



ICE Midland WTI (HOU) Futures

Mike Wittner

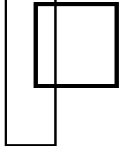
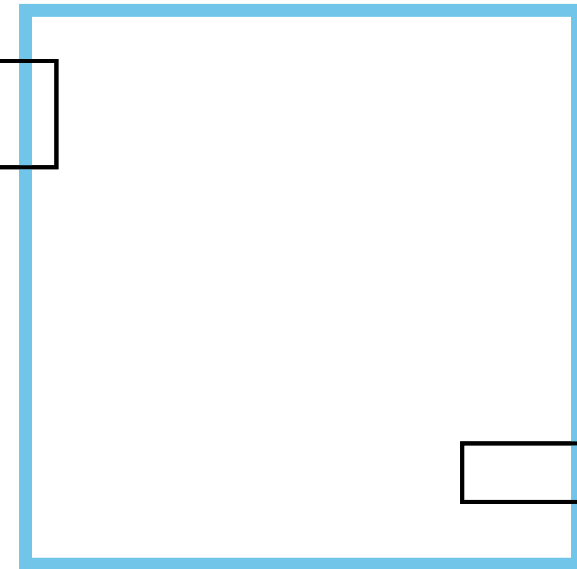
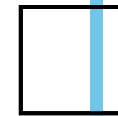
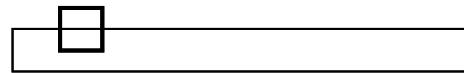
Global Head of Oil Market Research, ICE

COQA – Corpus Christi

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



ICE Midland WTI (HOU) Futures: Introduction

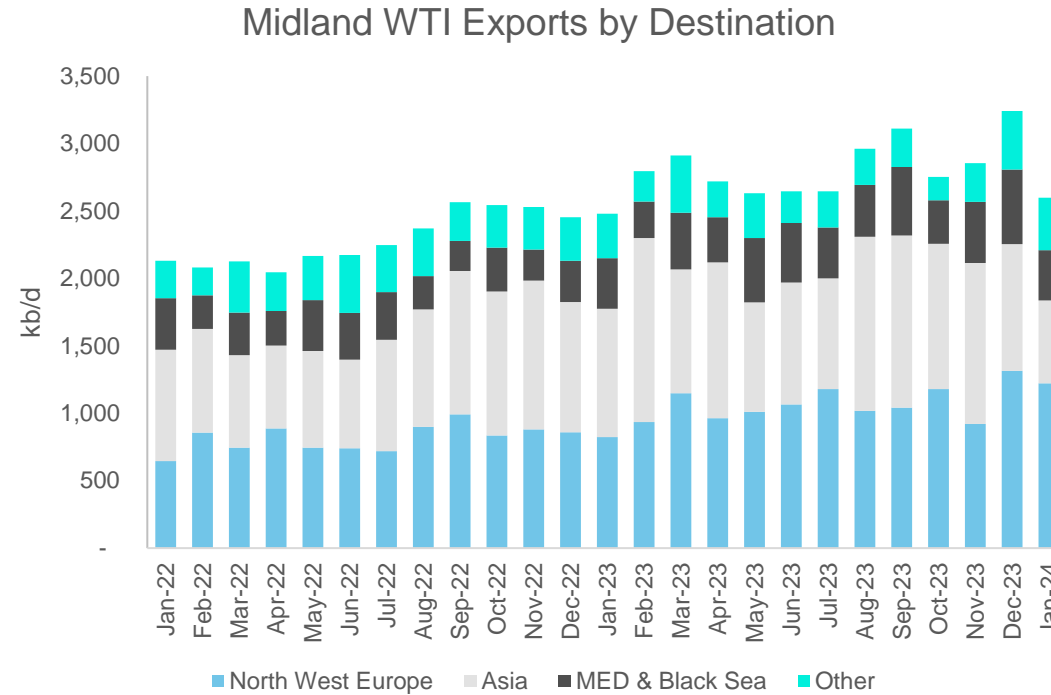
- HOU is a physically deliverable futures contract for Midland-origin / Midland-quality crude priced in Houston, on the US Gulf Coast.
- Houston has evolved from MEH to both MEH and ECHO. ONEOK and Enterprise combined crude infrastructure includes substantial direct-from-Permian supply capacity (4+ Mb/d), storage capacity (60+ Mb), and connectivity/access to domestic & export refinery demand.
- The 60+ Mb is part of, and tied into, the overall 150 Mb of Houston storage capacity.

ICE Midland WTI (HOU) Futures: Today's Topics

- Today's topics:
 - USGC fundamentals
 - Price risk management
 - Supply risk management
 - HOU trading activity
 - Recent changes to the HOU crude quality specification
 - Addition of Midland to the Brent complex

