ICE Midland WTI American Gulf Coast Futures

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ICE Midland WTI American Gulf Coast (HOU) Futures

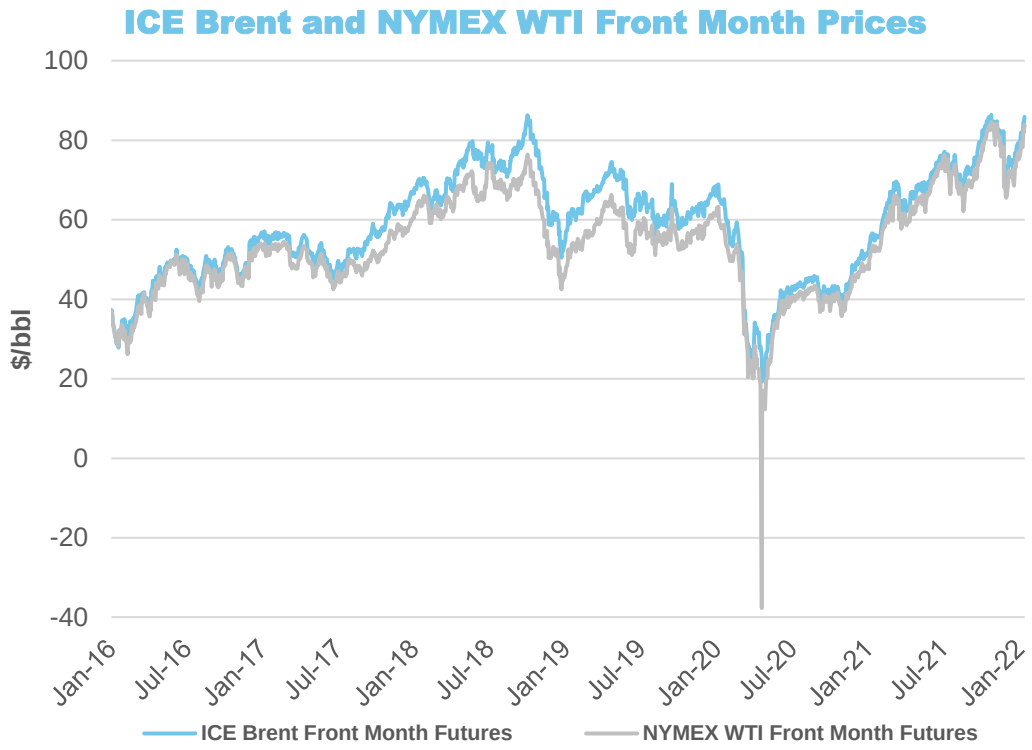
- Why was the USGC contract restructured?
- USGC crude fundamentals
- Features of the ICE Midland WTI American Gulf Coast (HOU) crude oil futures contract
- Live for trading on January 24, 2022

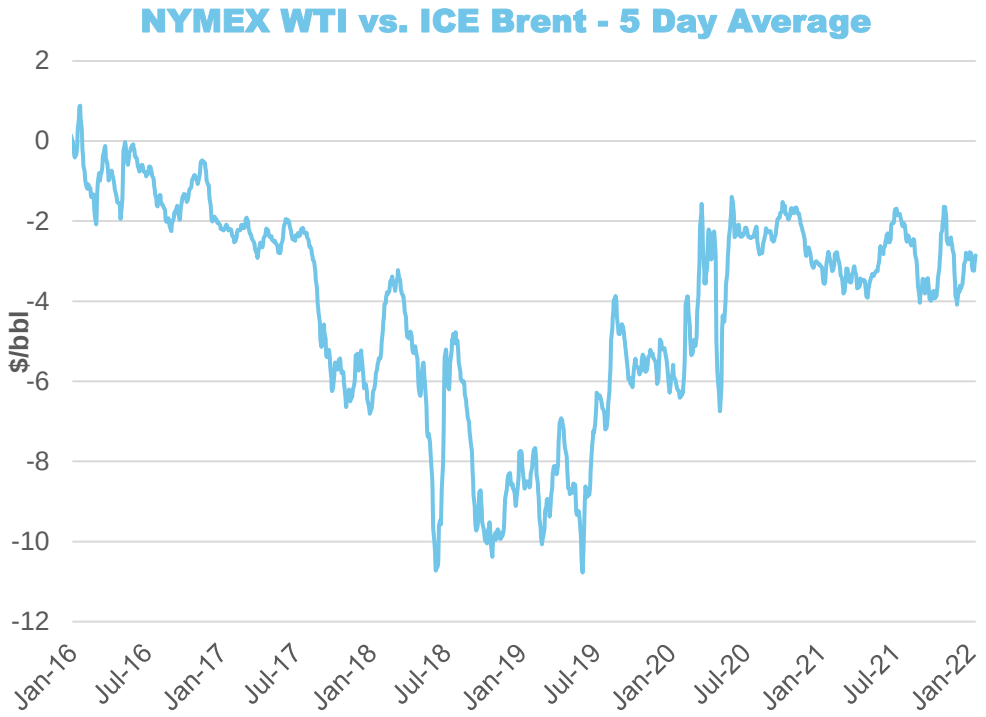
Why was the USGC contract restructured?

ICE Midland WTI American Gulf Coast (HOU) Futures: Why?

