



ICE Oil Markets – effective risk management for an interconnected world

London Energy Forum 2024

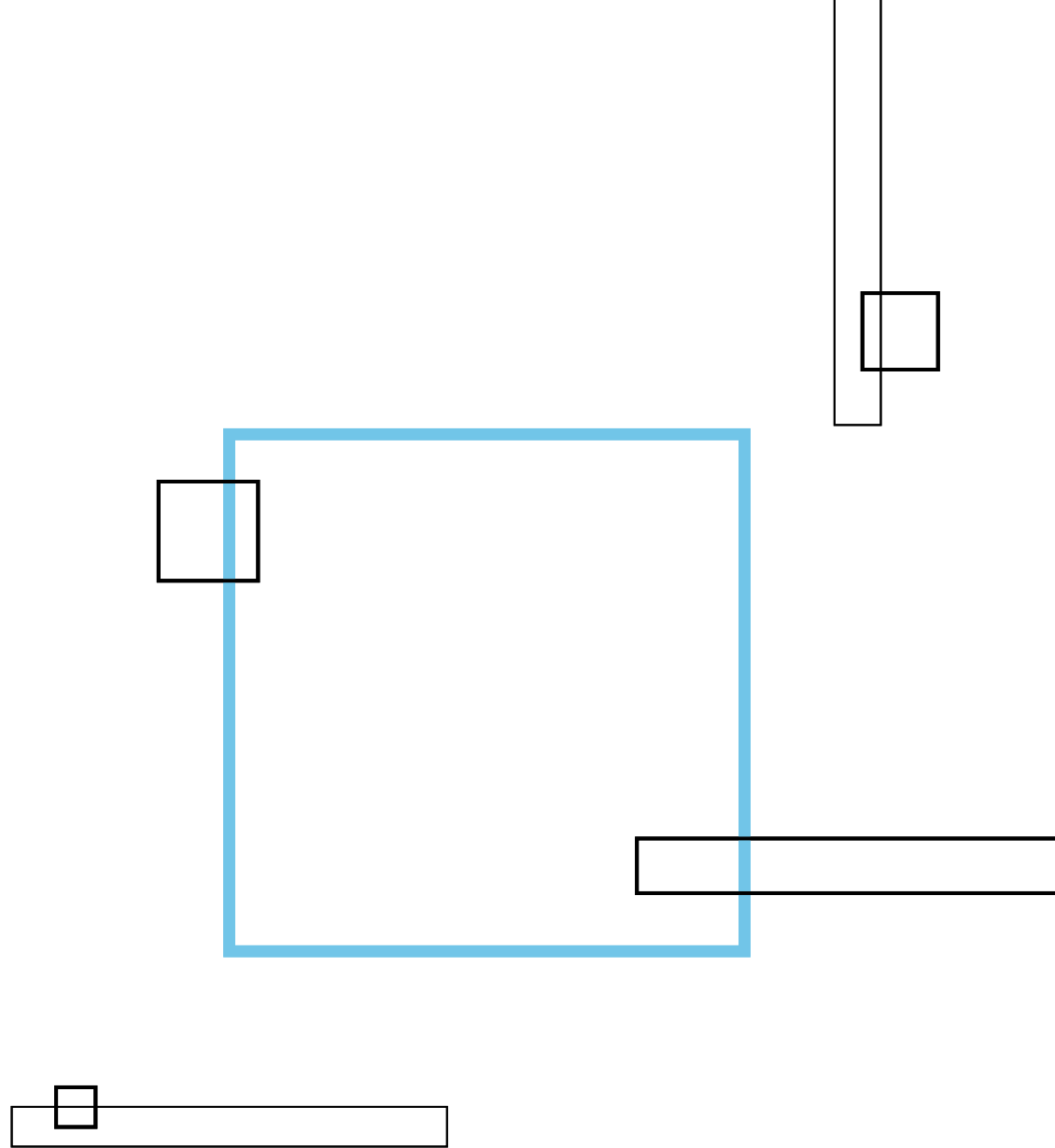
S&P Global Commodity Insights

London

February 26-27, 2024



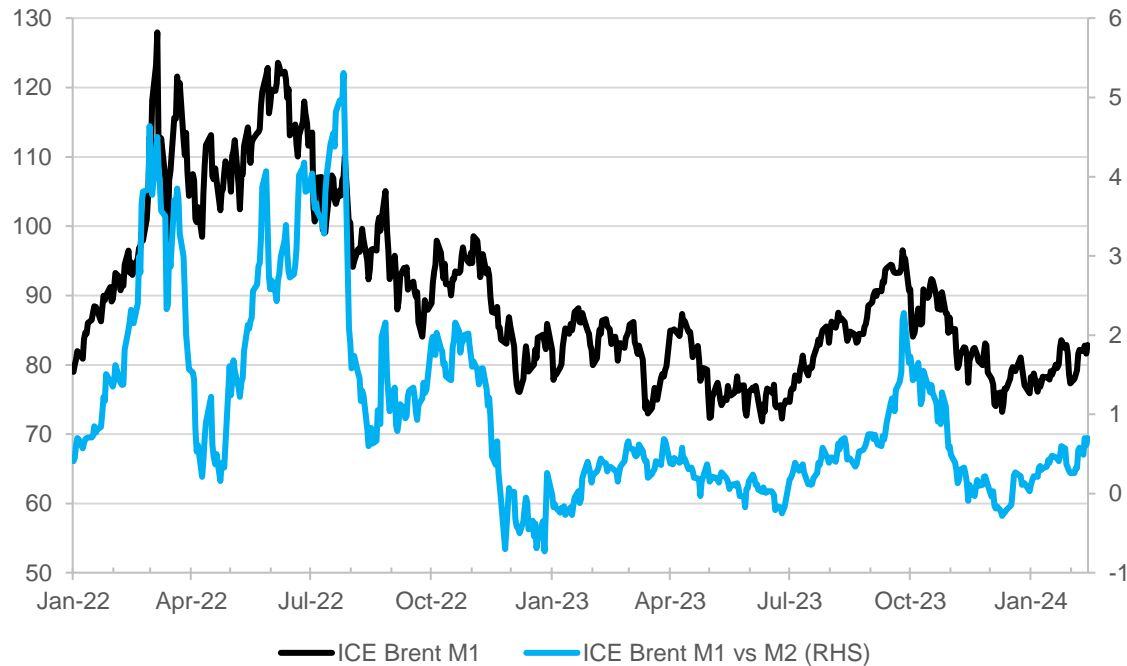
ICE Brent: the global crude benchmark



ICE Brent: the global crude benchmark

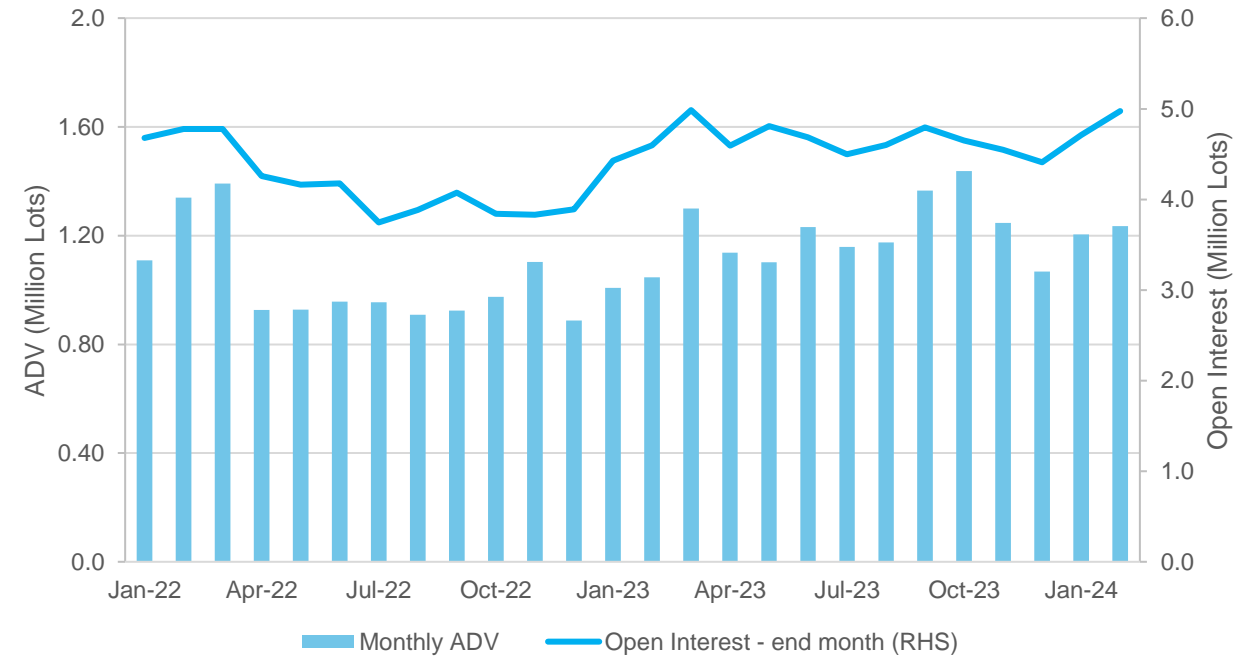
Over 75% of the world's traded crude prices off Brent (directly and indirectly)

ICE Brent Prices and Timespreads (\$/bbl)



