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The Russia-Ukraine War: Impacts on Energy with Focus on Oil Markets

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A Paradigm Shift

- Russian invasion of Ukraine represents a paradigm shift for energy markets and energy relations with long lasting impacts
- Critical times when world accelerating decarbonization efforts
- Widespread belief that no return to previous order
- Energy markets are searching for a new normal but transition to 'new normal' can be long and bumpy
- Shifts in balance of government priorities with wide implications (trade-offs, increased government intervention in markets, global dimension)
- Focus on shifts in oil market dynamics and oil relations between the world's largest oil producers

The energy trilemma and the wider implications

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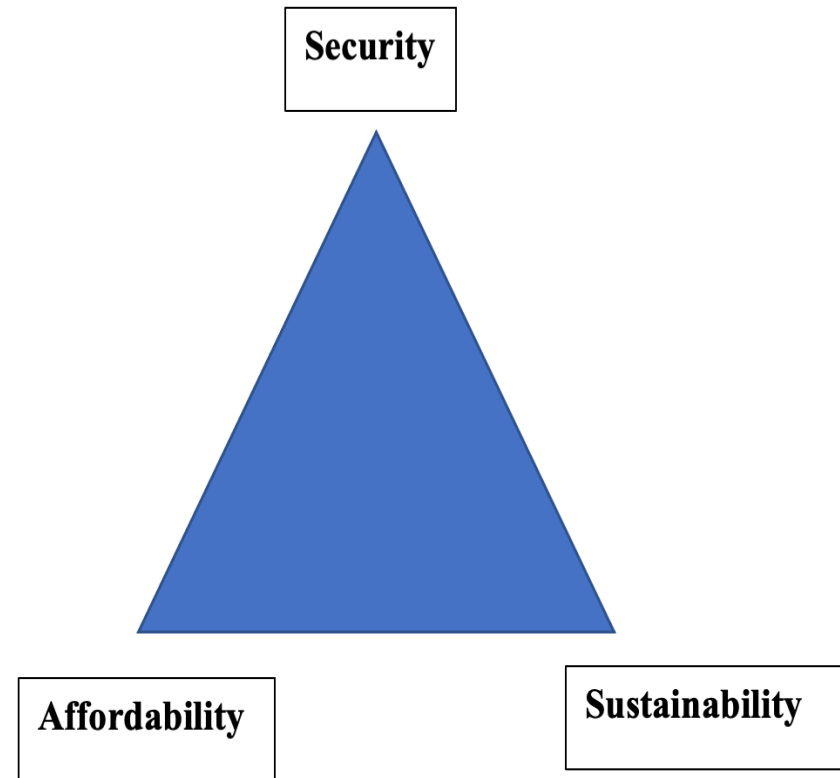




Energy trilemma in focus

- Energy policy multidimensional (sustainability, security, access and affordability, competitiveness)
- Shift in balance of priorities
- In addition to sustainability, security & affordability key factors shaping policy
- Trade-offs in short-term (inter-fuel substitutions and increased GHG emissions; investment in hydrocarbon infrastructure to diversify supplies from different geographies (LNG vs pipeline gas) and diversify energy mix)

The Energy Trilemma - Balance of policy priority has shifted, at least in the short term



Source: OIES



Energy crisis shifting the role of state

- Current crisis causing swing away from markets towards greater role of governments in energy markets
 - Support packages for consumers/businesses, governments acquiring assets, windfall taxes/levies, solidarity contributions, price caps and calls for joint purchase gas agreements, calls for redesigning electricity market
- Higher government intervention in energy markets increasing policy risk and uncertainty facing investors and players
- Impacting operation of energy markets (even mature ones such as oil: Market segmentation, lower transparency, higher cost of optimization)
- How long will this swing continue? Will an admission that net zero targets are being missed force further government intervention? Have we reached peak government intervention?

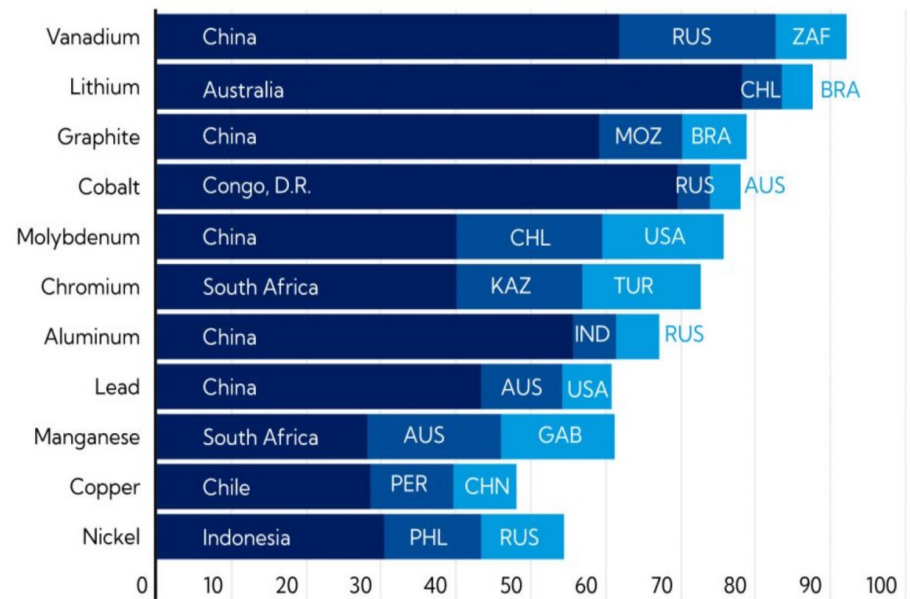


Global dimensions

- More polarized world impacting climate action
- Drive to limit dependency on foreign sources of energy and minerals
- Relocation and localization of supply chains (impacting cost of transition)
- Competition in the regulatory environment (IRA)
- Risks of underinvesting in hydrocarbons while challenges in scaling up clean technologies to meet increase in demand (finance, business models)

Biggest producers

Supplies of several metals that are crucial to the green energy transition are heavily concentrated in just a handful of nations. (percent of market)



Sources: US Geological Survey – Mineral Commodity Summaries 2021; IMF staff calculations.
 Note: AUS=Australia, BRA=Brazil, CHL=Chile, CHN=China, COD=Congo, D.R., GAB=Gabon, IDN=Indonesia, IND=India, KAZ=Kazakhstan, MOZ=Mozambique, PER=Peru, PHL=Philippines, RUS=Russia, TUR=Turkey, USA=United States, ZAF=South Africa