- The market wants and needs a physically deliverable futures contract that is transparent, liquid and truly representative of today's domestic market fundamentals
- To meet the needs for scale and redundancy, Magellan, Enterprise, and ICE agreed to work together to address the need in the market
- By aligning their vast supply capacity, system connectivity, storage capacity and export access, a truly representative domestic price can now be achieved
- With the dramatic shift in US crude fundamentals over the last 10 years, the marginal barrel that sets the domestic price has transitioned to WTI on the US Gulf Coast
- Houston's direct connectivity to more than half of US refining capacity, substantial waterborne exports and domestic outbound pipeline capacity, along with access to approximately 150 million barrels of crude storage capacity, solidify the price of WTI in Houston as the most representative price for US crude oil

WTI negative pricing in April 2020: A catalyst for change



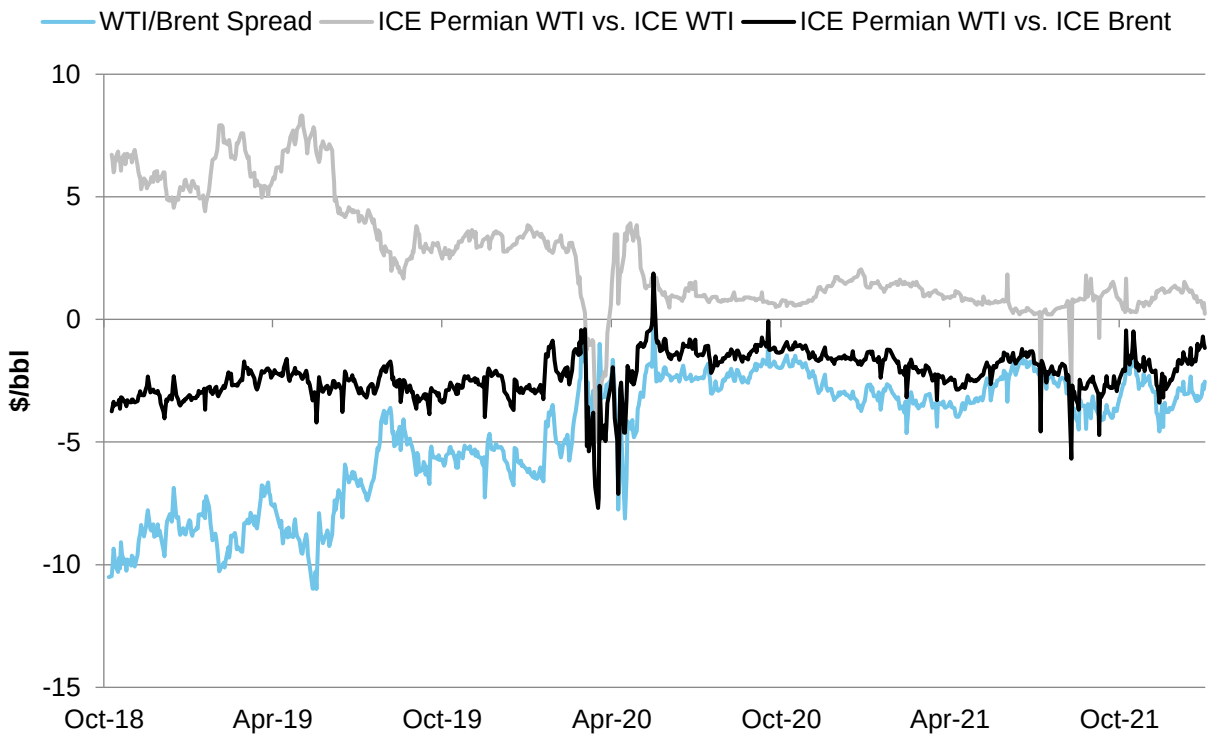


Source: ICE & CME

- April 20, 2020 closing prices: May NYMEX WTI -$37.63, June ICE Brent $25.57
- Futures prices have a very real impact on physical crude prices, which are quoted as a differential to NYMEX WTI Cushing

