



HOULIHAN LOKEY

Oil and Gas

INDUSTRY UPDATE | Q3 2021



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Houlihan Lokey Oil and Gas Update

Dear Clients and Friends,

Houlihan Lokey is pleased to present its Oil and Gas Industry Update for Q3 2021.

We have included an overview of trends in the oil and gas industry, commodity pricing, public capital markets, M&A, A&D, and financing activity along with key data to help you stay ahead in our dynamic and constantly evolving industry. We hope you find this quarterly update to be informative and that it serves as a valuable resource to you in staying abreast of the market. If there is additional content you would find useful for future updates, please don't hesitate to call or email us with your suggestions. We look forward to staying in touch with you.

Regards,



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Key Quarterly Trends

■ Commodity Price Outlook

- Oil Supply/Demand Dynamics: The continued recovery in global oil demand to an estimated 99.3 million bbls/d as of September 2021 (vs. pre-pandemic levels of 101.7 million bbls/d as of December 2019) relative to the current “capital discipline-driven” restrained global supply has pushed WTI and Brent oil prices above \$80/bbl, the highest since 2014 with support for continued market bullishness
 - OPEC+ agreed in November 2021 to continue its previous regular supply increase cadence by 400 Mbpd per month through Q3 '22, which isn't sufficient to materially impact oil prices
- Natural Gas Supply/Demand Dynamics: Supply constraints in Europe, motivated by geopolitical maneuvering by Russia regarding the Nordstream 2 pipeline approval, among other factors, has created natural gas price spikes globally and an increase in LNG and LPG flows as both Europe and China seek to ensure sufficient supply heading into the winter
- These and regional impacts such as the drought in California has had price reverberations in the U.S. natural gas markets, as well
- HH prices continue to find support at price levels not seen in more than a decade, currently trading above \$5/mcf since September 2021 and briefly topping \$6/mcf in October

■ M&A&D Markets

- The past 12 months have been among the busiest periods for upstream M&A&D in the past 10 years
 - >35 A&D transactions in aggregate amount of ~\$20 billion in 2021 YTD vs. 15 deals (~\$4 billion) for the same period in 2020⁽¹⁾
 - >10 M&A transactions in aggregate amount of ~\$35 billion in 2021 YTD vs. 7 deals (~\$41 billion)⁽²⁾ for the same period in 2020⁽¹⁾
- Favorable market conditions have resulted in a significant number of assets hitting the market with a robust backlog that potentially extends into at least the first half of next year
- Transaction valuations witnessed in market support value being allocated to undeveloped inventory and not just PDP

■ Debt Capital Markets

- Public E&P HY market activity has rapidly increased this year in response to improved E&P performance, capital discipline, and investors search for yield
 - ~\$25 billion of HY issuances 2021 YTD vs. ~\$13 billion for the same period in 2020 (issuance volume is up ~57%)
 - Q3 '21 new issuances totaled ~\$3 billion
- E&P HY Index is up 121% from its lows in 2020
- Other than in the case of material acquisitions and/or significant corporate activities, RBL borrowing bases have been generally held flat in Fall 2021 vs. Spring 2021 as RBL lending metrics remain muted to cautious notwithstanding the current bullish commodity price environment
- Alternative capital options have re-emerged across oil and gas sectors to support corporate activities, including M&A&D, refinancings, and upstream development

(1) Transactions of more than \$100 million.

(2) Largely driven by two transactions: Conoco/Concho and Chevron/Noble, ~\$13 billion each.

Sources: Bloomberg, EIA, PLS, HIS, and Wall Street research.

Key Quarterly Trends (cont.)

■ Equity Capital Markets

- S&P E&P Index is the best performing sector YTD, up >80% (through the end of October 2021) vs. 23% for the broader S&P 500
 - Despite the S&P E&P Index outperformance, investor appetite for Upstream IPOs appears to remain limited with only one Upstream IPO (Vine Oil & Gas) executed so far this year
- \$620 million of follow-on equity offerings in 2021 YTD vs. \$773 million in full year 2020

■ Other Trends

- Many E&Ps are reporting record earnings and free cash flow due to strengthening commodity prices
- Public E&Ps continue to exercise capital discipline and direct excess cash flow to paydown debt and to shareholders, including through increasingly popular “fixed plus variable” dividend programs
- Private E&Ps are taking advantage of high commodity prices and public peer restraint to substantially increase development activity, especially in Permian

1. Transactions +\$100 million

2. Largely driven by 2 transactions, Conoco / Concho and Chevron / Noble, ~\$13 billion each

Sources: Bloomberg, EIA, PLS, HIS, and Wall Street research.

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Houlihan Lokey is the trusted advisor to more top decision-makers than any other independent global investment bank.

Energy and Power M&A

2020 M&A Advisory Rankings All U.S. Energy & Power Transactions		
Advisor		Deals
1 Houlihan Lokey		28
1 Evercore Partners		28
3 Goldman Sachs & Co		19
4 Lazard		17
5 Moelis & Co		14
5 AlixPartners		14

Source: Refinitiv (formerly known as Thomson Reuters)

No. 1 M&A Advisor for All U.S.
Energy and Power
Transactions

Corporate Finance

2020 M&A Advisory Rankings All U.S. Transactions		
Advisor		Deals
1 Houlihan Lokey		210
2 Goldman Sachs & Co		172
3 JP Morgan		132
4 Evercore Partners		126
5 Morgan Stanley		123

Source: Refinitiv (formerly known as Thomson Reuters)

No. 1 U.S. M&A Advisor

Top 5 Global M&A Advisor

Leading Capital Markets Advisor

Financial and Valuation Advisory

2001 to 2020 Global M&A Fairness Advisory Rankings		
Advisor		Deals
1 Houlihan Lokey		956
2 JP Morgan		876
3 Duff & Phelps		802
4 Morgan Stanley		599
5 BofA Securities Inc		542

Refinitiv (formerly known as Thomson Reuters). Announced or completed transactions.

No. 1 Global M&A Fairness
Opinion Advisor Over the Past
20 Years

1,000+ Annual Valuation
Engagements

Financial Restructuring

2020 Global Distressed Debt & Bankruptcy Restructuring Rankings		
Advisor		Deals
1 Houlihan Lokey		106
2 PJT Partners Inc		63
3 Lazard		50
4 Rothschild & Co		46
5 Moelis & Co		39

Source: Refinitiv (formerly known as Thomson Reuters)

No. 1 Global Investment
Banking Restructuring Advisor

1,400+ Transactions Completed
Valued at More Than
\$3.0 Trillion Collectively

Global Oil and Gas Footprint: Fully Integrated Team

Houlihan Lokey's Oil & Gas Group provides global coverage via more than 70 dedicated financial professionals, including specialized bankers, A&D/technical advisory, valuation, and capital markets teams.

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Global Head, Oil & Gas Group

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Managing Director
Financial Sponsors

Joshua Eaves
Managing Director
Banking/Coverage

Michael Haney
Director
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Ryan Williams
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Analyst

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Tom Seward
Managing Director

David Ho
Director

Patrick Yang
Associate

MENA

Arun Reddy
Managing Director

Kurt Davis
Senior Vice
President

Walid Chamma
Vice President

Ramzi Flayhan
Associate

Cross-Product Industry Team

Technical/A&D

- More than \$50 billion in combined transactions
- Specialists in:
 - Technical advisory
 - Asset dispositions/swaps
 - Equity/working interest sales
 - JV structuring/partner identification

Mergers and Acquisitions

- No. 1 U.S. M&A Advisor
- Corporate M&A/spin-off advisory, structuring, negotiation and execution
- Extensive reach in market trends and relationships
- Specialize in tailored processes to maximize value for our clients

Recapitalization/Restructuring

- We have been engaged in the most notable E&P recapitalizations/restructurings of the recent and prior commodity downturn cycles



Capital Markets

- ~\$9 billion of capital raised in 2020
- Market leader in custom/bespoke structure

Financial Advisory

- No. 1 Global M&A Fairness Opinion Advisor Over the Past 20 Years
- 1,000+ annual valuation engagements
- Transaction advisory services, including ability to bundle due diligence and QofE services

Trusted Advisor

- During the past several years, Houlihan Lokey's fully integrated, cross-product Oil & Gas Group has advised on numerous capital raise, M&A, corporate finance, and recapitalization assignments in the E&P industry

Veteran Leadership Team

- O&G investment banking team is a cross-product, global, industry dedicated team of 70+ highly experienced professionals
- Diverse set of backgrounds, including E&P companies, midstream companies, other investment banks, investment funds, and research/brokerage shops
- A&D/technical group is led by a team of technically focused professionals from the industry, with an average of 25+ years of industry experience

Selected Transactions⁽¹⁾

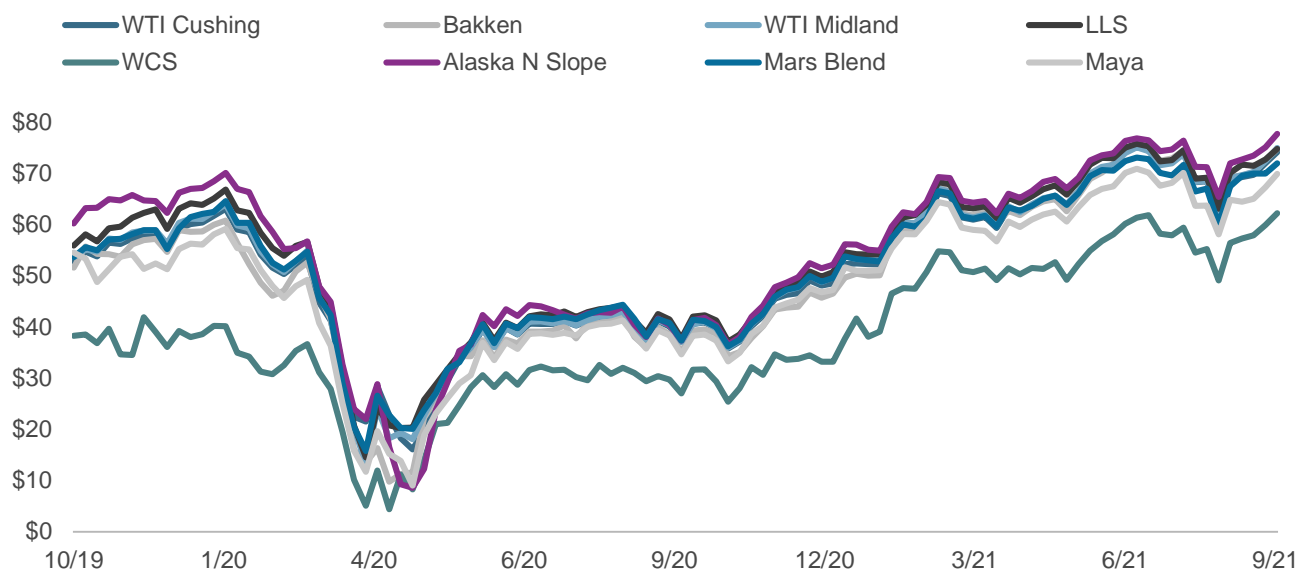
 has been acquired by Financial Advisor & Fairness Opinion	Transaction Pending has agreed to acquire the assets of Buyside Advisor	Transaction Pending has agreed to sell a 37.5% wellbore interest in certain Legacy PDP assets to Sellside Advisor	 has confirmed a "prepackaged" Chapter 11 Plan of Reorganization Secured Lender Advisor	 has acquired Company Advisor	 has been acquired by Sellside Advisor
 has confirmed a "prearranged" Chapter 11 Plan of Reorganization RBL Lender Advisor	 has completed a "merger-of-equals" with Sellside Advisor and Fairness Opinion	 has completed the refinancing of Senior Secured Notes through a combined issuance of Term Loan B and new Senior Secured Notes \$1,870,000,000 Joint Lead Arranger & Joint Lead Manager	 a portfolio company of Reserve-Based Lending Facility Refinancing \$500,000,000 Exclusive Placement Agent	 has eliminated its incentive distribution rights through the issuance of common units to Financial Advisor & Fairness Opinion	 has acquired ~44,500 net acres in Potter and Tioga Counties, PA from Financial Advisor & Fairness Opinion

