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Transparency Solutions For Commodity Markets

JCCME - Kpler

Homayoun Falakshahi

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Macroeconomic Outlook

Macroeconomic outlook summarized

We are cautious in our outlook for 2023 given higher interest rates and uncertainty in China

- **We analyze countries from a multi commodities point of view, and this helps us to build our forecasts on the major economic blocs – China, the United States and the European Union with some additional commentary on India.**

- **China is moving again, but a linear recovery is unlikely.**
  - Our GDP growth expectation sits under consensus, in a range between 3.5 – 4%.
  - Lunar New Year passenger traffic is slowly coming back, albeit **volume remains well under pre-pandemic levels.** Data aggregated in two weeks leading up to official holiday.
  - Chinese iron ore imports have surged so far through 2023 but builds in downstream steel product inventories add doubts to the pace of industrial recovery.

- **India will lead the major economies with growth expected to finish at 6% on the year.**
  - Diesel and gasoline demand has nearly returned to pre-pandemic trend levels, albeit jet still has quite a ways to go.
  - Domestic steel demand will enjoy another strong year on elevated government spending.

- **The United States will undergo a small contraction in 2023, predicated on rising interest rates.**
  - Labor market will need to weaken in order to bring down wage inflation. This implies Fed will remain aggressive.
  - We estimate the US economy will dip into light recession in 2023, finishing lower 0.25 – 0.3% y/y.

- **Europe will also undergo a small contraction in 2023 due to rising interest rates and the risks of further energy supply issues.**
  - We estimate ECB will push deposit rate to anywhere between 3.75 – 4%. Higher rates will push EU-27 into a recession this year (-0.5% y/y).
  - Energy supply availability a major risk factor that could provide upward pressure to inflation this year. Market too complacent around this issue.

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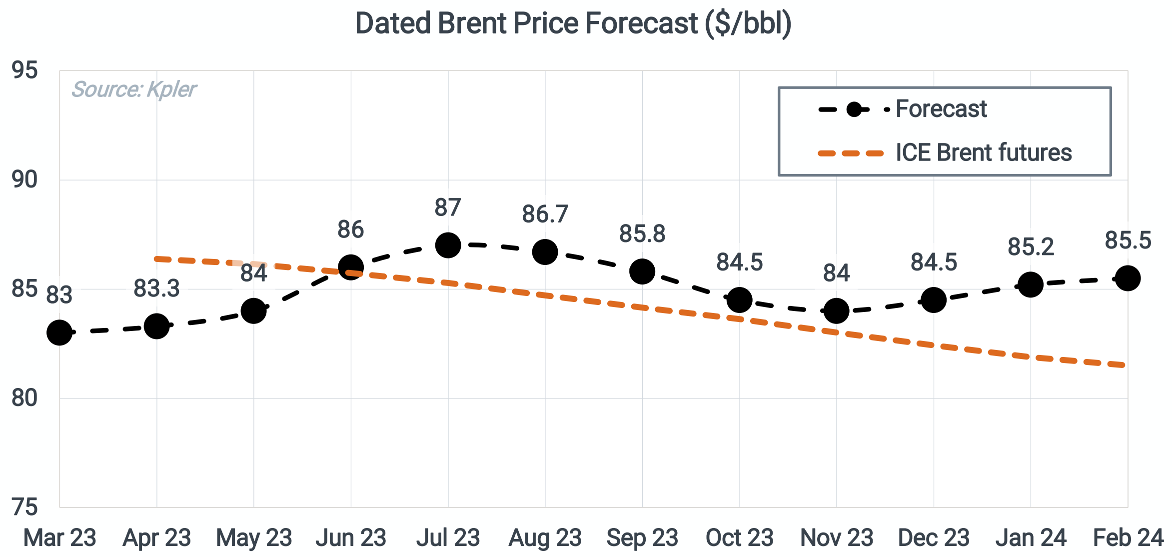
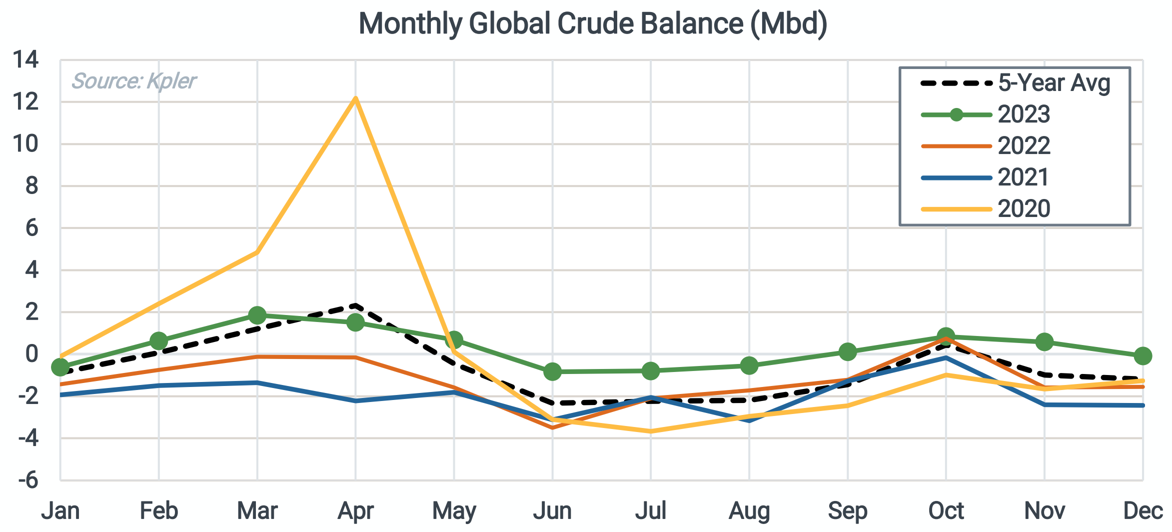
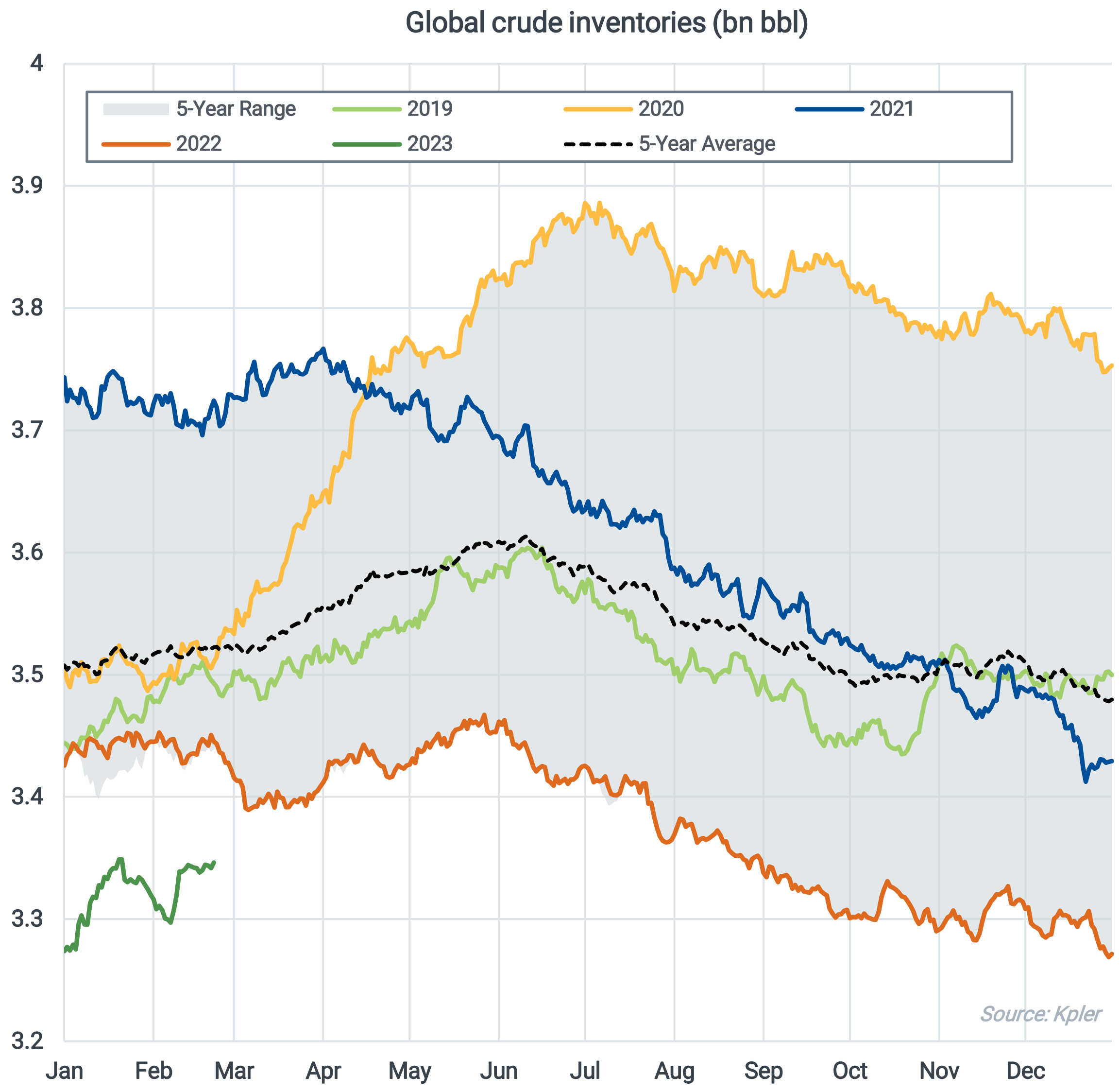
Crude Oil

Improving 2023 outlook spells trouble for tight stocks

Pricing volatility subdued thanks to higher liquidity and lessening macroeconomic impact





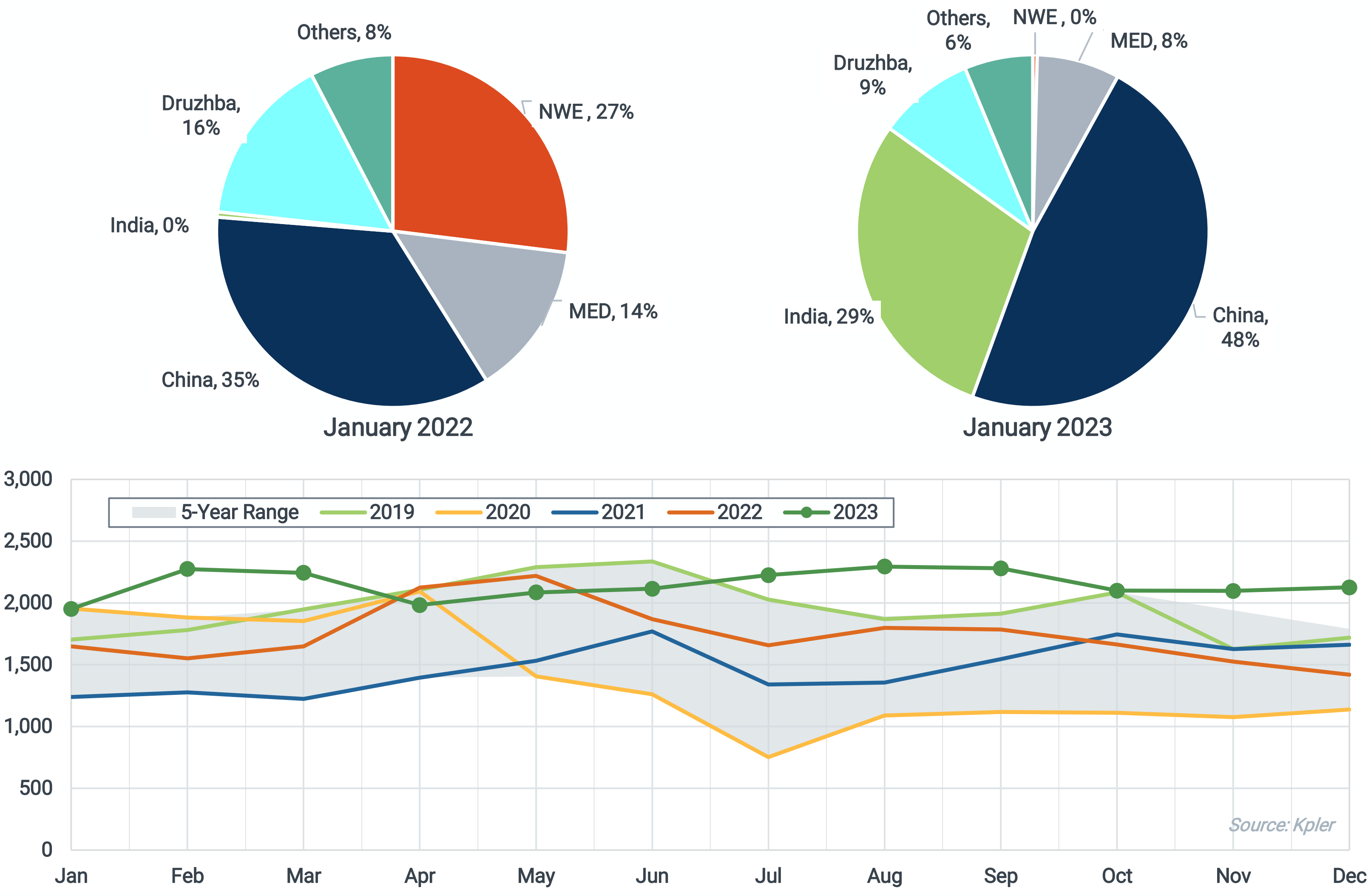


There is no Indian panacea for placing Russian crude

Spring products-driven decline to mark 2023 low-point, marginally rebounding from then onwards