Midland WTI: driving growth in US crude production and exports

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

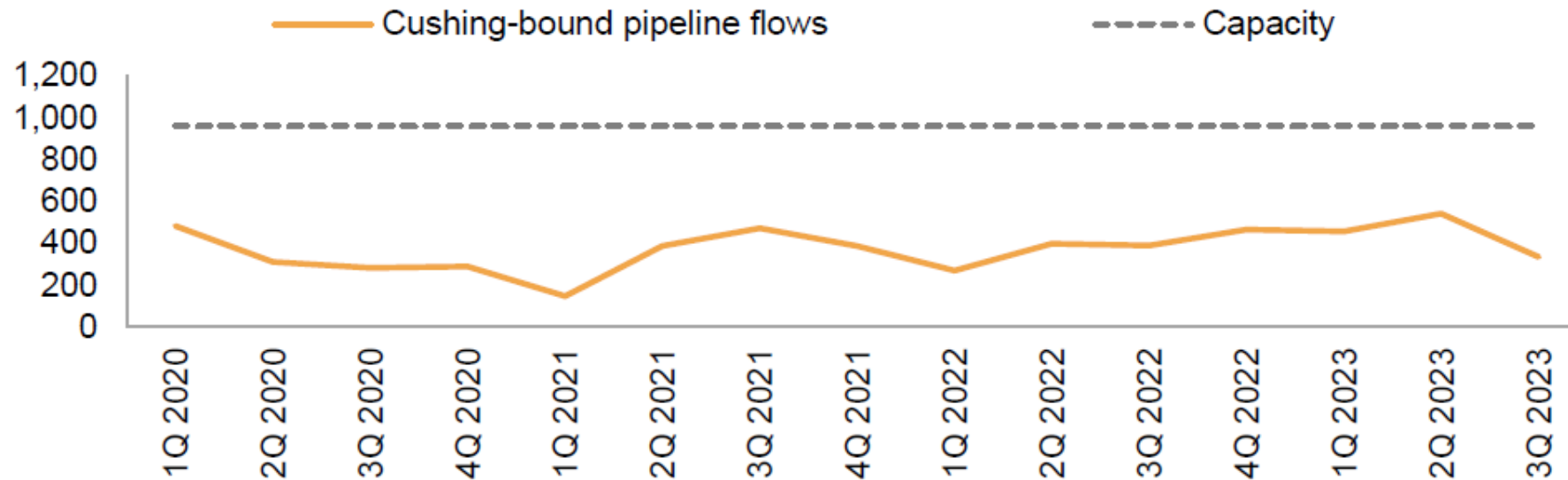


Source: Kpler and ICE

- A simple story: the Permian Basin/Midland dominates US crude production and US crude exports. Permian Basin output currently 6.1 Mb/d.
- 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.

The US market has evolved beyond Cushing. Most Permian Basin crude flows directly to the USGC.

Pipeline flows from the Permian Basin to Cushing, Oklahoma (thousand b/d)

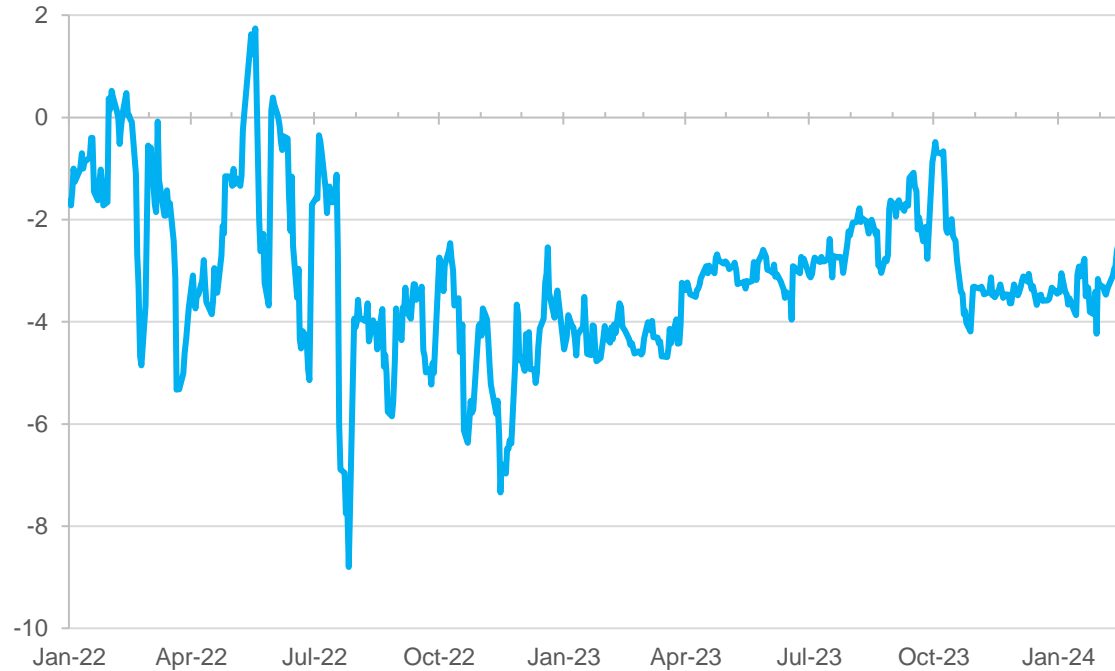


Source: S&P Global Commodity Insights – North American Crude Oil Markets Short-term Outlook, March 2024. Data as of Jan. 17, 2024.