(1) Please reach out to Manny VEDI at 832.319.5135 or MVEDI@HL.com for additional Oil & Gas Group qualifications. Tombstones included herein represent select transactions.

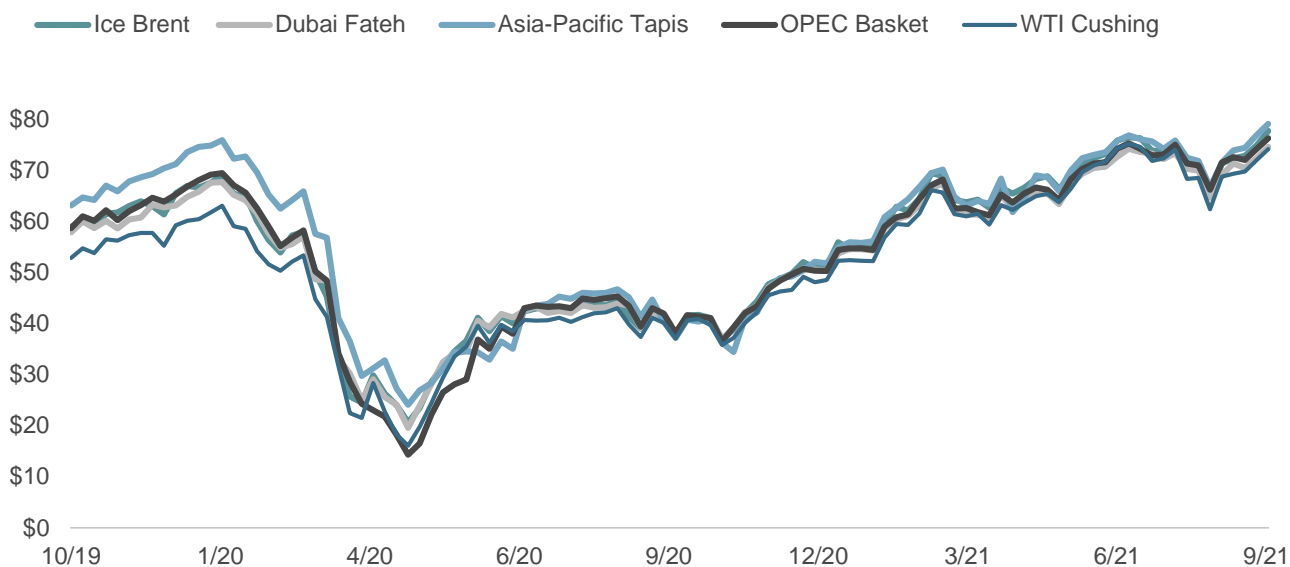
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Spot Pricing

North American Spot Prices (\$/bbl)

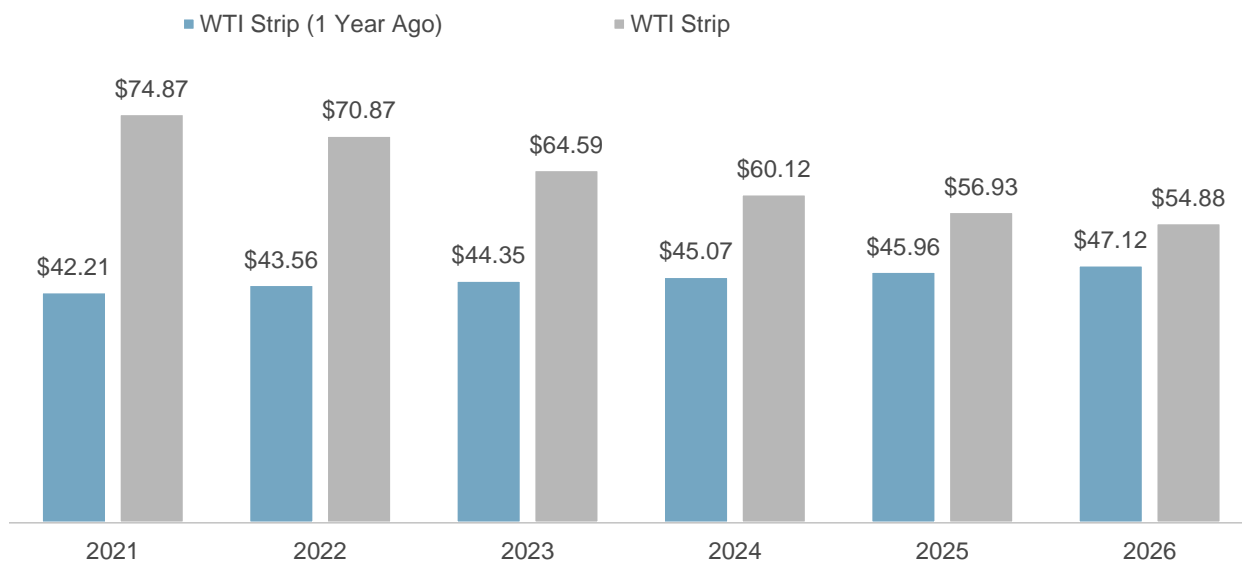


International Spot Prices (\$/bbl)

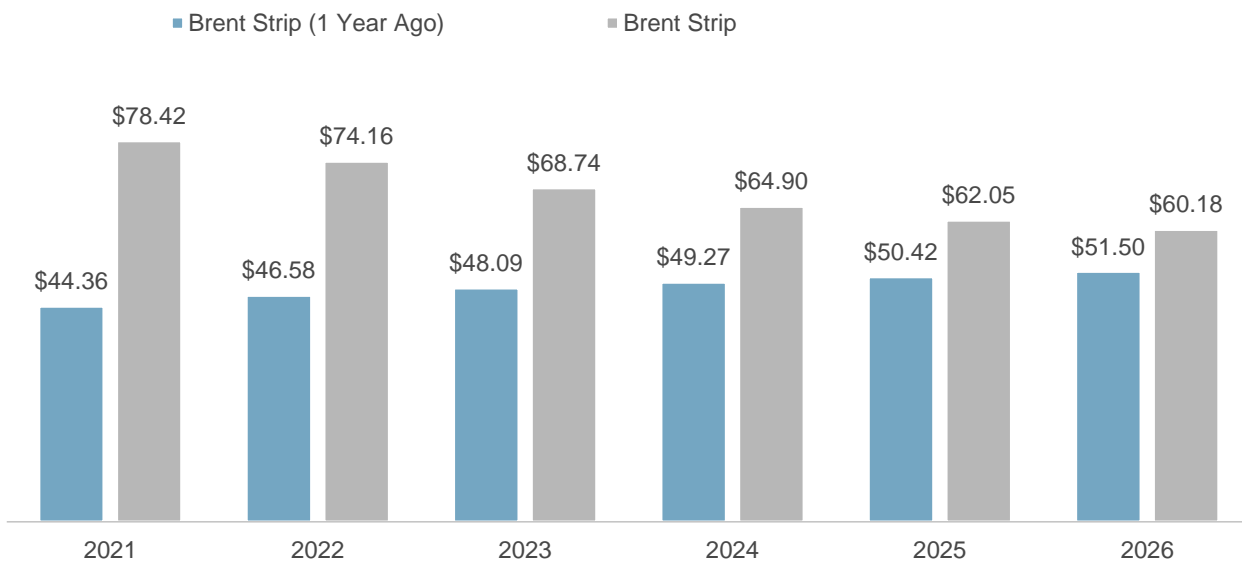


Strip Pricing

WTI Cushing Strip Pricing Comparison (\$/bbl)

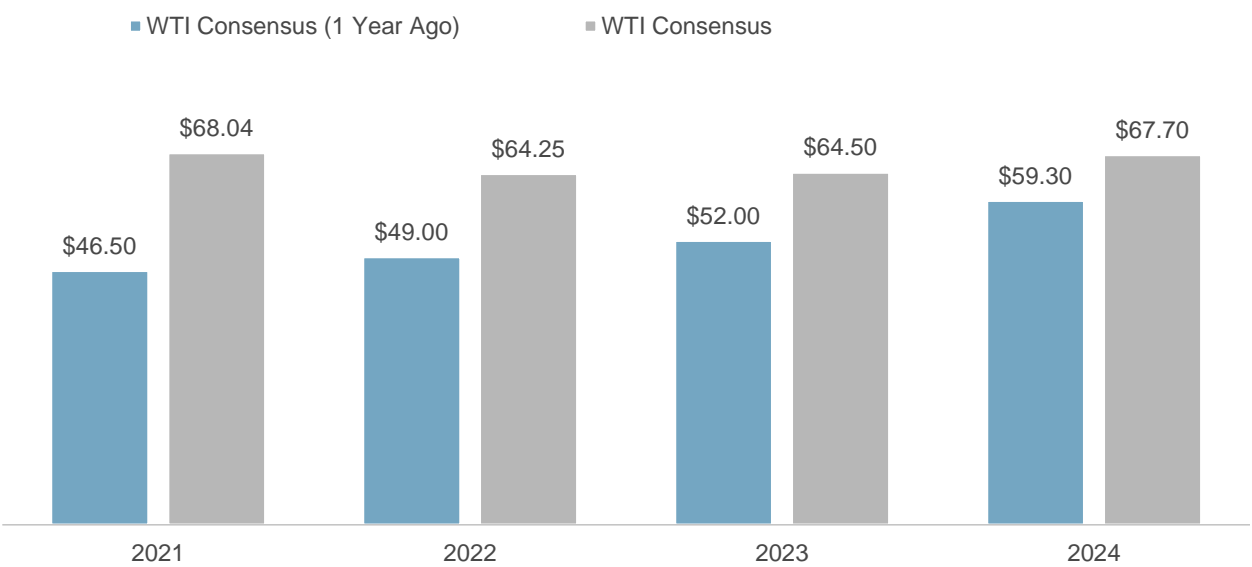


Brent Strip Pricing Comparison (\$/bbl)