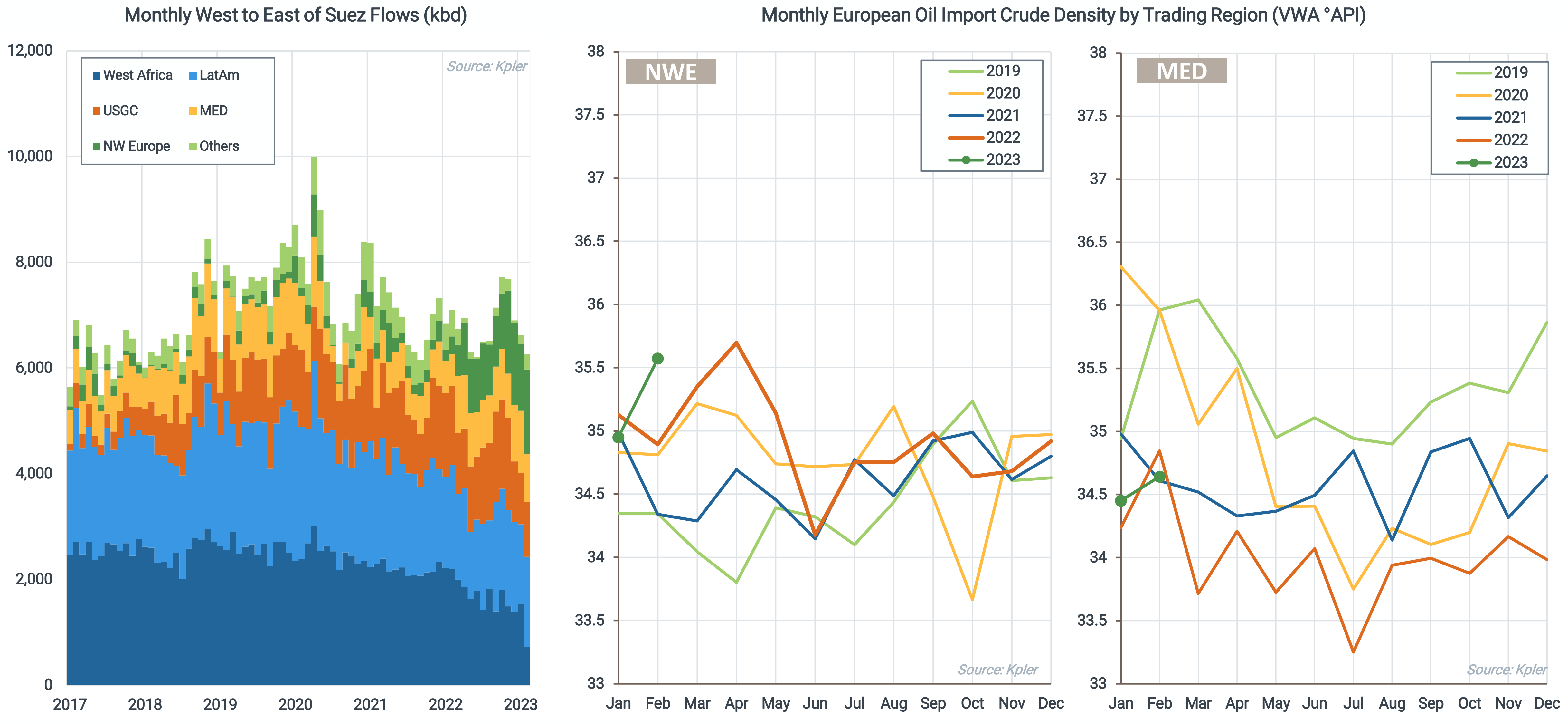
- **Russian oil pivot to Asia almost complete**
  - **India** takes over the Urals stream, **China** dominates Far Eastern grades
  - **Bulgaria** remains the only EU country to buy seaborne
  - **Turkey** returns to erstwhile import levels
- Market signals dulled by lack of pricing transparency
- Absent government interference, Urals exports should trend above 2021-2022 levels
  - Chinese state-owned refiners buying again
  - Druzhba deliveries halving to 320-340 kbd
  - Burgeoning “grey” fleet handling Russian flows
- **We expect Russian crude/condensate production to average 10.55 Mbd in 2023, a 1% decline y/y**

Russian Crude Exports by Destination (top) and Urals Export Balance (bottom, kbd)



Post-Russian sanctions: Europe's crude slate lightens

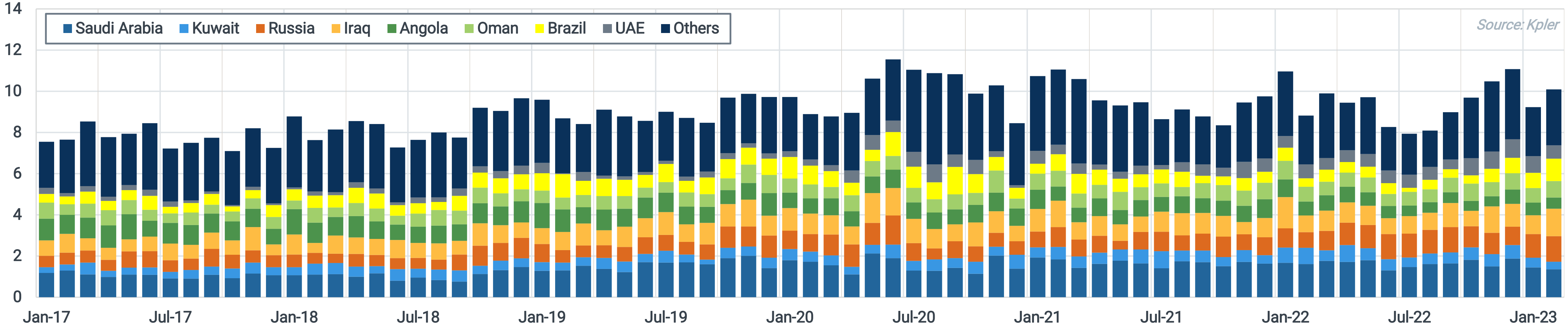
Despite most profitable arbitrage since late 2021, European grades are staying put



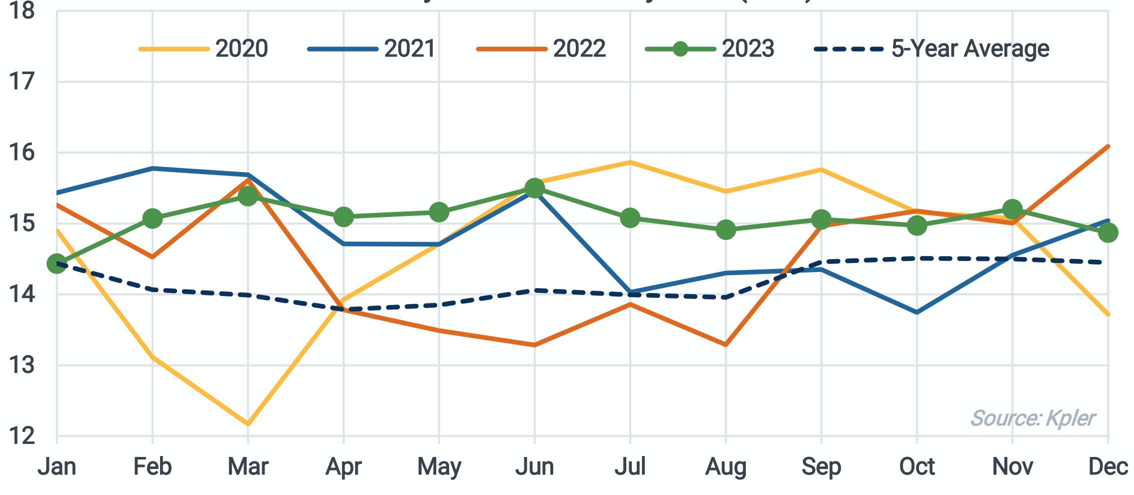
China slowly but surely comes back

Major refiners so far focusing on opportunistic trades rather than all-out buying

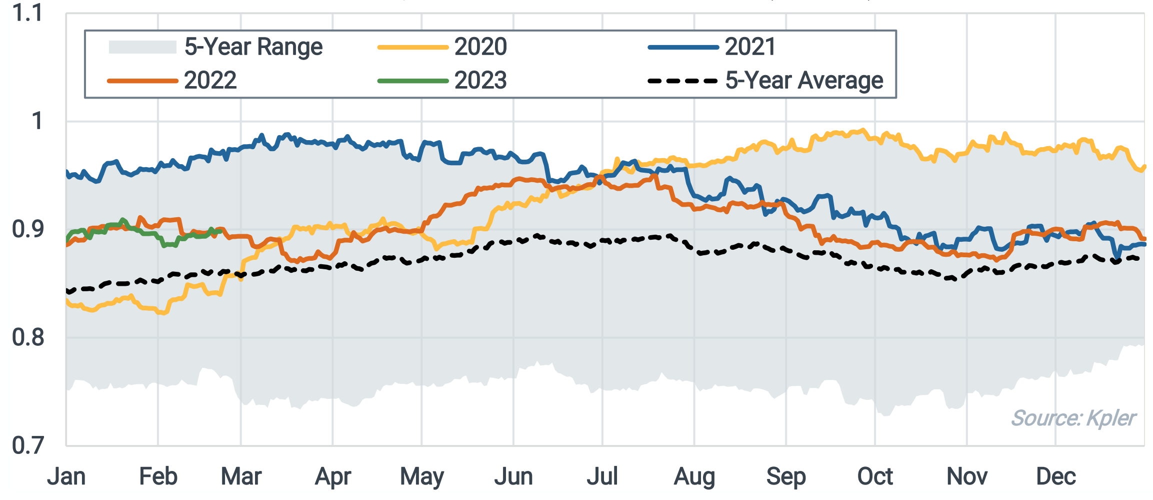
Monthly Imports of Crude and Condensate into China by Country of Origin (kbd)



Monthly Chinese Refinery Runs (Mbd)



Monthly Chinese Crude Inventories (bn bbls)



Source: Kpler

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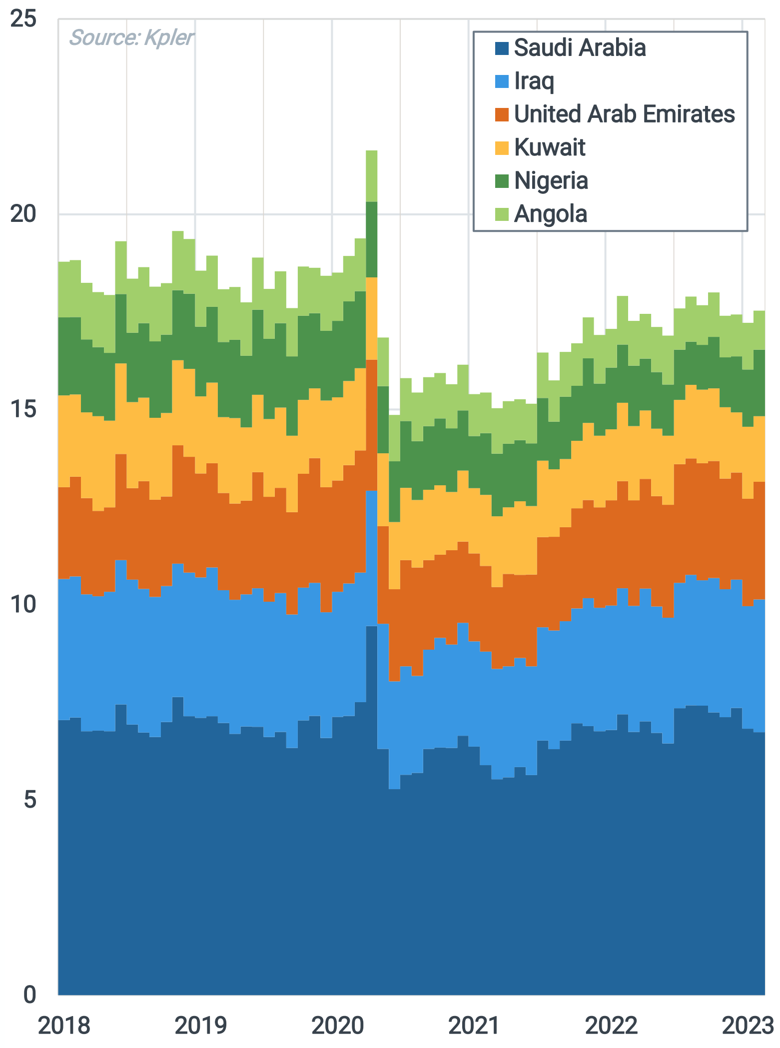
OPEC+ keeps it conservative

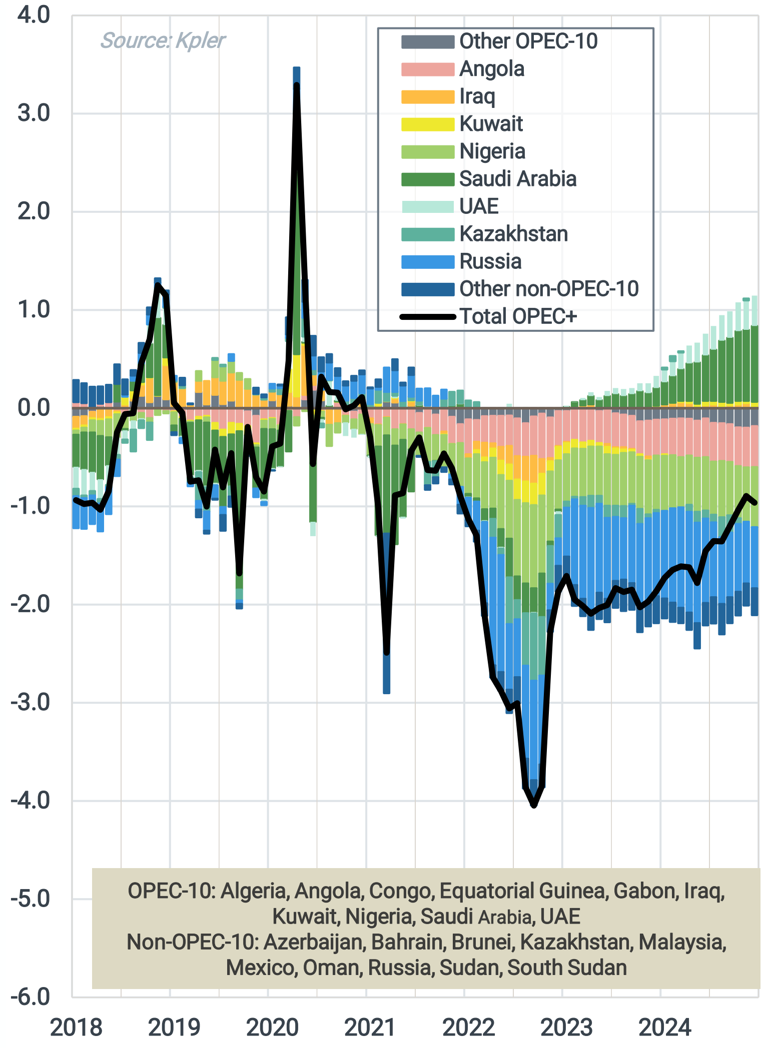
The bull in the China shop tells Middle Eastern nations to remain patient

- **Pricing upside the main reason why OPEC+ caution will pay off**
- Higher Saudi and UAE production to offset Russia decline
- Global supply to increase by 2.1 Mbd in 2023, slowing down 40% y/y as OPEC+ sticks to targets
- Libya, Nigeria and Venezuela remain supply wildcards, with risks tilted towards downside
- **Incremental supply from non-OPEC countries to be double of OPEC+ increases:**
    - US (600 kbd, y/y avg)
    - Brazil (330 kbd)
    - Norway (230 kbd)
    - Guyana (90 kbd)

Monthly Seaborne Exports of Key OPEC Members (Mbd)



Monthly OPEC+ Compliance (Mbd)