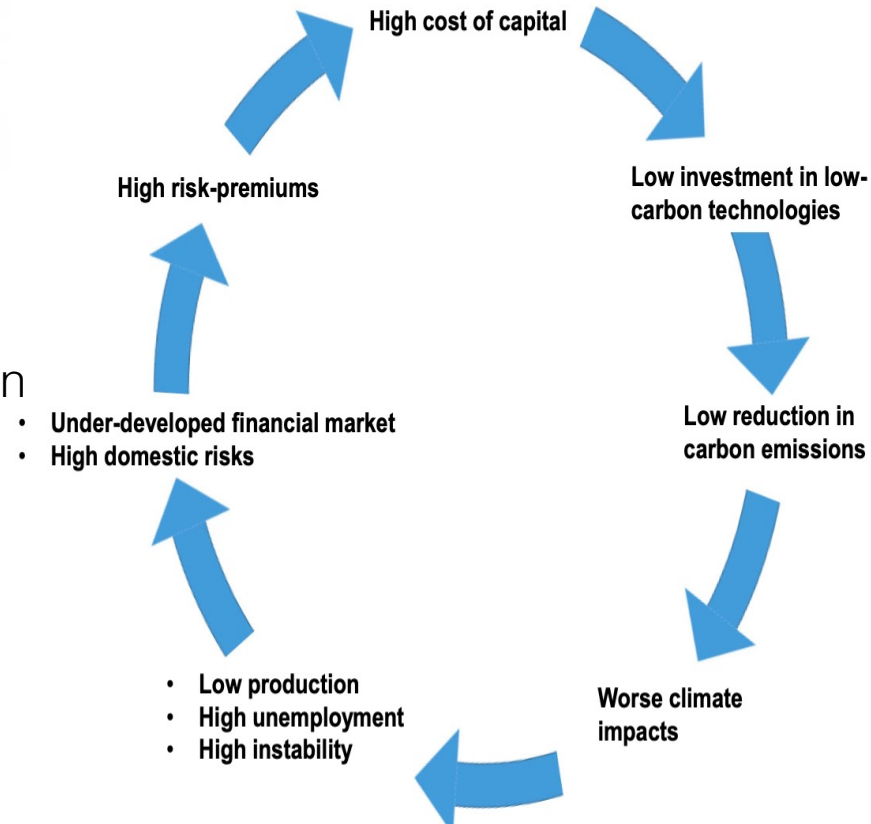
Source: IMF Blog



Access to finance

- Wide divergence between Global North and Global South
- Energy crisis making all forms of energy more expensive for many developing economies affecting affordability and transition paths
- Access and cost of financing key barrier in many developing countries to fund clean technologies
- Reinforcing trap with decline in resilience over time and increased political and currency risk
- Emphasis from Global South on developing their hydrocarbon reserves (but restrictions on finance of hydrocarbon projects)

The Trap



Source: Ameli et al (2021)



Uneven paths

- Current crisis may accelerate energy transition in EU/US but what about the rest of the world?
- Transition could go slower outside Europe and conventional fuels including coal likely remain part of the energy mix for foreseeable future
- How would the Global North react if there is a realization that climate targets are not being met fast enough?
- Use of sticks? Carrots? Both?
- Different perspectives on CBAM, Inflation Reduction Act, restrictions on financing of hydrocarbon projects

Impacts of Russia-Ukraine war on oil markets

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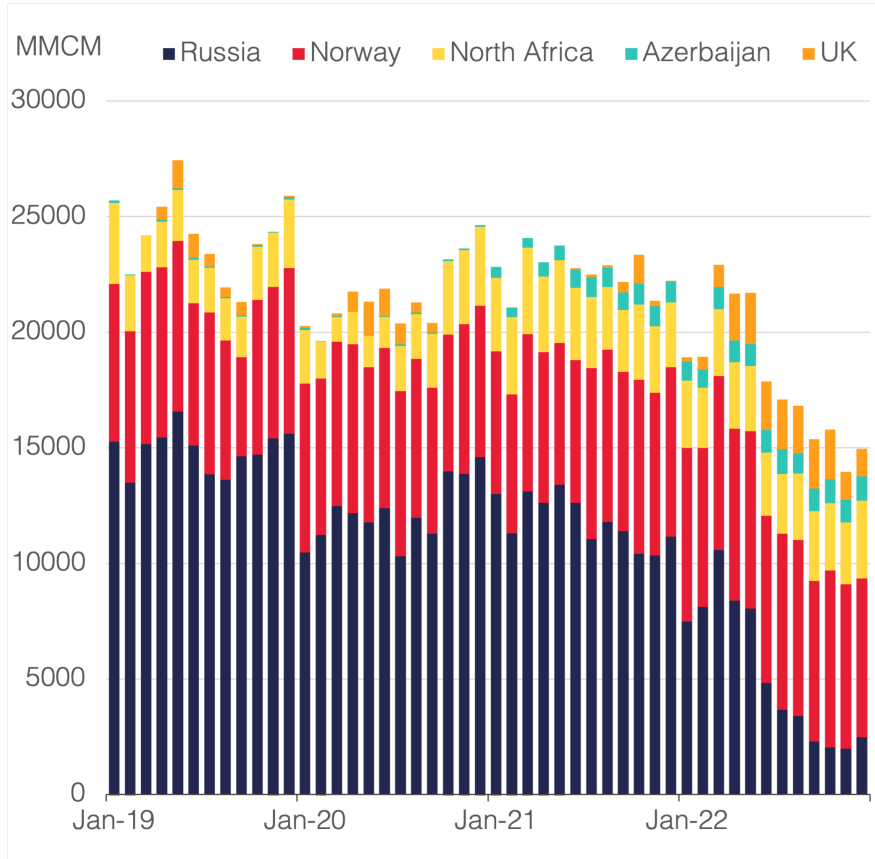
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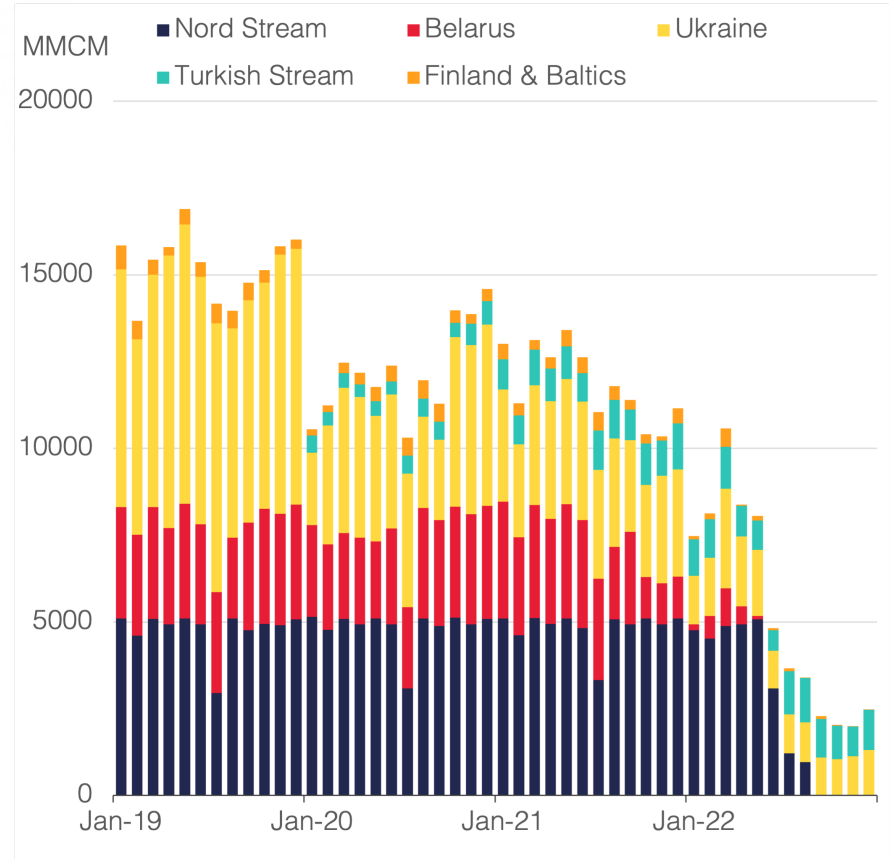
Russia gas exports to EU fall sharply