Consensus Pricing

WTI Cushing Consensus Pricing Comparison (\$/bbl)



Brent Consensus Pricing Comparison (\$/bbl)



*Note: All data as of September 30, 2021. Represents the average price for the remainder of 2021 and each year thereafter.
Source: Bloomberg.*

Differentials

Regional Crude Oil Spot Pricing

Region	9/30/2021	9/30/2020	6/30/2021	YoY % Change	QoQ % Change
Brent	\$78.8	\$41.0	\$75.1	92.4%	4.9%
<i>Brent – WTI Cushing</i>	\$3.7	\$0.7	\$1.7		
WTI Cushing	\$75.0	\$40.2	\$73.5	86.5%	2.1%
<i>WTI Cushing – Brent</i>	(\$3.7)	(\$0.7)	(\$1.7)		
WTI Midland	\$75.7	\$40.2	\$73.4	88.3%	3.1%
<i>WTI Cushing – WTI Midland</i>	(\$0.7)	\$0.0	\$0.0		
Bakken	\$75.6	\$38.5	\$74.1	96.6%	2.1%
<i>WTI Cushing – Bakken</i>	(\$0.6)	\$1.8	(\$0.6)		
Eagle Ford Light	\$71.5	\$36.8	\$70.0	94.6%	2.2%
<i>WTI Cushing – Eagle Ford Light</i>	\$3.5	\$3.5	\$3.5		
WTS	\$75.8	\$40.0	\$73.1	89.7%	3.7%
<i>WTI Cushing – WTS</i>	(\$0.8)	\$0.3	\$0.3		
WCS	\$63.4	\$29.4	\$59.5	115.8%	6.5%
<i>WTI Cushing – WCS</i>	\$11.6	\$10.8	\$14.0		
Maya	\$70.5	\$38.0	\$69.2	85.8%	1.9%
<i>Maya – WCS</i>	\$7.1	\$8.6	\$9.7		
Mars	\$73.7	\$40.7	\$71.6	81.1%	2.9%
<i>WTI Cushing – Mars</i>	\$1.3	(\$0.5)	\$1.8		
LLS	\$76.3	\$41.5	\$74.2	84.1%	2.9%
<i>LLS – Maya</i>	\$5.8	\$3.5	\$4.9		
ANS	\$78.7	\$40.6	\$75.6	94.1%	4.2%
<i>Brent – ANS</i>	\$0.0	\$0.4	(\$0.4)		

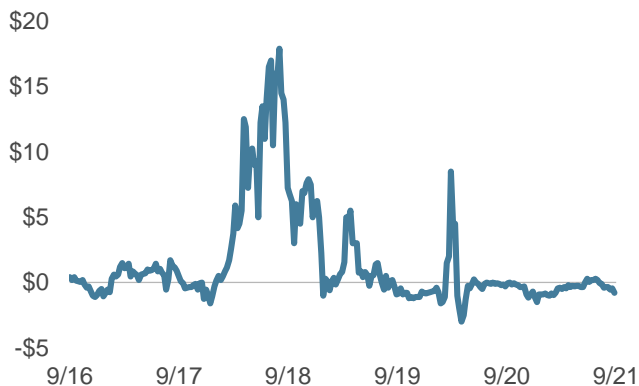
Note: All data as of September 30, 2021. Data collected on a daily basis.
Source: Bloomberg.

Differentials (\$/bbl)

Brent – WTI Cushing



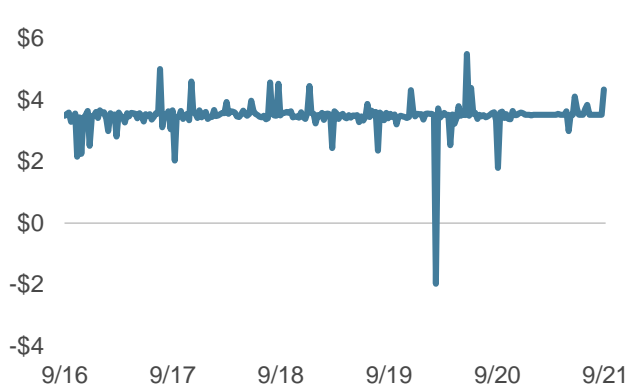
WTI Cushing – WTI Midland



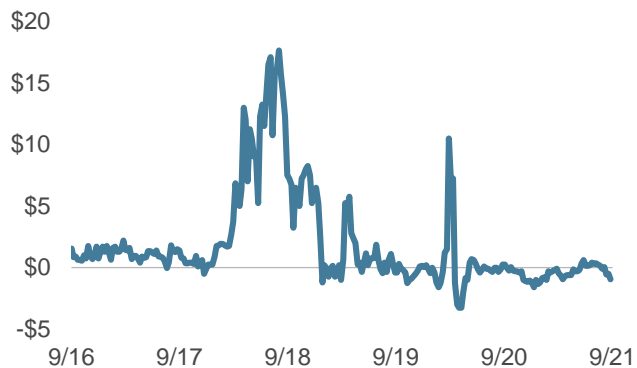
WTI Cushing – WTI Bakken Clearbrook



WTI Cushing – Eagle Ford Light



WTI Cushing – WTS



WTI Cushing – WCS



Differentials (\$/bbl) (cont.)

WTI Cushing – Maya



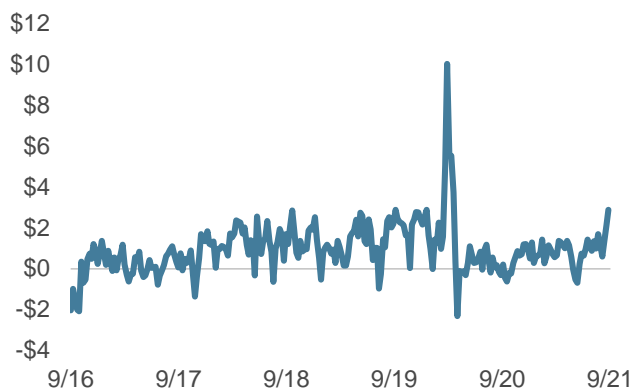
WTI Cushing – Mars



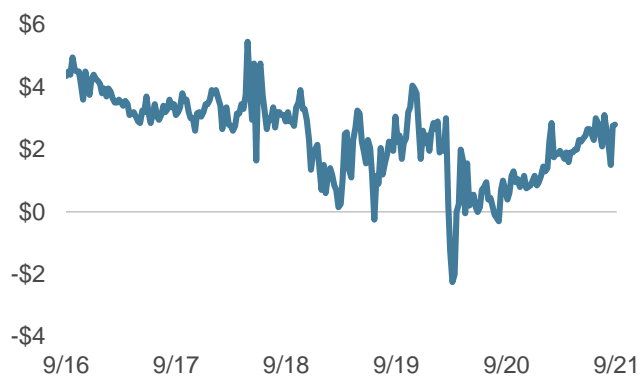
LLS – WTI Cushing



Brent – LLS



LLS – Mars



Bakken – ANS



Differentials (\$/bbl) (cont.)

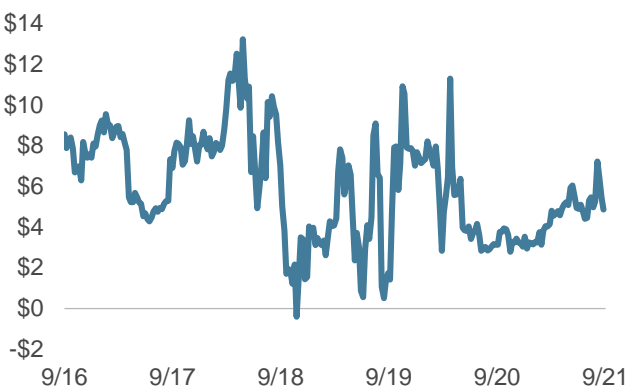
Brent – ANS



Maya – WCS



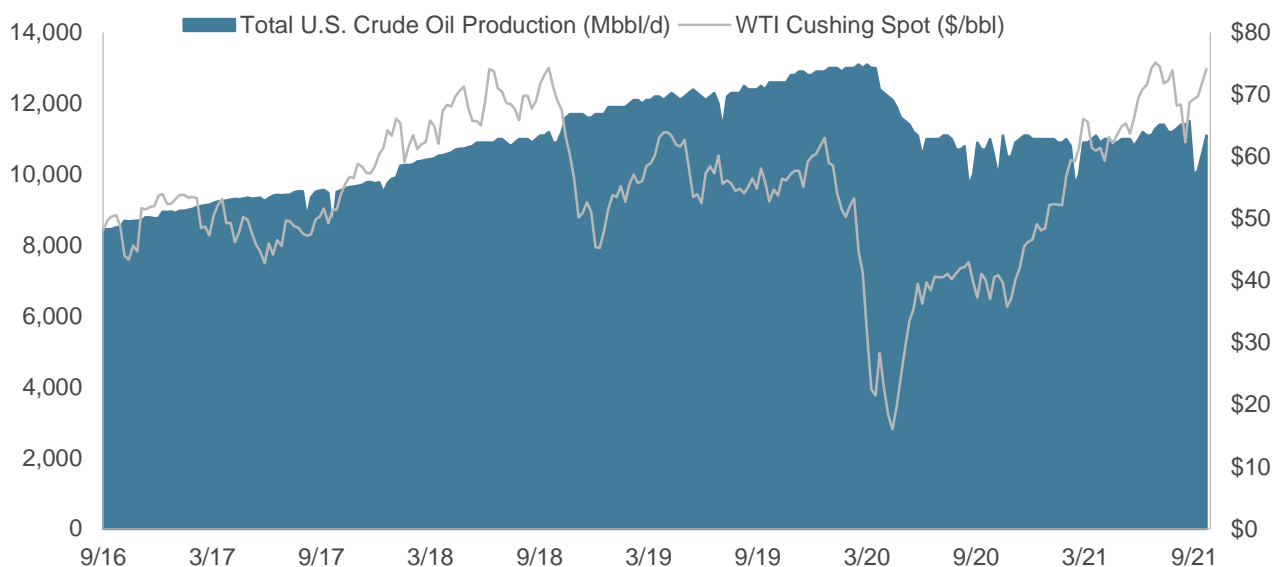
LLS – Maya



Note: All data as of September 30, 2021. Data collected on a weekly basis.
Source: Bloomberg.