Key USGC crude price differentials drive exports & hedging

Key Crude Price Differentials

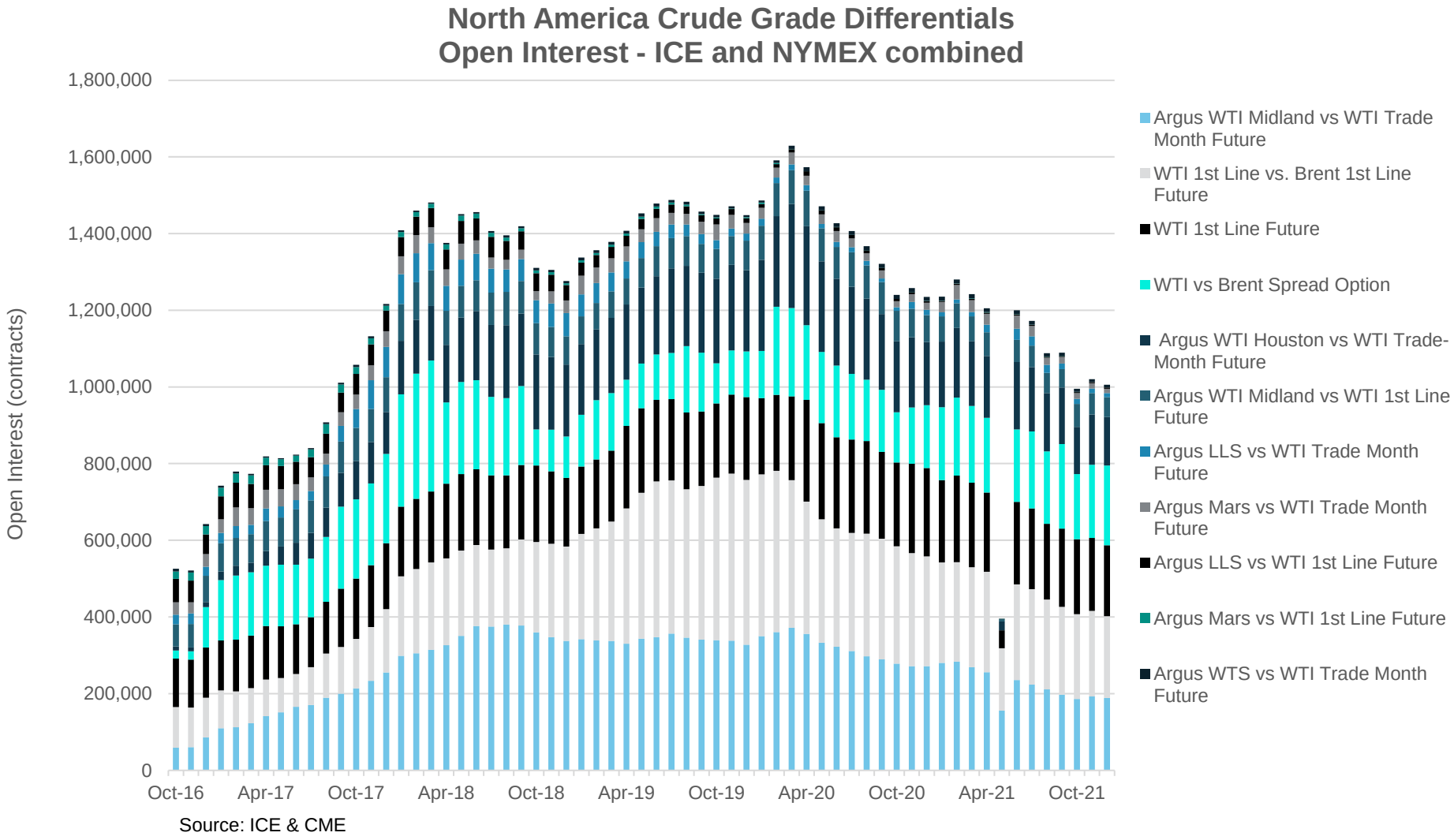


Source: ICE & CME

- Traders exposed to WTI where it meets the global waterborne market on the USGC. Once WTI hits the water, it prices off Brent or Dubai.
- For US crude exports to Europe, the key is WTI priced at Houston vs. Brent, not WTI Cushing. How to hedge/manage this risk?
  - A) WTI Cushing vs. ICE Midland WTI AGC (HOU)*
  - B) WTI Cushing vs. Brent
  - C) ICE Midland WTI AGC (HOU) vs. Brent
- Trader does A and B. The WTI Cushing legs cancel, and trader is left with C.

* Note: this is the contract that was restructured; it was formerly named ICE Permian WTI (HOU)