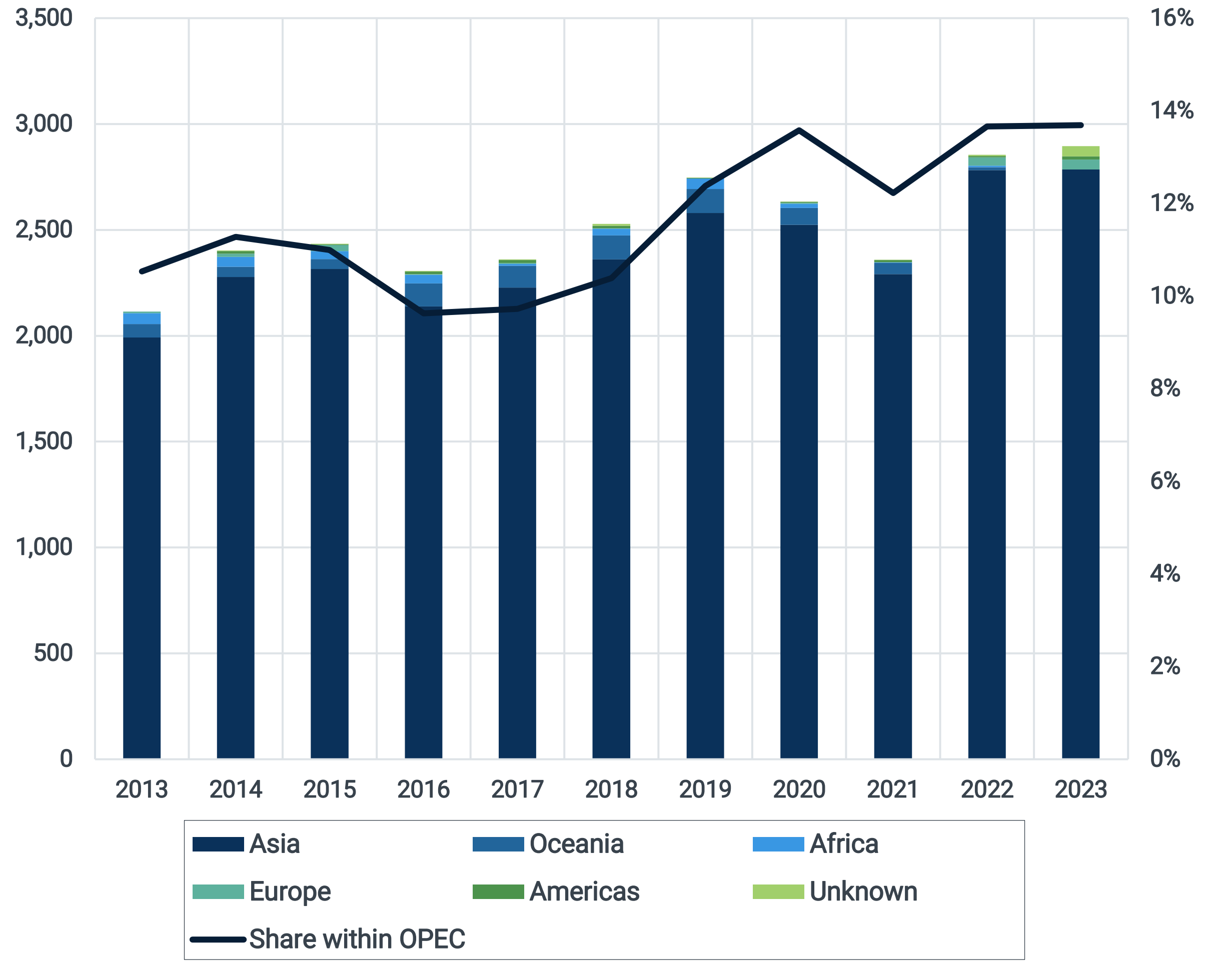


Source: Kpler

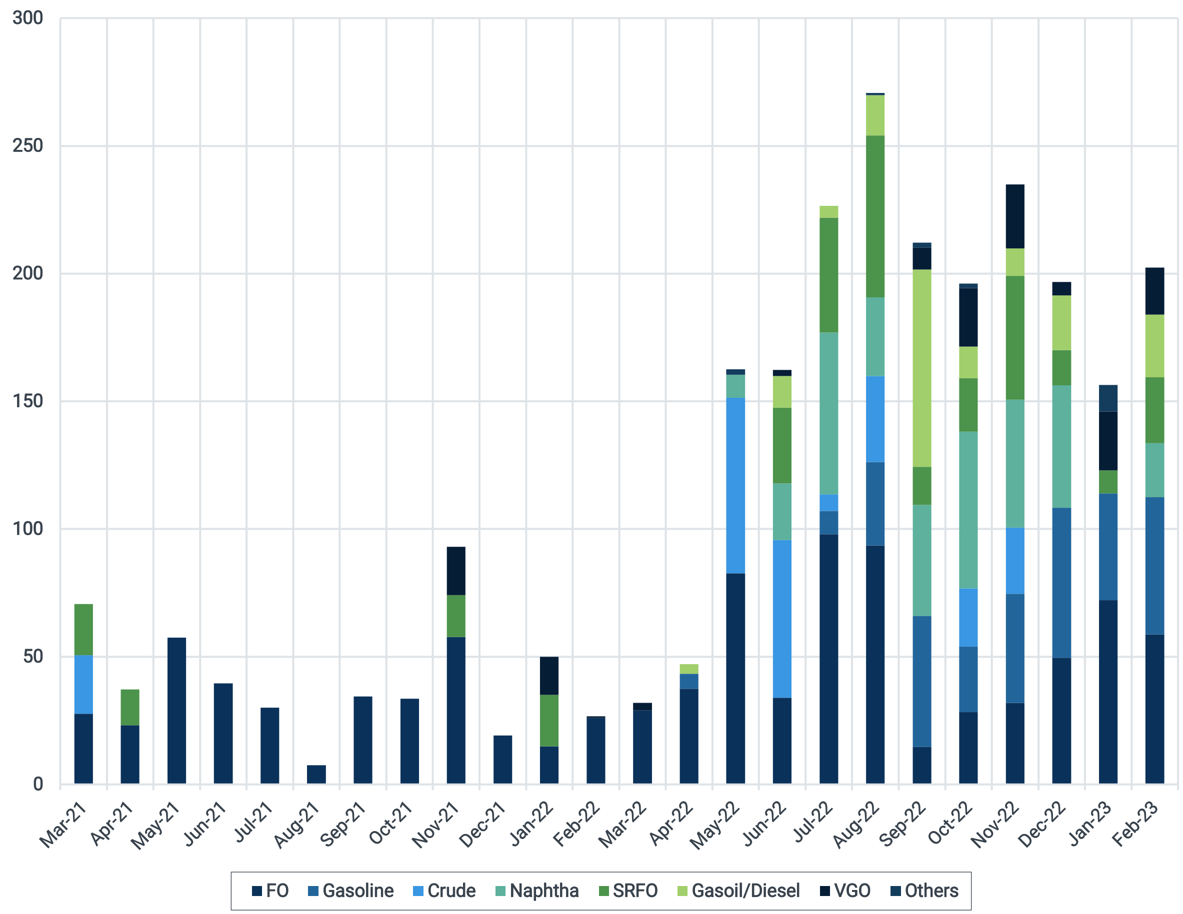
UAE is growing in importance within OPEC

Influence within OPEC has a strong correlation with production capacity and spare production capacity

UAE oil exports by destination continent (kbd) and country share within OPEC (rhs, %)



Russian crude and products transiting via Fujairah or heading to Dubai (kbd)

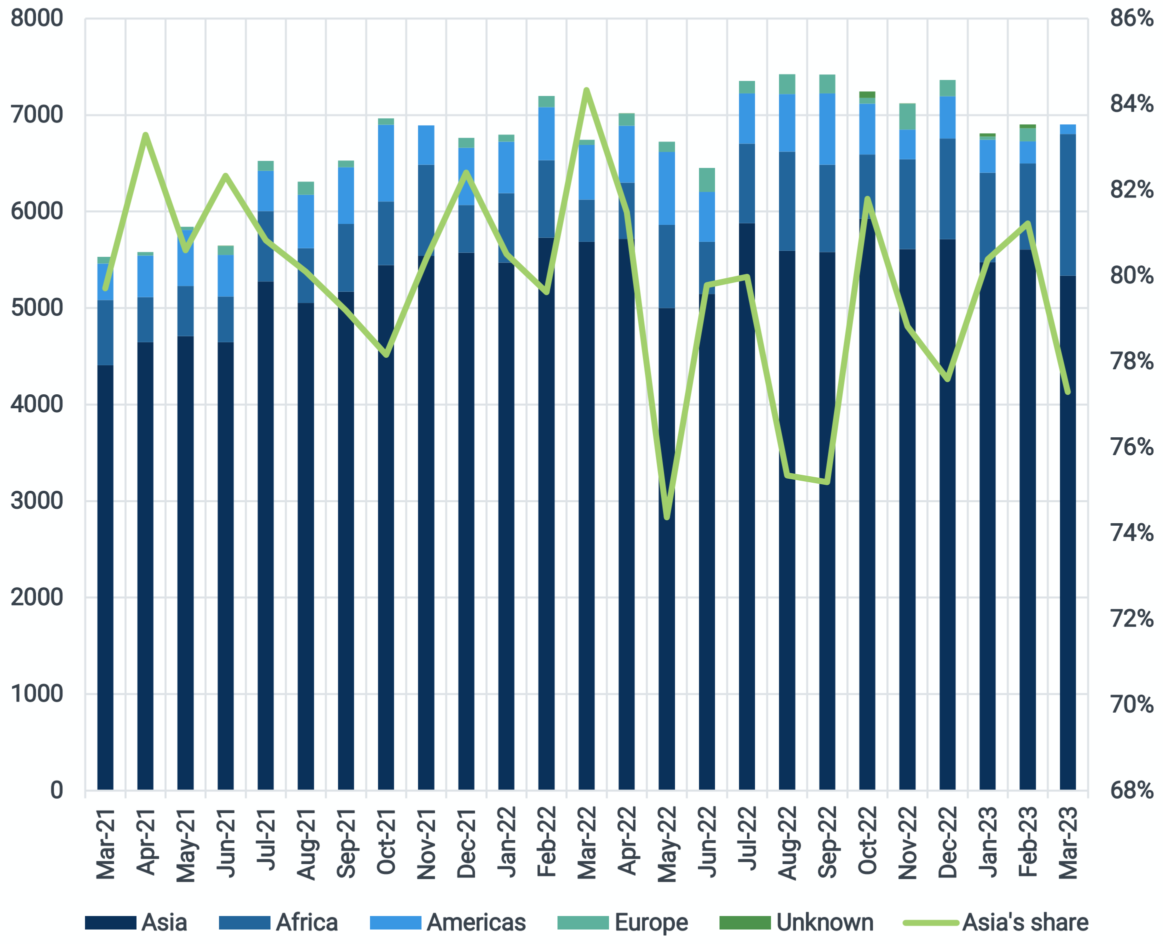


Source: Kpler

Saudi's decision-making increasingly independent: "Saudi first"

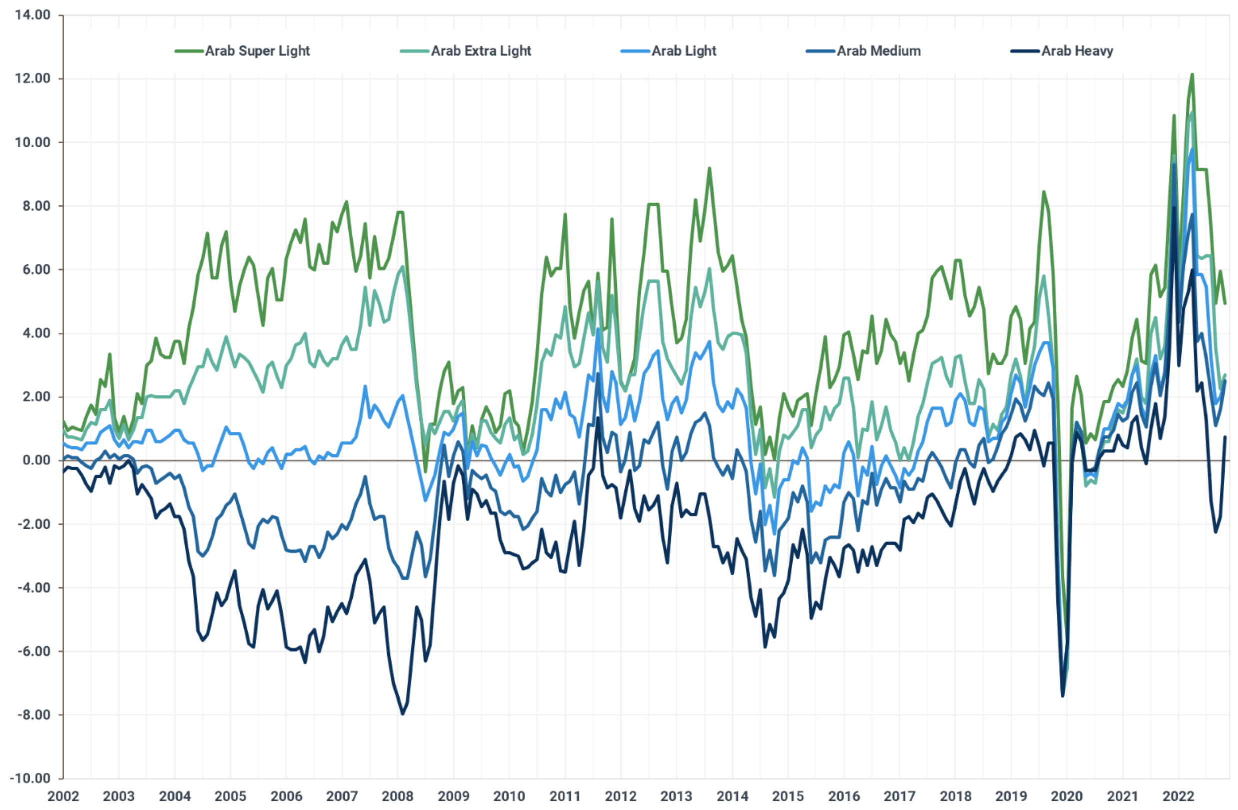
Riyadh is pursuing its own agenda, but this bears political risks

Saudi oil exports by destination continent (kbd) and Asia's share (%, rhs)



Source: Kpler

Official selling prices of Saudi export grades vs Oman/Dubai average, $/bbl.