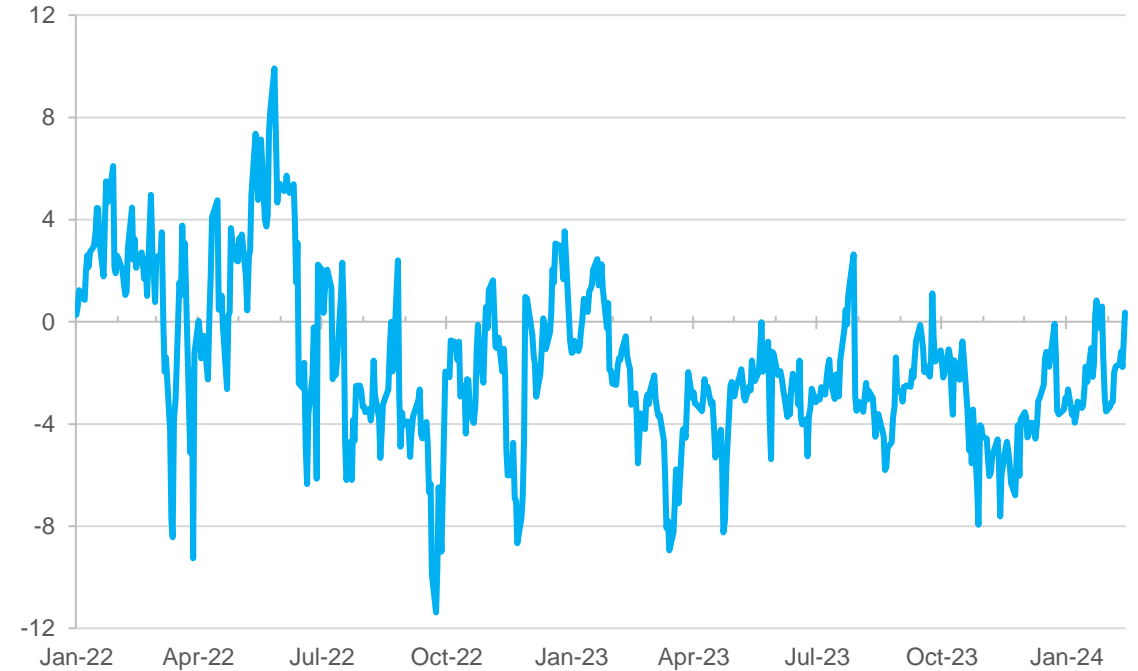
- The US market has evolved beyond Cushing. Crude gets produced in the Permian and is transported directly to the USGC. Most of it bypasses Cushing entirely.
- Flows from the Permian Basin to Cushing in the 400-500 kb/d range. As a destination, Cushing is mainly used for storage. Cushing is connected to a limited number of refineries that run light crude.
- Cushing has logistics/storage constraints. Only 78 Mb of working crude storage capacity.
- As the physical delivery point for NYMEX WTI Cushing, inventory increases and decreases can lead to price volatility for WTI Cushing.
- This adds unnecessary risks for both pricing and hedging.

Price risk management: Midland WTI exports price off Brent or Dubai.

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



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



- Once Midland WTI hits the water, it prices off Brent (to Europe) or Dubai (to Asia).
- HOU offers a simpler, more efficient, and more cost-effective way for producers, refiners, and traders to hedge USGC exposure.
- The same Midland WTI crude deliverable against HOU is deliverable into Brent complex. HOU tradeable vs. Dated Brent and ICE Brent.

Key USGC crude price differentials drive exports & hedging

Traders are exposed to Midland WTI where it meets the global waterborne market on the USGC.

For US crude exports to Europe, the key is Midland WTI priced at Houston vs. Brent -- not WTI Cushing vs. Brent.

For US crude exports to Asia, the key is Midland WTI priced at Houston vs. Dubai – not WTI Cushing vs. Dubai

How to hedge/manage this risk?

Currently (for exports to Europe):

- A) ICE Midland WTI (HOU) vs. WTI Cushing
- B) WTI Cushing vs. Brent
- C) ICE Midland WTI (HOU) vs. Brent

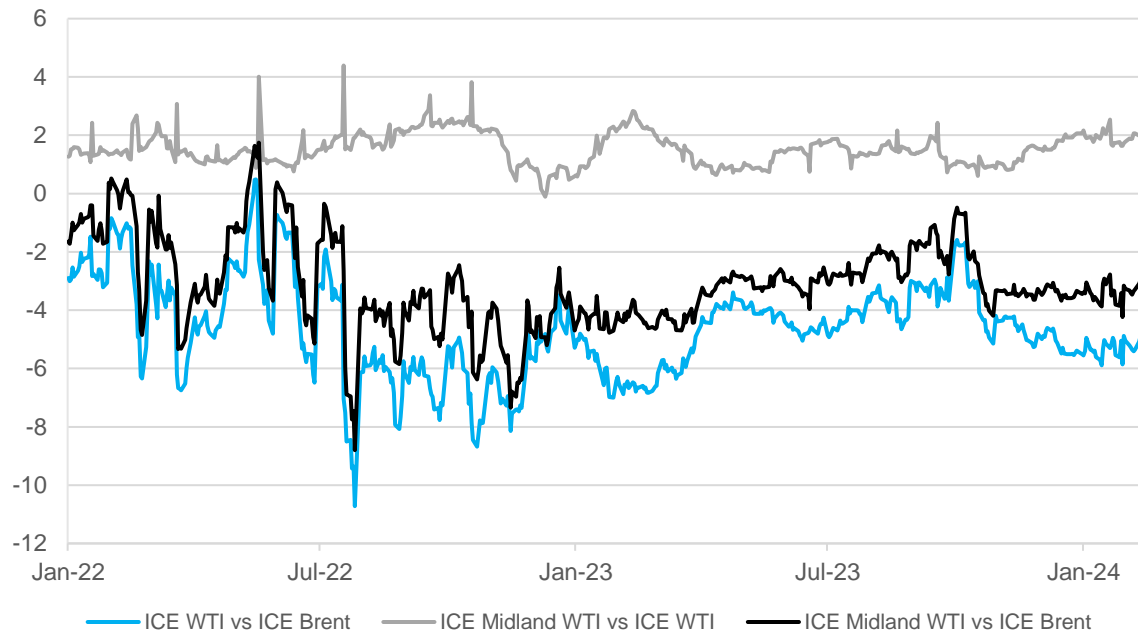
Trader does A and B. The WTI Cushing legs cancel, and trader is left with C.

A better way: **Trader simply does C.**

Minimize unnecessary exposure to Cushing storage constraints and WTI Cushing price volatility.

Margin offsets as high as 95% when clearing HOU alongside other positions on ICE Clear Europe (including ICE Brent, ICE Dubai (Platts), ICE Murban and ICE Gasoil).