Pipeline flows to the EU by origin



Source: ENTS Transparency Platform, OIES

Pipeline flows from Russia to the EU by route



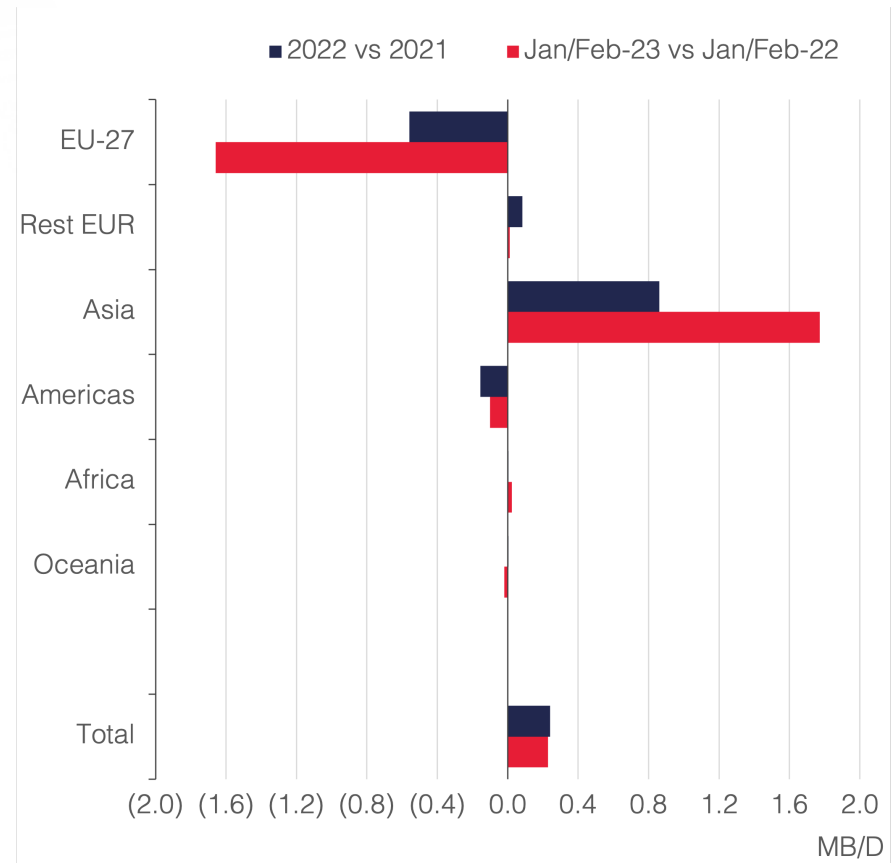
Source: ENTS Transparency Platform, OIES



Will oil policy follow?

- Russia crude exports increased year-on-year in 2022 and higher than pre-war levels
- February 2023: Russia announced it would cut its output 'voluntarily' by 500,000 b/d in March 2023
- Whether cut voluntary/inability to market crude/avoid offering crude at large discounts decision represents a change in policy: For the first time Russia signalled willingness to use output cuts and without coordination with other producers to shape market expectations