Source: ICE

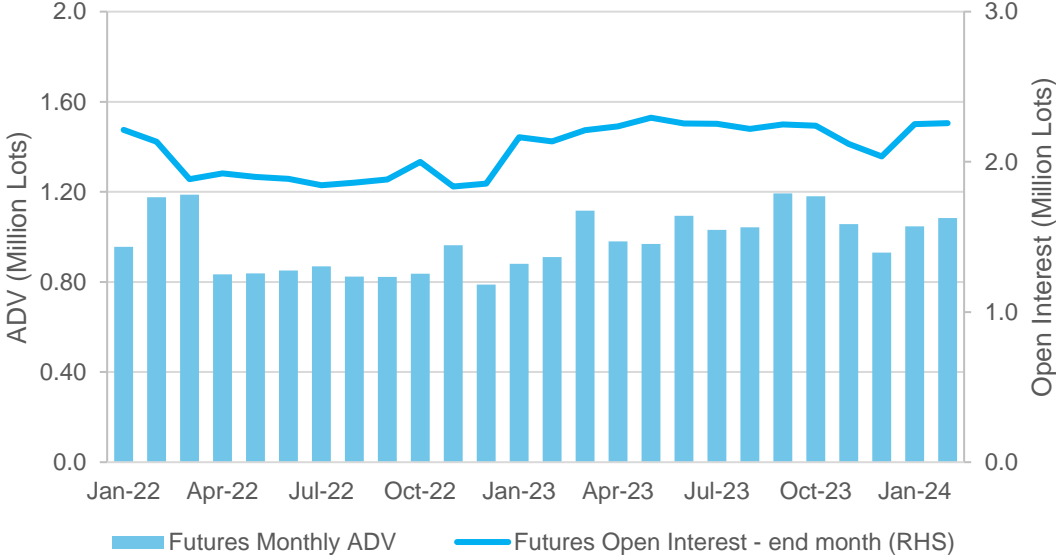
ICE Brent Futures & Options Volume & Open Interest



- For much of 2022, high outright prices, high volatility, and increased exchange margins all combined to weigh on trading activity.
- However, since late 2022 and through 2023, trading activity recovered. All of the factors above eased and normalized.
- Greater resilience of ICE Brent vs. NYMEX WTI:
 - A global vs. a regional benchmark, reflecting global vs. regional oil market fundamentals.
- 3 ▪ Brent is waterborne, with flexible logistics/storage. In contrast, WTI has logistics/storage constraints at Cushing.

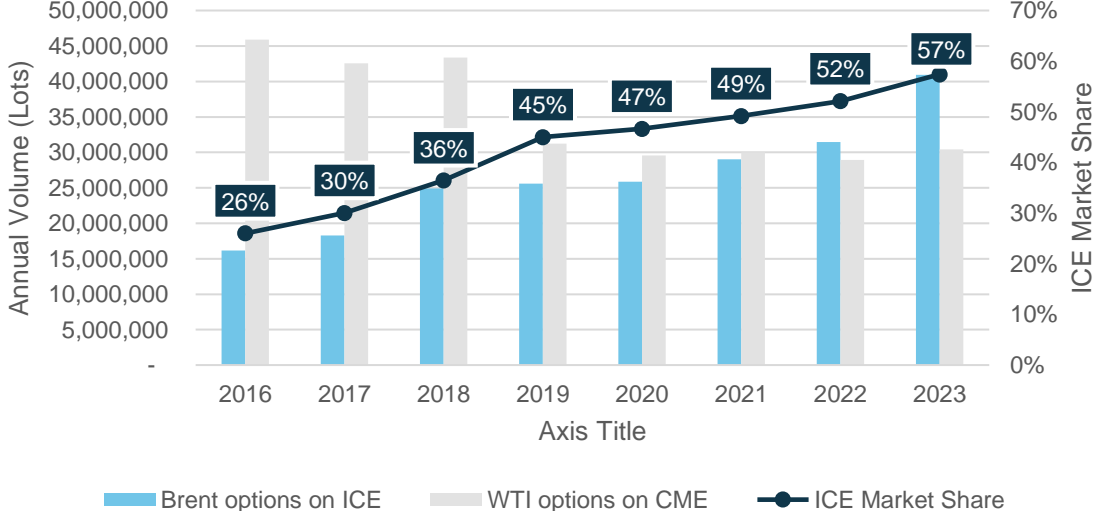
ICE Brent trading activity: futures vs. options

ICE Brent Futures Volume & Open Interest



Source: ICE

ICE Brent vs. CME WTI American-style options Annual Volume & Market Share



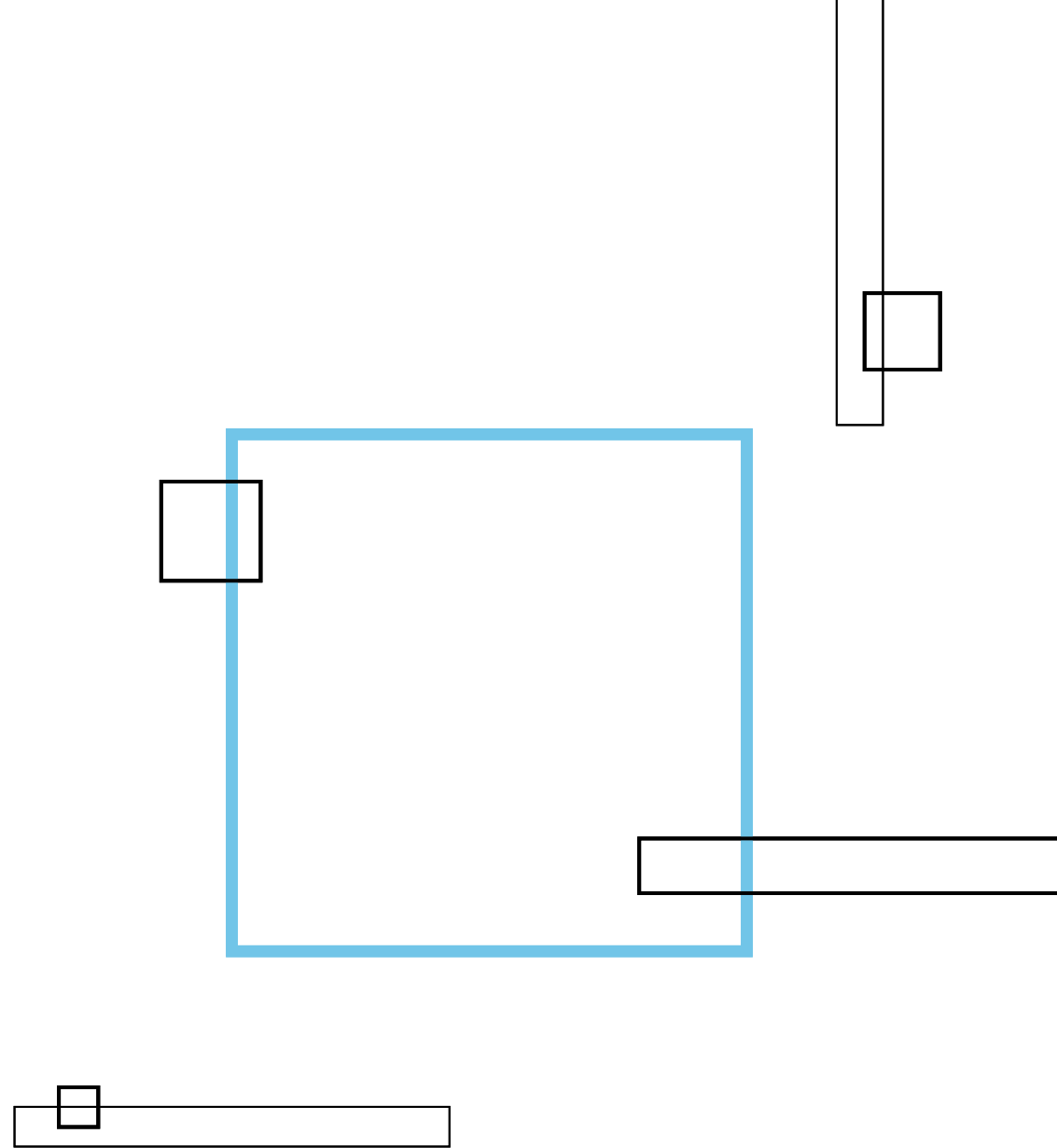
- Strong recovery in Brent futures and strong growth in Brent options. ICE Brent options continued to grow market share vs. CME WTI.
- In the oil markets, a continued need and renewed focus on managing risks stemming from fundamentals, geopolitics, and investor flows.