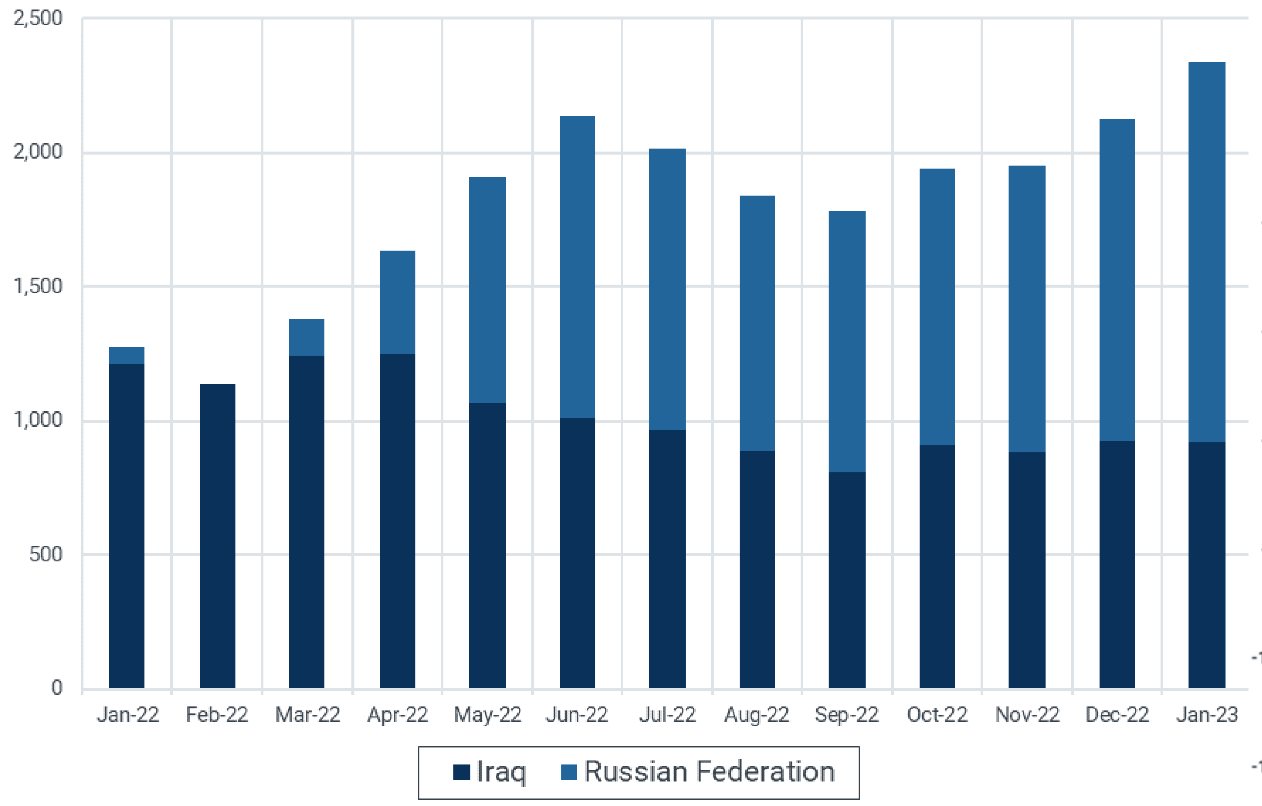


Source: Argus Media

After a thriving year in 2022, Iraq faces crucial challenges ahead in 2023

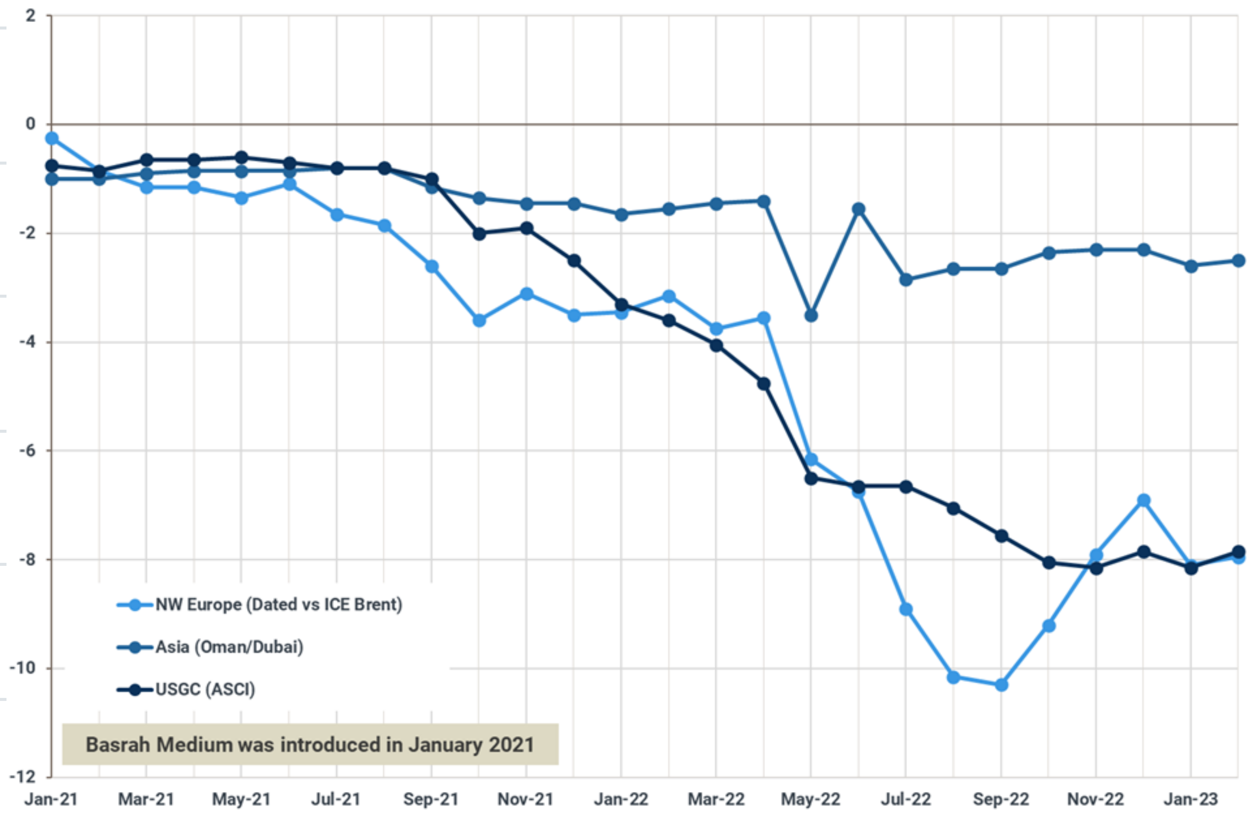
Russia's competition in India and attractive pricing in Europe could push more Basrah barrels to the west

India's oil imports from Iraq and Russia, kbd



Source: Kpler

Basrah Medium vs Arab Medium spreads by pricing region and pricing basis, $/bbl.



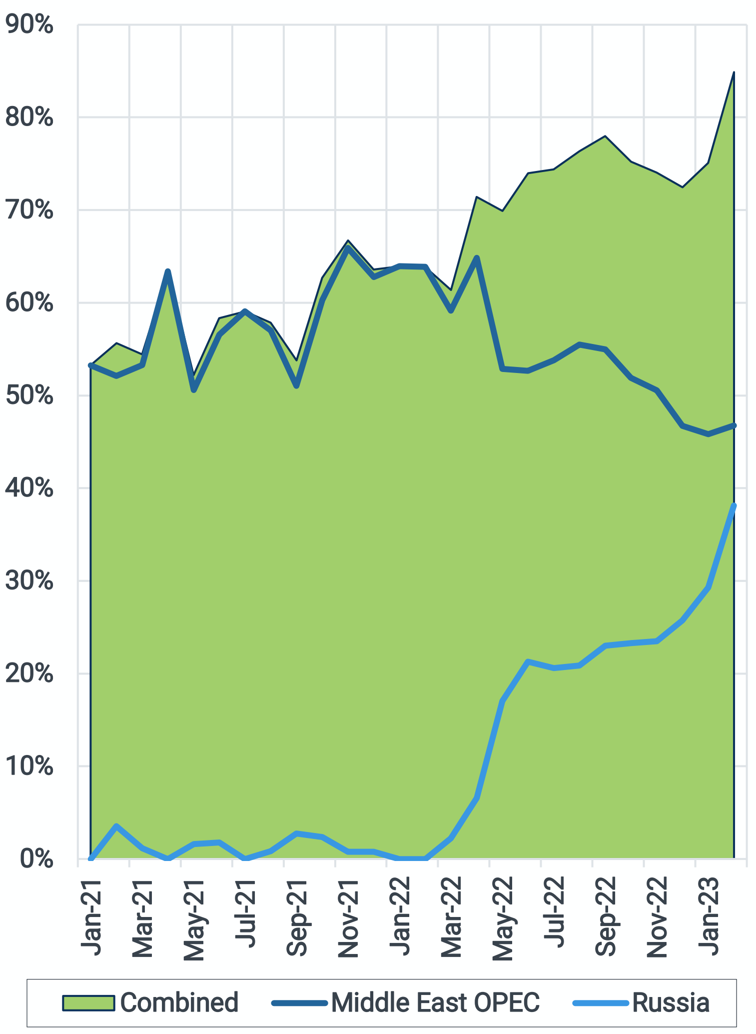
Source: SOMO, Aramco

Increasing dominance in Asia a key theme for both Middle East OPEC producers and Russia this year

Competition from Russia has weighed on the Middle East's share, but Asia remains the top priority

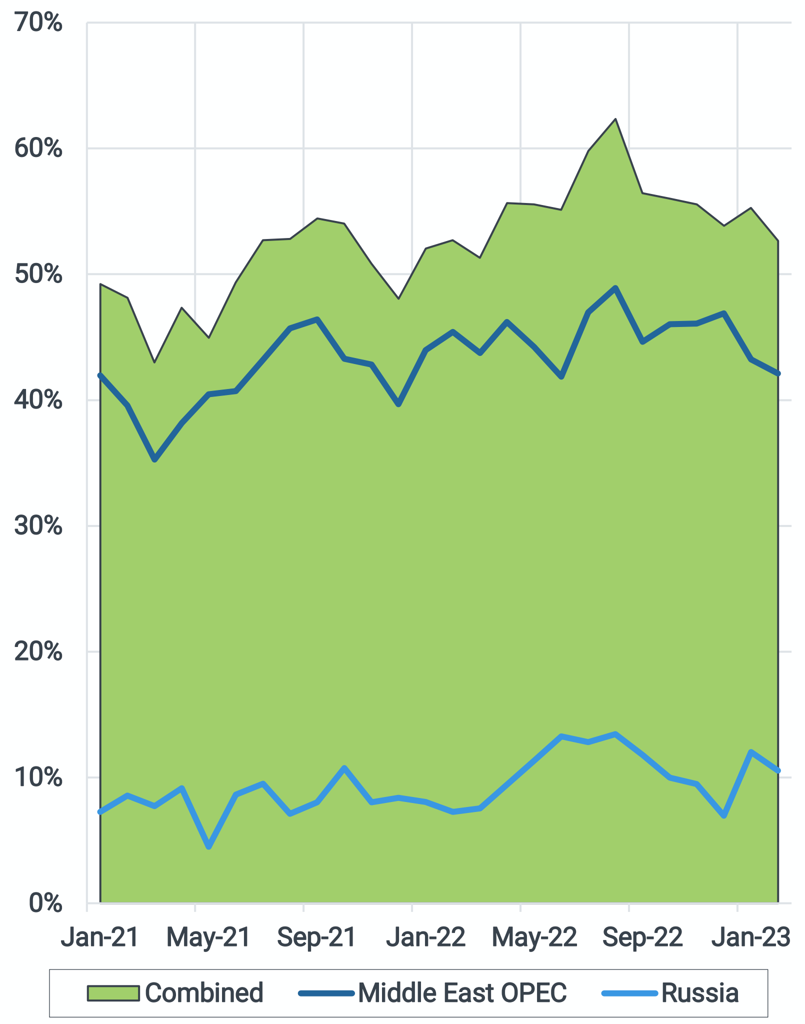
- Middle East OPEC crude exports climbed to 16.1 Mbd last year, up nearly 2 Mbd y/y.
- **Asia accounted for almost three-quarters of this increase, up 1.35 Mbd y/y**. Exports to Europe jumped by 500 kbd y/y
- This year, increased refining activity should rein in Middle Eastern exports, mostly impacting flows to the US, as both EU-27 countries and Asia battle for barrels instead
- Better times ahead as Dubai contract remains in backwardation, triggering higher OSPs in the past couple of months

India crude imports from Russia, Middle East OPEC (%)



Source: Kpler

China seaborne crude imports from Russia, Middle East OPEC (%)

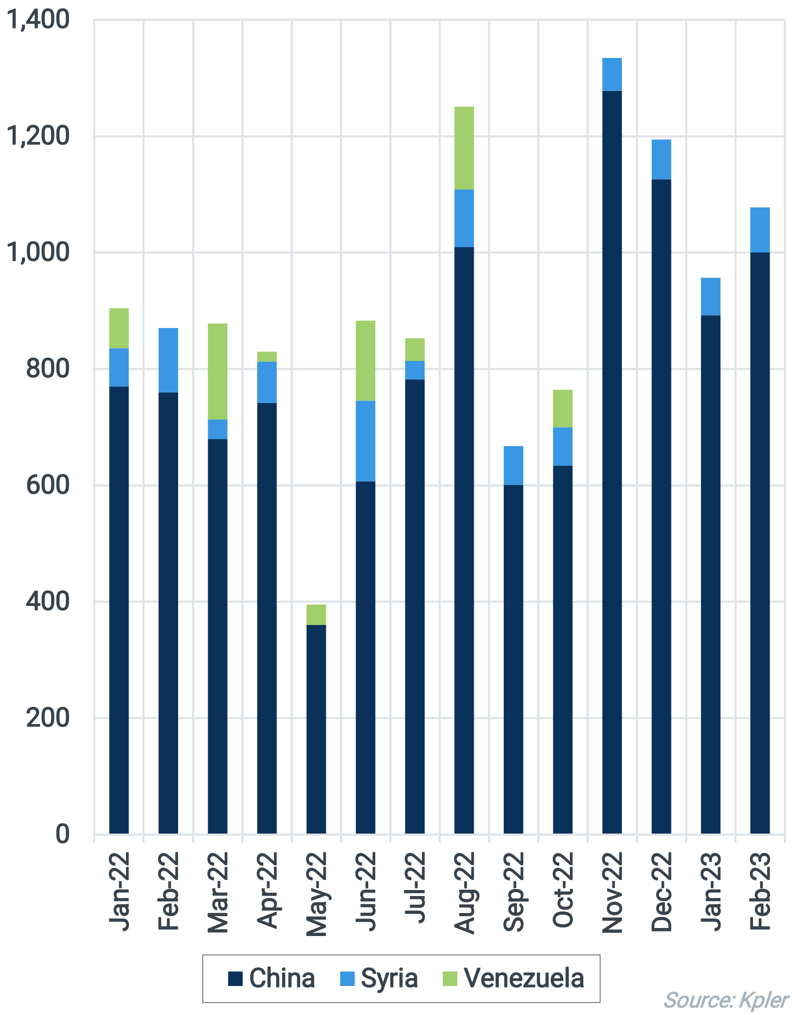


Source: Kpler

Iran is now a good gauge of Chinese demand as it relies on China for 93% of its exports

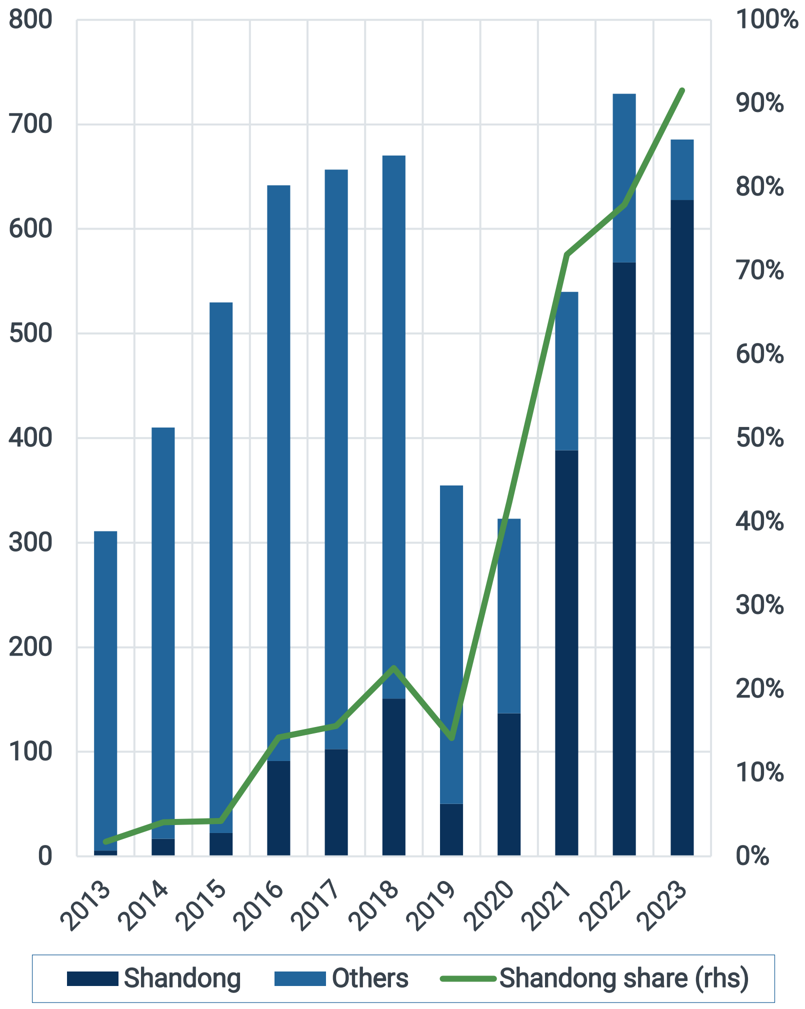
Despite this growing trade, Tehran appears to be increasingly disgruntled with China