Russia crude oil exports shifts

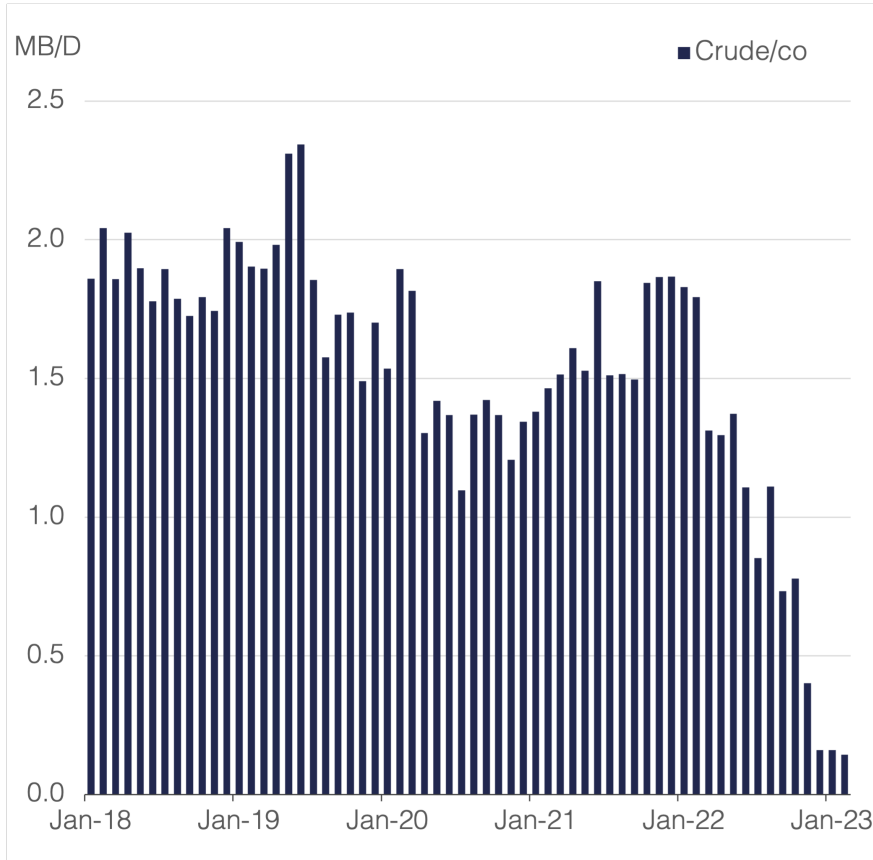


Source: Kpler, OIES



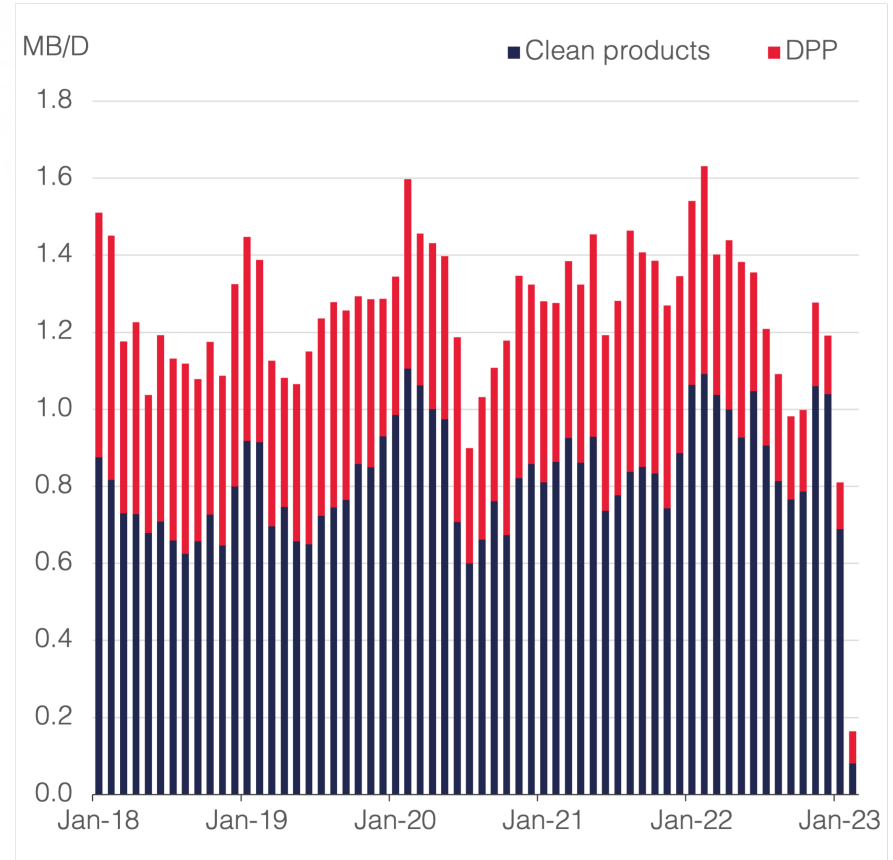
Russia lost the key European market

Russia crude oil exports to EU-27



Source: Kpler

Russia products exports to EU-27

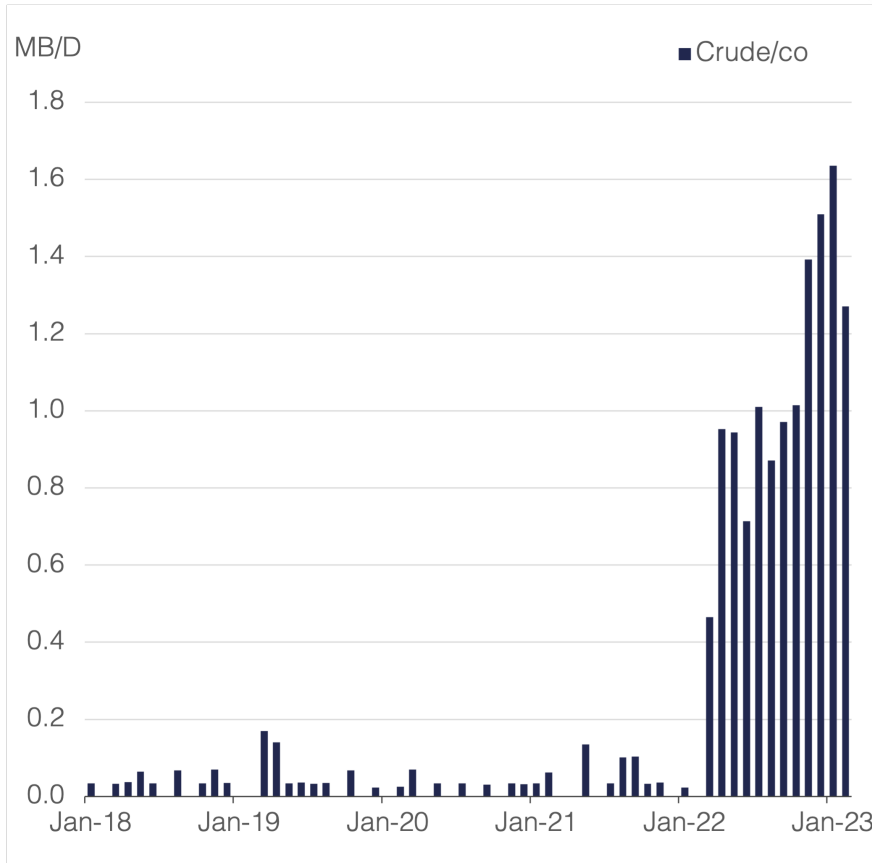


Notes: DPP refers to Dirty Petroleum Products.
Source: Kpler



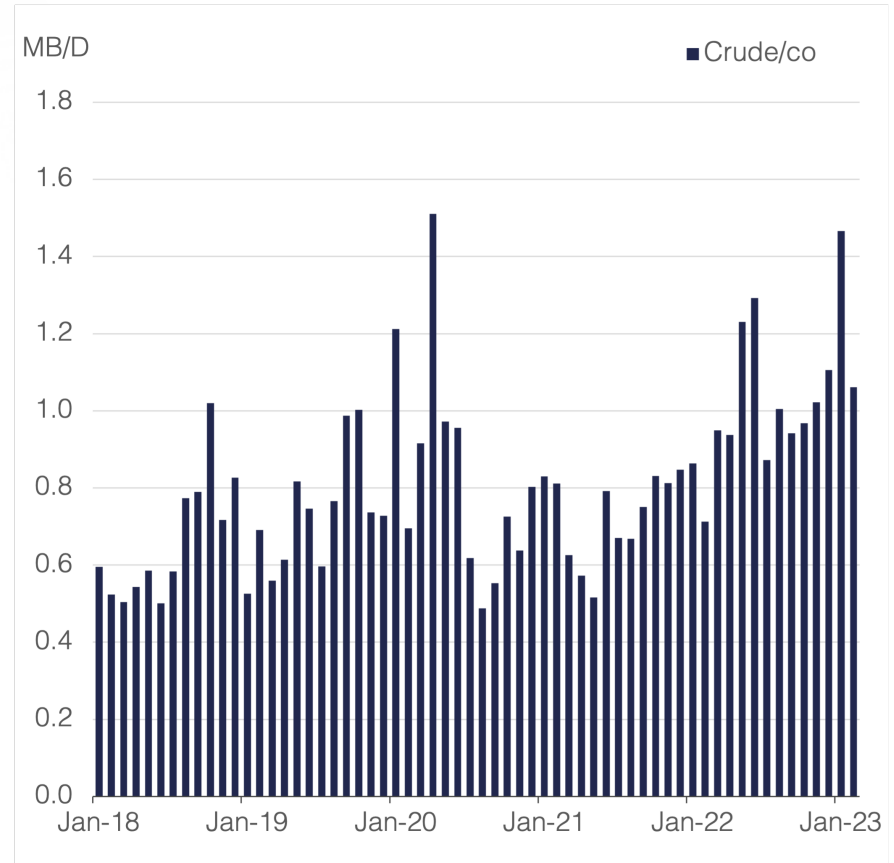
Russia heavily reliant on China and India

Russian crude exports to India



Source: Kpler

Russian crude exports to China

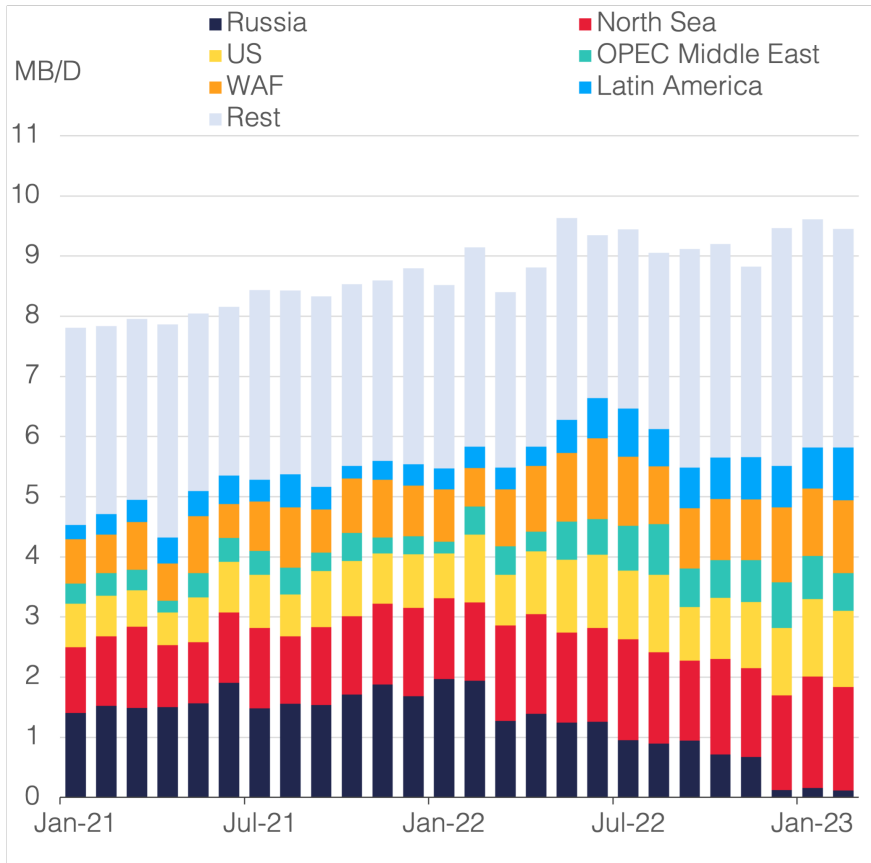


Source: Kpler



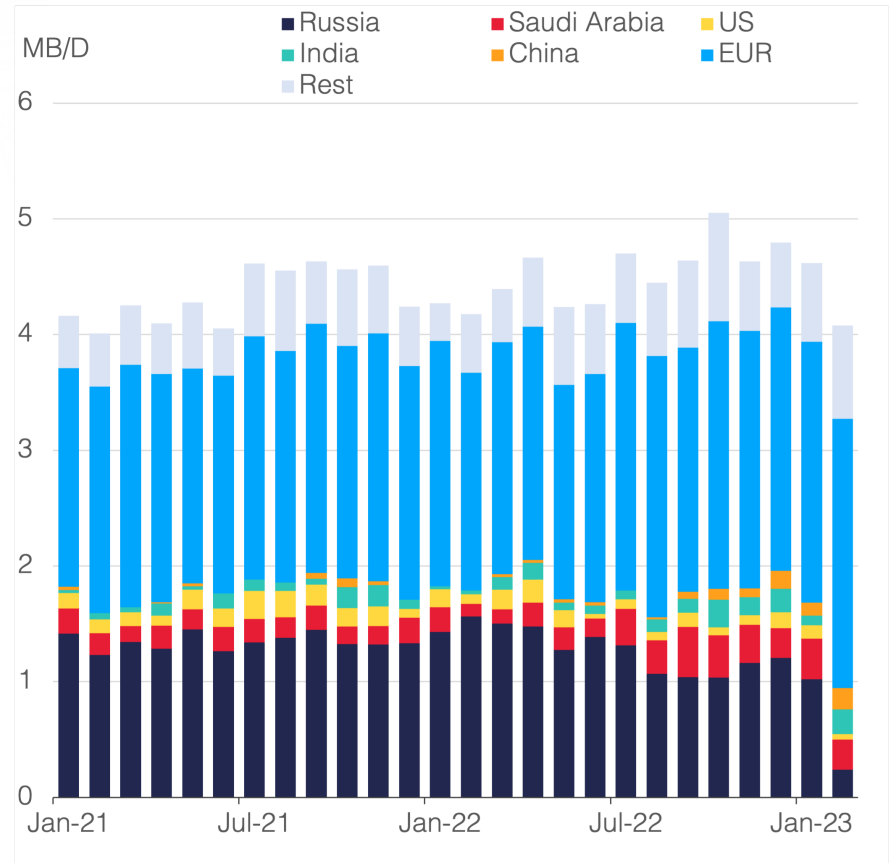
Middle East and US enhance position in Europe