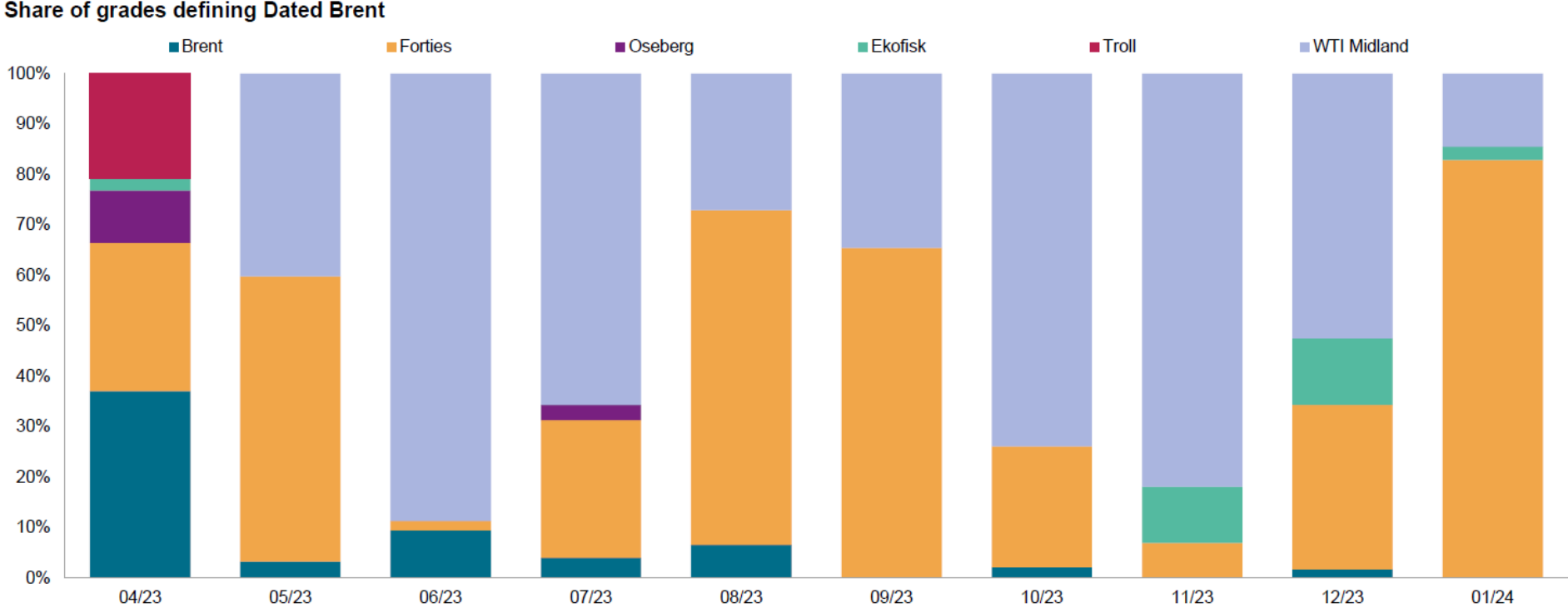
ICE Brent key points

- ICE Brent is the global crude benchmark. Over 75% of the world's physically traded crude (around 45-50 Mb/d) prices off Brent (directly and indirectly).
- In a highly interconnected global oil market for crude oil and refined products, ICE Brent is at the center of the global crude complex.
- Commercial participants want to manage their risks and investors want to take risks.
- In 2024, oil market risks and wildcards are as important as ever: supply and demand fundamentals, geopolitical risks to supply and shipping, and swings in investor flows.
- ICE Brent reflects all of the above global price drivers.

The addition of Midland to the Brent complex: smooth and successful



The addition of WTI Midland to the Brent Complex: smooth and successful. Impact on pricing similar to expectations.

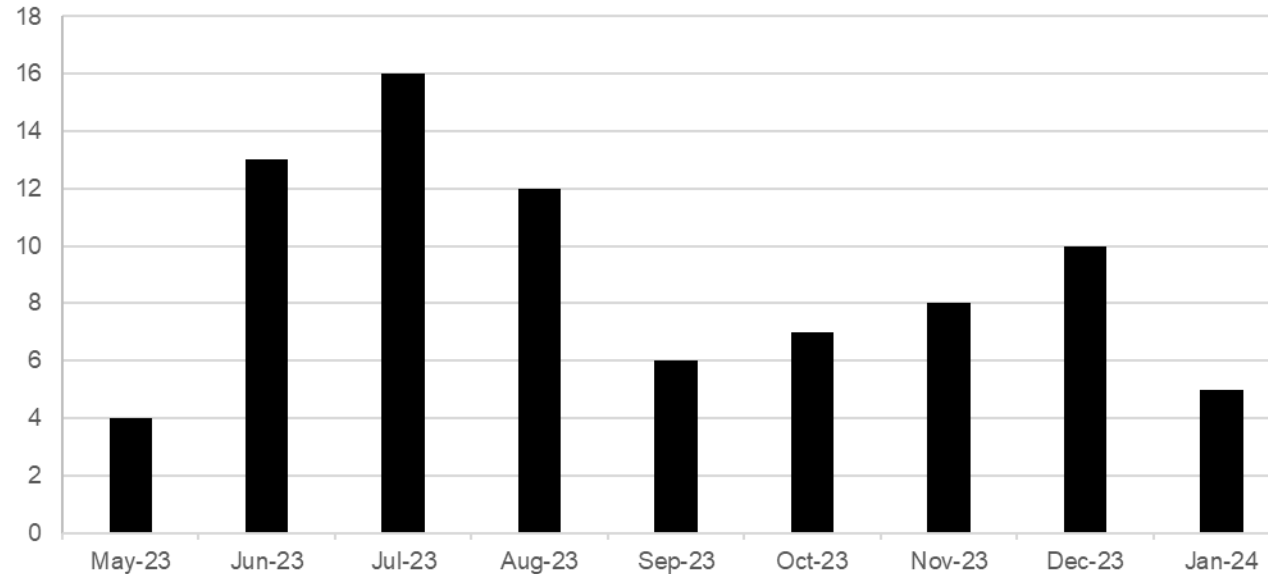


Source: S&P Global Commodity Insights - Europe, Eurasia and Africa Crude Oil Markets Short-term Outlook, Feb. 2024. Data as of Jan. 27, 2024.

- Pricing: from May 2023 through late January 2024, WTI Midland was the most competitive grade that set the price of Dated Brent approximately 55-60% of the time. This has been broadly similar to expectations.

The addition of WTI Midland to the Brent Complex: smooth and successful. Impact on physical volumes similar to expectations.

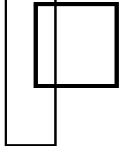
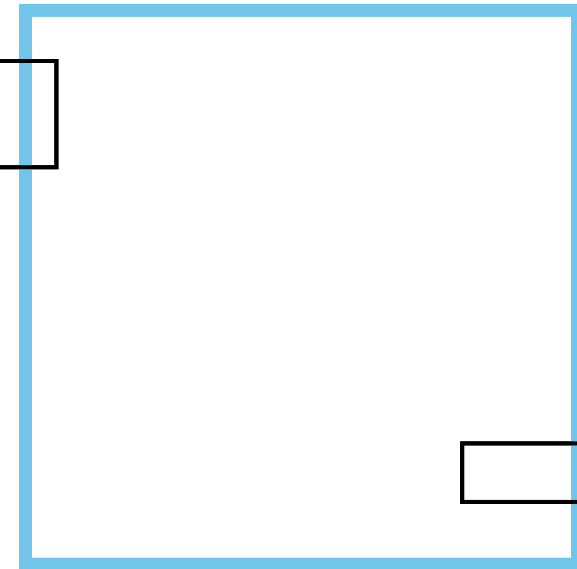
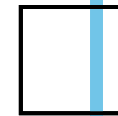
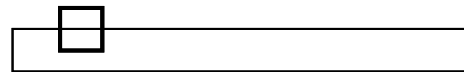
WTI Midland Cargoes: Trades in Dated Brent
(Market on Close window)



Source: Platts Crude Oil Marketwire. Data assembled by ICE. Data through January.

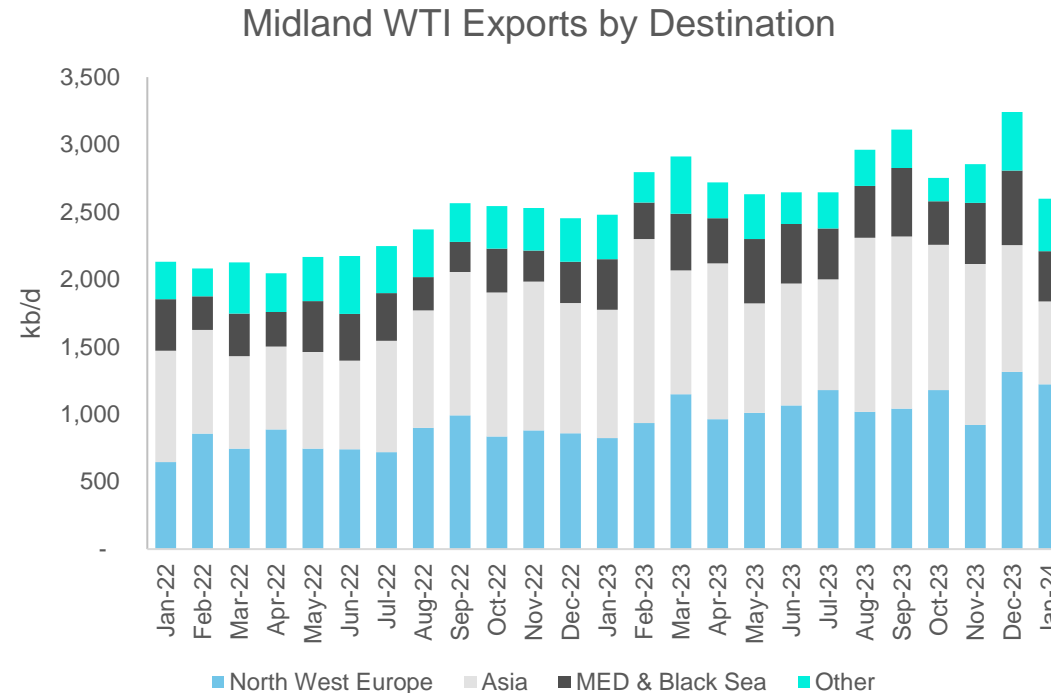
- Volumes: from June 2023 through January 2024, an average of 9 cargoes of Midland per month traded in the Dated Brent MOC window.
- Before WTI Midland was added, less than 10 cargoes of BFOET (the old basket) traded per month. With Midland, volumes have approximately doubled. Again, this has been broadly similar to expectations.
- WTI Midland is not WTI Cushing. Midland is literally a different crude grade, with different quality, origin, and pricing location.
- The same Midland WTI crude deliverable against the ICE HOU contract is deliverable into the Brent complex.