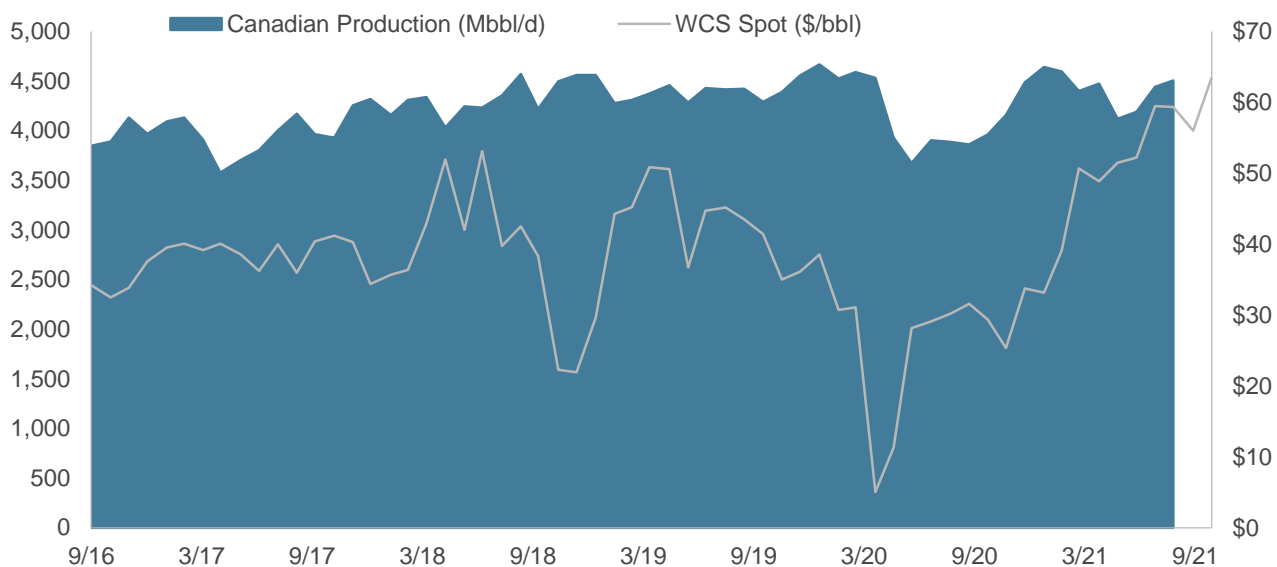
Production

U.S. Production (Mbbbl/d) vs. WTI (\$/bbl)



Note: Data collected on a weekly basis and is subject to a one-week lag for production.

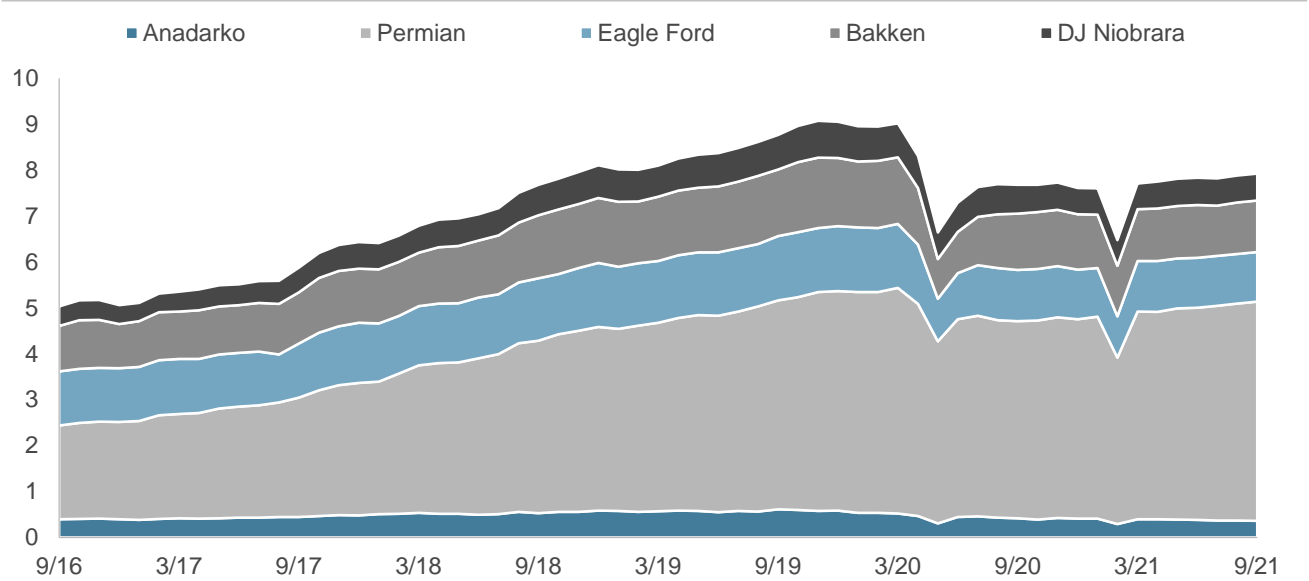
Canadian Production (Mbbbl/d) vs. WCS (\$/bbl)



Note: Data collected on a monthly basis and is subject to a one-month lag for production.

Production (cont.)

Production in Select Regions (MMbbl/d)⁽¹⁾



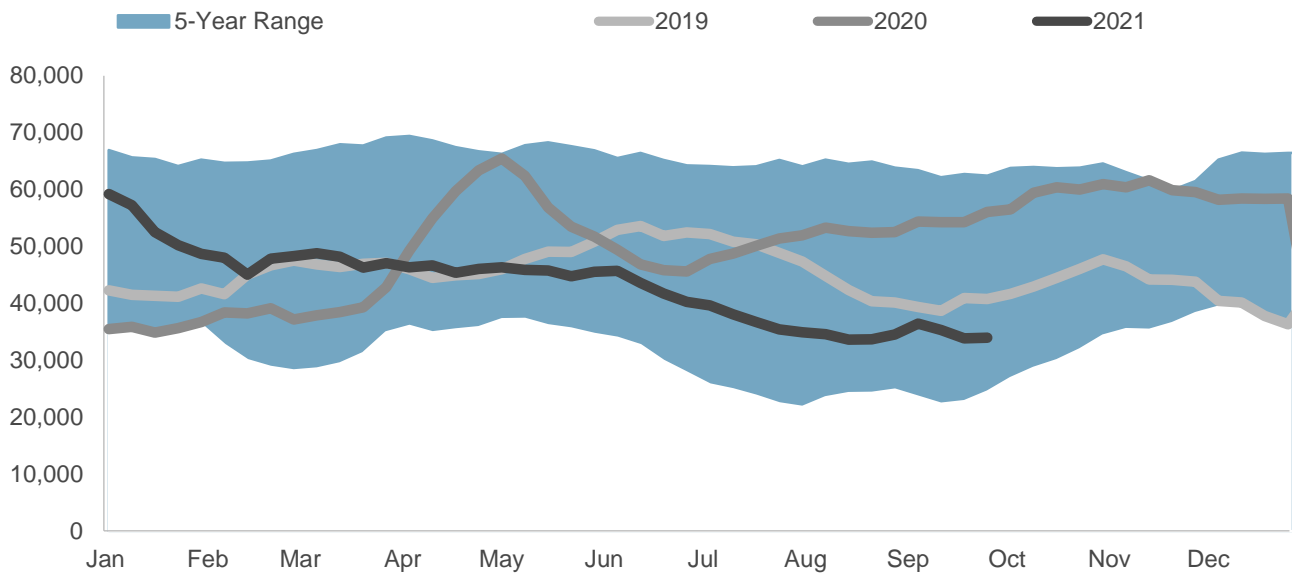
Note: All data as of September 30, 2021. Data collected on a monthly basis.

Sources: Bloomberg, EIA.

(1) EIA's drilling productivity report uses recent data on the total number of drilling rigs in operation, along with estimates of drilling productivity and estimated changes in production from existing wells, to provide estimated changes in production for key regions.

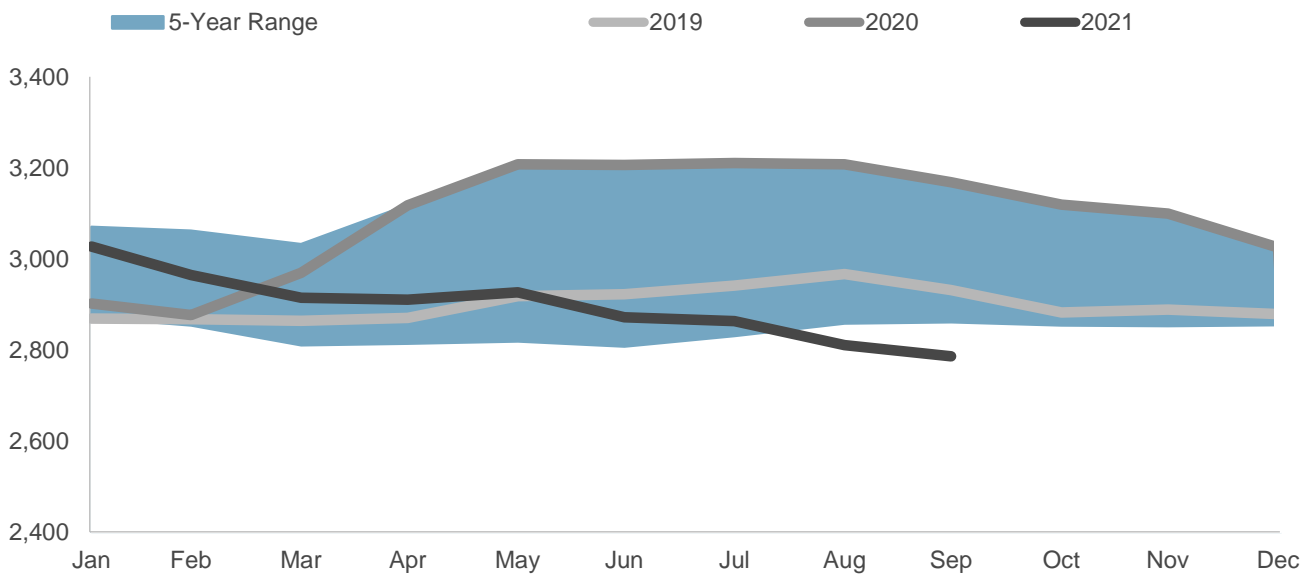
Inventory

U.S. Cushing Crude Inventory (Mbbl)



Note: Data collected on a weekly basis.