Iranian oil exports by destination country (kbd)



Source: Kpler

China's oil imports from Iran by destination installations (kbd)



Source: Kpler

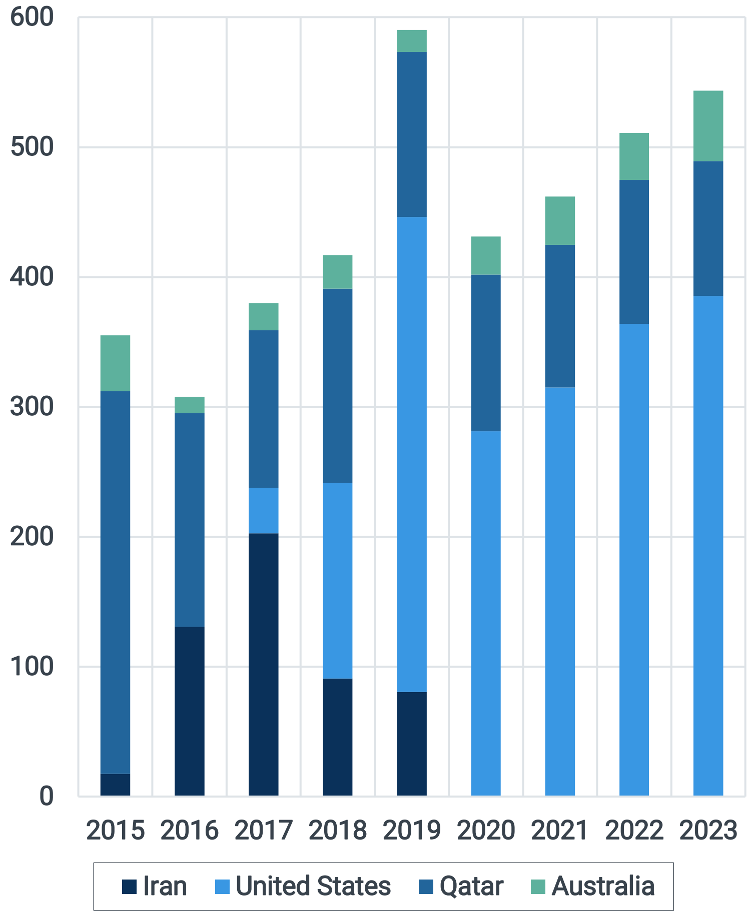
Iranian oil in floating storage (Mbbls)

Source: Kpler

Middle Eastern lighter grades to see increased competition from the West of Suez

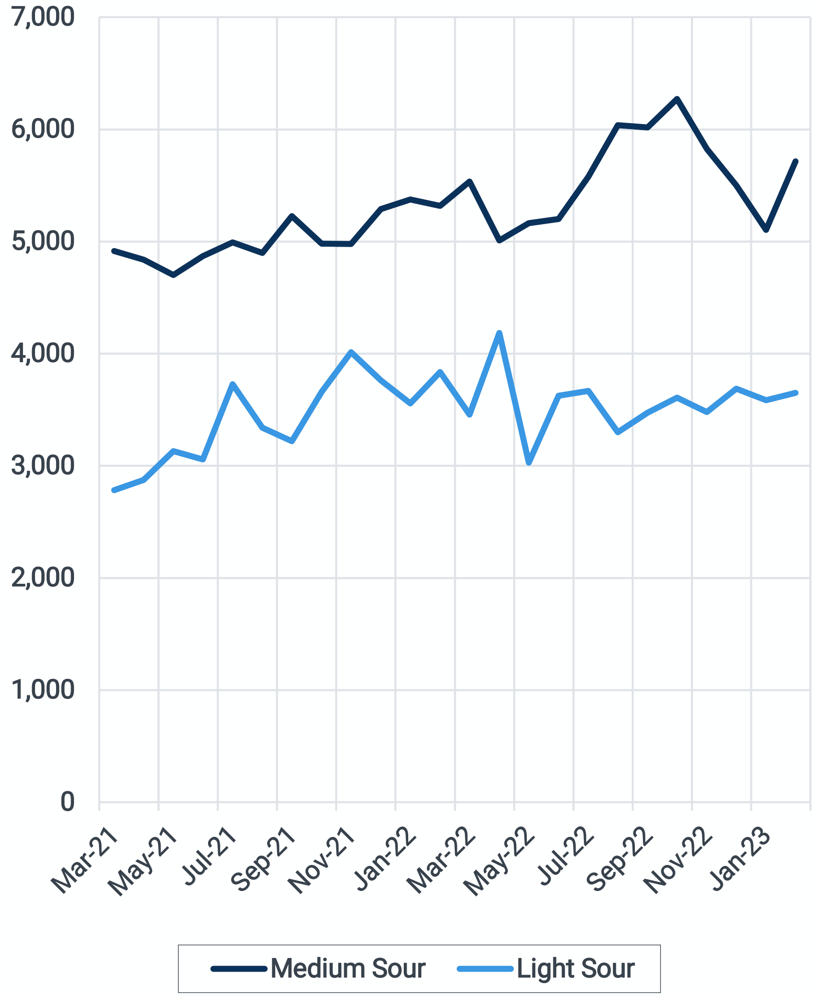
Falling refining margins and easing arbitrage from WoS to EoS amid European refinery maintenance to weigh on the Middle East's exports of light oil

South Korea crude/condensate imports from selected countries (kbd)



Source: Kpler

Middle East oil exports by crude quality (kbd)



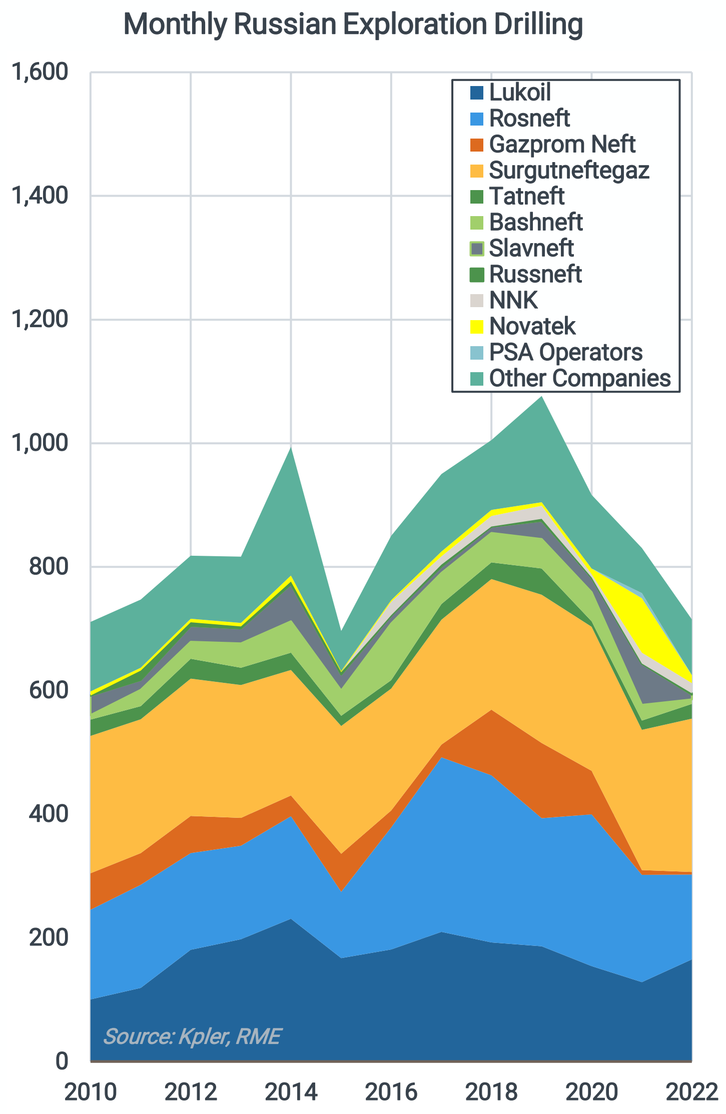
Source: Kpler

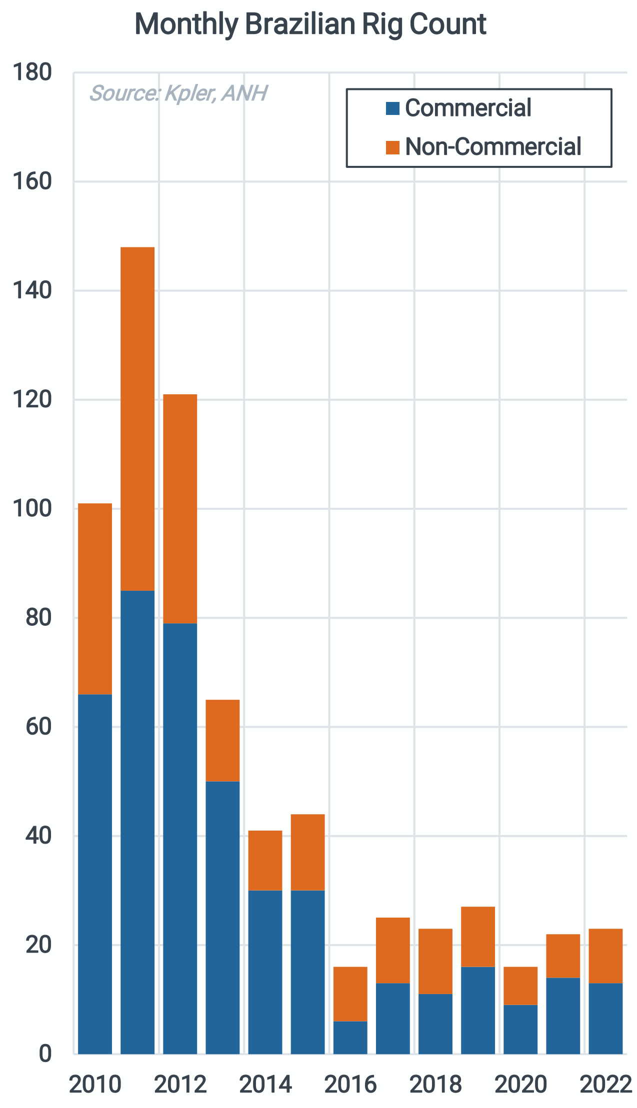
Brent/Dubai EFS spread and key Middle East spreads ($/bbl)

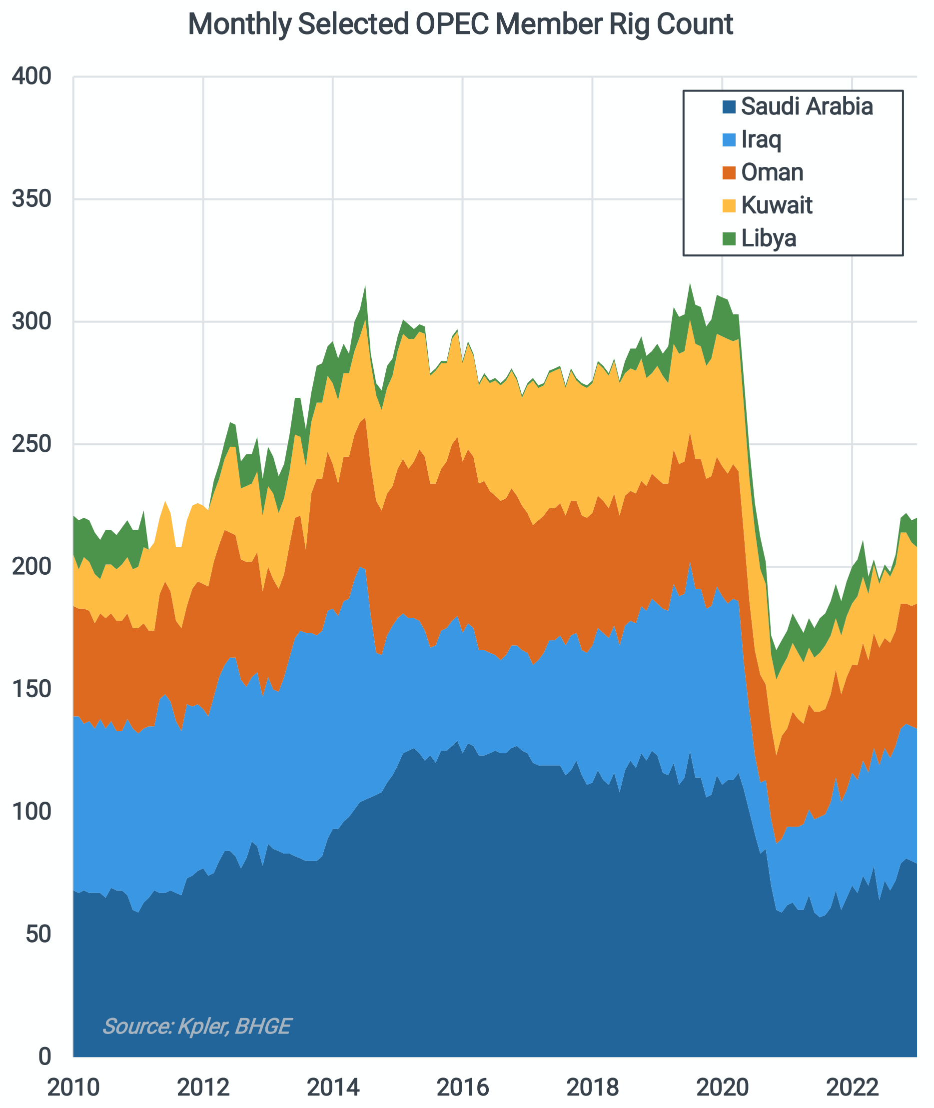
Source: Argus Media

Where has all the drilling gone?