ICE Midland WTI (HOU) Futures: physically deliverable crude futures for the USGC



Midland WTI: driving growth in US crude production and exports

Flows of Midland to Europe have increased since the Russia-Ukraine war

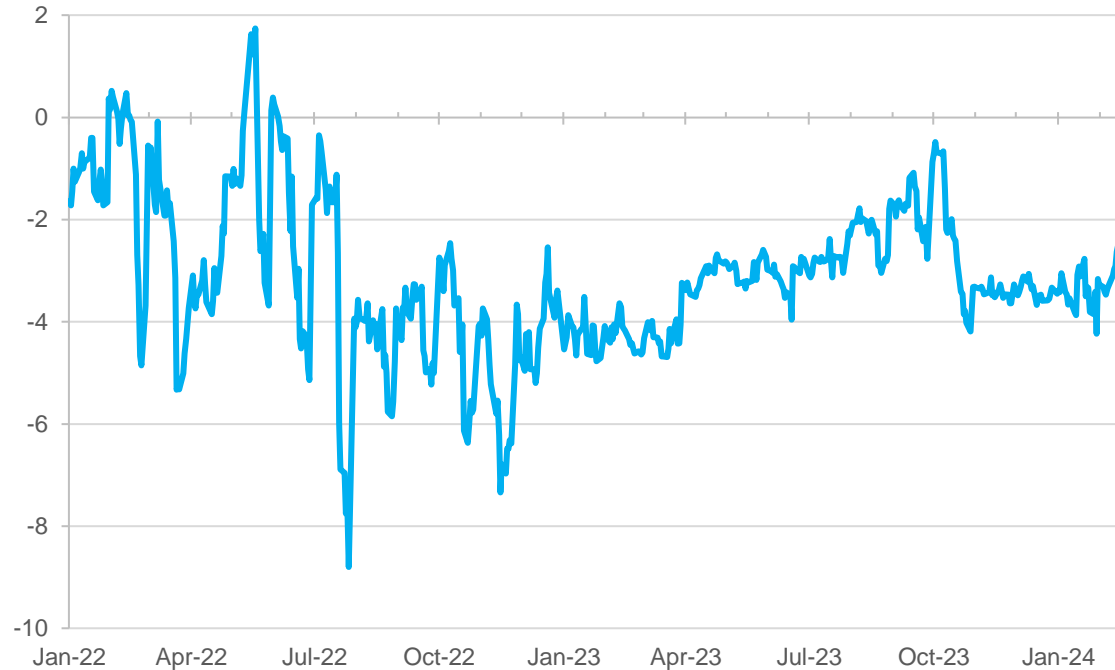


Source: Kpler and ICE

- The fundamental story: the Permian Basin/Midland dominates US crude production and US crude exports. The US market has evolved beyond Cushing. Crude gets produced in the Permian and transported directly to the USGC. Most of it bypasses Cushing entirely
- Driven by the Permian Basin, US EIA crude growth forecast: US +1.0 Mb/d in 2023, +0.2 Mb/d in 2024, +0.4 Mb/d in 2025
- US crude exports should increase broadly in line with output, because US refiners are usually maxed out in processing light sweet crude.
- Out of a total 4.2 Mb/d of US crude exports in 2023, Midland WTI accounted for around two-thirds.
- US exports of Midland to Europe have increased since the Russia-Ukraine war, as Europe replaces flows from Russia.

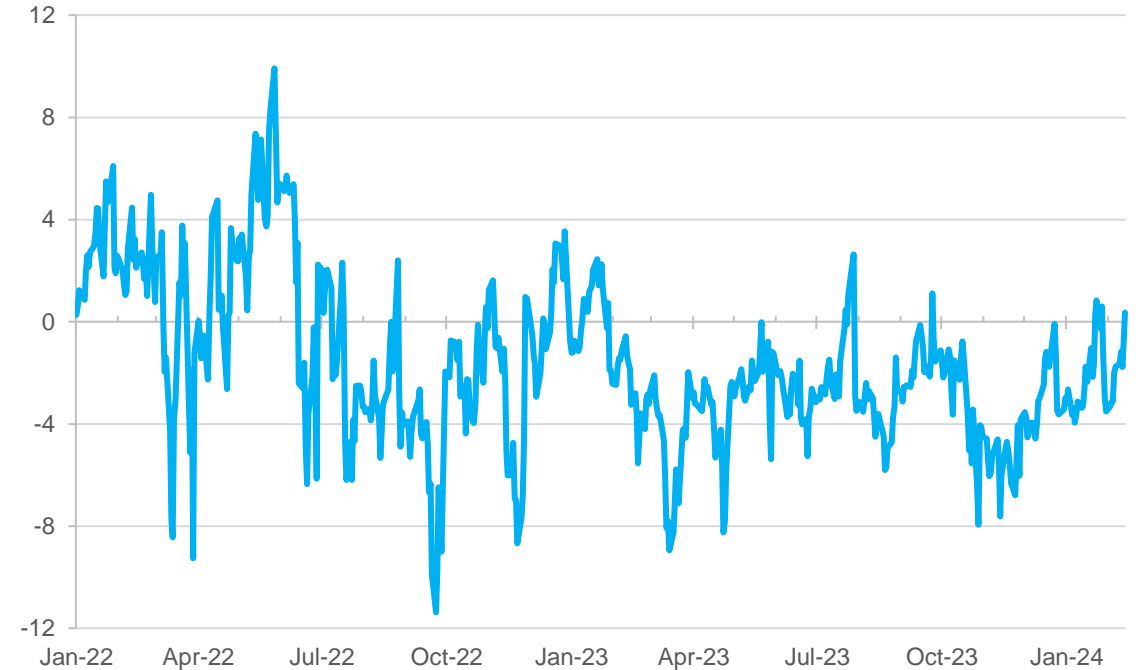
ICE Midland WTI (HOU): physically deliverable futures for the USGC


ICE Midland WTI (HOU) vs. ICE Brent (\$/bbl)



Source: ICE

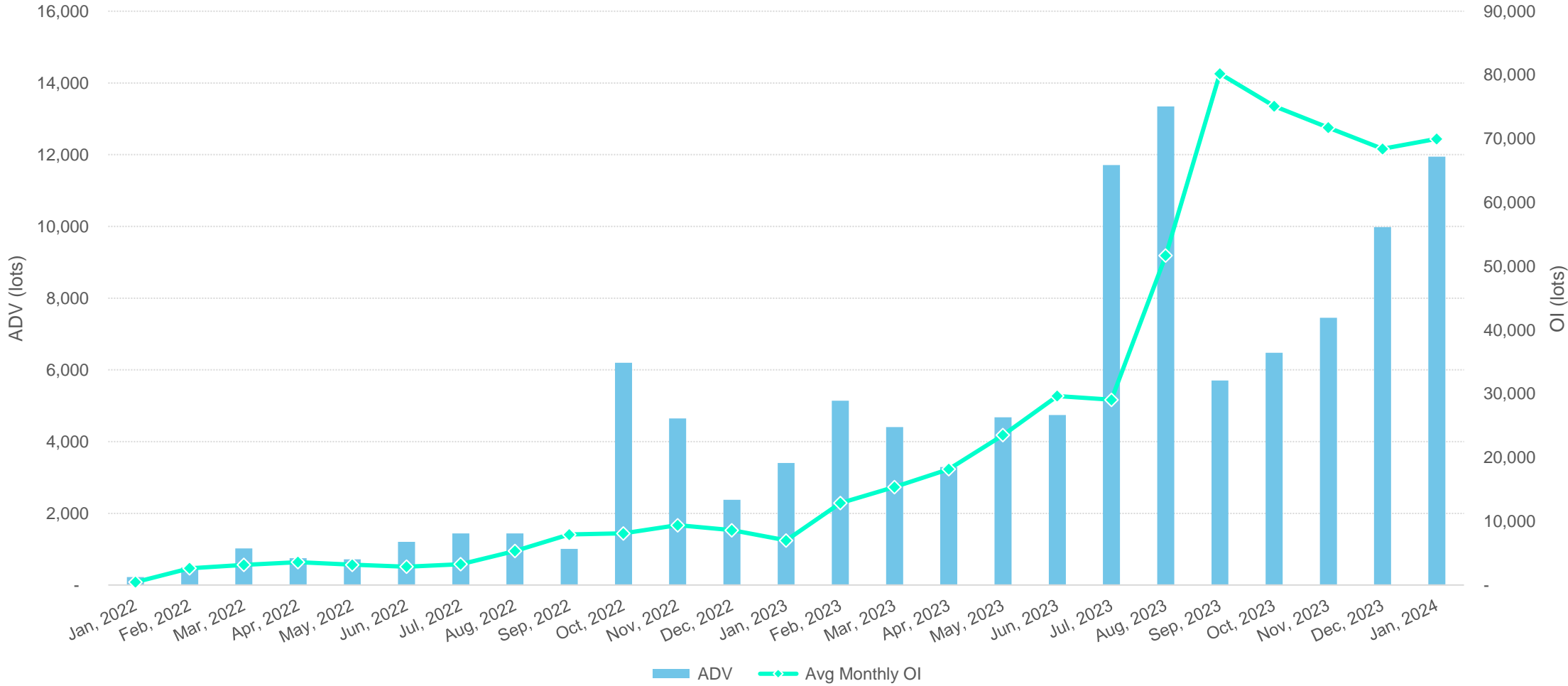
ICE Midland WTI (HOU) vs. ICE (Platts) Dubai (\$/bbl)



- HOU is a physically deliverable futures contract for Midland-origin / Midland-quality crude priced in Houston, on the US Gulf Coast.
- Houston has evolved from MEH to both MEH and ECHO. Magellan and Enterprise combined crude infrastructure includes substantial direct-from-Permian supply capacity (4+ Mb/d), storage capacity (60+ Mb), and connectivity/access to domestic & export refinery demand.
- Once Midland WTI hits the water, it prices off Brent (to Europe) or Dubai (to Asia).
- HOU offers a more direct, more efficient (simpler) and more cost-effective way for producers, refiners, and traders to hedge USGC exposure. Also a way to minimize unnecessary exposure to Cushing logistics/storage constraints.
- The same Midland WTI crude deliverable against HOU is deliverable into Brent complex. HOU tradeable vs. Dated Brent and ICE Brent. 