North American Crude Grade Differentials

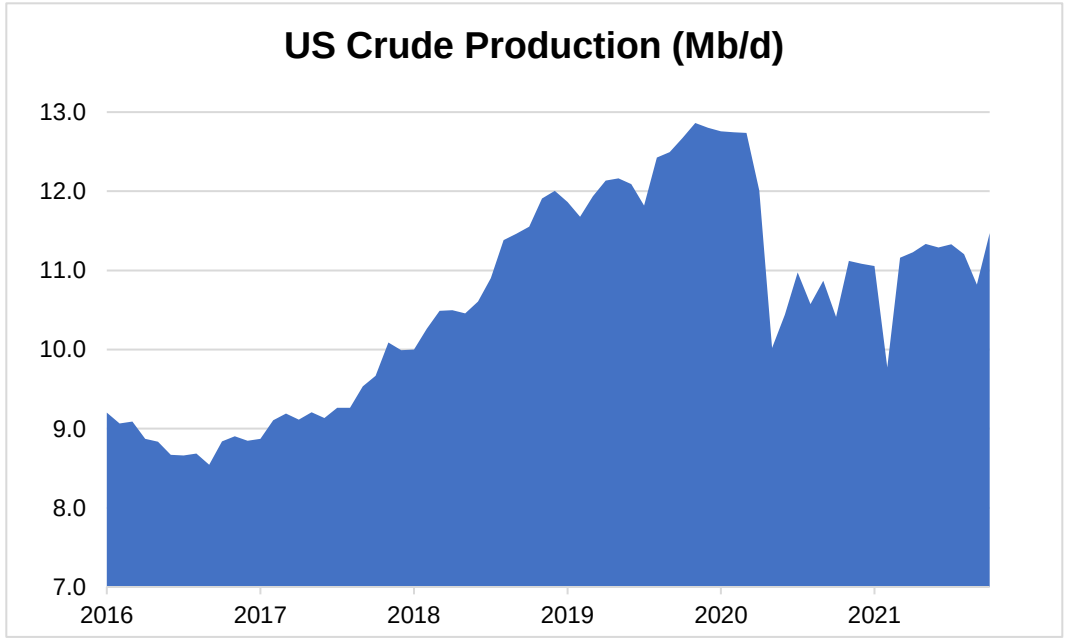


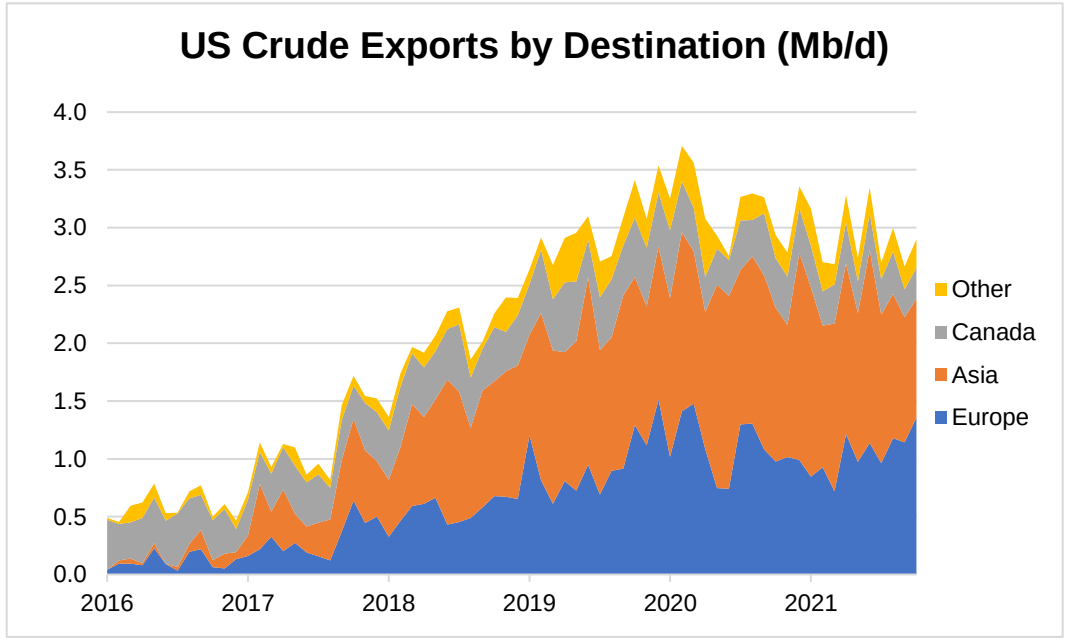
Source: ICE & CME

- A very significant market in terms of overall size
- There is room to make the market for grade differentials simpler and more efficient

USGC Crude Fundamentals

Key USGC fundamentals: US crude output & exports by destination



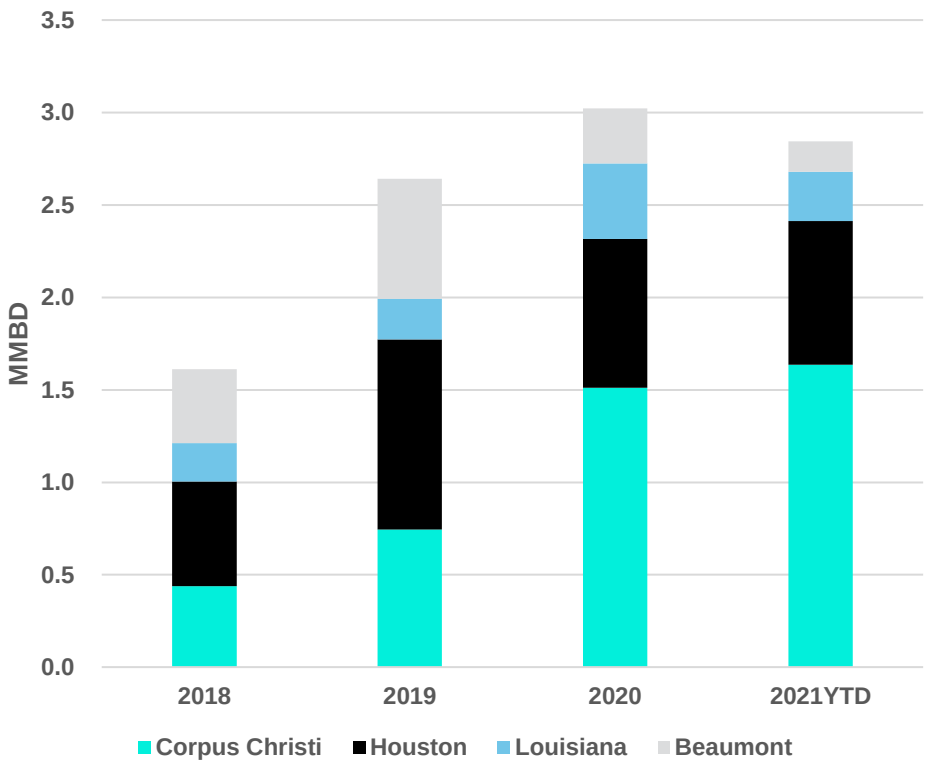


Source: US EIA (latest monthly data through October 2021)

- US crude production - recently around 11.7 Mb/d (prelim)
  - US EIA forecasts growth of 0.6-0.7 Mb/d in 2022
  - Growth expected to be driven by Permian

- US crude exports
  - 2021 YTD: 2.9 Mb/d (Asia: 1.3 Mb/d. Europe: 1.0 Mb/d)
  - In 2022: exports should increase in line with output. US refinery crude runs should increase in 2022, but this should be mainly met by higher imports of sour crude. Under normal circumstances, US refiners are maxed out in processing domestic light sweet grades.