Optimism stemming from sporadic discoveries overshadows systemic underinvestment







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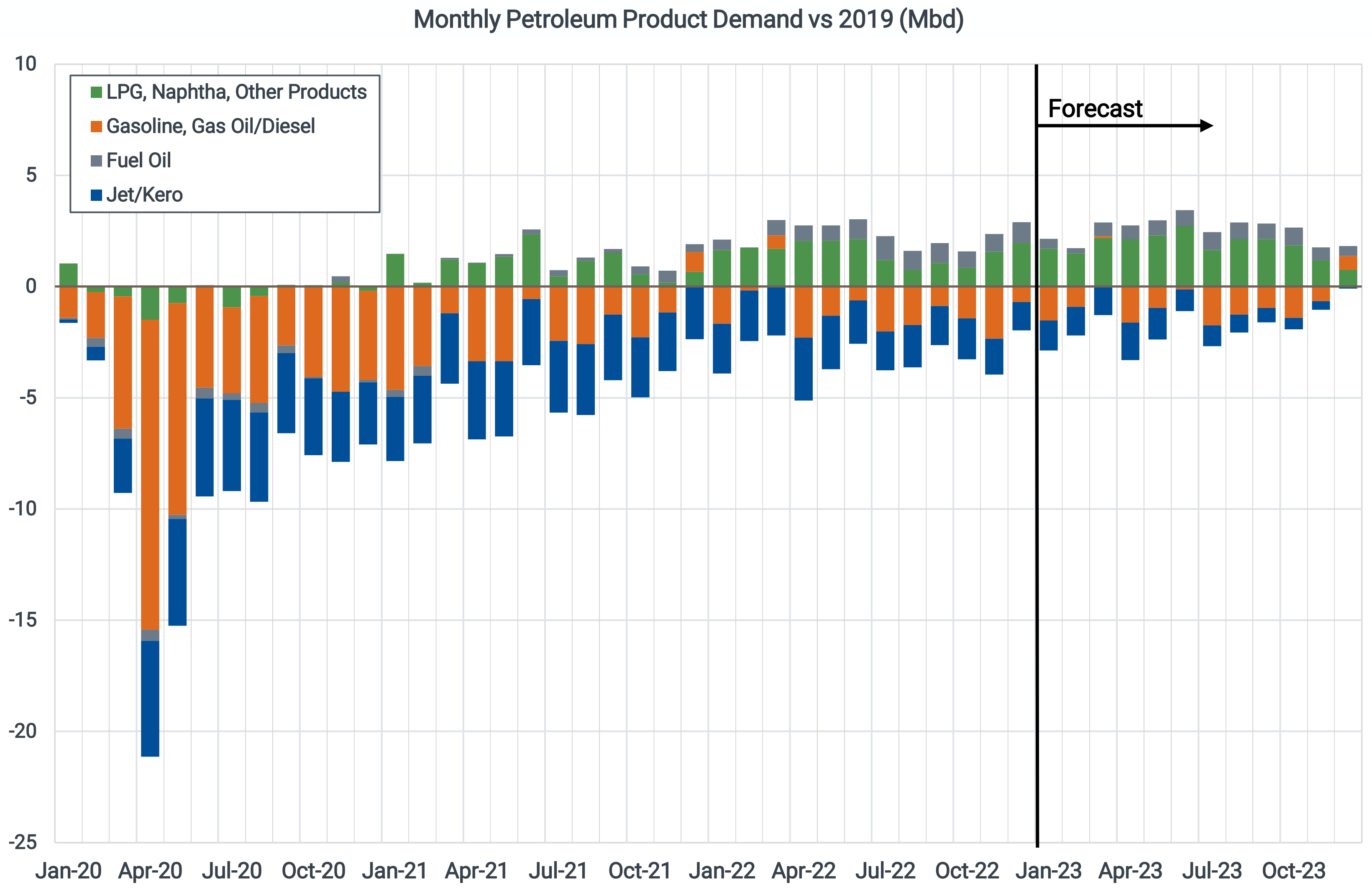
Petroleum Products

Another year of demand recovery, but don't expect wonders

Despite projected 1.3 Mbd y/y total product demand increase set for 2023, we estimate core product consumption will fall short of pre-pandemic levels

- Worrying macroeconomic indicators and a slow demand recovery seen more recently paint a discouraging picture for core product demand.
  - **Transportation fuel demand not expected to output 2019 levels until tail end of 2023.**
- China, India, other Asia expected to retain strong demand momentum (somewhat) as economies recover.
- **Europe** and **US** consumption growth will struggle given high inflation and tight monetary policy.
- **Global jet demand** is yet to close the gap against pre-Covid levels.
  - Subsequent Covid outbreaks EoS are a particular risk.
- **Gasoil/diesel demand is poised for tepid performance this year,** amid mounting pressure on economic activity in the US and Europe.



Source: Kpler calculations based on JODI, IEA, national statistics data, own forecast

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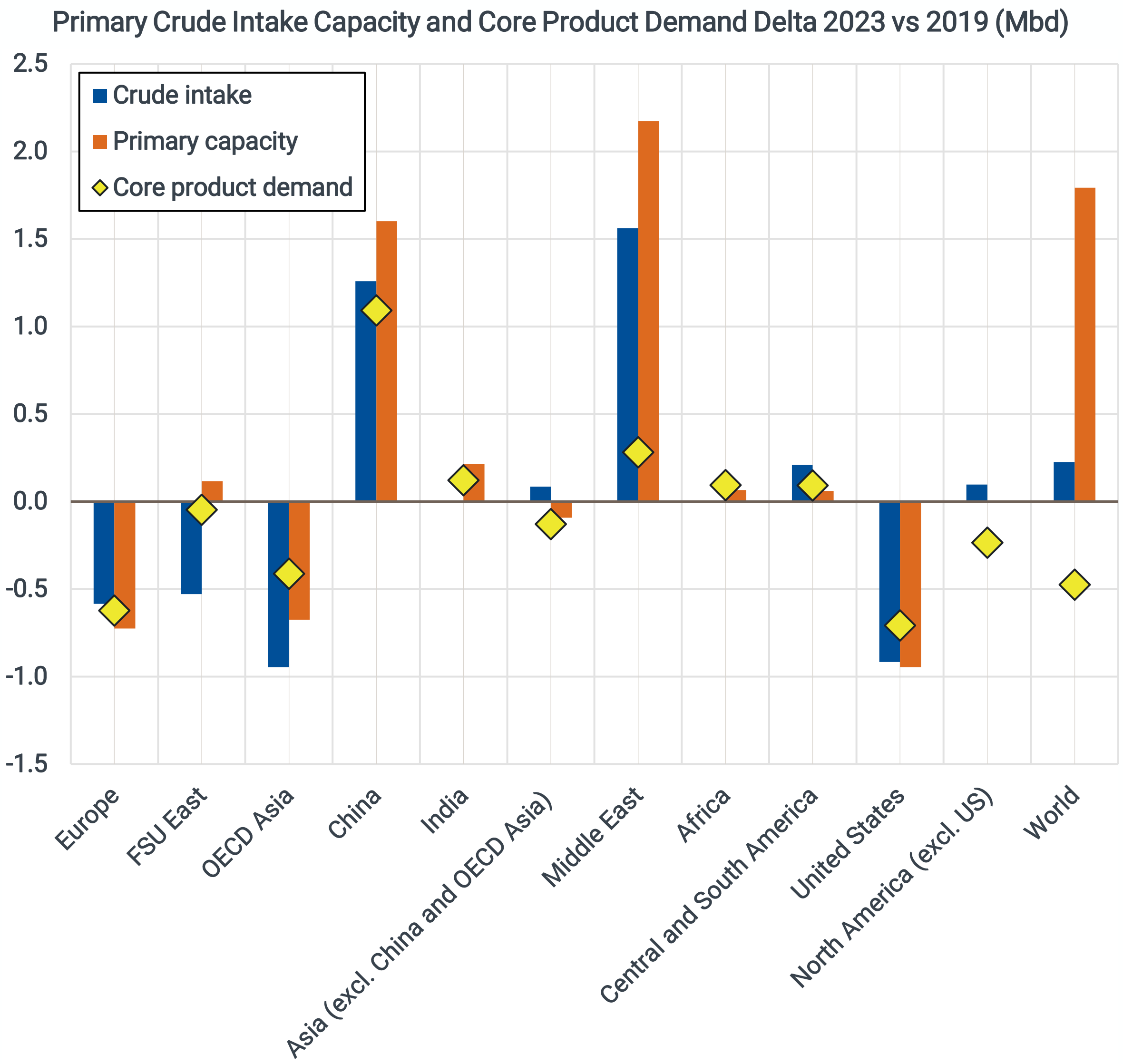
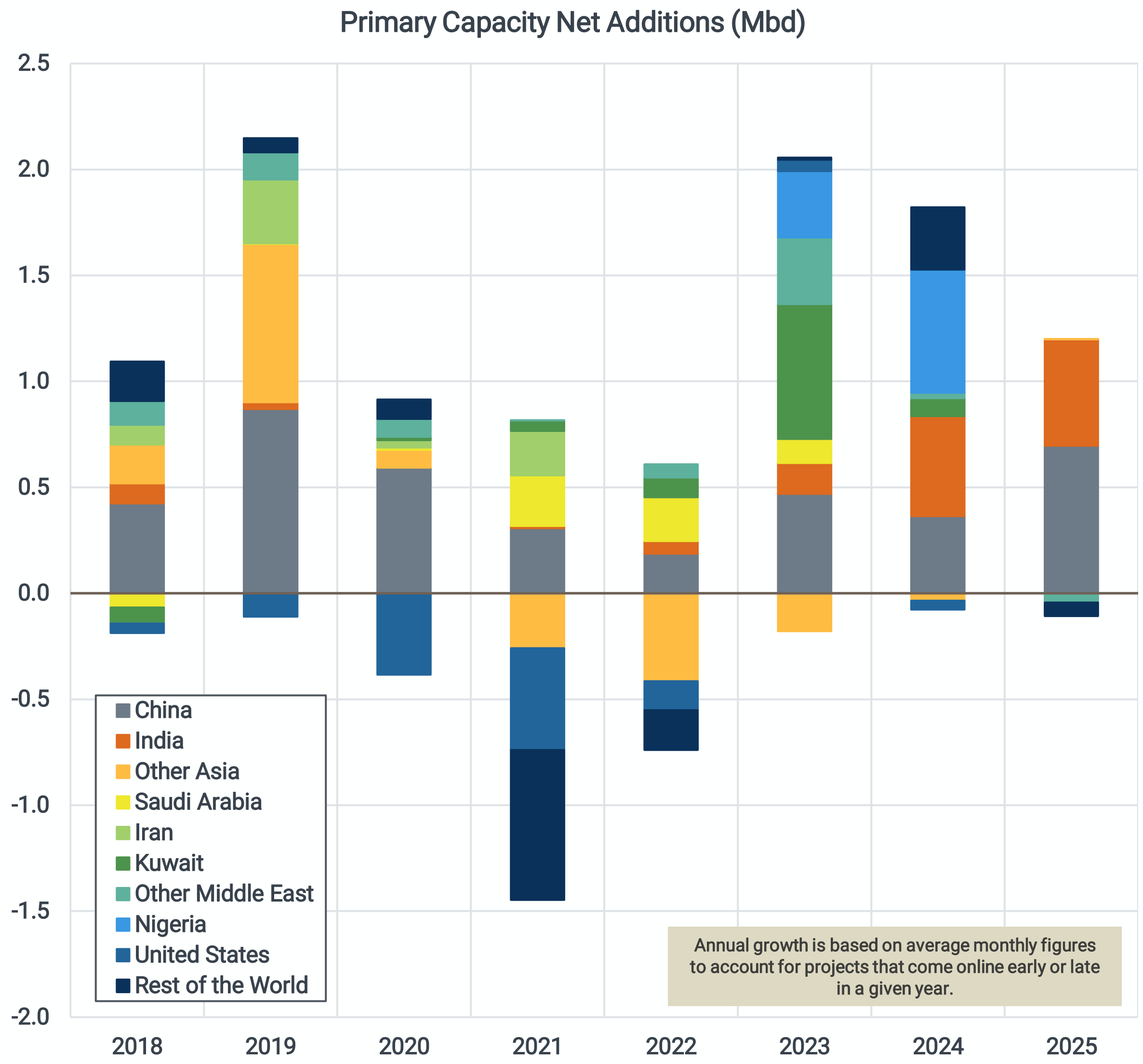
Assessing refinery capacity

Covid-induced consolidation pressure has shifted the global focus from West to East of Suez