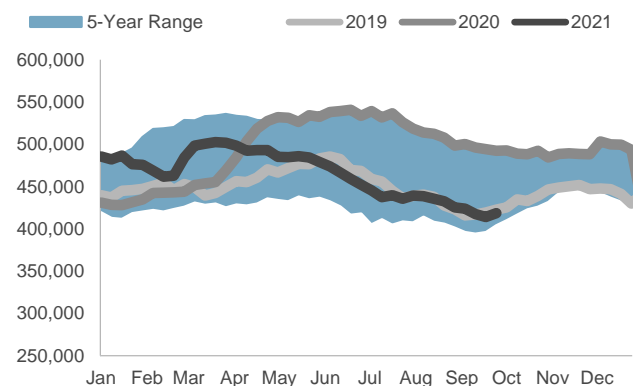
OECD Commercial Inventories (MMbbl)



Note: Data collected on a monthly basis.

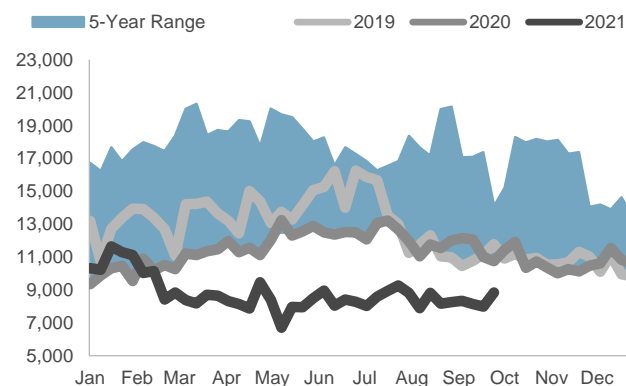
Inventory (Mbbbl)

Overall U.S. Crude Inventory

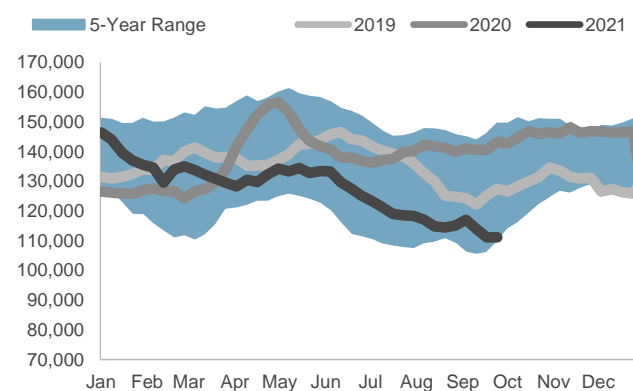


Note: Excludes strategic petroleum reserve (SPR).

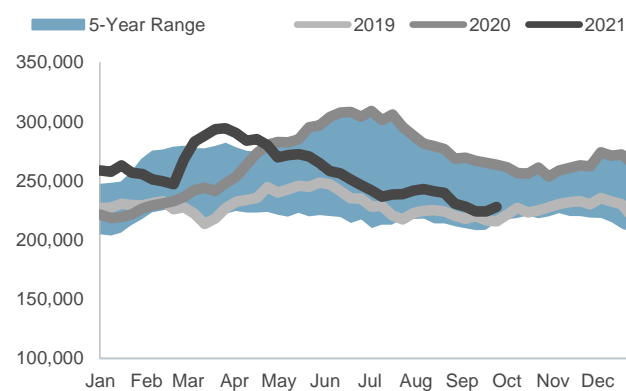
PADD I



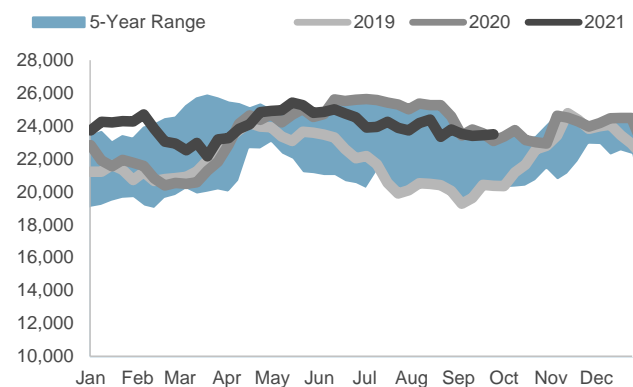
PADD II



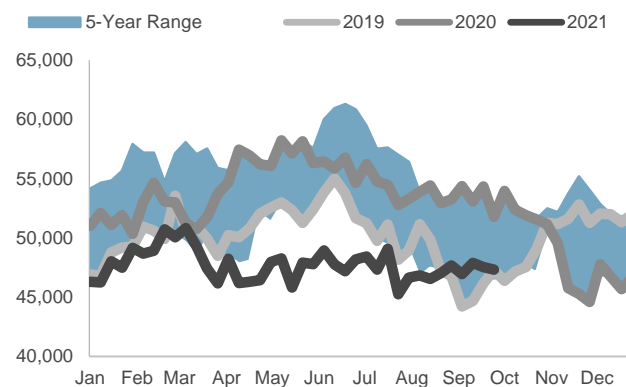
PADD III



PADD IV

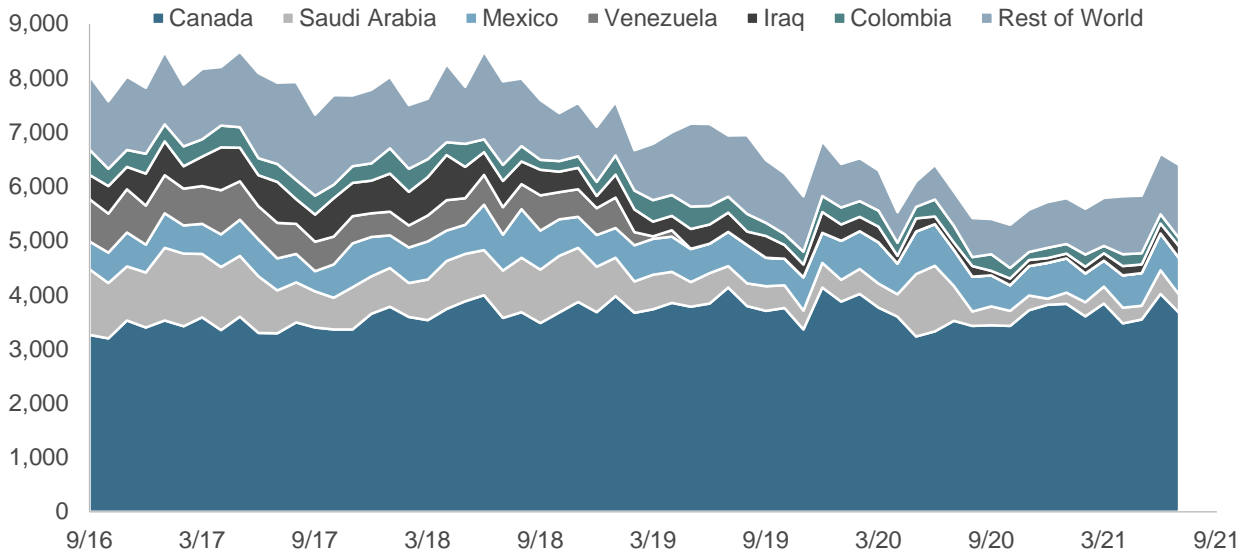


PADD V



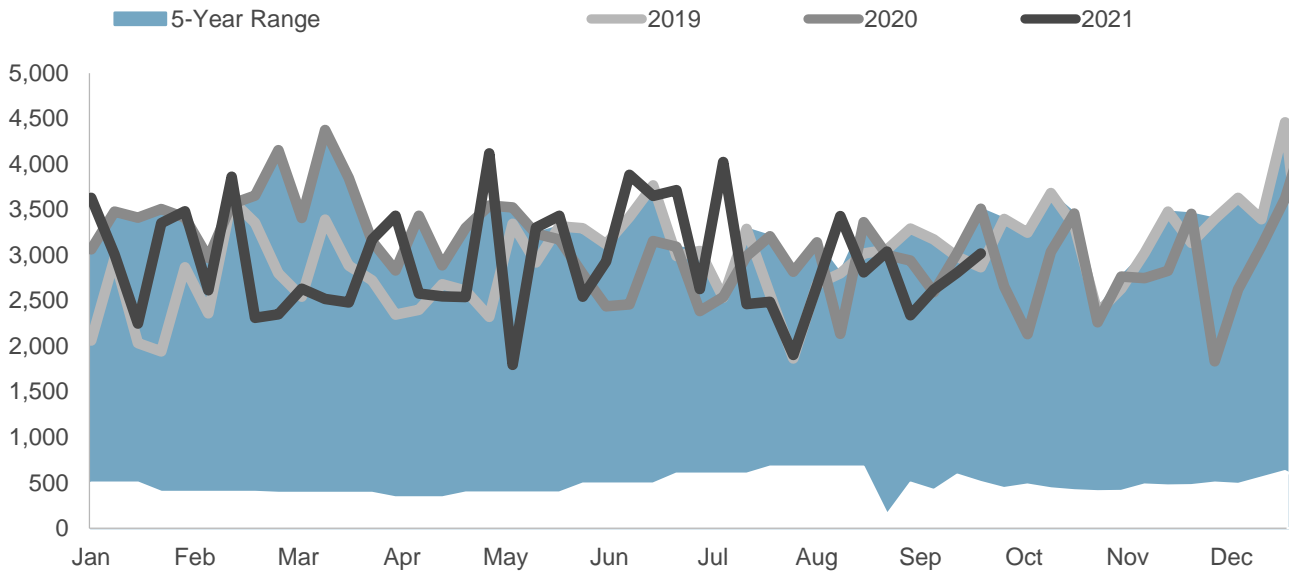
Trade

U.S. Crude Imports by Country (Mbbbl/d)



Note: Data collected on a monthly basis and is subject to a two- to four-month lag.