EU-27 crude imports by origin



Source: Kpler, OIES

EU-27 products imports by origin

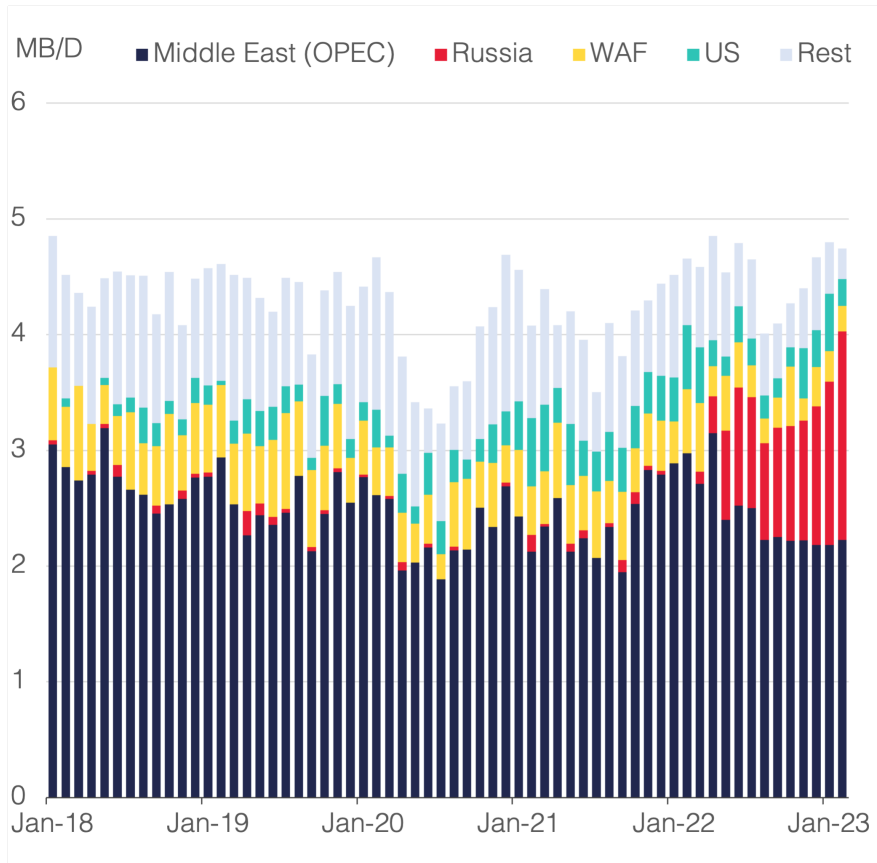


Source: Kpler, OIES



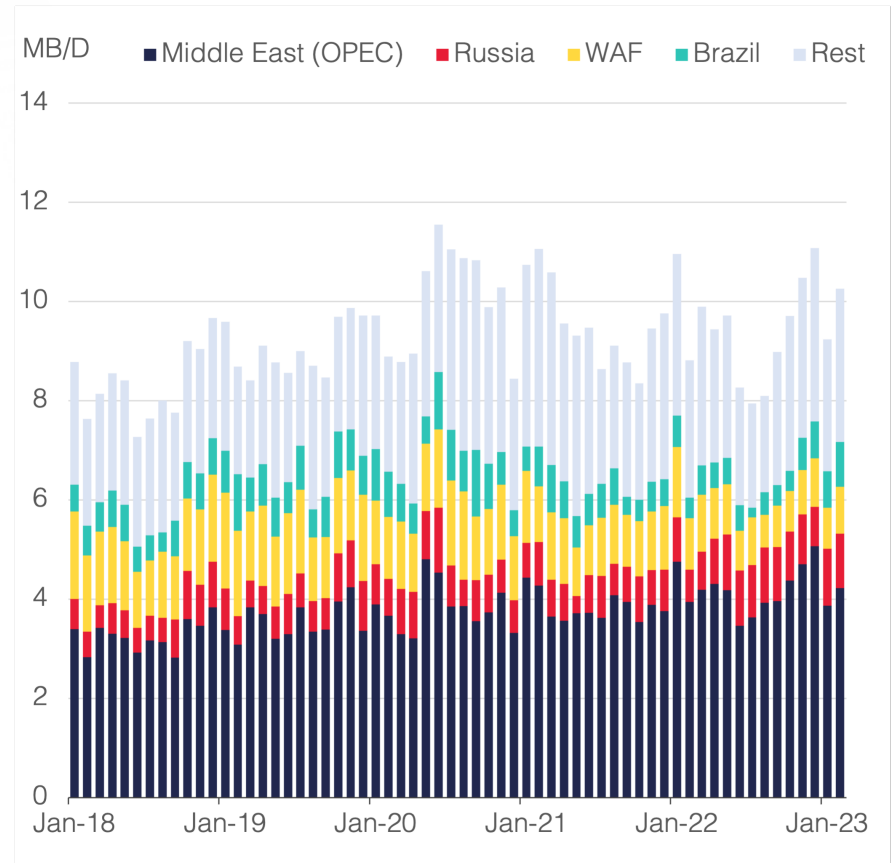
Russian reshuffle intensifies competition in Asia