US Gulf Coast Crude Price Differentials (\$/bbl)



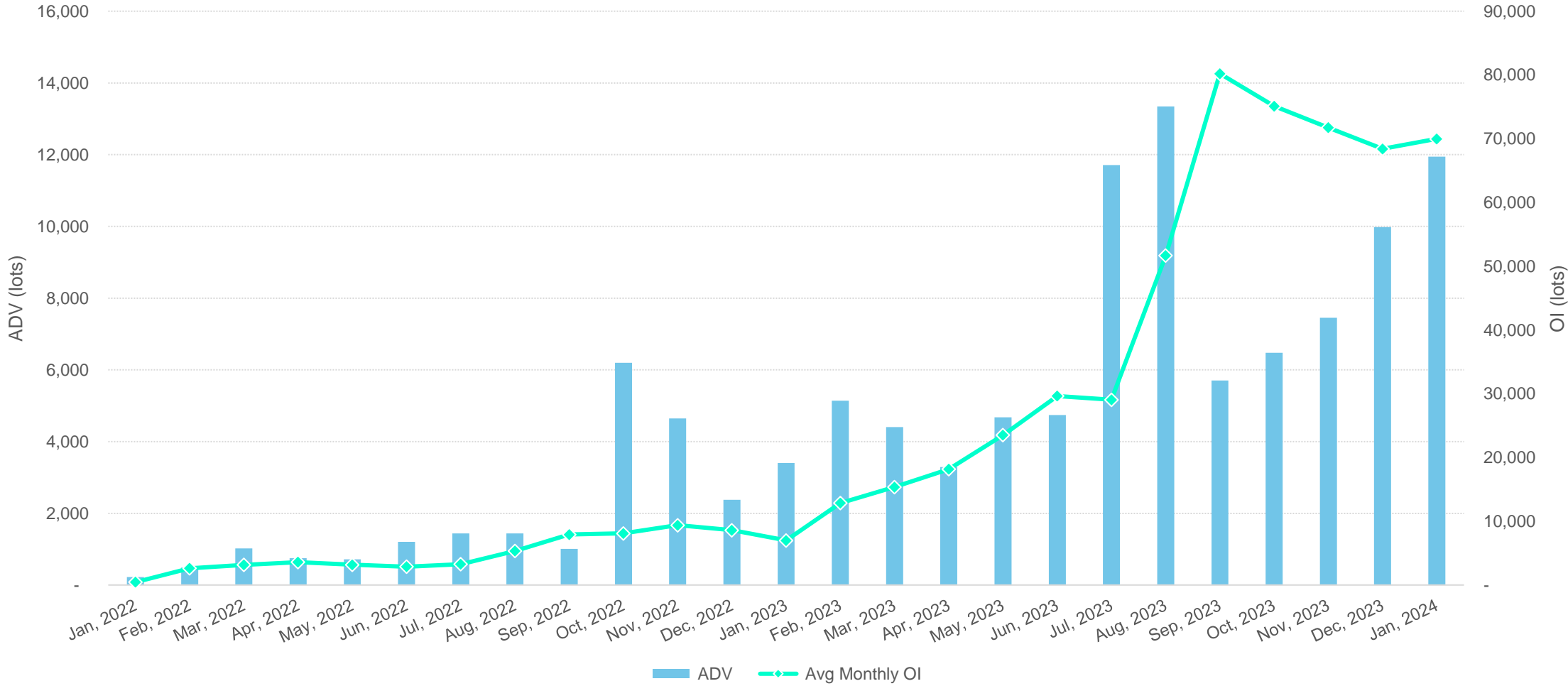
Source: ICE

Physical supply risks can be managed with guaranteed physical delivery of on-spec Midland WTI crude

- US physical market participants experience occasional problems with Midland crude supply.
 - Exporters can receive off spec Midland WTI at USGC terminals (as reported in the trade press)
 - Refiners can unexpectedly receive non-ratable volumes of Midland WTI from suppliers, i.e., supply cuts (according to market participants)
- 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.
- Deliveries of Midland WTI via the HOU contract averaged 4.4 Mb each month during the second half of 2023
- Because ICE is a regulated exchange and clearinghouse, HOU is traded and cleared with strict procedures in place to provide a robust, fair, and transparent marketplace. There are clear procedures and protocols for physical delivery.
- Volumes are received as planned: on-spec and at the agreed volumes and delivery timeframe
 - Guaranteed deliveries can help ensure that export vessels load on time, avoiding demurrage fees
 - Refineries in the US, Europe, and Asia receive crude volumes as planned, allowing for smooth operations