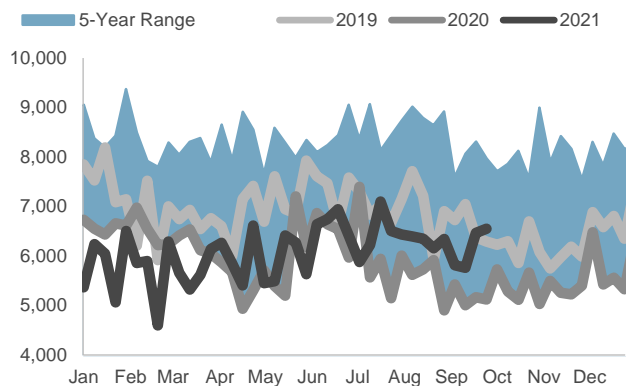
Total U.S. Crude Exports (Mbbbl/d)



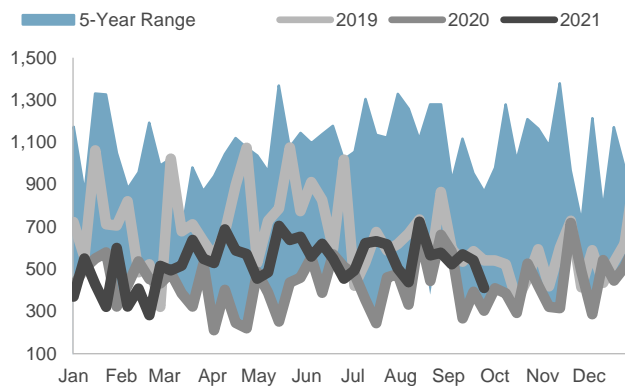
Note: Data collected on a weekly basis.

U.S. Commercial Crude Imports by Destination (Mbbbl/d)

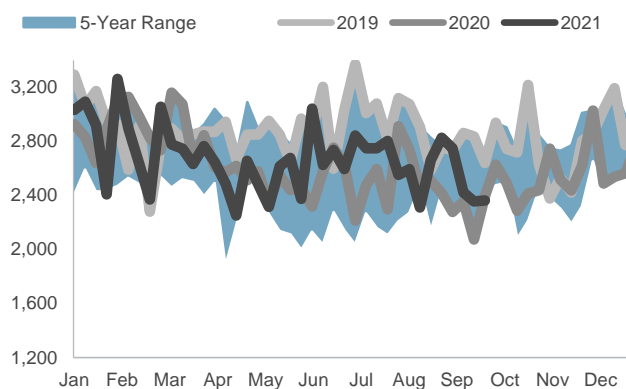
Overall U.S. Commercial Crude Imports



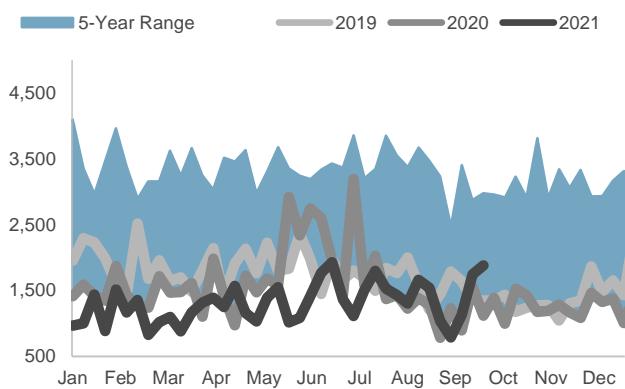
Destination – PADD I



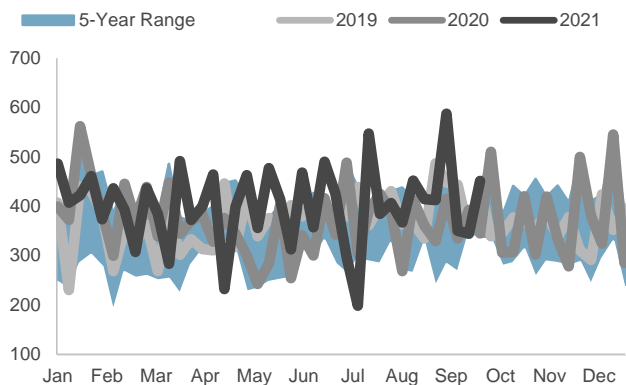
Destination – PADD II



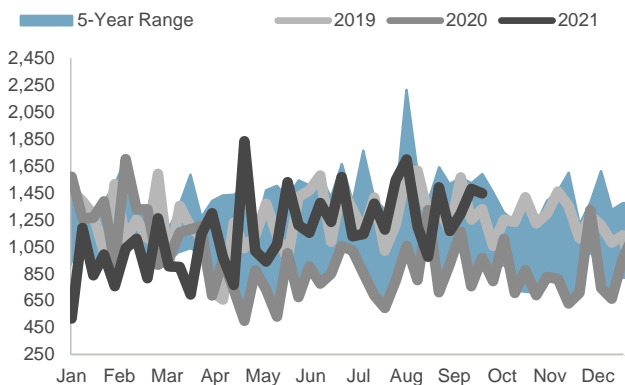
Destination – PADD III



Destination – PADD IV

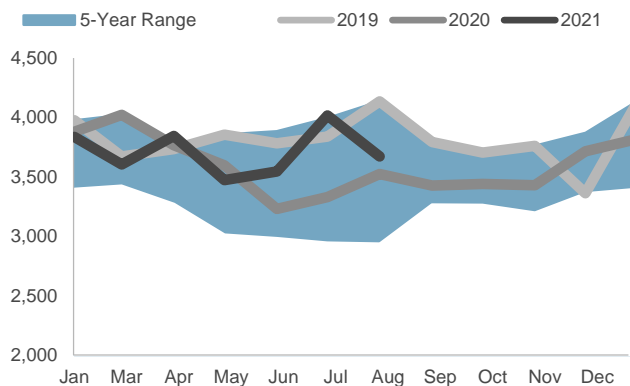


Destination – PADD V

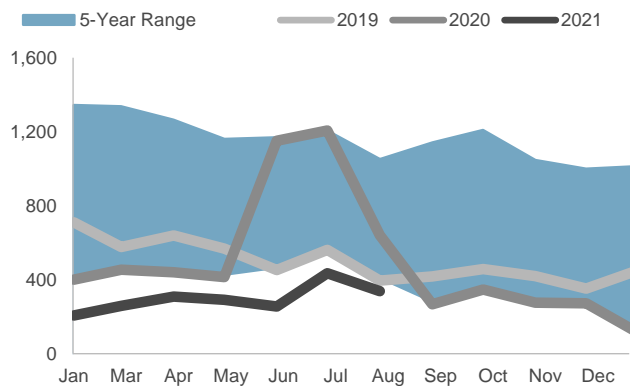


U.S. Imports by Country (Mbbbl/d)