Indian imports of crude by origin



Source: Kpler, OIES

China imports of crude by origin

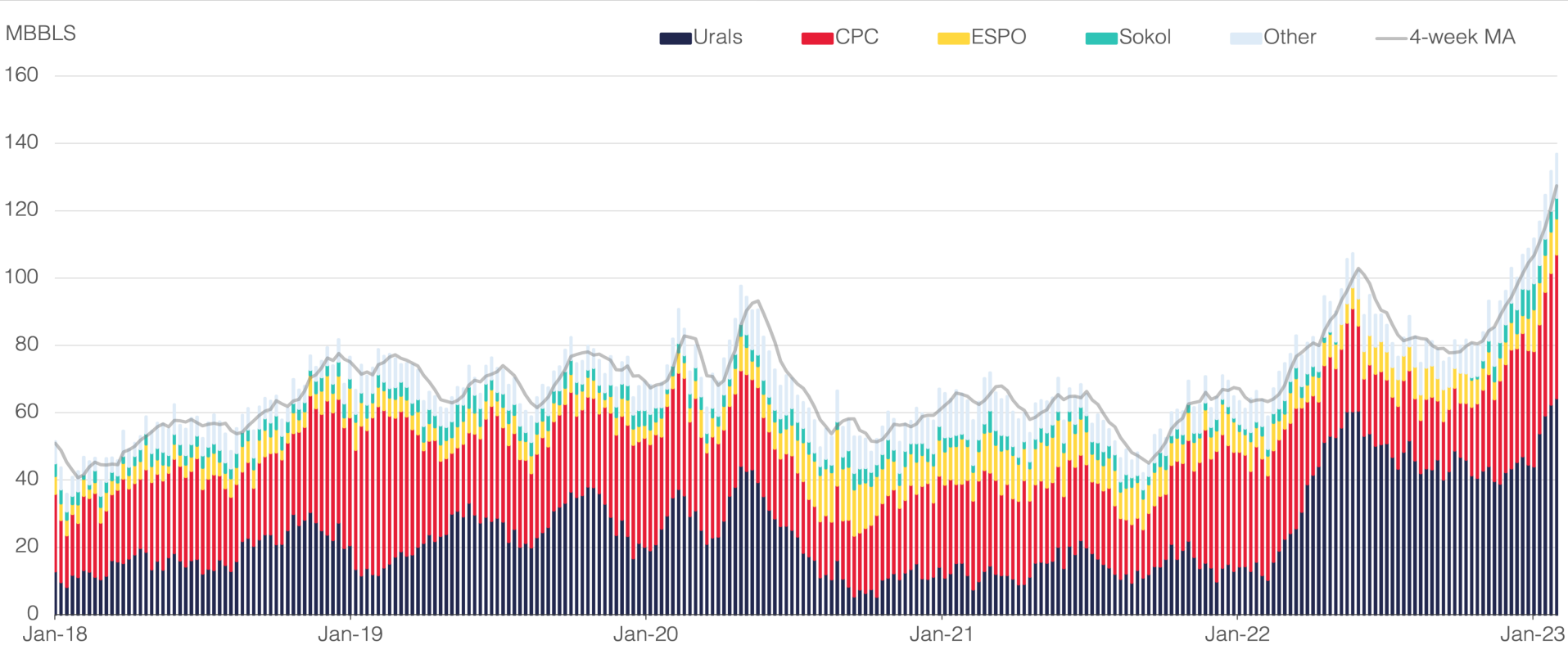


Source: Kpler, OIES



Trade routes longer and cost of optimization higher

Russia crude-on-water by grade



Notes: Other grades include Varandey, Novy Port, ARCO, Sak Bl., Yuri Korchagin and Kaliningrad.

Source: Kpler, OIES

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Segmentation, price discovery and lower transparency

- More segmented oil markets (discounted versus non-discounted crudes)
- Disappearance of Urals impaired price discovery process for sour crudes
- Russia increasingly relying on its own fleet and on 'shadow' and 'dark' fleet; tracking trade flows have become less transparent
- Increase in use of diversion tactics to hide origin of crude such as STS transfers and blending (alongside trade in sanctioned Iranian and Venezuelan crude)
- Most traditional trading houses have ceased trading Russian crude and products and replaced by new entities that operate outside G7 restrictions
- Entities with no credit history or trading experience will increasingly play an important role in developing new supply chains, infrastructures, and trading routes for Russian oil with little information about their activities



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The US Response

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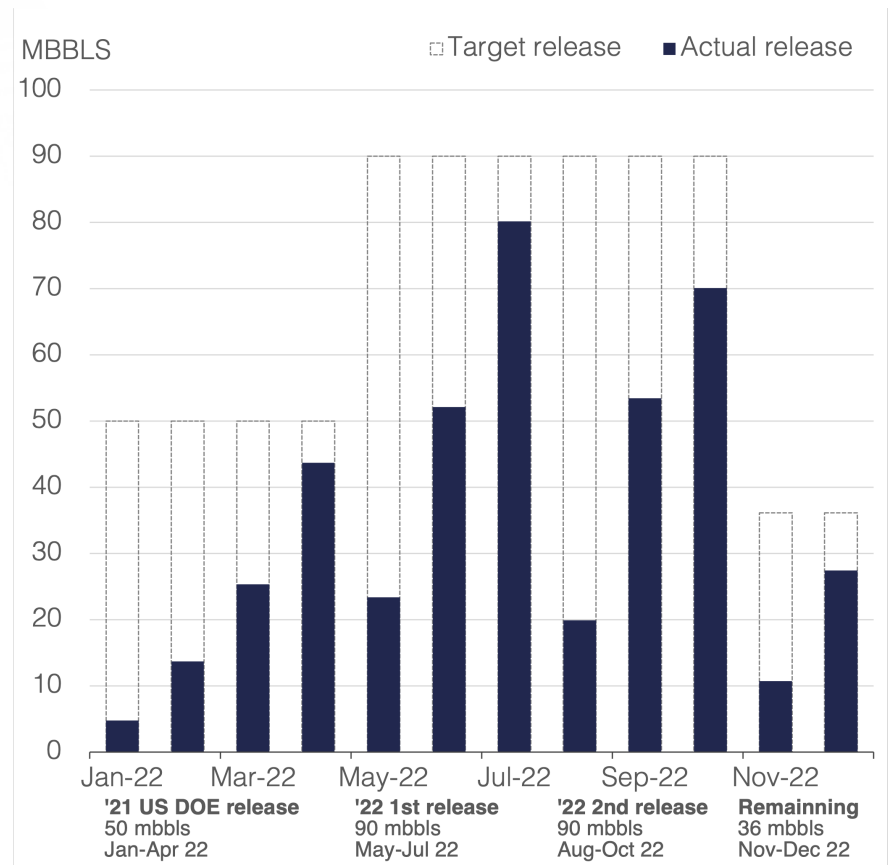




US use of Strategic Petroleum Reserve (SPR)

- United States used the SPR as a tool for managing market balances and expectations
- In 2022 release of crude from the US SPR totalled 221 mbbls even though the expected large disruptions in Russian supplies failed to materialise
- Impact goes beyond physical volumes: Use of SPR releases to signal willingness to put a cap and a floor on the oil price which shaped market expectations in 2022

US SPR releases in 2022



Source: US EIA, OIES



G7 Price cap

- US and its allies imposed a price cap on Russian crude in attempt to reduce Russia's oil revenues
- Effectiveness of the price cap in achieving its objectives remains subject to debate as it is difficult to assess the impact of the counterfactual scenarios with the embargo but without the price cap
- Price cap has elevated uncertainty (and confusion) for oil exporters, shippers, insurers, traders, banks, and even financial players who may decide to stay outside markets given the increased uncertainty

Price cap and Urals crude



Notes: Urals averages fob prices of Urals Primorsk, Urals Ust-Luga, and Urals Med Aframax and Urals Med Suezmax Novorossiysk.
Source: Argus, OIES

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OPEC+ Response

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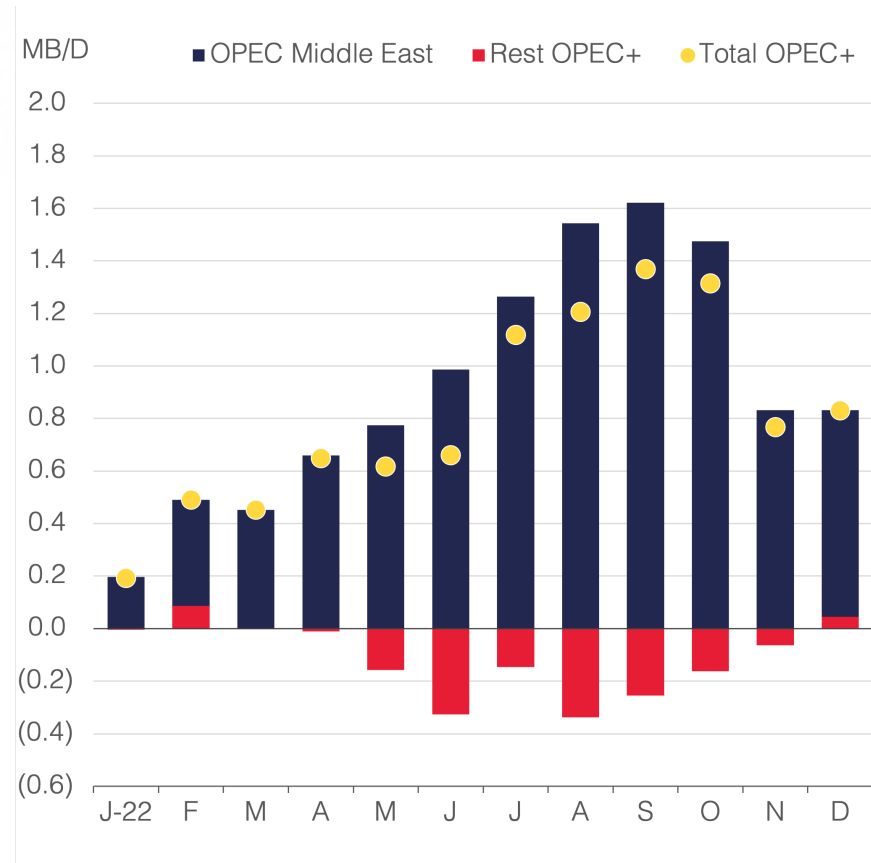