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

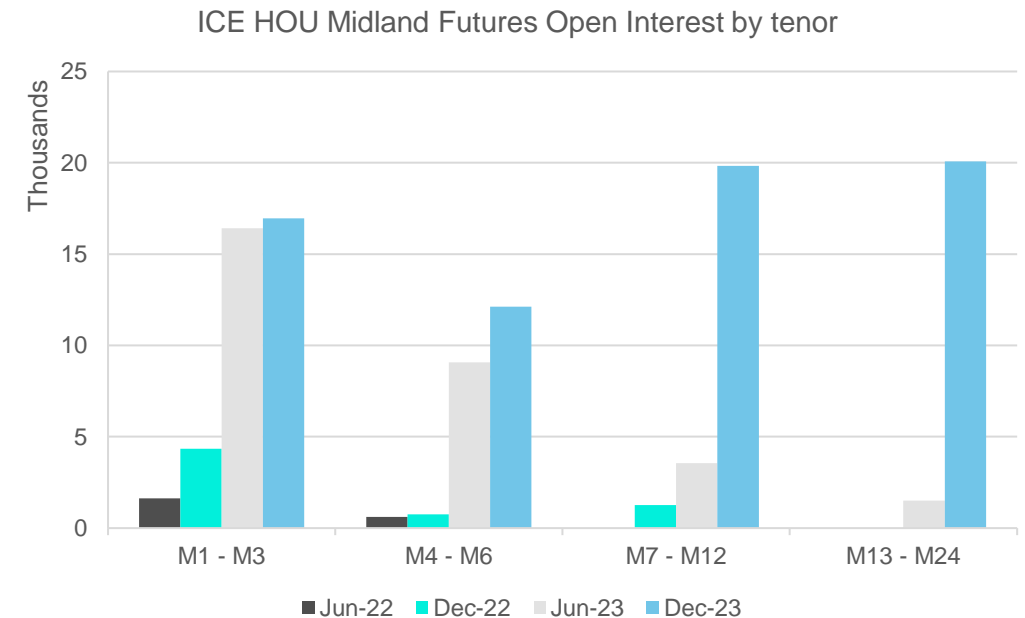
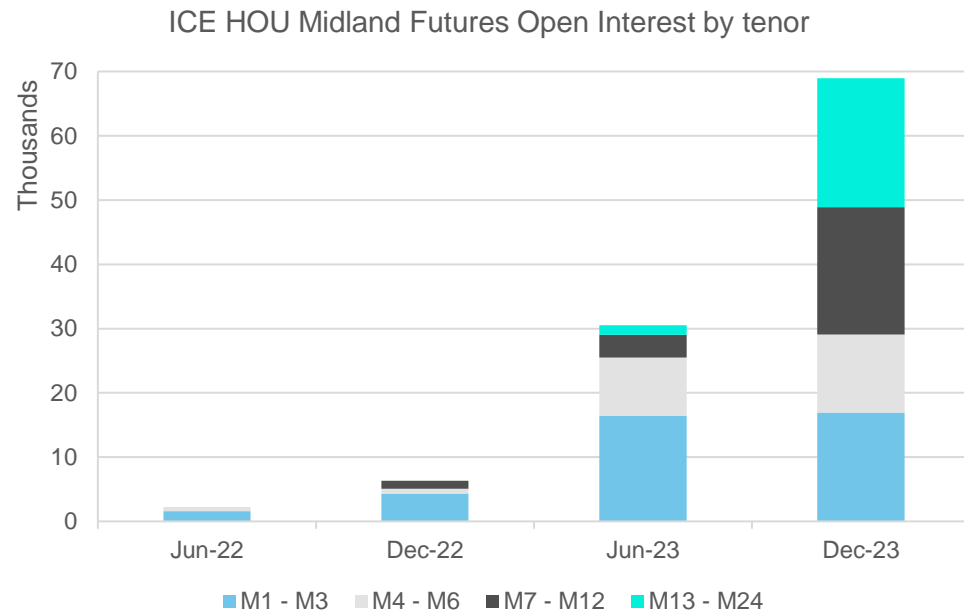
ICE Midland WTI American Gulf Coast futures (code: HOU)
ADV and OI



Source: ICE



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

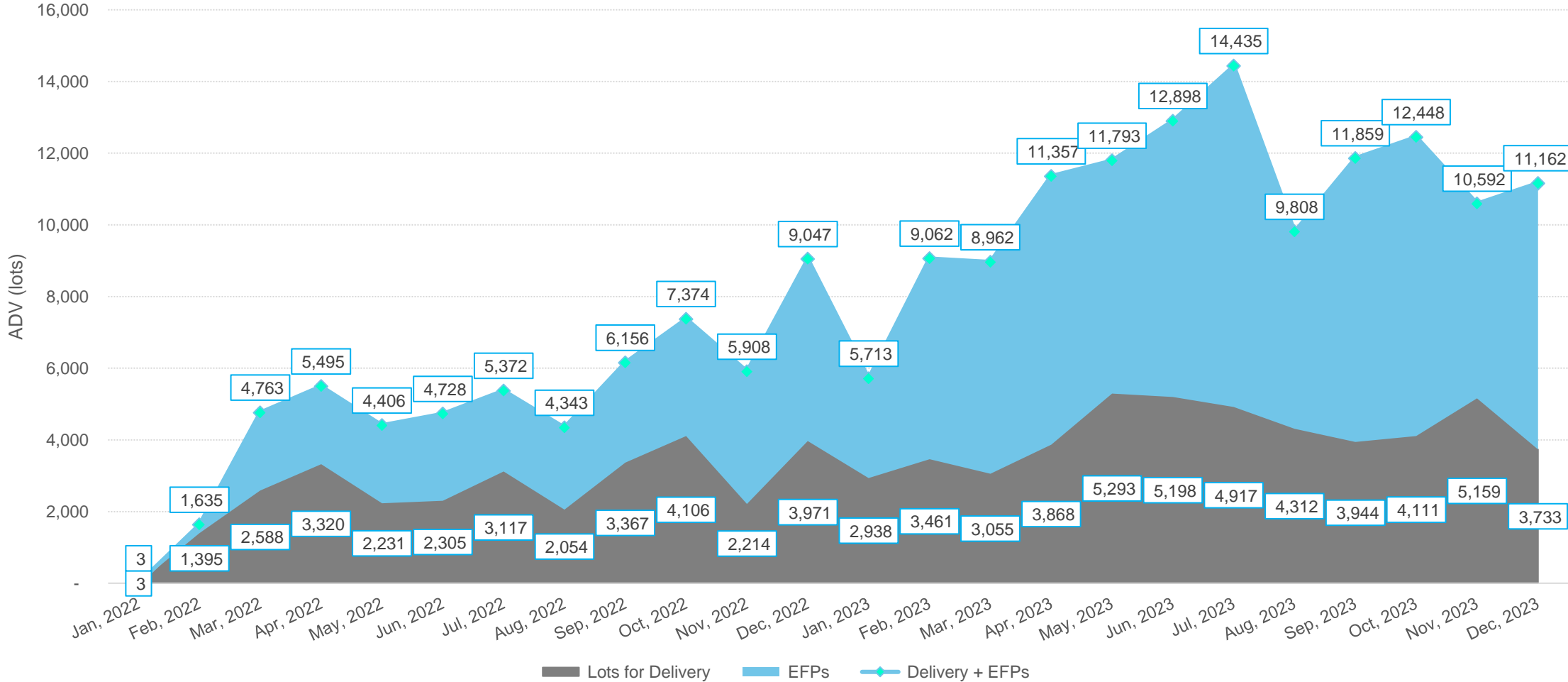


Source: ICE

- HOU open interest now extends two years out on the forward curve.
- Longer term supply deals are being hedged.