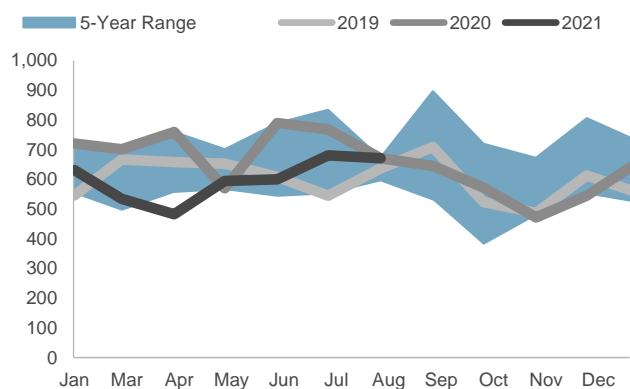
Canada



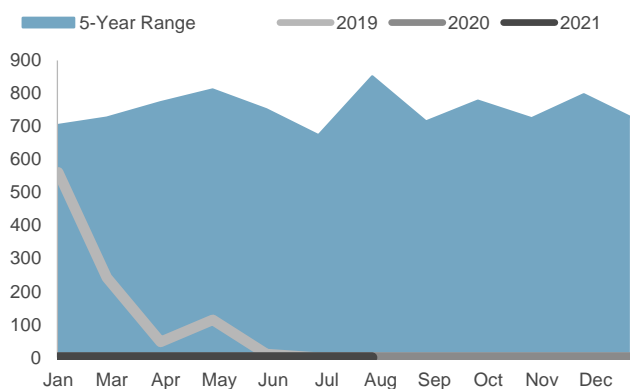
Saudi Arabia



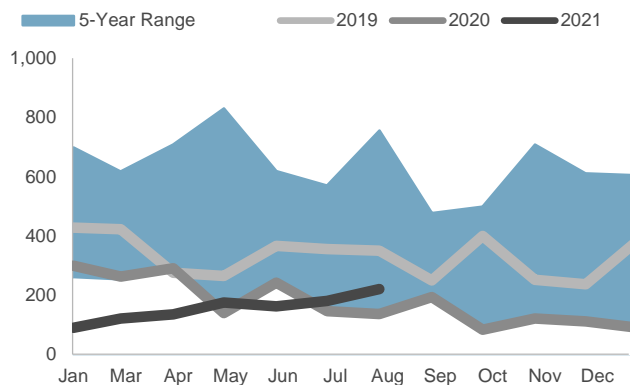
Mexico



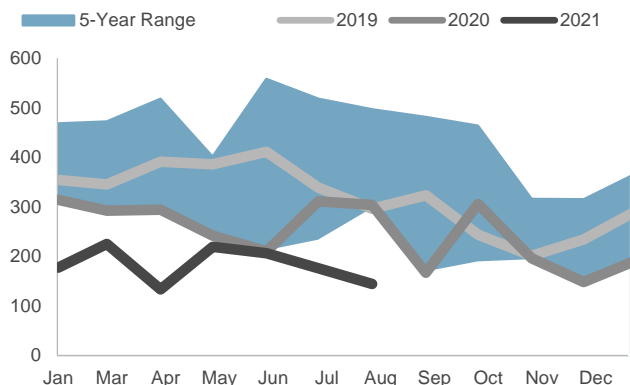
Venezuela



Iraq



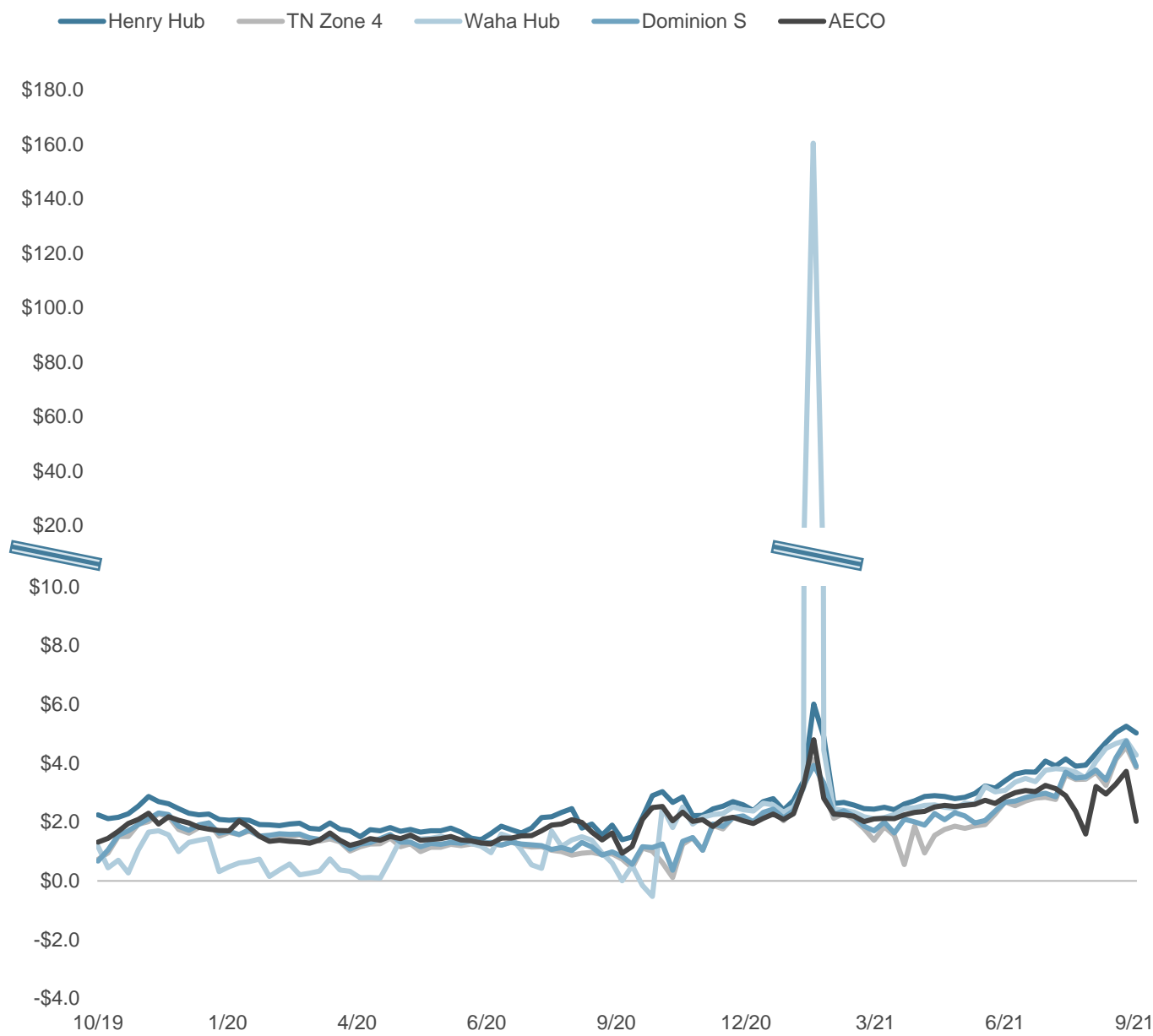
Colombia



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Natural Gas Spot Pricing

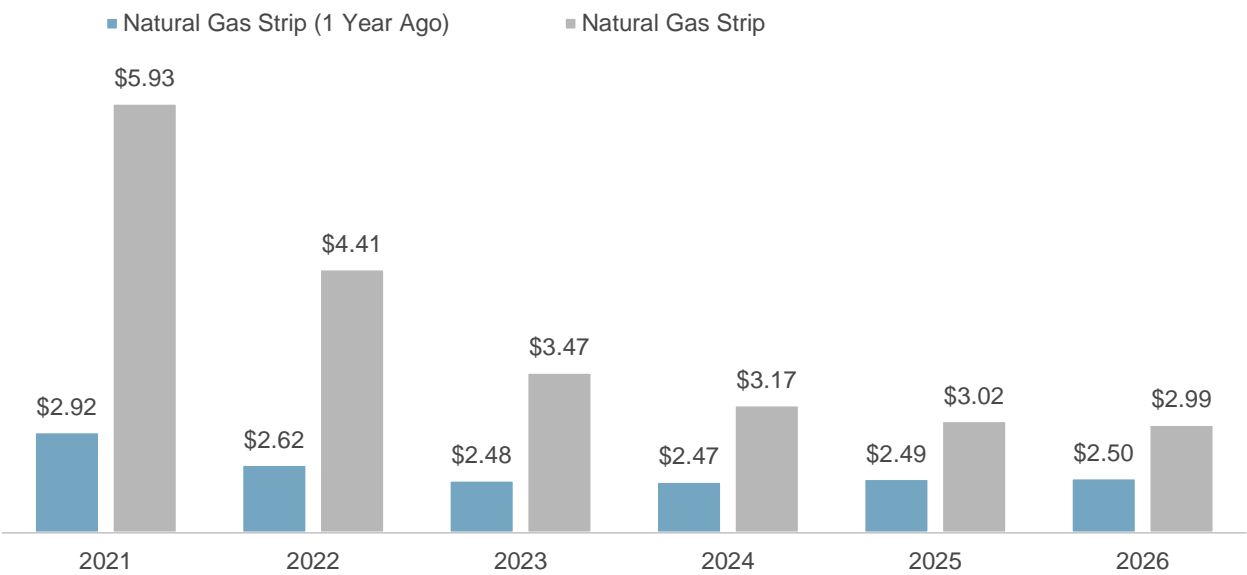
Pricing (\$/MMBtu)



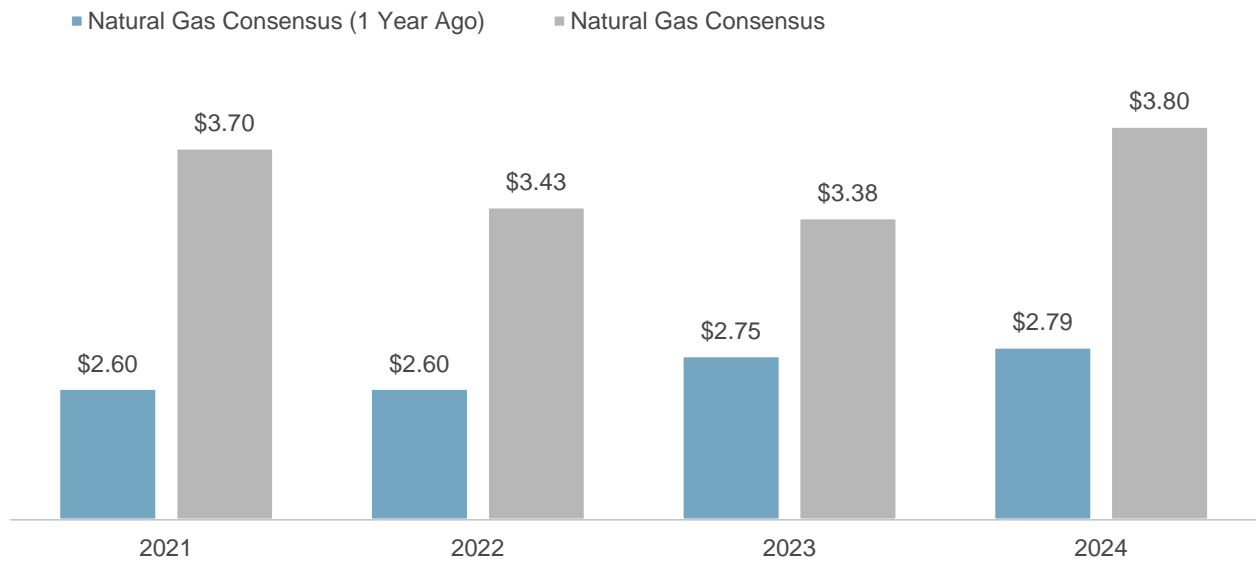
Note: All data as of September 30, 2021. Data collected on a weekly basis.
Source: Bloomberg.

Natural Gas Pricing

Strip Pricing Comparison (\$/MMbtu)



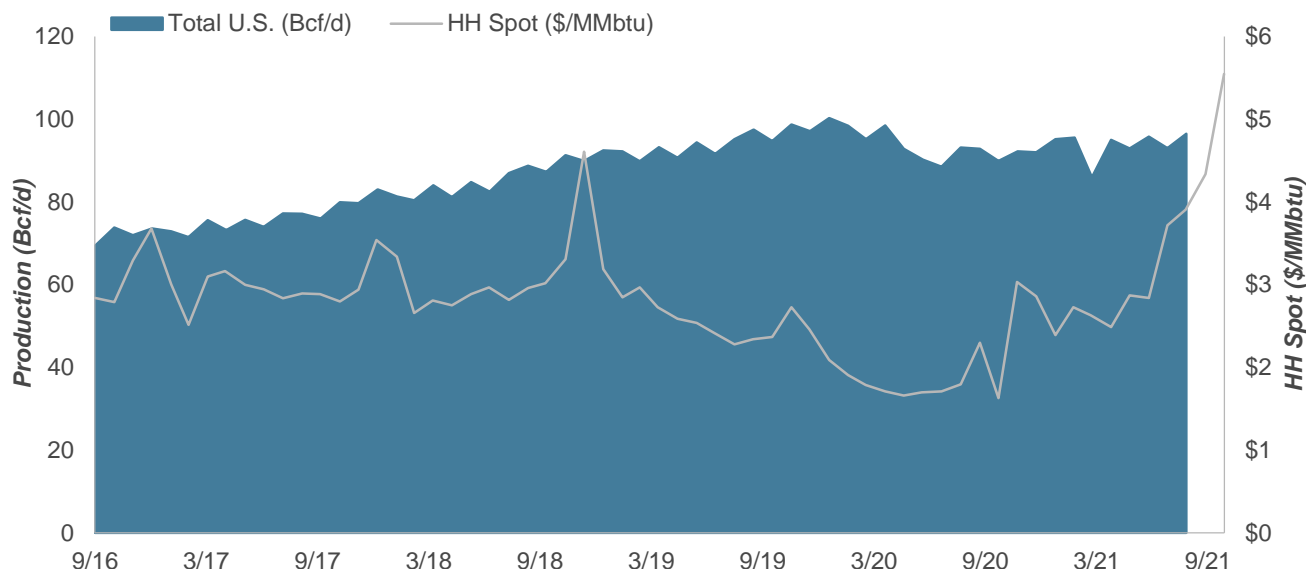
Consensus Pricing Comparison (\$/MMbtu)



*Note: All data as of September 30, 2021. Represents the average price for the remainder of 2019 and each year thereafter.
Source: Bloomberg.*