ICE Midland WTI (HOU): trading activity (ADV/Open Interest) gaining momentum

ICE Midland WTI American Gulf Coast futures (code: HOU)
ADV and OI

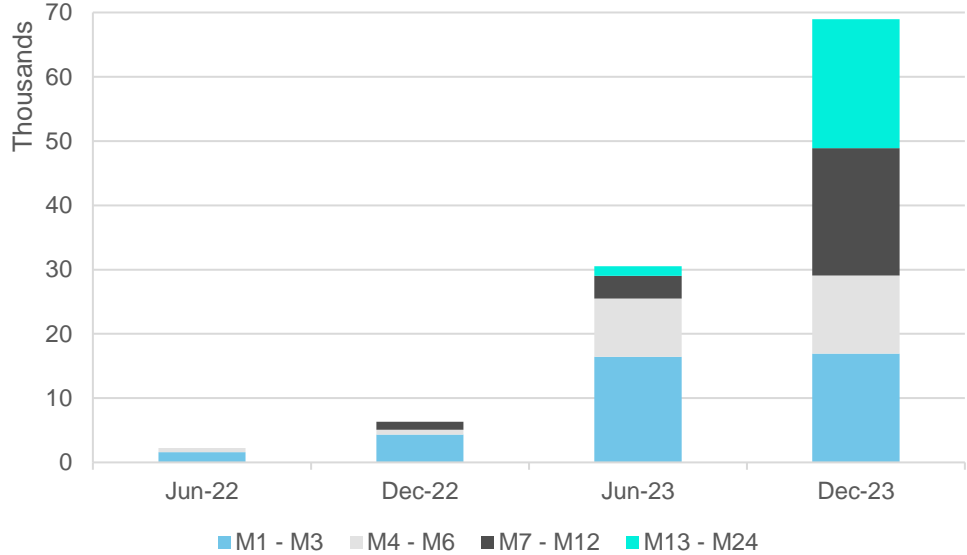


Source: ICE

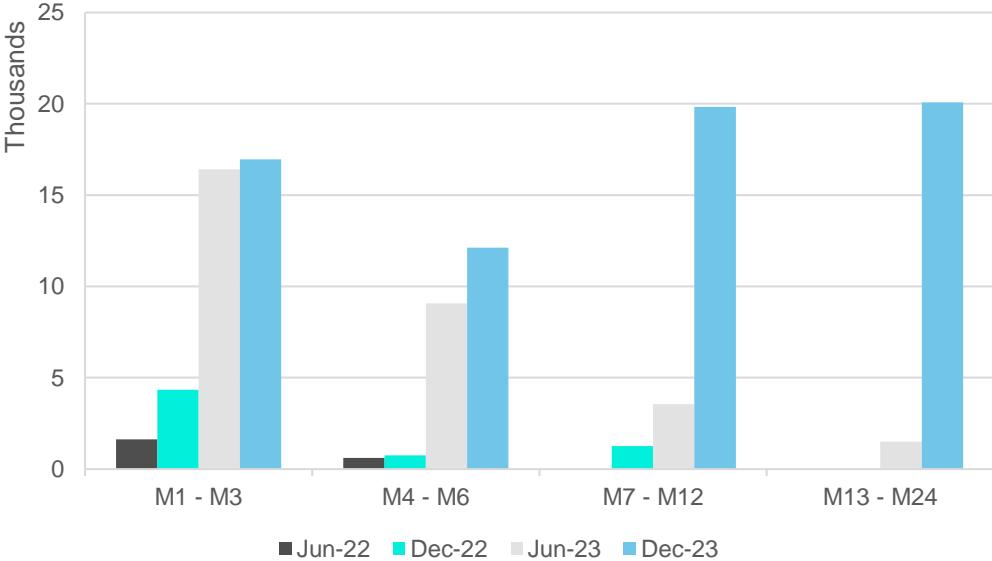


ICE Midland WTI (HOU) open interest by tenor: extending and growing further out on the forward curve

ICE HOU Midland Futures Open Interest by tenor



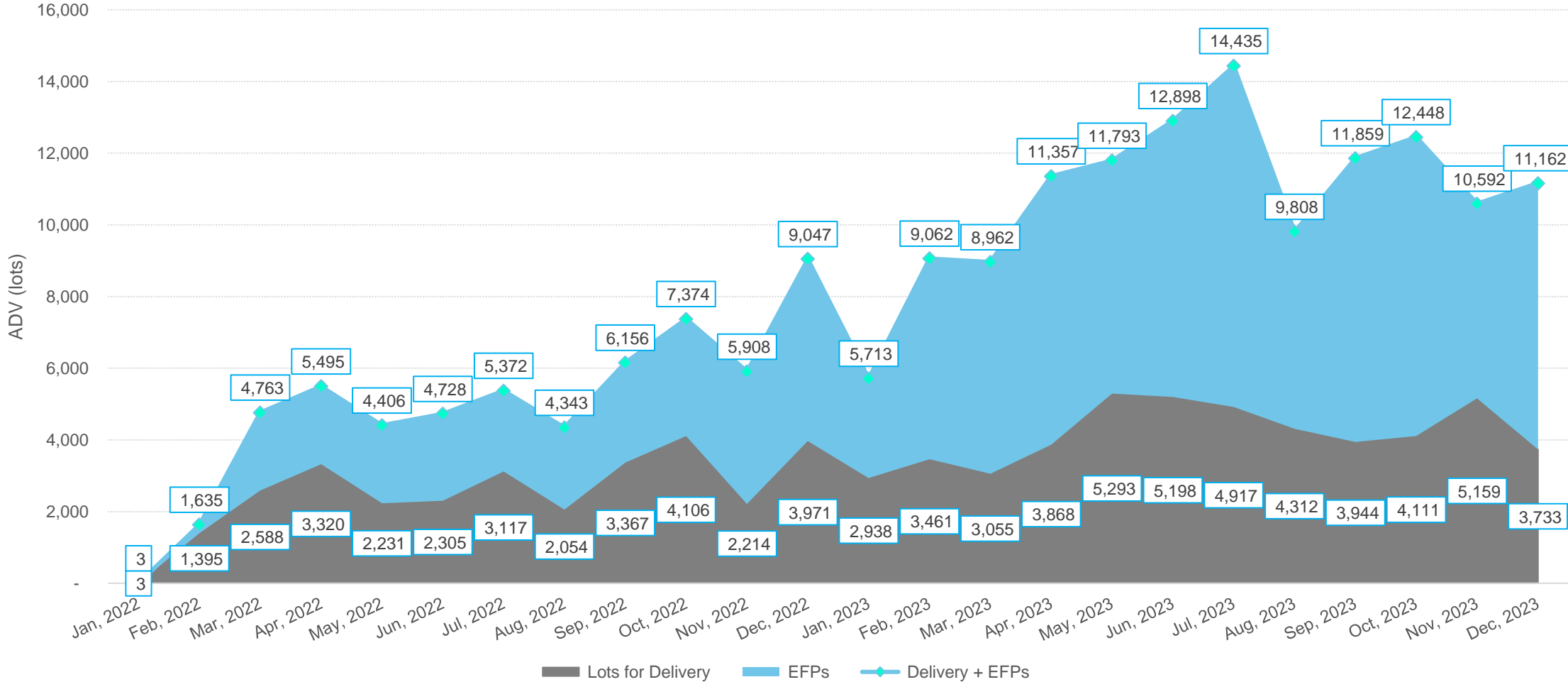
ICE HOU Midland Futures Open Interest by tenor