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) crude quality specs further aligned w Platts

- As announced on Feb. 28, 2024, HOU spec further aligned with Platts WTI Midland spec as included in Dated Brent
- Changes to HOU spec: addition of max Iron content; combined Nickel/Vanadium max content replaced by individual max content; RVP max increased from 9.0 to 9.5 PSI
- Changes effective from the June 2024 contract month, which expires on May 21, 2024.
- A tight and robust spec, ICE contract rules and oversight, and ONEOK and Enterprise's strict/proven quality programs aim to protect and give confidence to buyers and sellers regarding quality. Quality data published by ONEOK and Enterprise

ICE Midland WTI (HOU) Specifications

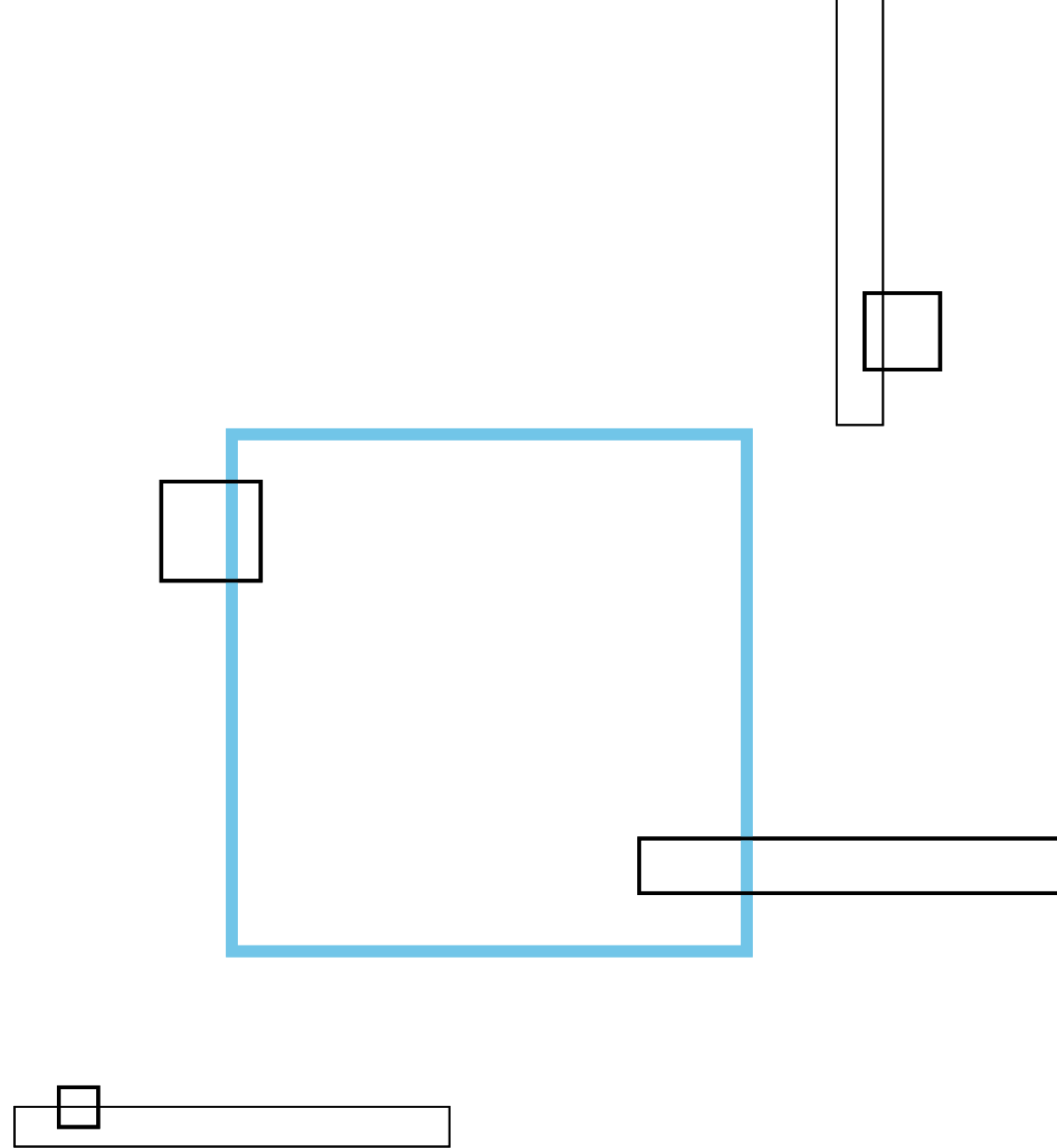
PARAMETER	UNITS	MIN	MAX
API Gravity	°API, 60°F	40.0	44.0
Sulfur Content	% (m/m)		0.20
Mercaptans	ppm Wt		75
RVP	PSI		9.5
BS&W	% (v/v)		1.0
Nickel	mg/kg		2.0
Vanadium	mg/kg		2.0
Iron	ppm Wt		10