Key USGC fundamentals: US crude exports by loading port



Source: SunMark Consulting and RBN Energy

- US crude exports – 2021 YTD: 2.9 Mb/d
  - Houston: 0.8 Mb/d 2021 YTD (flat vs. 2020)
  - Corpus Christi: 1.6 Mb/d 2021 YTD (+0.1 Mb/d vs. 2020)

ICE Midland WTI American Gulf Coast Futures (HOU):

Features of the Contract

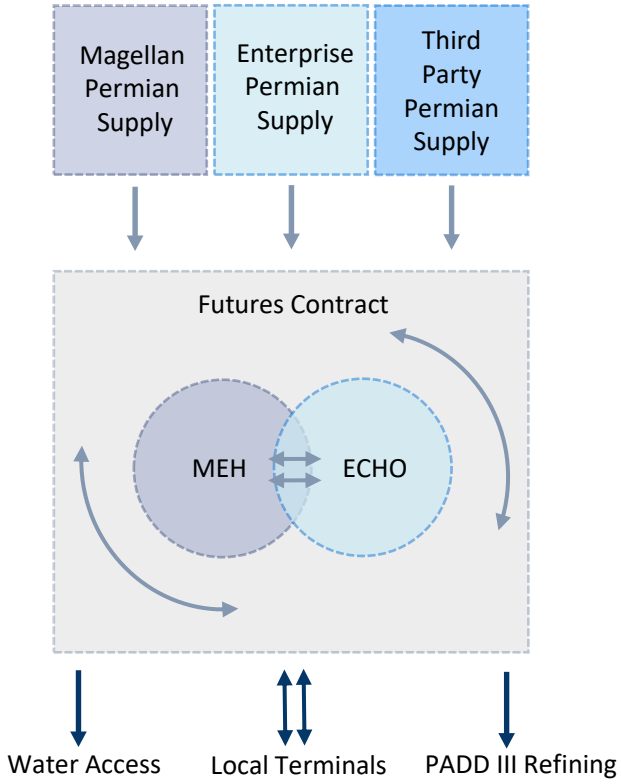
Integrated ICE Midland WTI AGC Futures Contract (HOU)

FUTURES CONTRACT OVERVIEW

- Futures contract for physical delivery at MEH and ECHO, establishing consistent quality and price transparency in the Houston market
- Sellers have the option to deliver to either the MEH or ECHO terminal
- Buyers have the ability to indicate their terminal of preference in which to take delivery
  - In order to further facilitate trading between the terminals and to create one large liquidity pool, during the first year, Magellan and Enterprise have agreed to transfer Midland WTI barrels between MEH and ECHO for no charge, if the barrels are not delivered to the buyer's preferred terminal.
  - A fee of 10 cents/bbl will be charged for Midland WTI transfers made outside of the contract.
- Quality specifications are the best representation of Midland-quality WTI to date, developed through consultation with Permian producers, Gulf Coast refiners, and the international market

WHY HOUSTON?

- Backed by the most extensive crude oil infrastructure in the country, the Houston market provides optionality and redundancy of supply, storage, and take-away capacity, driving confidence for buyers and sellers
  - 4+ MMBPD of direct inbound Midland quality WTI connectivity between MEH and ECHO with access to all inbound Permian to Houston supply.
  - 6+ MMBPD of direct outbound connectivity to demand centers between MEH and ECHO facilities
  - 9+ MMBPD of outbound capacity
  - 5+ MMBPD of Texas Gulf Coast refining capacity
  - 490+ MMBbls of USGC (PADD 3) crude storage capacity (refineries, tank farms, terminals)
    - 60+ Mb of Magellan/Enterprise crude storage capacity in Houston, out of a total 150 Mb



ICE Midland WTI AGC (HOU) crude quality specs

PARAMETER	UNITS	MIN	MAX	REQUIRED TEST METHOD
API Gravity	˚API, 60˚F	40.0	44.0	ASTM D1298 or D5002
Sulfur Content	% (m/m)		0.20	ASTM D4294
Mercaptan Sulfur	Ppm Wt		75	UOP 163
RVP	PSI		9.0	ASTM D6377
BS&W	% (v/v)		1.0	ASTM D4007 per API MPMS 10.4
Nickel & Vanadium (Combined)	mg/kg		3.0	ASTM D8252 or D5708, Procedure B

- A tight and robust spec, ICE contract rules and oversight, and Magellan and Enterprise's strict/proven quality programs should protect and give confidence to buyers and sellers regarding Midland-origin
- It would be difficult to blend and not exceed one of the specs. Tight specs should address the "dumbbell crude" issue.
- Quality data will continue to be published by Magellan and Enterprise

Comparing Contract/Location Fundamentals

Houston's Infrastructure Advantage

MIDLAND WTI AMERICAN GULF COAST "HOU"	
Destinations:	
Enterprise / Magellan	
	Capacity
Storage:	63 MMBbls
TOTAL Houston	*150 MMBbls*
Inbound: *(Direct Permian Supply)*	~4.0 MMBPD
Outbound:	~9.0 MMBPD

NYMEX WTI CUSHING "CL"	
Destinations:	
Enterprise / Enbridge	
	Capacity
Storage:	37 MMBbls
TOTAL Cushing	*94 MMBbls*
Inbound:	<1 MMBbls
Outbound:	~3.2 MMBbls