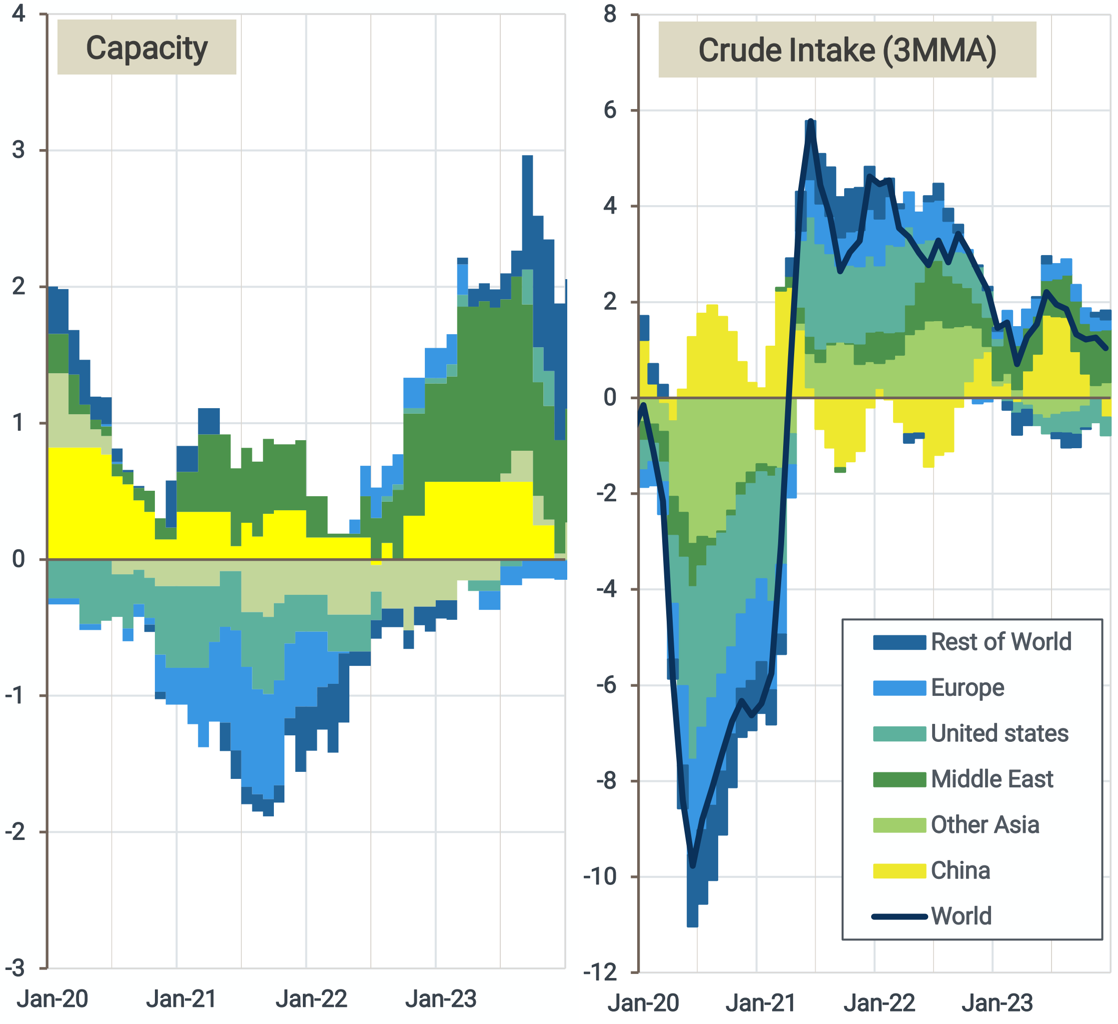


Source: Kpler calculations, based on various industry sources

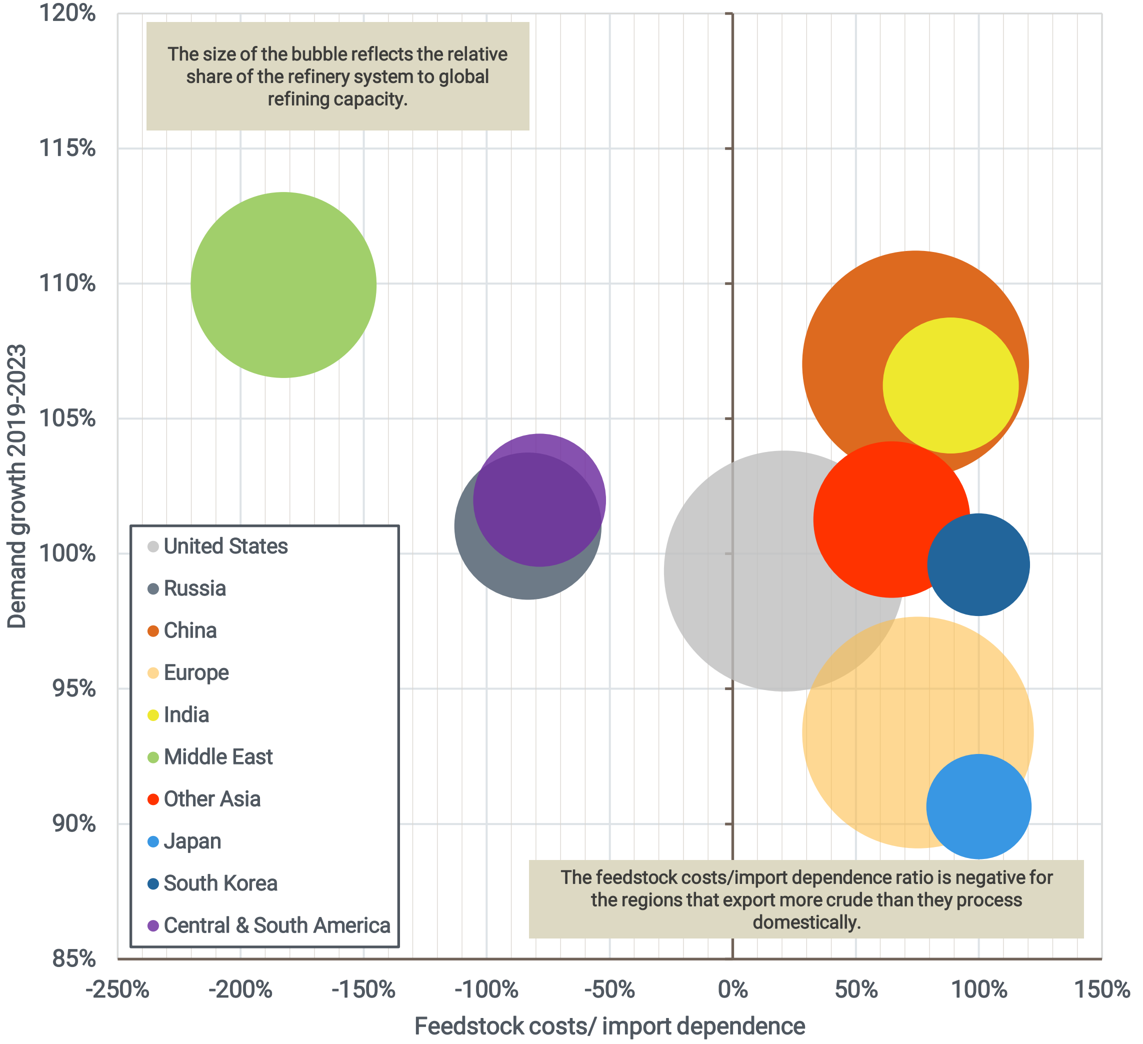
Demand still a problem in several places

While East of Suez is largely outpacing pre-pandemic levels, a darkening outlook West of Suez sets the stage for pressure down the road

Monthly Primary Capacity Additions (left, Mbd) and Crude Intake (right, Mbd) Y/Y Delta



Relative Competitiveness of Refinery Systems Demand Recovery vs Feedstock Import Dependence (%)

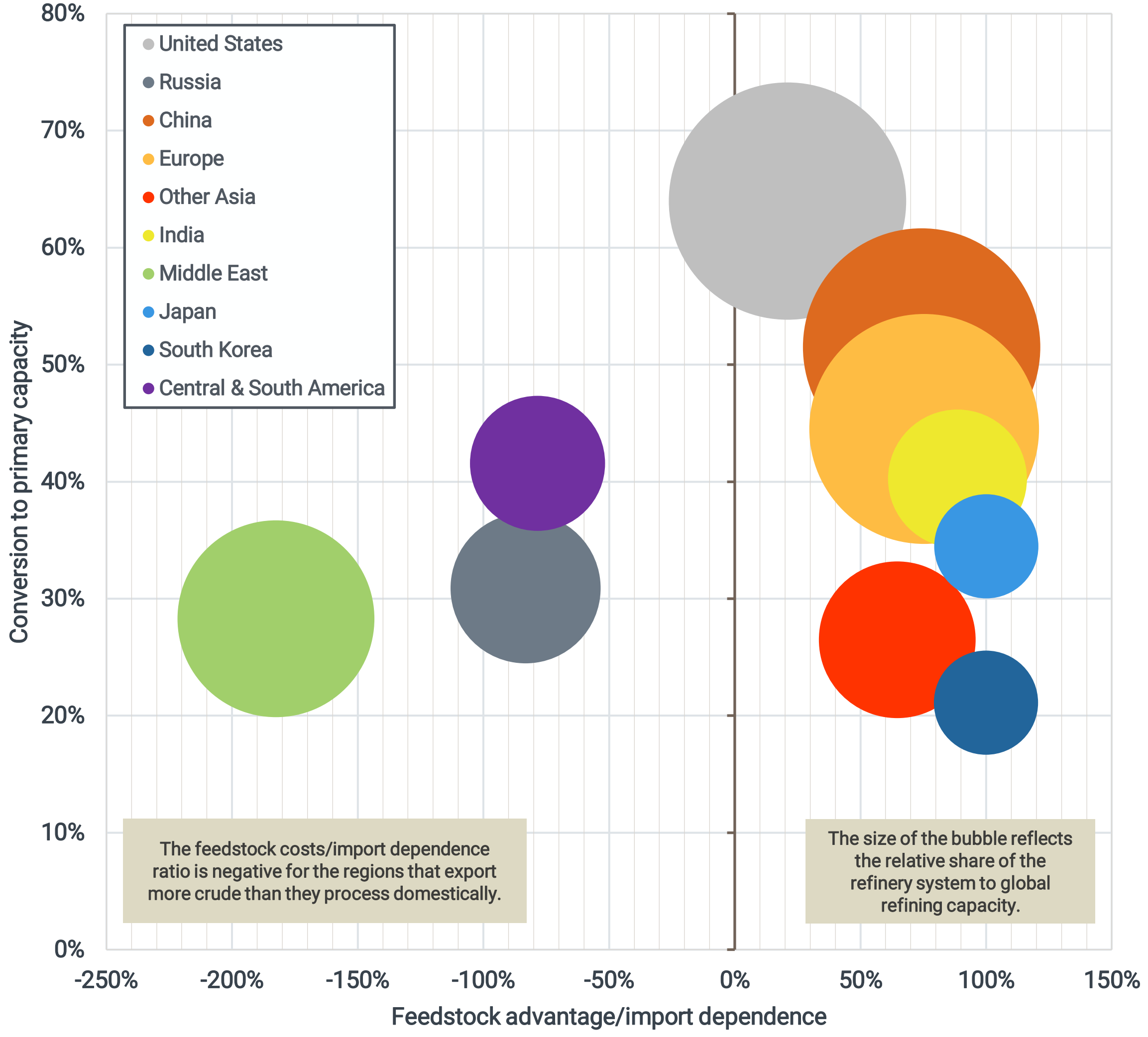


Source: Kpler calculations based on JODI, IEA, national statistics data, and various industry sources, own forecast

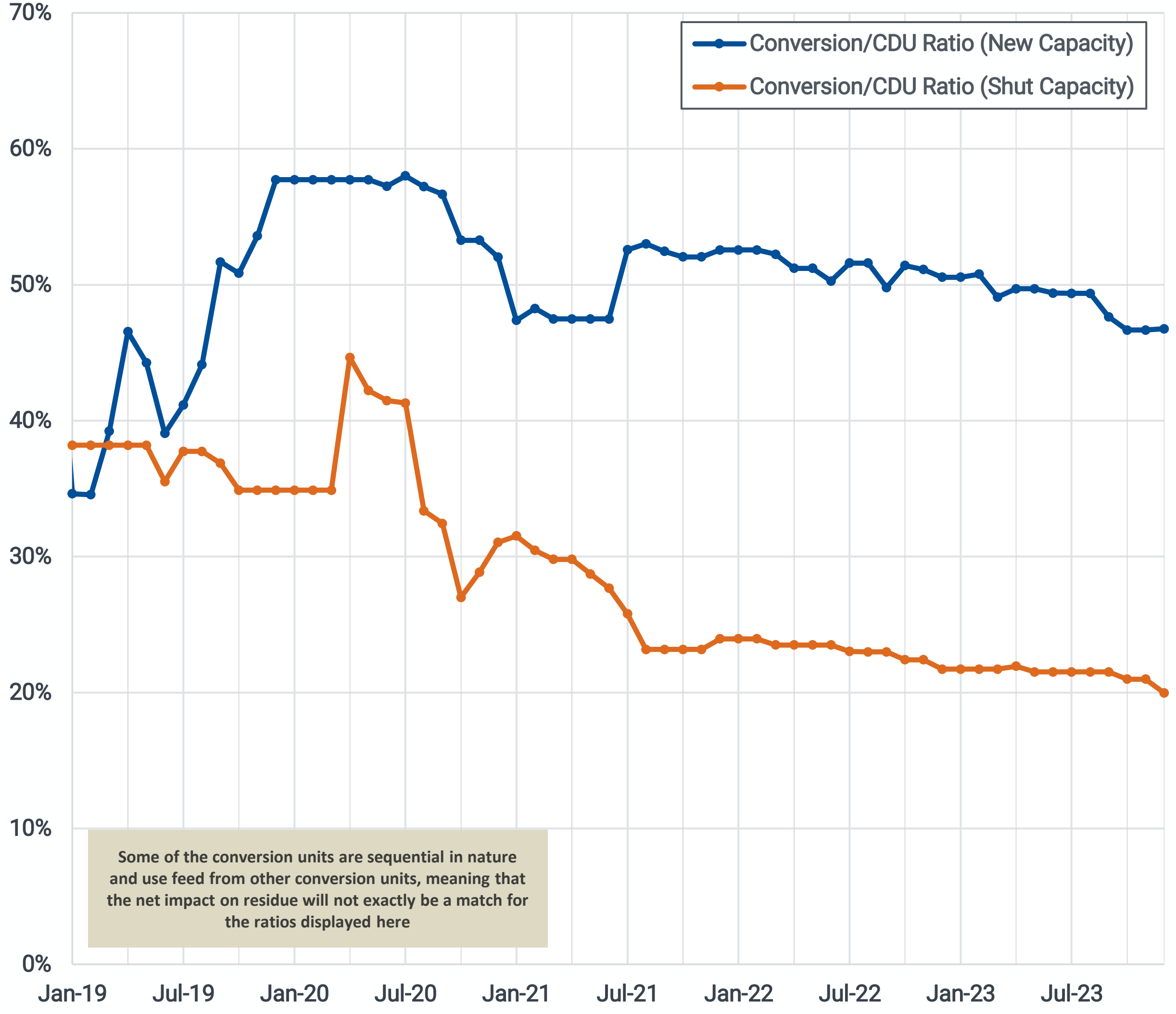
The complexity angle

While East of Suez is largely outpacing pre-pandemic levels, a darkening outlook West of Suez sets the stage for pressure down the road

Relative Competitiveness of Refinery Systems Conversion Capacity vs Feedstock Import Dependence (%)



Conversion to CDU Capacity Ration on a Cumulative Basis (%)



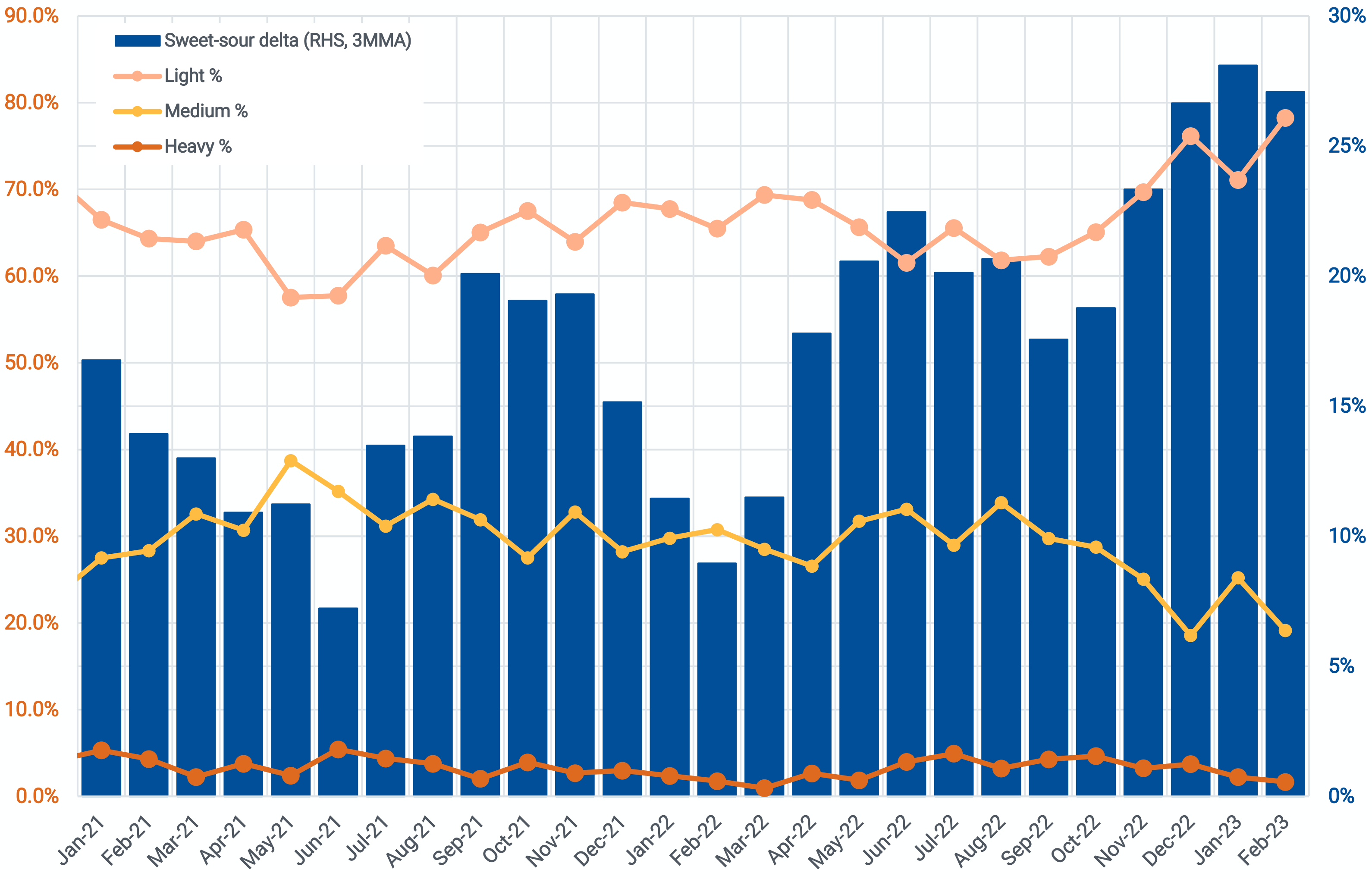
Source: Kpler calculations based on JODI, IEA, national statistics data, and various industry sources; own forecast

Shifting crude slate

So far through 2023, the European crude slate is undergoing a structural shift away from medium and heavy crudes

- The launch of the EU embargo on Russian crude has already made itself visible in European crude baskets.
  - NWE medium complexity setups (accounting for more than 70% of the region's refinery system), **already running at a much lighter (and sweeter) diet than pre-embargo levels.**
- With the new capacities hitting the market later this year and the looming pick-up in Chinese refinery runs, the **availability of medium and heavy crude will be key** in retaining run rates in the wider Atlantic Basin area.
  - Combined with the halt of secondary Russian feedstock exports **provides an environment of structural support for the bottom of the barrel.**
- The shift in crude balance is contributing to long gasoline and does little to solve the European gasoil problem.
  - Moving forward, this may need to change to balance the system.