Source: ICE

ICE Midland WTI (HOU): physical deliveries & EFPs also gaining momentum

ICE Midland WTI American Gulf Coast futures (code: HOU)
Physical Delivery & EFPs



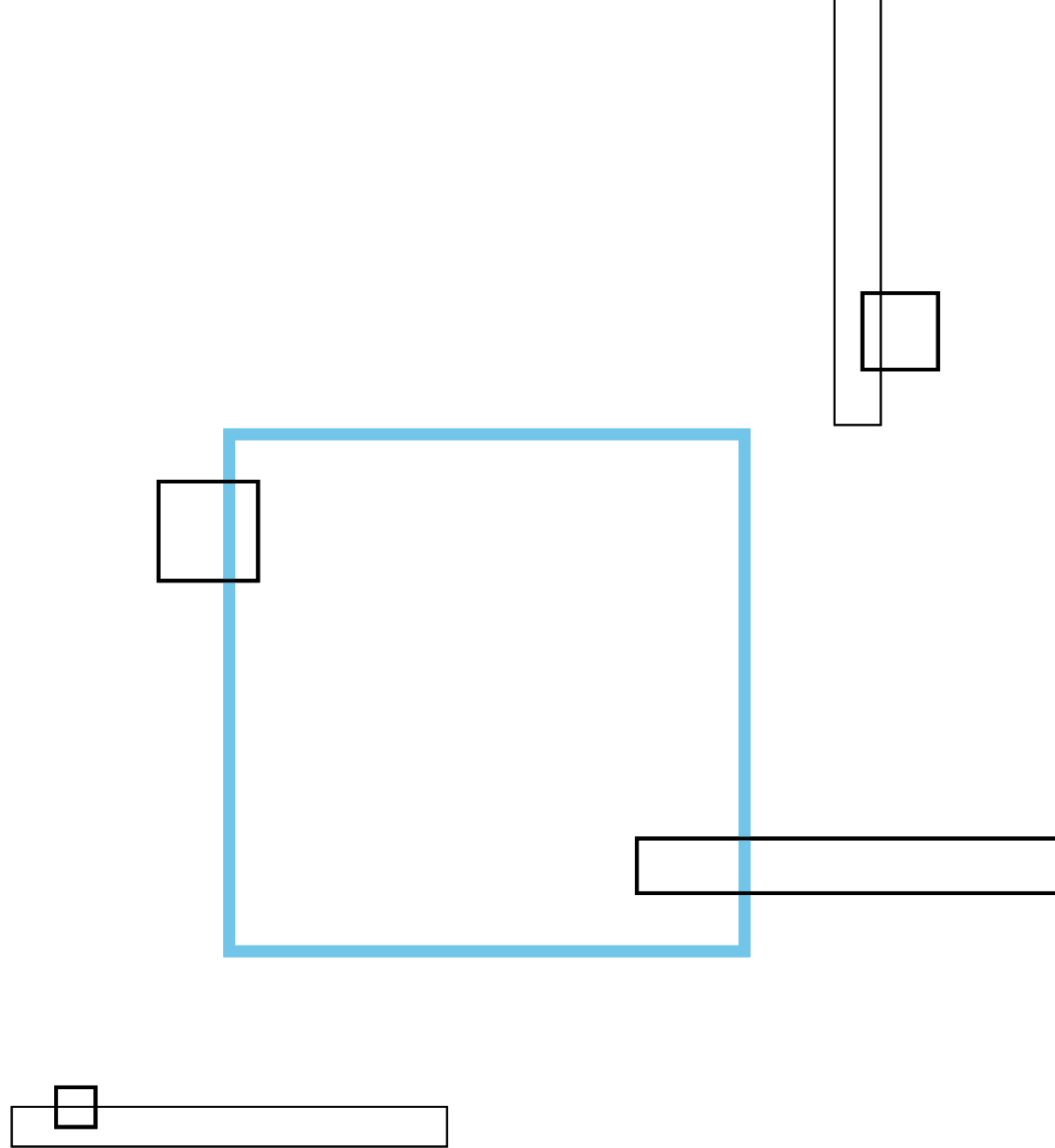
Source: ICE



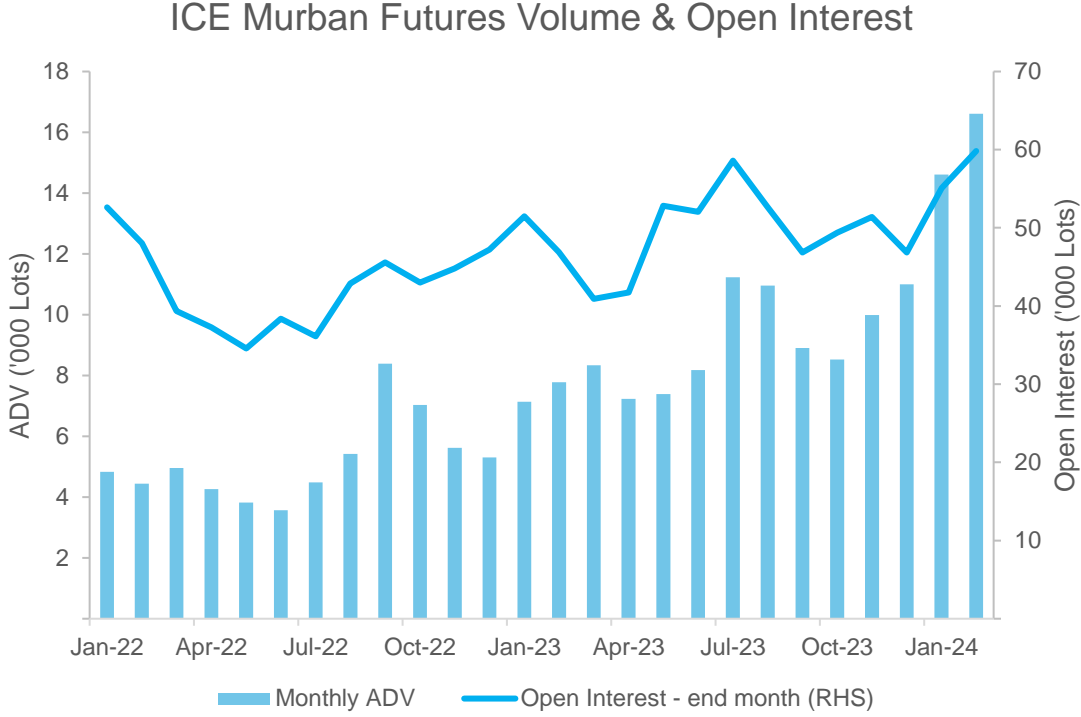
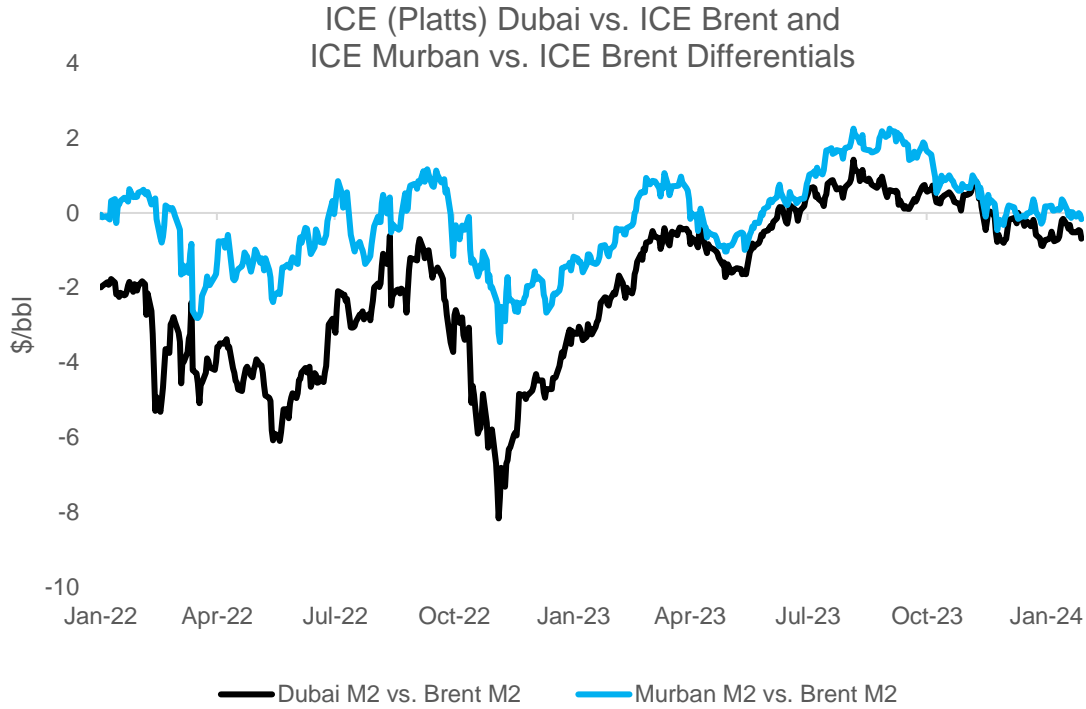
ICE Midland WTI (HOU) key points: effective management of price risk and physical supply risk

- **Price risk management:**
- HOU offers a more direct, more efficient (simpler) and more cost-effective way for producers, refiners, and traders to hedge USGC exposure. Also a way to minimize unnecessary exposure to Cushing logistics/storage constraints.
- Once Midland WTI hits the water, it prices off Brent (to Europe) or Dubai (to Asia). It can be used to hedge export flows to both regions.
- **Physical supply risk management:**
- US physical market participants experience occasional problems with Midland crude supply.
 - Exporters can receive off spec Midland WTI at USGC terminals.
 - Refiners can unexpectedly receive non-ratable volumes of Midland WTI from suppliers (i.e., supply cuts).
- Going to expiry in the HOU contract results in guaranteed physical delivery of on-spec and ratably delivered Midland WTI crude that can be run in US domestic refineries or exported to European and Asian refiners.
- Volumes are received as planned: on-spec and at the agreed volumes and delivery timeframe

ICE Murban (ADM) Futures: a light sour crude benchmark for the Middle East



ICE Murban: trading activity (ADV & Open Interest) building quickly



Source: ICE

- Successful launch in March 2021. Trading activity gathering pace, as the contract continues to become more established in the market.
- Fundamentals supporting the physically deliverable ICE Murban contract include: high physical volumes, transparent export plans, high crude quality, diverse groups of sellers and buyers, strong terminal/port infrastructure, and ample crude storage at Fujairah.
- Two key reforms made to physical pricing and trading: transparent market-driven pricing and no more destination and resale restrictions