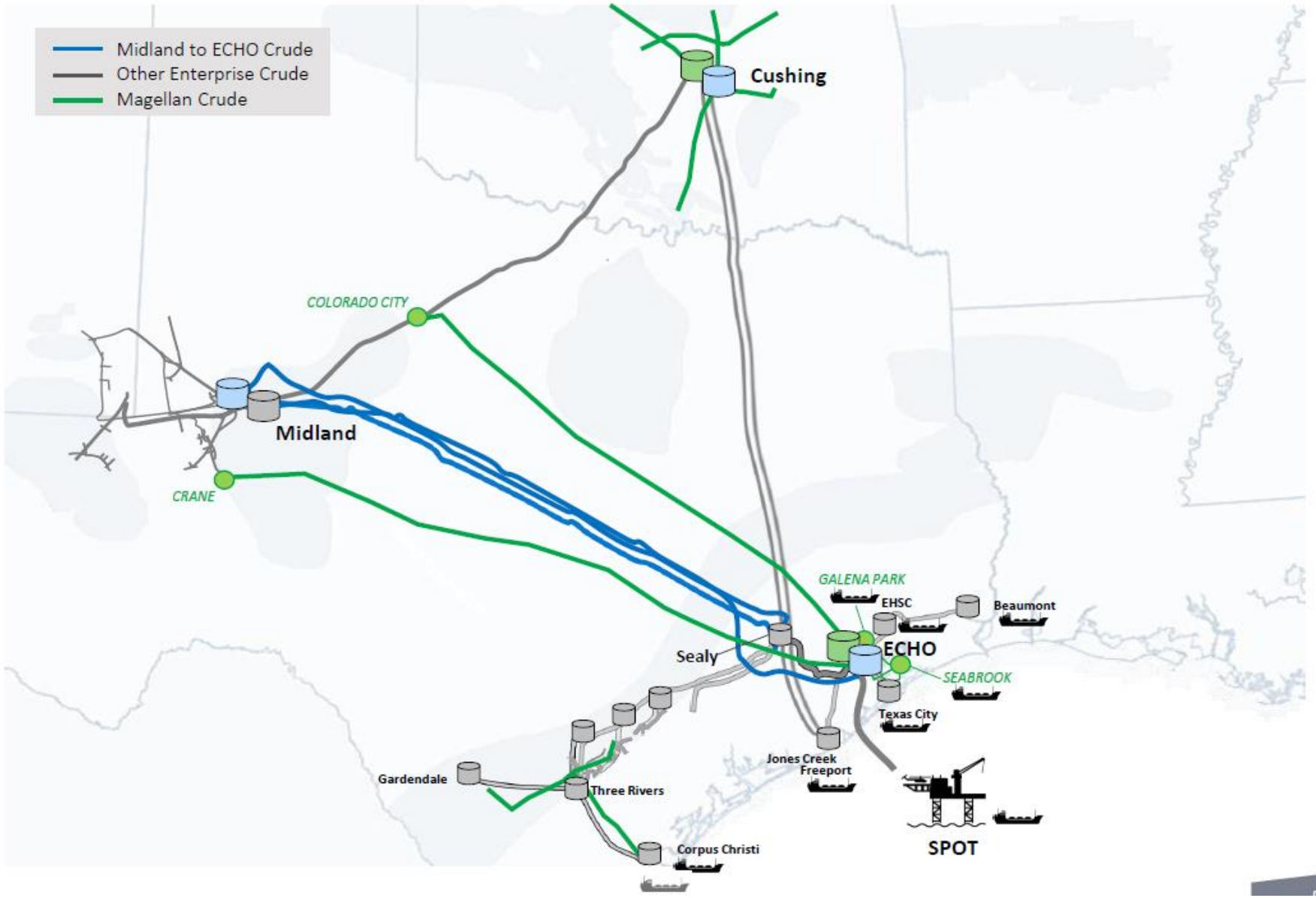
CORPUS MARKET	
Destinations:	
N / A	
	Capacity
Storage:	N/A
TOTAL Corpus	*40 MMBbls*
Inbound:	~2.5 MMBPD
Outbound:	~6.4 MMBPD

Source: ICE, Magellan, and Enterprise

Ingredients for successful contracts include:

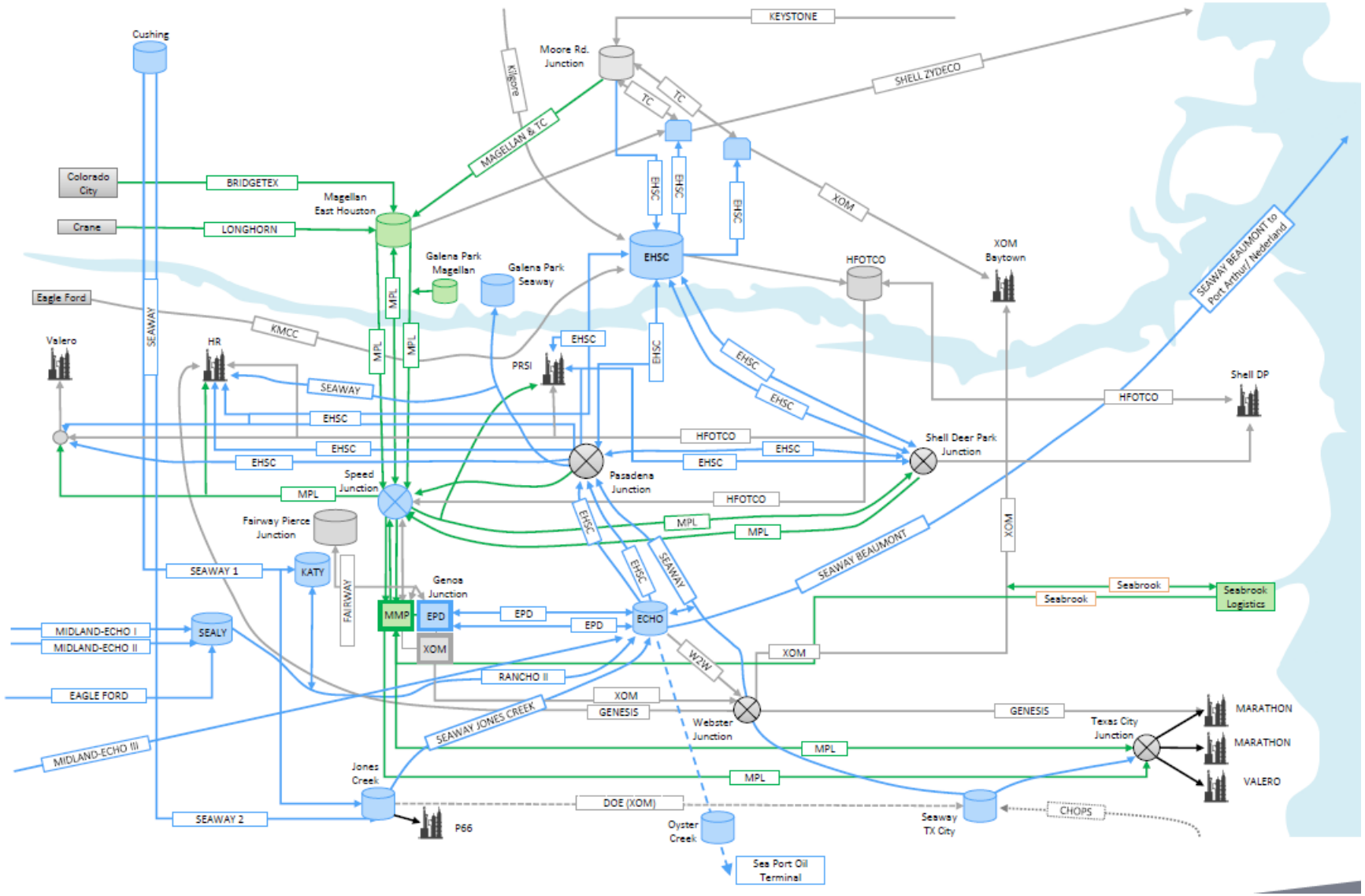
- Expansive storage
- Access to supply
- Connectivity to demand centers
- A diverse group of buyers and sellers
- Liquidity

Magellan and Enterprise Crude Systems



Source: ICE, Magellan, and Enterprise

Magellan / Enterprise Combined Connectivity



Source: ICE, Magellan, and Enterprise

Magellan / Enterprise Crude Storage Supporting Midland WTI AGC (HOU)

TERMINAL	CAPACITY
MEH	9 MMBbls
ECHO	9 MMBbls
SEALY	4 MMBbls
TEXAS CITY	4 MMBbls
FREEPORT	3 MMBbls
GALENA PARK	3 MMBbls
SEABROOK	4 MMBbls
EHSC	27 MMBbls
Total Capacity	**63 MMBbls**

Source: ICE, Magellan, and Enterprise

Midland WTI AGC (HOU) Supply

The Houston Hub

Inbound Supply by Pipeline *Estimated*	
M2E1	620 MBPD
M2E2	225 MBPD
M2E3	450 MBPD
Wink to Webster	1,100 MBPD
Eagle Ford	400 MBPD
Ted Collins	250 MBPD
KMCC	350 MBPD
Longhorn	275 MBPD
Bridgetex	440 MBPD
TOTAL	4,110 MBPD