Platts WTI Midland Specifications

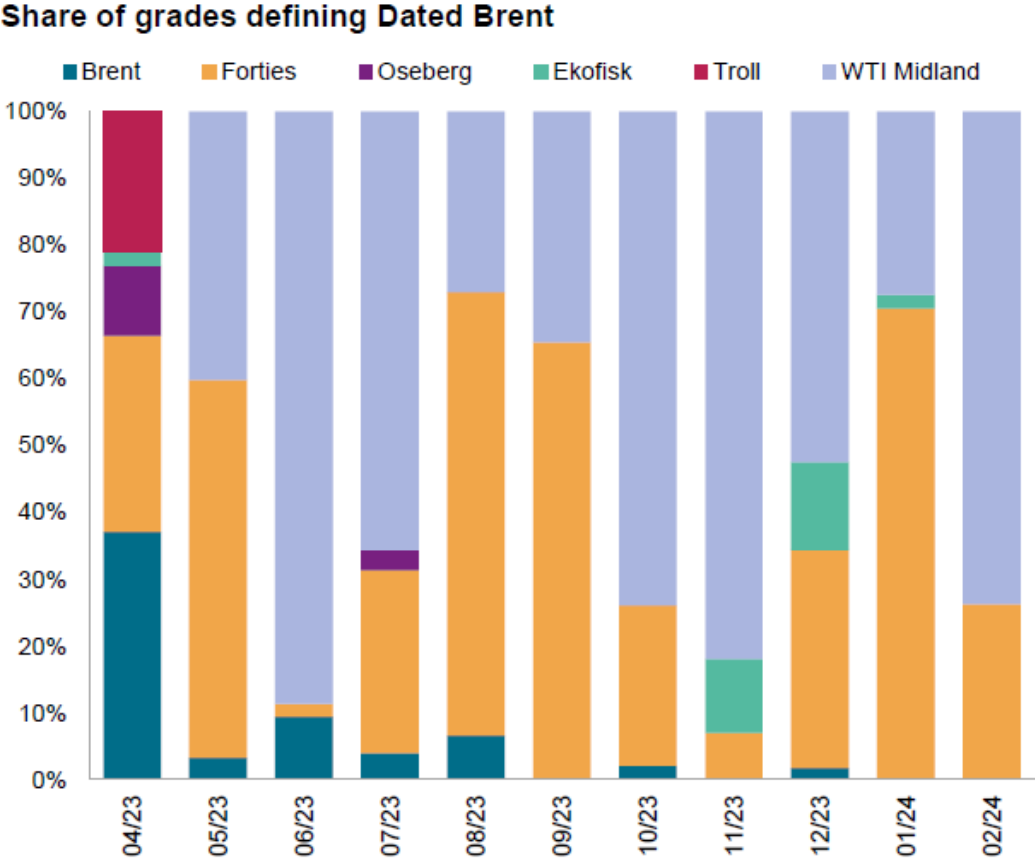
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Nickel	mg/kg		2.0
Vanadium	mg/kg		2.0
Iron	ppm Wt		10

Source: ICE and S&P Global Commodity Insights

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



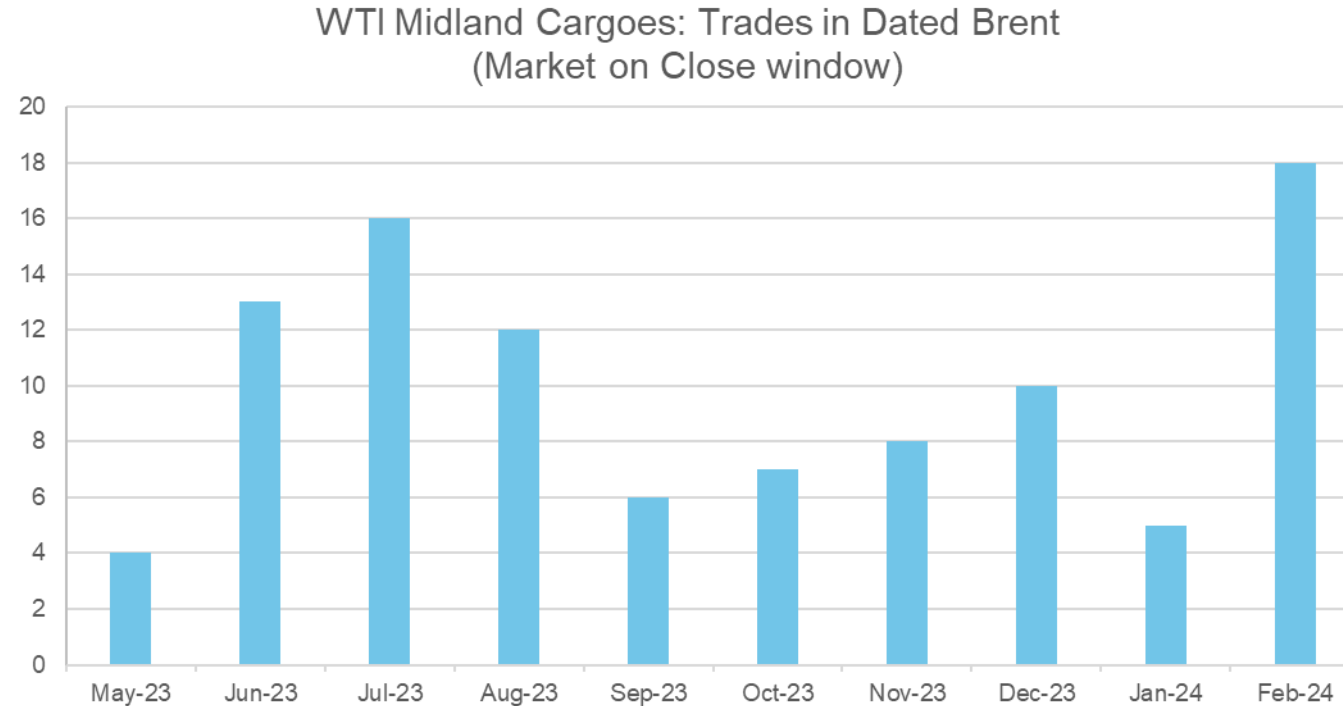
The addition of Midland WTI to the Brent Complex: smooth and successful. Impact on pricing similar to expectations.