The OPEC+ Response

- October 2022 decision to cut overall production by 2 mb/d sent a clear signal that it is willing to act proactively and pre-emptively
- Not feasible before as cohesion within OPEC was weak
- Took months or even years to negotiate output cuts
- OPEC responses always arrived late only after market balances have weakened sharply which required OPEC to implement deeper cuts and for longer periods

OPEC+ output vs December 2021



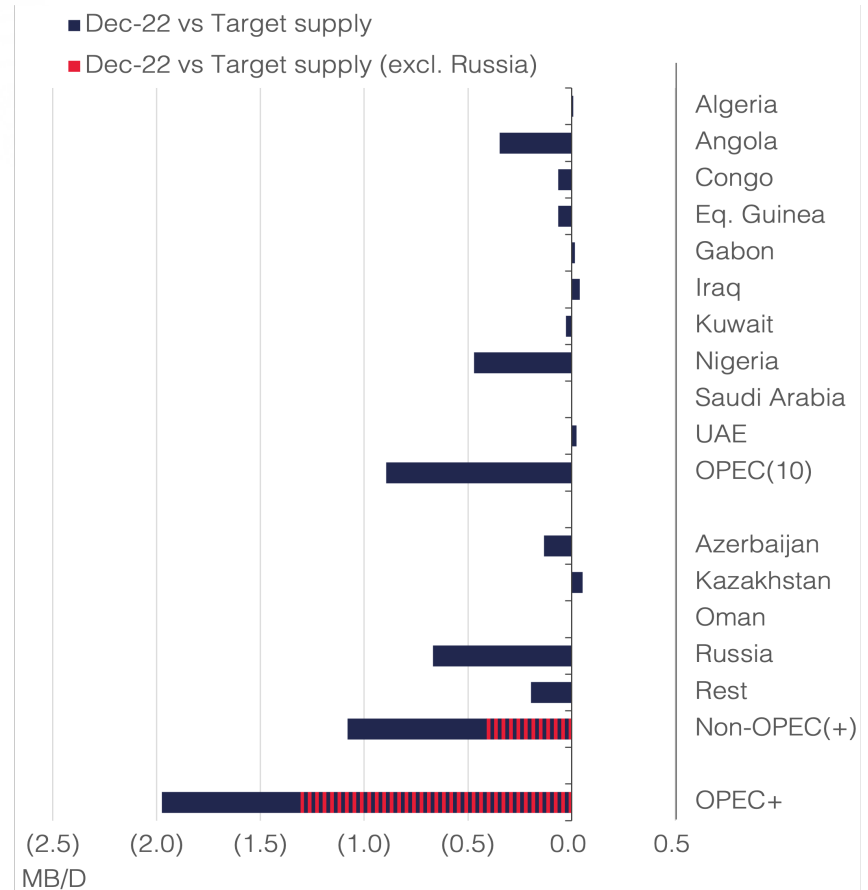
Source: IEA, OPEC, OIES



New OPEC+ dynamics

- OPEC+ cohesion now stronger and Group can respond in a timelier manner
- Strong leadership and oil diplomacy by Saudi Arabia and emphasis on key principles (compliance, compensation mechanism, cooperation resulted in improved outcome in terms of higher revenues and stronger signals to market)
- Most countries producing below their quotas and at maximum capacity while few are meeting their targets and are still below their maximum capacity

OPEC+ actual vs target crude production in December 2022



Notes: OPEC-10 production is based on OPEC's secondary sources.
Source: IEA, OPEC, OIES

Wider implications on oil markets

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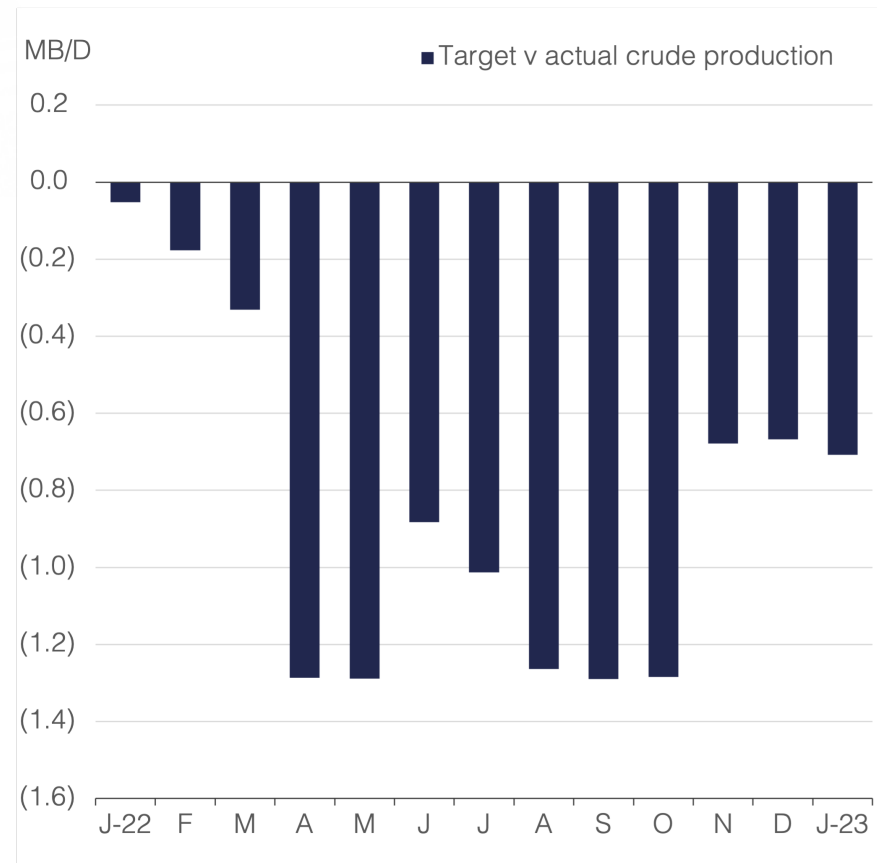




Russia's position in oil markets

- Russia lost most of its customer base with fate of exports being dependent on few countries located in East of Suez giving these players more power to negotiate especially in weak markets
- Russia unlikely to maintain current productive capacity (sanctions and loss of access to services of western companies and to high quality equipment)
- Impacts Russia's position within OPEC+ (Russia not meeting its OPEC targets)