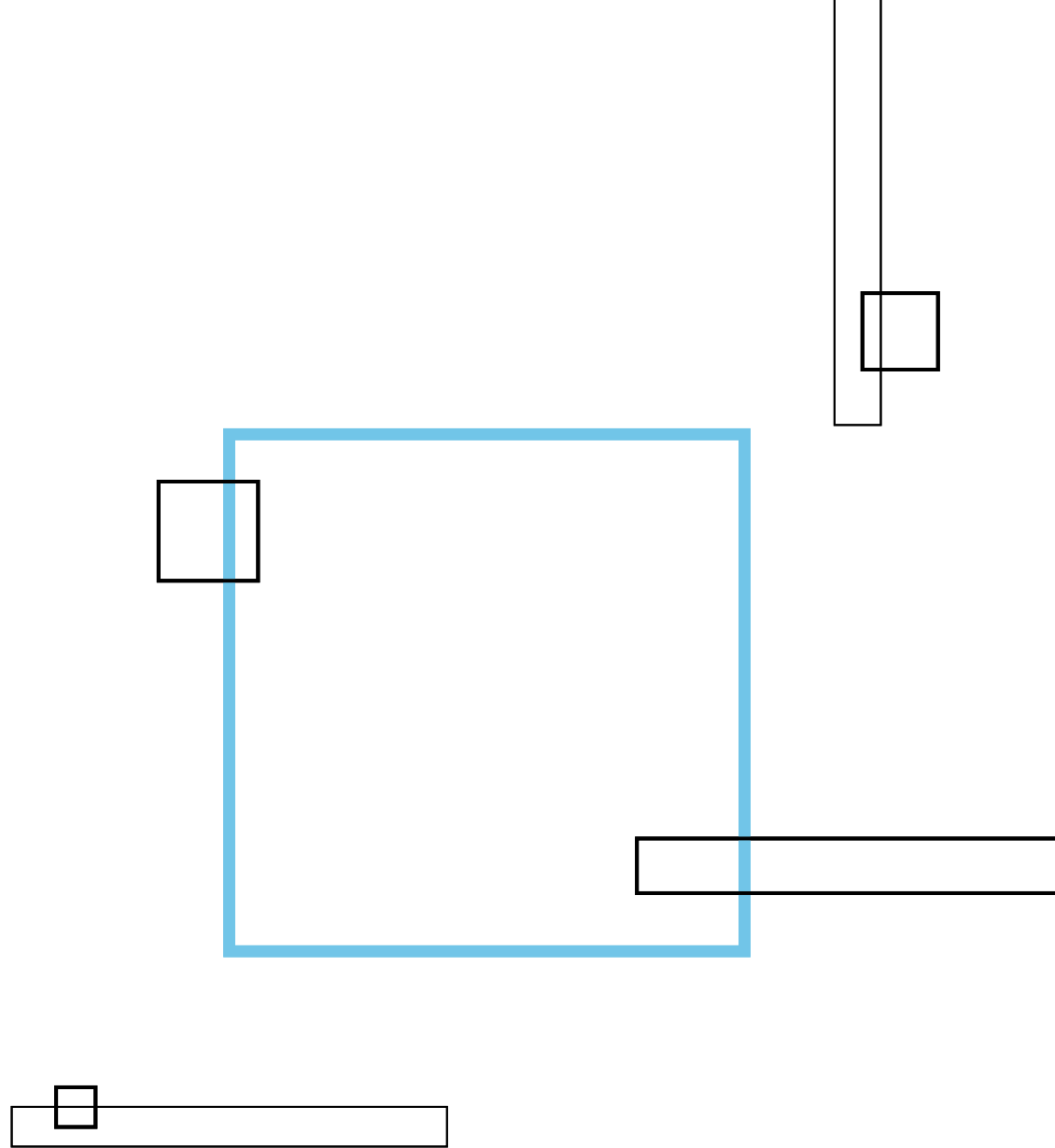
ICE Murban key points

- Fundamentals underpinning the ICE Murban contract continue to strengthen
 - Murban crude production of around 2 Mb/d
 - Murban crude exports approximately 1.1 Mb/d, almost entirely to Asian countries
- Crude production and exports planned to increase in the next 5 years, with ADNOC capacity expansion
 - Capacity from 4.4 Mb/d currently to 5.0 Mb/d as soon as 2025
- Crude exports will be growing in 2024
 - UAE OPEC quota increase in Jan. 2024
 - ADNOC Ruwais refinery (837 kb/d) upgrading/crude flexibility project should be completed 1Q24. Will allow higher runs of heavier crude and lower runs of Murban, which will result in higher Murban exports

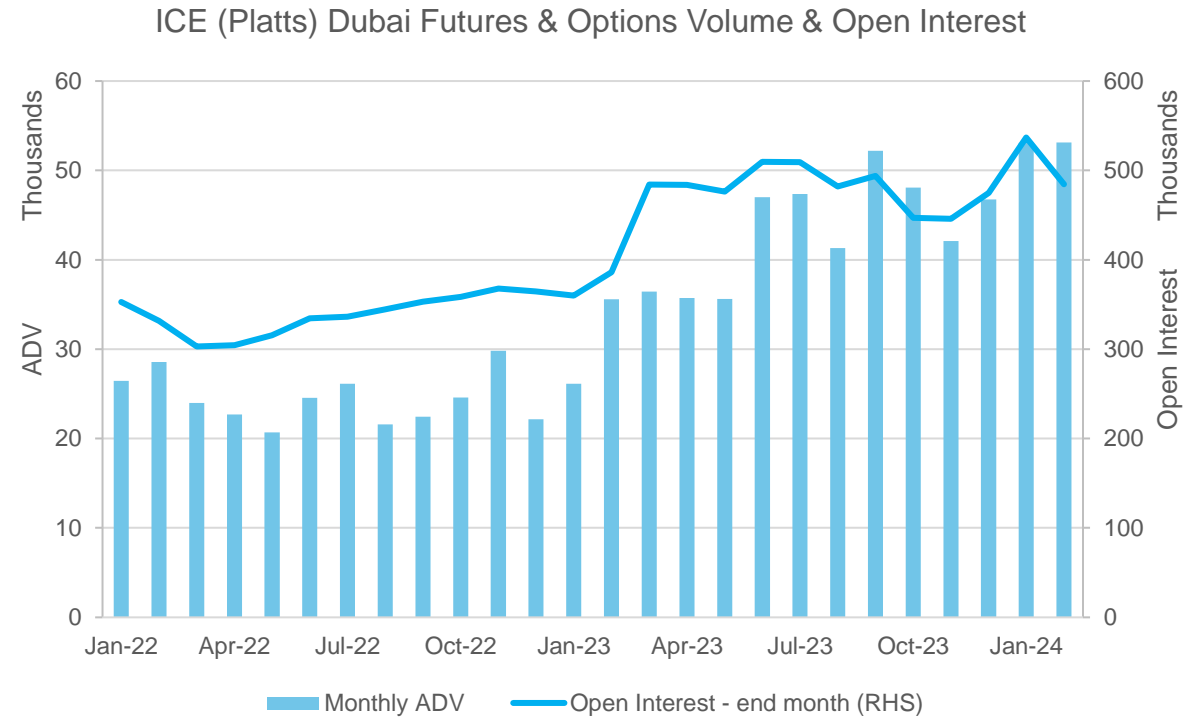
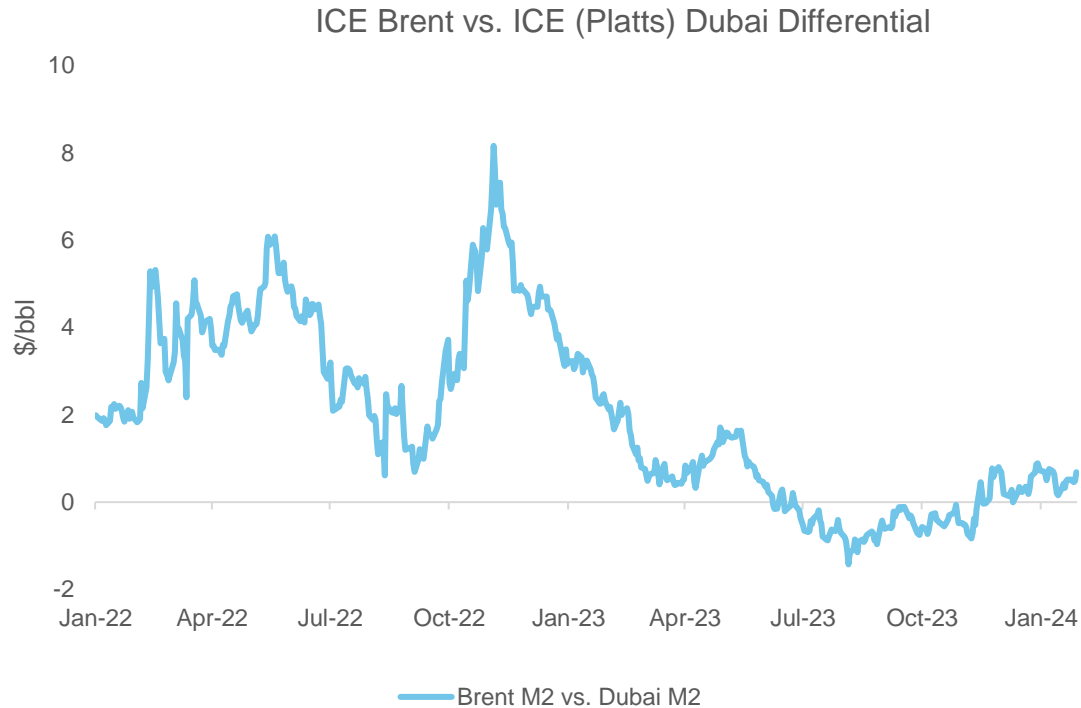
ICE Murban key points (continued)

- With current Middle East geopolitical environment, including threats to supply and shipping, Fujairah has an advantage from its location outside the Persian Gulf / Straits of Hormuz
- In recent months, unusually narrow Murban vs. Dubai differential (weak or negative quality premium). Why?
 - Strong exports of light sweet Midland from the USGC to Asia, that compete directly with light sour Murban, have weighed on Murban.
 - At the same time, OPEC+ cuts have supported Dubai and other Middle Eastern medium sour grades.
- Relatively cheap Murban has created hedging opportunities
 - The Murban vs. Midland differential can be hedged using ICE Murban (ADM) vs. ICE Midland WTI (HOU).
 - There has been market demand from Asian refiners and traders to trade this spread.
 - This differential is now being offered on the screen and is actively trading.