Monthly Crude Diets of NWE Medium Complexity Refineries (%)



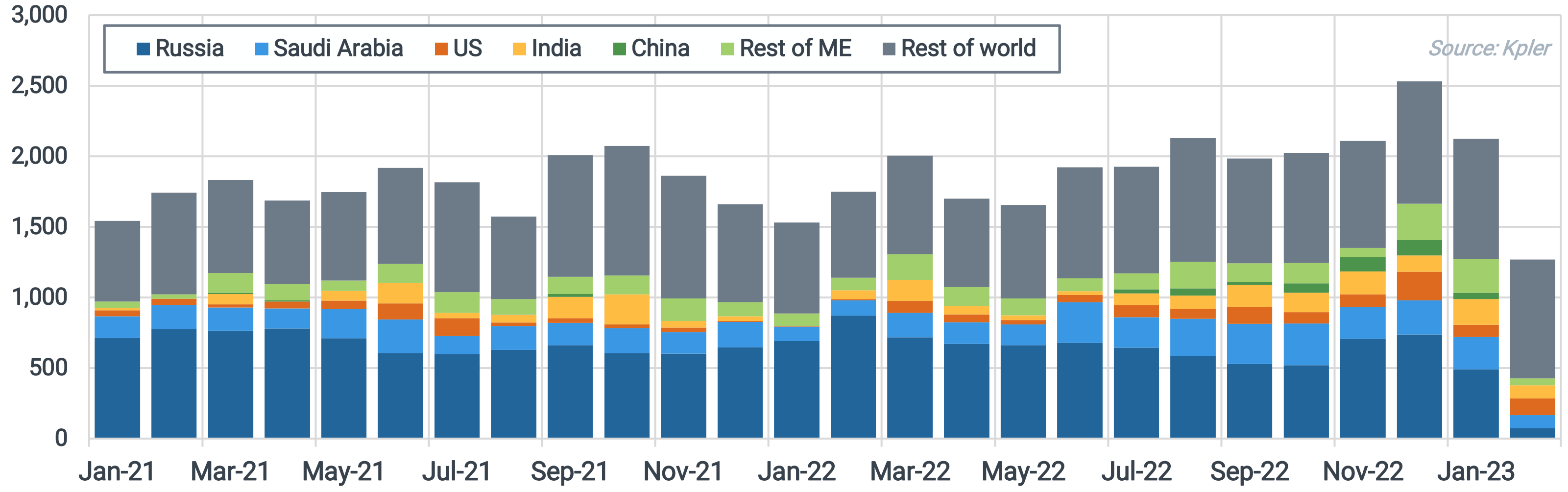
Source: Kpler

Europe has a diesel problem…

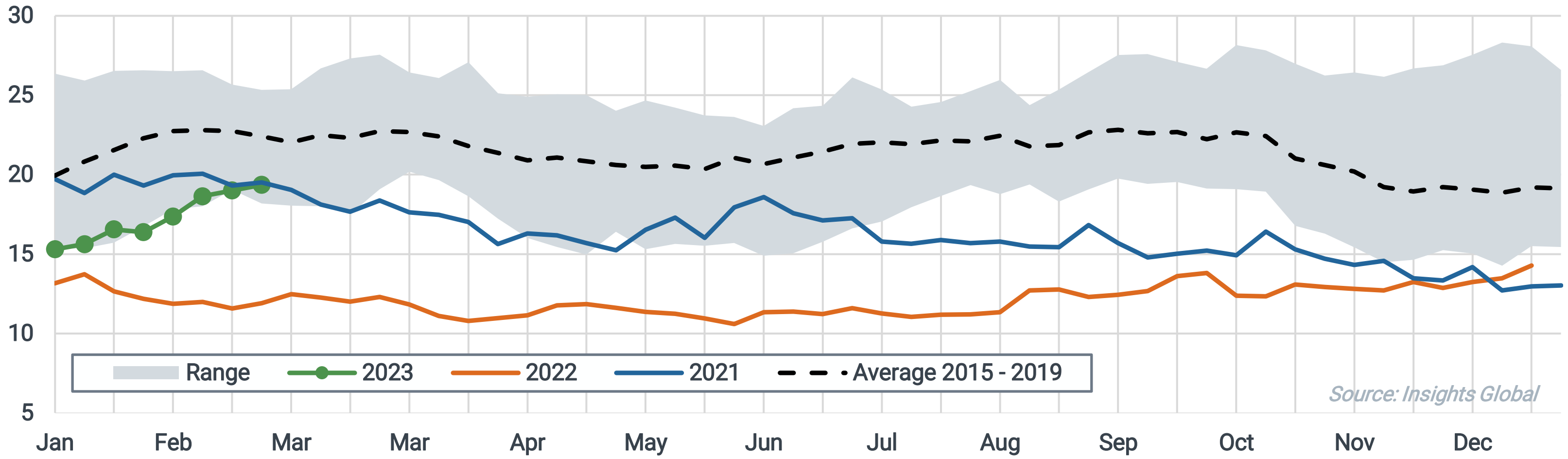
Following the initial shock of Russian product sanctions, there are challenges ahead for Europe

- Considering unit and refinery maintenance schedules, we calculate that European and US systems have the theoretical flexibility to add around 2% yield switch into gasoil over May-September.
  - **This would add +200 kbd (US) and +250 kbd (Europe) in gasoil production** relative to our current base case estimate over the same period.
- **Al Zour's** potential **ULSD** production capacity, when running at full speed, could **add some 180 kbd to the market**, currently expected in Q2.
- **China's** new refinery additions are also expected to **add some 490 kbd of ULSD** to the market, split across:
  - **Lianyungang:** 110 kbd
  - **Zhoushan:** 140 kbd
  - **Jieyang:** 240 kbd
- In addition, when **Jizan's** secondary units start operating close to nameplate capacity, **we could see addition 215 kbd.** This is not expected to happen before H2.

Monthly Gasoil/Diesel Exports to EU-27 and UK by Country of Origin (kbd)



ARA Gasoil/Diesel Stocks in Independent Storage (Mb)



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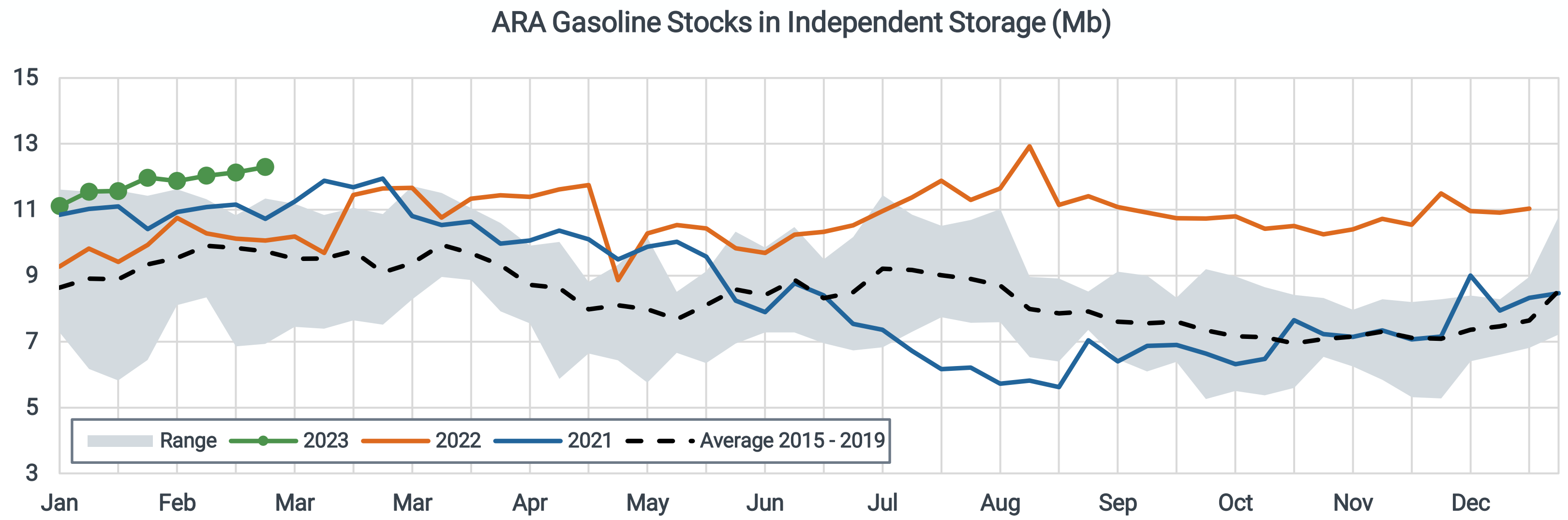
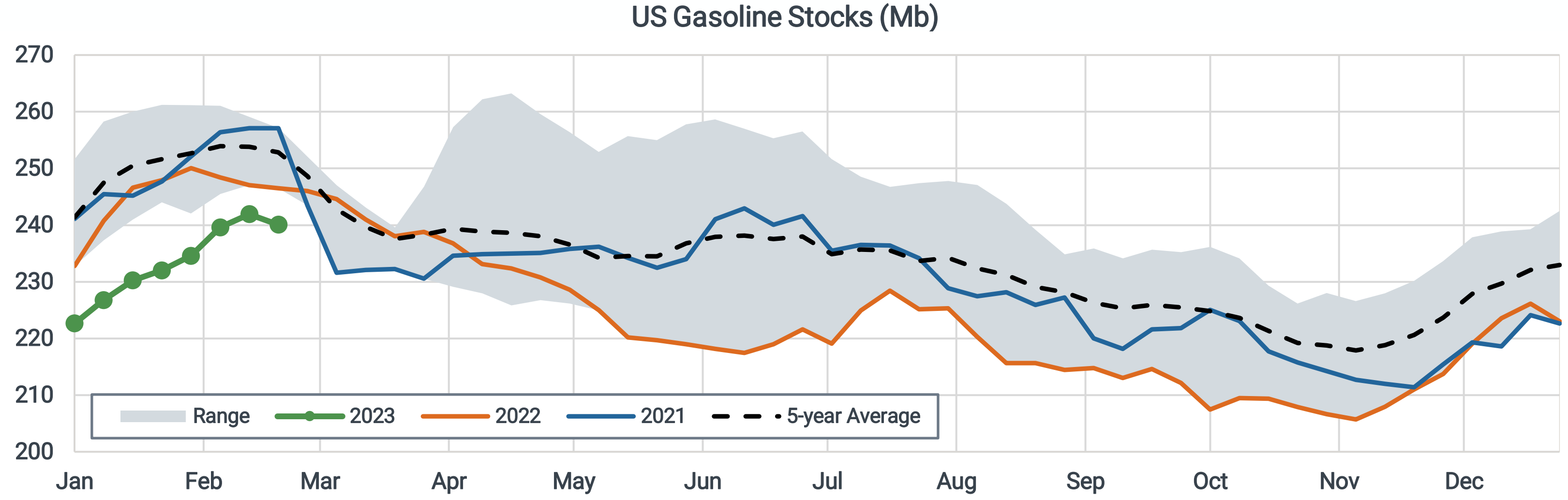
Gasoline should also be monitored

The spring maintenance season and low US inventories set the stage for a strong start to Q2 for gasoline in the Atlantic Basin

- In **Europe**, a **lightening crude slate** in alongside **tepid demand** set the stage for a **longer-than-usual gasoline balance** over the near term.
  - Expect inventories in the region to remain elevated, keeping regional cracks in check.
- Same cannot be said for the **US.**
  - The might of this year's **spring maintenance season** is yet to be seen in product supply levels.
  - **Depressed gasoline inventory levels** weeks before the high demand season set the stage for some structural tailwind over the weeks ahead.
  - More importantly, **lower-than-usual physical availability** to open export opportunities for European refiners in the wider Atlantic Basin area this summer.





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Summary

- The current relatively stable supply-demand balance shields the oil market from excessive volatility, however an improving demand picture into H2 coupled with a global slowdown in supply growth tilt the pricing trends towards the upside.
  - Despite Shandong shakeup, Chinese refinery capacity to add further 520 kbd in 2023 as restrictions on import-export activity are eased.
  - Russian production to see its long-term production level decline to 10.5-10.6 Mbd, driven by refinery run cuts rather than lower oil exports.
- The great post-sanctions reshuffling of crude flows has seen Russia overwhelmingly rely on Asia, whilst European sourcing has found new options across the Americas
- OPEC+ supply discipline greatly boosted the oil group's certitude that it can safeguard an $80/bbl price floor, deal to remain in place even beyond 2023
- The last great hurrah of US production growth highlights the need for new non-OPEC sources of growth, Guyana and Namibia are not enough to offset structural declines
- Long-term lack of investment into exploration drilling and upstream operations will only aggravate global dependence on key oil producers

- Demand is improving, but a return to pre-invasion levels globally remains unlikely.
  - China's reopening and Indian demand's robustness will balance against expected tepid performance in the West of Suez
- The global refining landscape is changing, with the Middle East set to play a key role in the future.
  - Rising capacity and lackluster demand predicate some consolidation pressure, especially on the side of less-complex setups
  - On the other hand, a shrinking pool of tradable medium and heavy molecules, amid rising complexity, paint a constructive picture for the bottom of the barrel.
- Europe's diesel problem appears to have found its resolve, but we are far from a sustainable solution yet.
- The changes in NW Europe's crude diet is already giving us a taste of what is to come in the Atlantic Basin feedstock trading.
- Gasoline's time to shine is approaching but there is a catch.

Homayoun Falakshahi

Senior Crude Oil Analyst

Homayoun Falakshahi is a Senior Crude Oil Analyst at Kpler, the leading provider of data and analytics in commodity markets.

Homayoun joined Kpler's Insight Team in 2019, where he leads research and analysis specifically concerning **OPEC+, the Middle East and Iranian Oil**. Homayoun is responsible for Kpler's East of Suez report, which overlooks supply and demand trends in OPEC+ and in Asia.

Homayoun has worked on multiple projects, including creating in-depth presentations to industry and financial clients. Homayoun is regularly quoted in financial and industry-focused media, including the Wall Street Journal, Reuters and Bloomberg TV.

Before joining Kpler, Homayoun worked at Wood Mackenzie as a Senior Upstream Research Analyst for five years. During his time there, he was responsible for providing comprehensive economic and financial modeling of upstream assets for a host of countries in the Middle East, as well as sub-Saharan Africa. He created detailed, analytical reports providing clients with insights on upstream assets and trends. Among other projects, Homayoun led Wood Mackenzie's return to Iran after more than a decade, creating a large contact base including at the Ministerial level.

Homayoun graduated from ESCP Europe in 2014 with an MSc in Energy Management, holds an MA in MENA geopolitics from Sciences Po Grenoble, and a MSc in Energy and Environment Economics from UPMF Grenoble. Homayoun is a native Farsi and French speaker and also speaks English and Spanish.

hfalakshahi

+447713989438

hfalakshahi@kpler.com

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