Russia target vs actual production



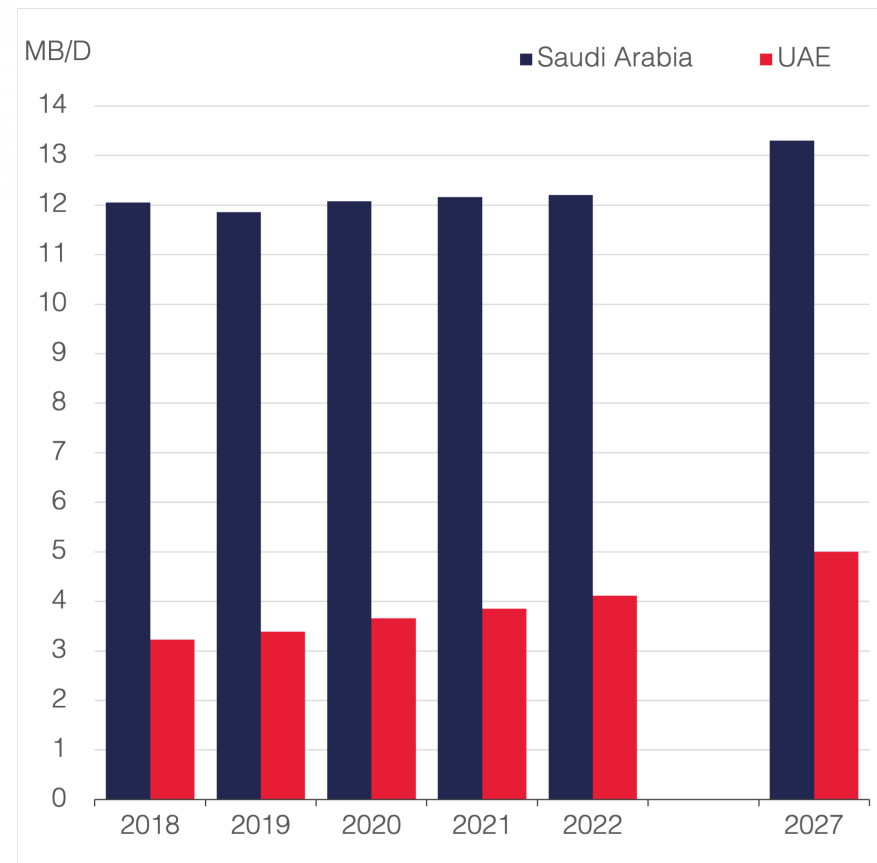
Notes: Crude oil only.
Source: IEA, OPEC, OIES



Saudi Arabia and UAE plans to increase capacity

- Gulf countries within OPEC+ have ambitious plans to increase productive capacity and exports potential
- Saudi Arabia plans to increase productive capacity to 13.3 mb/d in 2027
- UAE ambitious plan to increase productive capacity to 5 mb/d in 2027
- Shift in balance of power towards the Gulf producers

Saudi Arabia and UAE production capacity



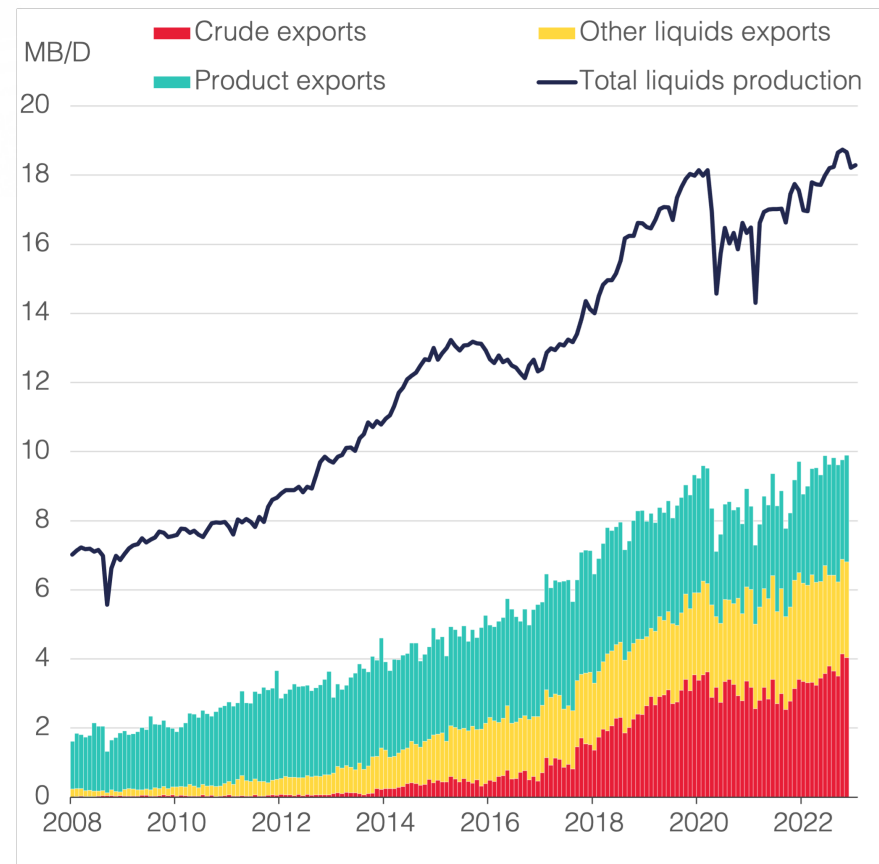
Source: IEA, OIES



Saudi-US relations

- US increased reliance on SPR to manage the market instead of Gulf spare capacity
- Diminished ability to influence market as strategic stocks decline
- US shale behaviour closer to that of OPEC (maximize returns to shareholders; maximize revenues to government)
- Less investment flows and more inelastic supply curve

US total liquids production and exports



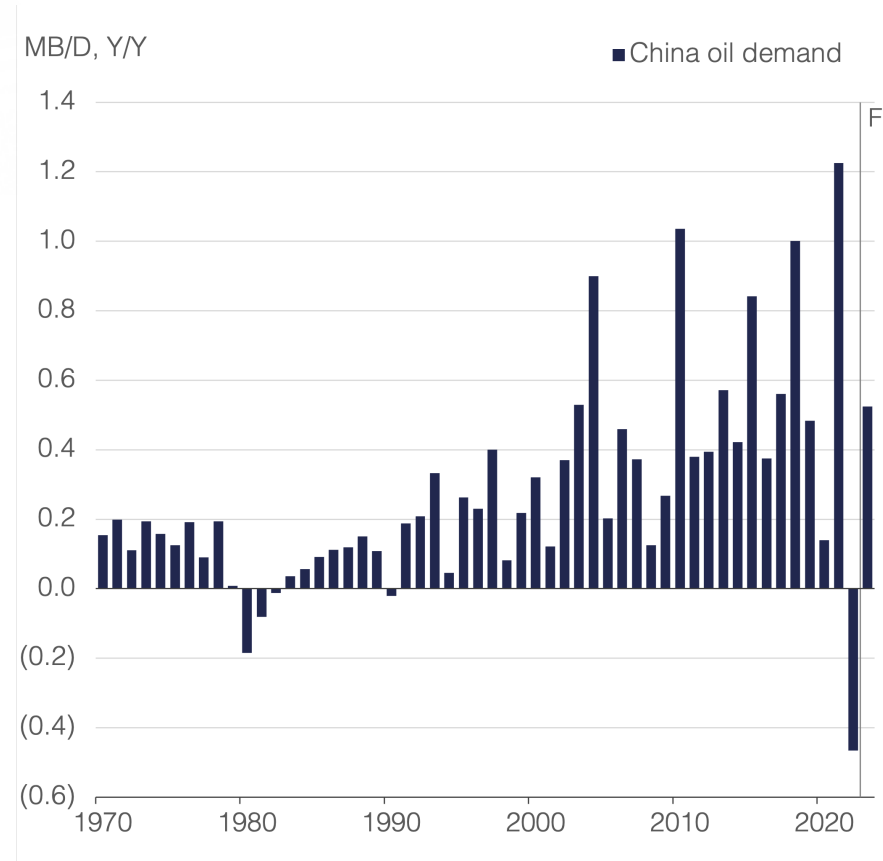
Source: IEA, US EIA



China's position in oil markets

- Access to wider variety of crudes
- Access to discounted crude (Russian, Iranian, Venezuelan)
- Massive crude oil storage facilities
- Increase in refining capacity and increased products' export potential and competition in export markets
- Long term trend to electrify transport and reduce oil demand growth

China oil demand



Source: OIES



Concluding remarks

- Structural transformations in energy markets
- Swing towards more government interventions yet to peak impacting operations of energy markets and increasing policy uncertainty
- Structural shift in crude oil and products trade flows, more segmented oil markets, lower transparency, higher volumes of oil in transit, emergence of new players and traders, longer trade routes, increased optimization cost, new geopolitical and trade relations
- Change in the nature of competition and relations between world's largest three players



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