ICE (Platts) Dubai (DBI) Futures: the key medium sour crude benchmark for the Middle East



ICE (Platts) Dubai: trading activity (ADV & Open Interest) robust



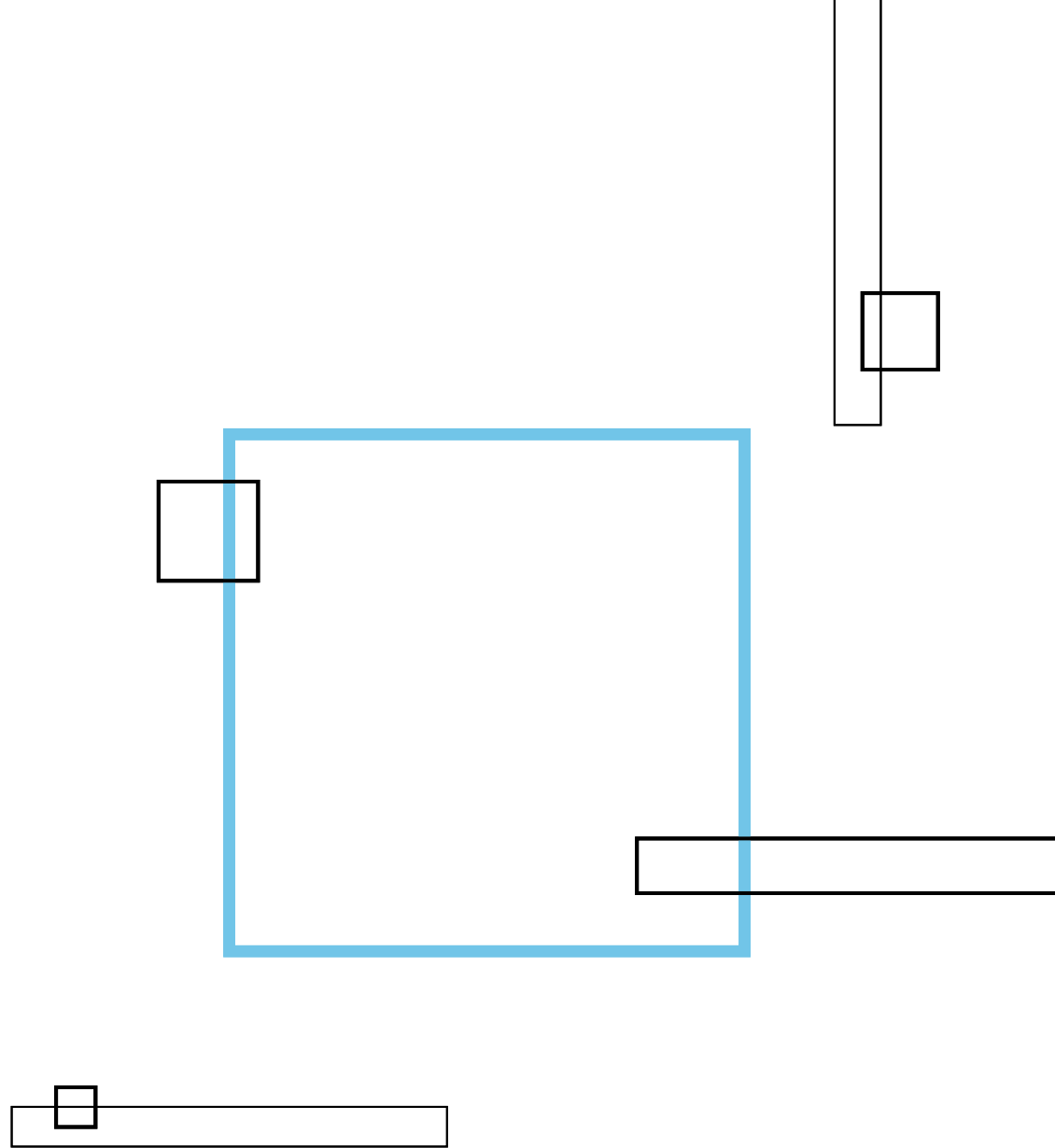
Source: ICE

- The center of gravity of global oil demand is Asia.
- The most important physical flows of crude oil, in terms of volumes, are from the Middle East to Asia. Around 60% of Asian imports are from the Middle East.
- Dubai is the key price benchmark for these crude flows.
- Changes in Brent vs. Dubai differentials reflect both Asia vs. Atlantic Basin and sweet vs. sour crude

ICE (Platts) Dubai key points

- Fundamental risks
 - Asian demand (China)
 - Middle Eastern supply (OPEC+)
- Geopolitical risks in the Middle East
 - Supply and shipping
- In recent months, narrow Brent vs. Dubai differentials. This makes Brent-linked Atlantic Basin grades more economically attractive to refiners in Asia. Relatively comfortable balances for Atlantic Basin sweet crude, relatively tight balances for Middle Eastern sour crude
 - How long will it last? Analysts say this could continue in 2024 if OPEC+ keeps cutting or restricting output
- 2023 saw increased hedging of Russian Urals crude against Dubai, because the Russian grade moves primarily to China and India. Expected to continue.

ICE Low Sulphur Gasoil: the anchor of the global distillates complex



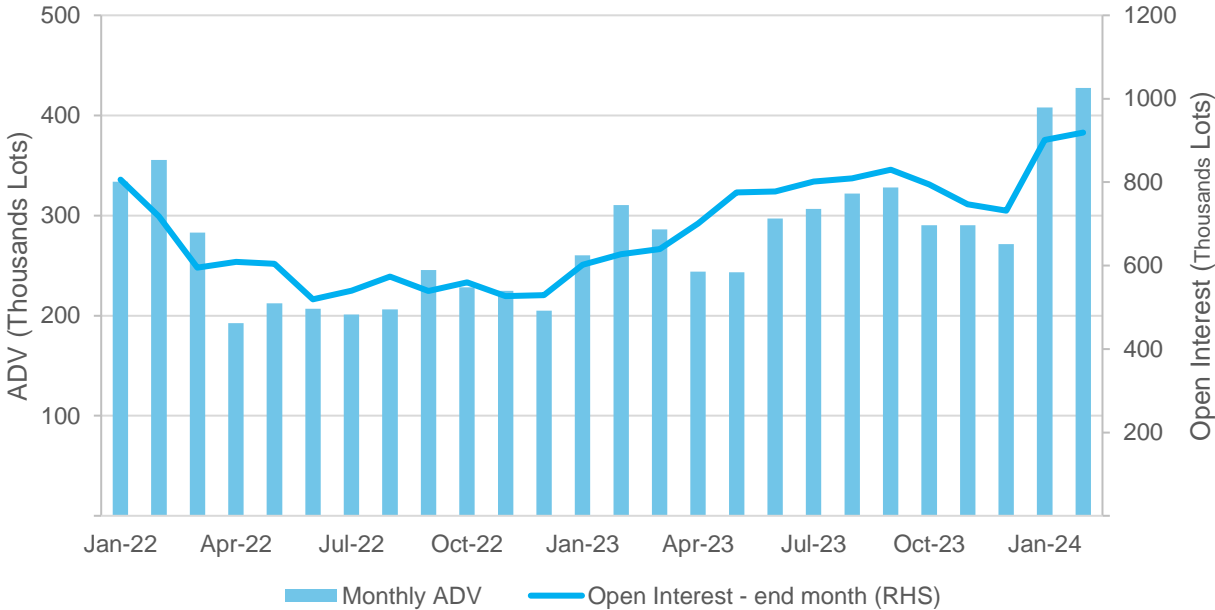
ICE Low Sulphur Gasoil: the anchor of the global distillates complex

ICE Low Sulphur Gasoil vs. ICE Brent (\$/bbl)



Source: ICE

ICE Low Sulphur Gasoil Futures & Options Volume & Open Interest



- Trading activity in ICE Low Sulphur Gasoil has been recovering since late 2022, as outright prices, volatility, and exchange margins have been easing/normalizing (similar to crude oil).
- Also another key driver: ICE excluded Russian-origin gasoil from delivery via the ICE Low Sulphur Gasoil contract, with effect from January 2023. This was an important step that laid the groundwork for trading activity in a sanctions environment.
- ICE Low Sulphur Gasoil deliveries dropped after the Russia-Ukraine war began but have returned to pre-war levels.



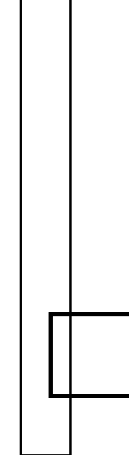
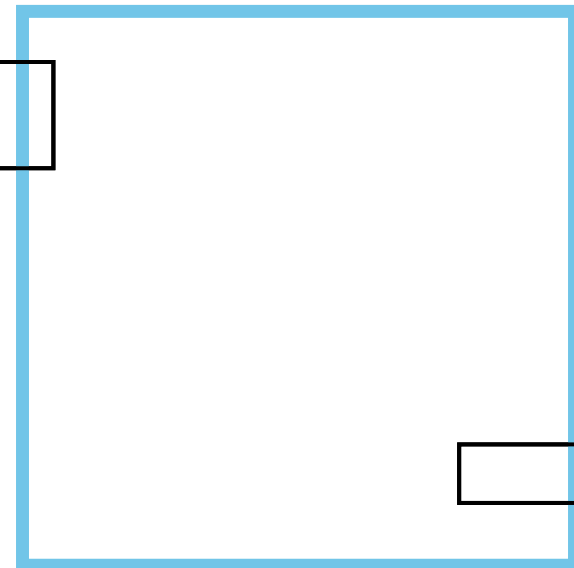
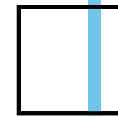
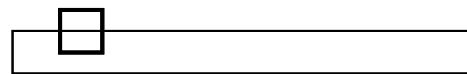
ICE Low Sulphur Gasoil key points

- The exclusion of Russian-origin gasoil from the contract will continue to be important for the markets.
- ICE Low Sulphur Gasoil LS Gasoil has remained a robust benchmark, with diligent delivery procedures in place.
- ICE Low Sulphur Gasoil will continue to be the linchpin of the gasoil/diesel and broader middle distillate markets across global regions.
- Key geographic trade / arbitrage hedging tools include:
 - US vs. Europe: Heating Oil/Low-Sulphur Gasoil differential
 - Europe vs. Asia Low Sulphur Gasoil to Singapore Gasoil differential
- Other key links extend across refined products, including examples such as:
 - Biofuels
 - Marine Fuel 0.5% Sulphur

Key points - summary

- The global oil markets for crude oil and refined products are complex and closely interconnected.
- ICE offers a wide range of effective tools for commercial participants to manage risk and for money managers to invest in oil.
- Oil market participants are expected to continue to focus on key risks and wildcards.
 - Fundamentals:
 - economic growth and oil demand growth, OPEC+ vs. non-OPEC+ supply
 - Geopolitical risk
 - Disruptions to supply and shipping
 - Investor flows
- There will undoubtedly be surprises.

Thank You



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