia, spot premiums for Middle East crude could ease especially if COVID impacts Asian demand.
Severe tightness in middle distillates

Distillate stocks have been declining and distillate prices have been exhibiting high volatility and have risen sharply.

Source: IEA
Diesel exports to Europe need to fill the gap

High prices in Europe are opening the arbitrage and diesel cargoes from Asia, particularly from India’s refineries, are already heading to Europe to fill some of the gap.

**China oil product exports**

Source: Kpler

**India oil product exports**

Source: Kpler
Bassam Fattouh, Director, OIES
Andreas Economou, Senior Research Fellow, OIES

April 2022

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