Source: S&P Global Commodity Insights - Europe, Eurasia and Africa Crude Oil Markets Short-term Outlook, March 2024. Data as of Feb. 21, 2024.

- Pricing: from May 2023 through late January 2024, Midland WTI 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.

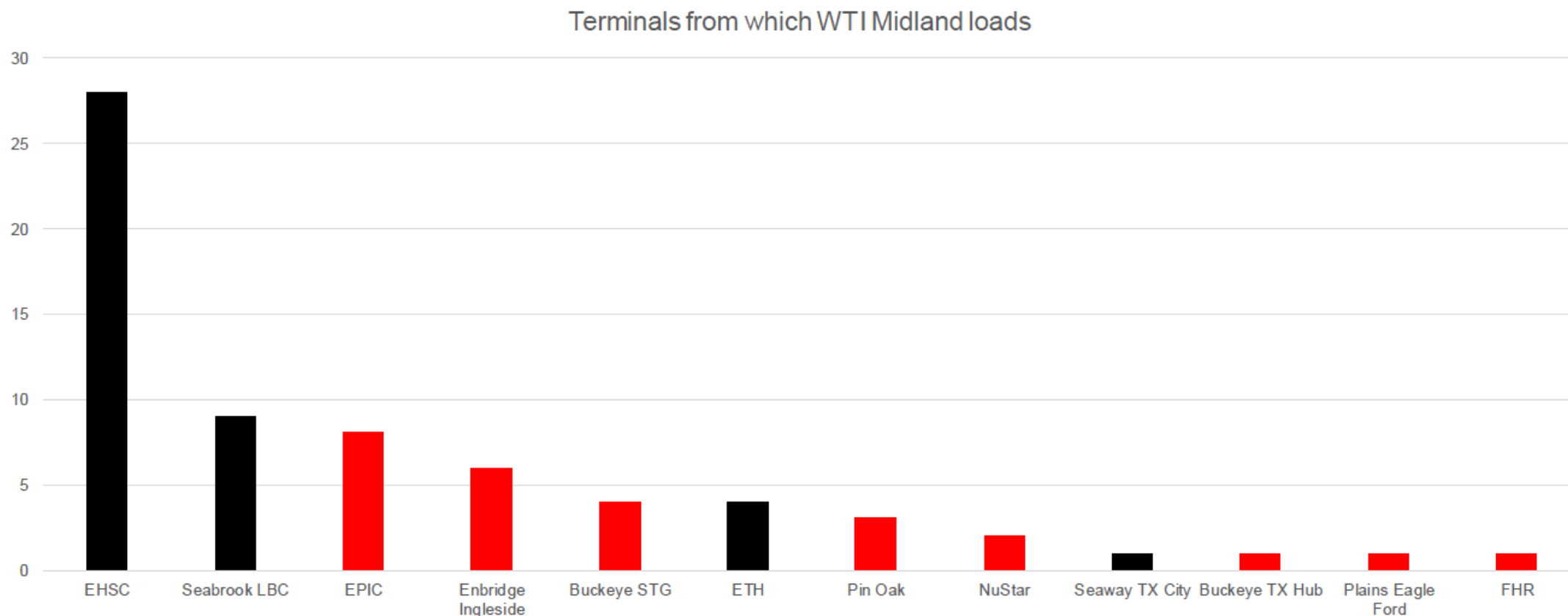
The addition of Midland WTI to the Brent Complex: smooth and successful. Impact on physical volumes similar to expectations.



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

- Volumes: from June 2023 through February 2024, an average of 10 cargoes of Midland per month traded in the Dated Brent MOC window.
- Before Midland WTI 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.
- Midland WTI 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.

The majority of Midland WTI cargoes delivered into Platts Dated Brent Market on Close window load at Houston terminals.



Note: Houston terminals in black. Source: S&P Global Commodity Insights. Data through mid-January.

- From Platts performance tracking. Physical performance is reviewed against published parameters.
- All 12 Platts-approved terminals have delivered Midland into Dated Brent. As of mid-January, 61% of cargoes have loaded from Houston terminals.
- Of Houston loadings, most have been from Enterprise (EHSC and Seaway) and ONEOK (Seabrook) terminals.

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

Contacts and resources

For more information on ICE Midland WTI Futures (HOU)

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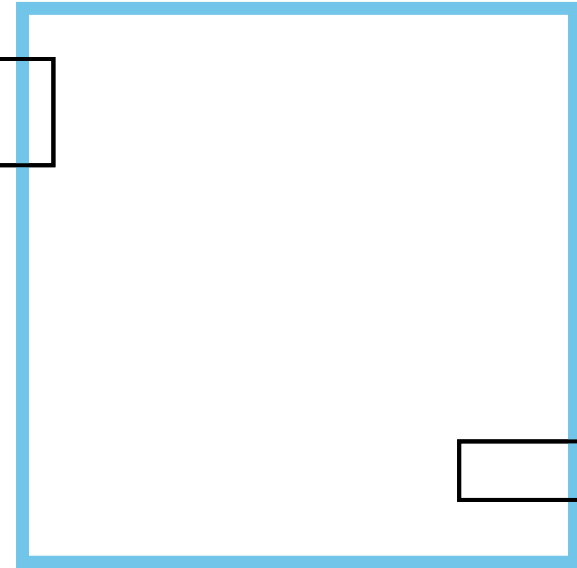
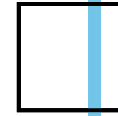
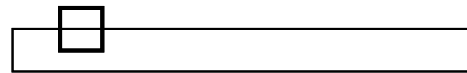
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Thank You



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