Source: ICE, Magellan, and Enterprise

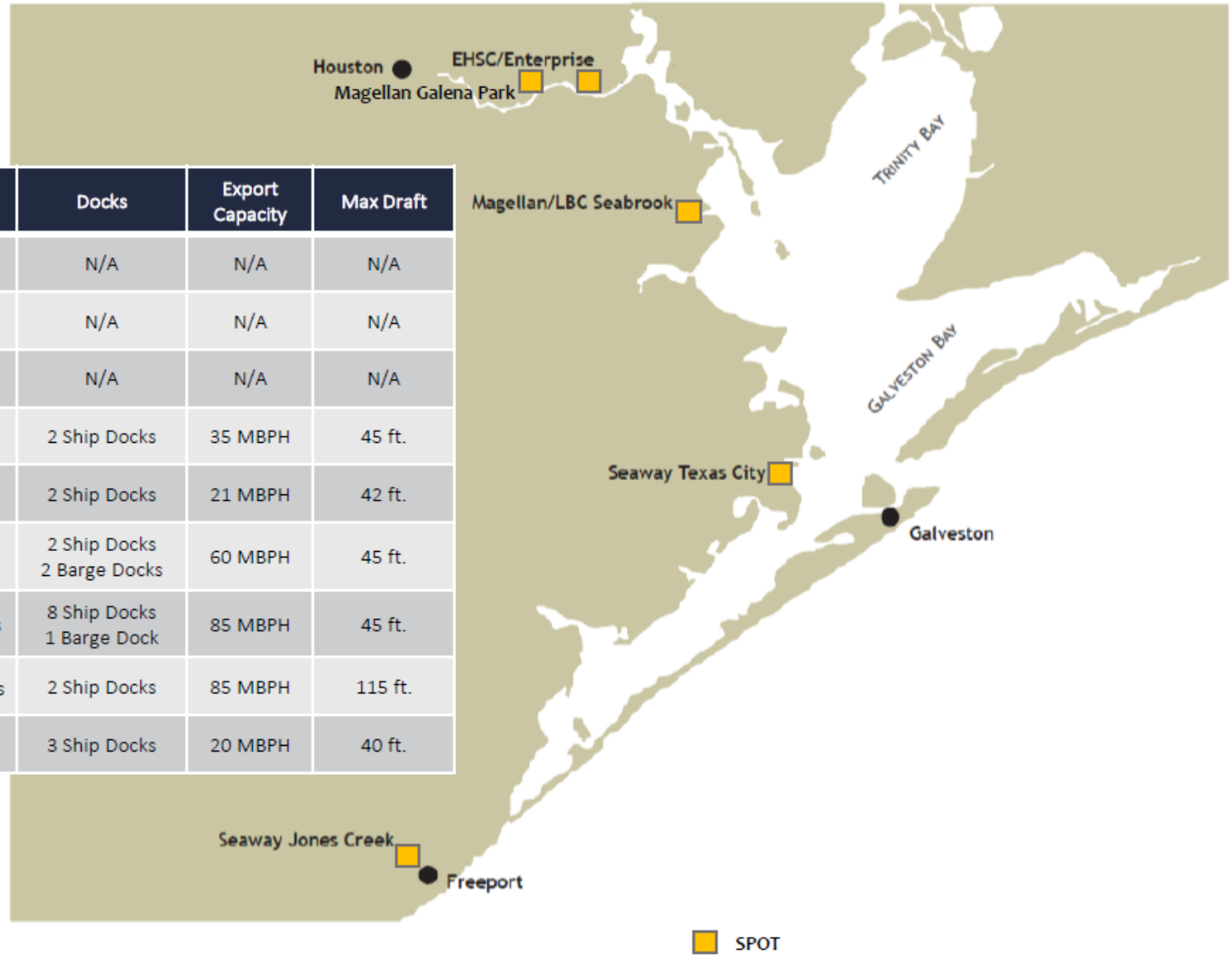
Midland WTI AGC (HOU) Connectivity & Demand Centers

	DELIVERY POINT	CAPACITY	MAGELLAN	ENTERPRISE
Refineries	Exxon Baytown	560 MBPD	✓	✓
	Shell Deer Park	286 MBPD	✓	✓
	Houston Refining	264 MBPD	✓	✓
	Pasadena Refining	112 MBPD	✓	✓
	Valero Houston	191 MBPD	✓	✓
	Galveston Bay Refining/MPC Texas City	585 MBPD	✓	✓
	Valero Texas City	225 MBPD	✓	✓
Outbound Pipelines	Port Arthur Lateral	744 MBPD		✓
	Shell Zydeco	375 MBPD	✓	✓
Docks	EHSC	900 MBPD	✓	✓
	Seaway Texas City	840 MBPD		✓
	Seaway Freeport	504 MBPD		✓
	Seabrook	700 MBPD	✓	✓
	Galena Park	100 MBPD	✓	
TOTAL		6.4 MMBPD		

Source: ICE, Magellan, and Enterprise

Combined Houston-Area Exports

	Storage	Docks	Export Capacity	Max Draft
MEH	9 MMBbls	N/A	N/A	N/A
ECHO	9 MMBbls	N/A	N/A	N/A
Sealy	4 MMBbls	N/A	N/A	N/A
Texas City	4 MMBbls	2 Ship Docks	35 MBPH	45 ft.
Freeport	3 MMBbls	2 Ship Docks	21 MBPH	42 ft.
Seabrook	4 MMBbls	2 Ship Docks 2 Barge Docks	60 MBPH	45 ft.
EHSC	27 MMBbls	8 Ship Docks 1 Barge Dock	85 MBPH	45 ft.
SPOT	4.2 MMBbls	2 Ship Docks	85 MBPH	115 ft.
Galena Park	3 MMBbls	3 Ship Docks	20 MBPH	40 ft.



Source: ICE, Magellan, and Enterprise

Summary and Conclusions

Summary and conclusions

- The pairing of the Magellan and Enterprise systems provides the needed redundancy in asset ownership, extensive connectivity and capability, and industry expertise that will provide the market with the utmost confidence in a successful contract.

- Today, oil producers, refiners, exporters and traders use a combination of two or three basis trades to attempt to hedge their U.S. Gulf Coast exposure, which introduces unnecessary risk to crude prices and logistics from Cushing, Oklahoma.

- The ICE Midland WTI AGC (HOU) futures contract enables participants to directly price and hedge the marginal domestic barrel (Midland WTI quality crude) in the most efficient and cost-effective manner. Producers can hedge output, refiners and exporters can hedge supply and traders can easily manage positions.

- Very strong infrastructure: supply of Midland-origin WTI crude, system connectivity to domestic refining demand and export access, crude storage capacity

- One large liquidity pool of HOU quality crude, with no fees for transfers between MEH and ECHO for deliveries against the HOU contract.

Contacts and resources

For more information on ICE Midland WTI American Gulf Coast Futures (HOU)

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