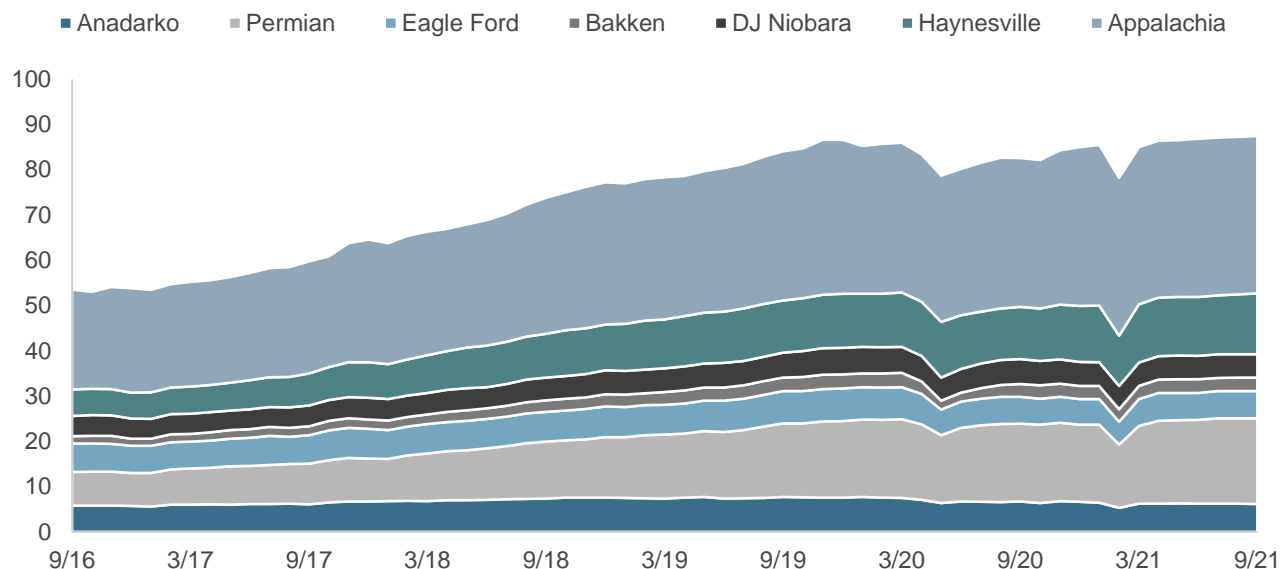
Natural Gas Production

Total U.S. Dry Natural Gas Production (Bcf/d)



Note: Data is collected on a monthly basis and subject to a two-month lag for production.

Select Dry Natural Gas Production by Regions (Bcf/d)⁽¹⁾



Note: All data as of September 30, 2021. Data collected on a monthly basis.

Sources: Bloomberg, EIA.

(1) EIA's drilling productivity report uses recent data on the total number of drilling rigs in operation, along with estimates of drilling productivity and estimated changes in production from existing wells, to provide estimated changes in production for key regions.

Differentials

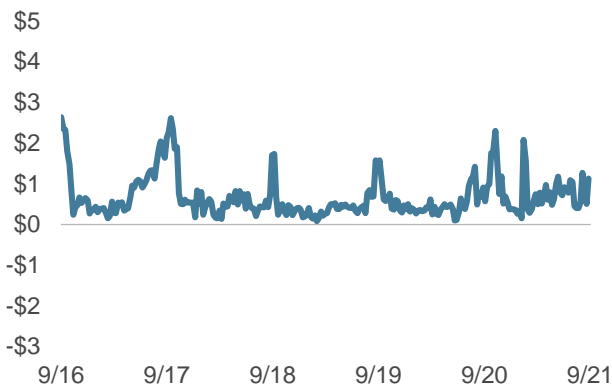
Regional Natural Gas Spot Pricing

Region	9/30/2021	9/30/2020	6/30/2021	YoY % Change	QoQ % Change
Henry Hub	\$5.6	\$1.6	\$3.7	240.5%	49.2%
<i>Benchmark</i>					
Dominion South	\$4.6	\$1.0	\$2.8	373.5%	64.0%
<i>Henry Hub – Dominion South</i>	\$0.9	\$0.7	\$0.9		
TN Zone 4	\$4.4	\$0.9	\$2.6	400.0%	69.9%
<i>Henry Hub – TN Zone 4</i>	\$1.2	\$0.8	\$1.1		
AECO	\$2.9	\$1.4	\$3.5	114.0%	-15.7%
<i>Henry Hub – AECO</i>	\$2.6	\$0.3	\$0.3		
Waha Hub	\$5.1	\$0.7	\$3.5	598.6%	44.5%
<i>Henry Hub – Waha</i>	\$0.5	\$0.9	\$0.2		

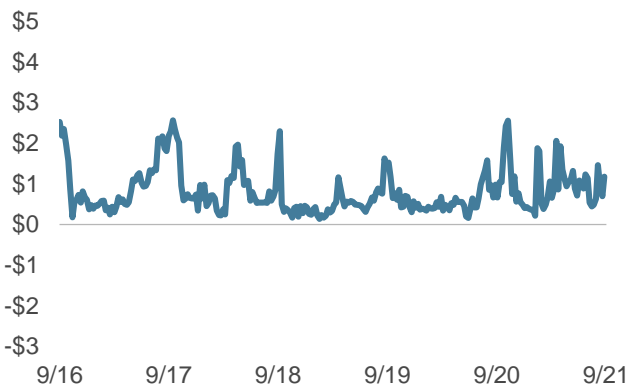
Note: All data as of September 30, 2021. Represents the average price for the remainder of 2021 and each year thereafter.
Source: Bloomberg.

Natural Gas – Differentials (\$/MMbtu)

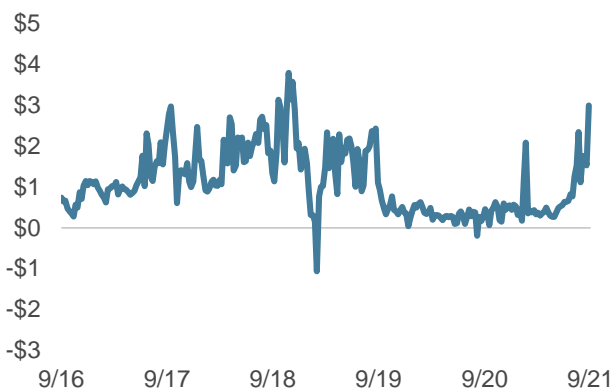
HH – Dominion South



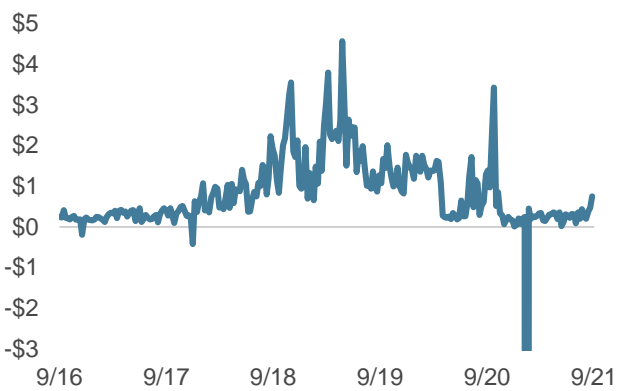
HH – TN Zone 4



HH – AECO



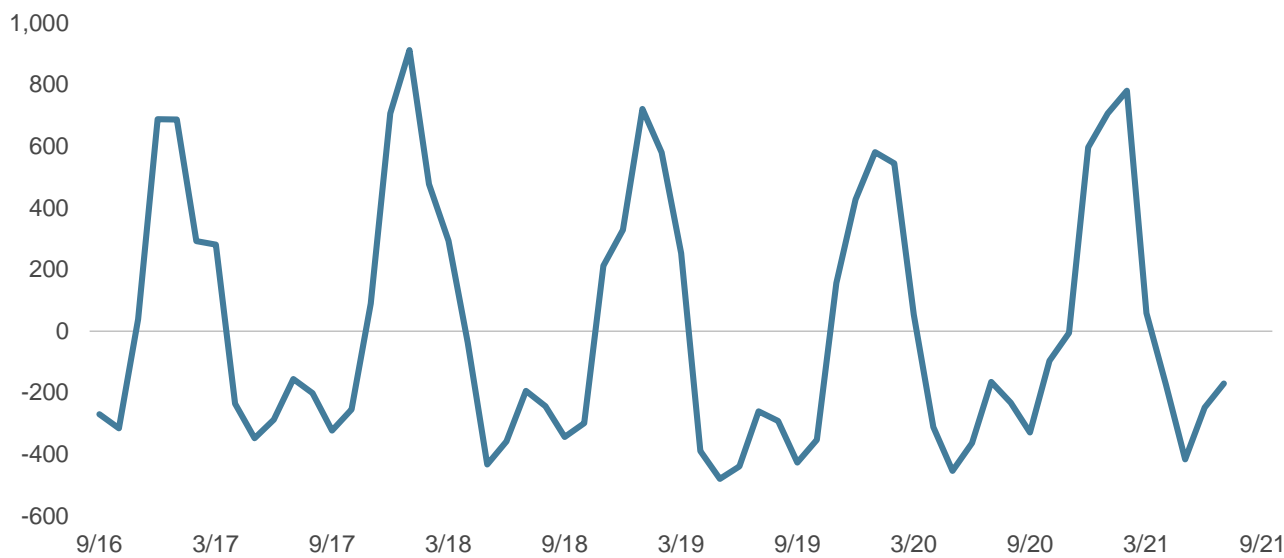
HH – Waha Hub



Note: Low of -\$154.6 on February 12, 2021, associated with winter storms.

Natural Gas

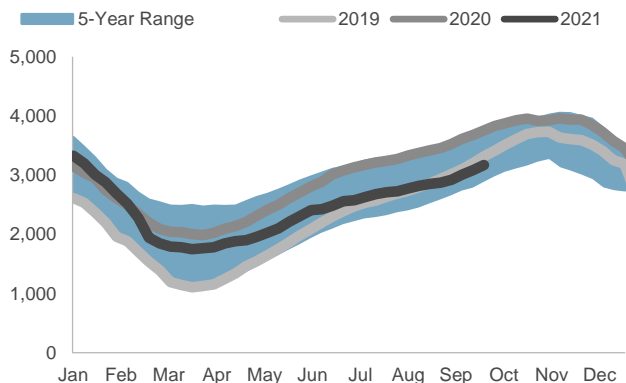
U.S. Natural Gas Withdrawal (Bcf)



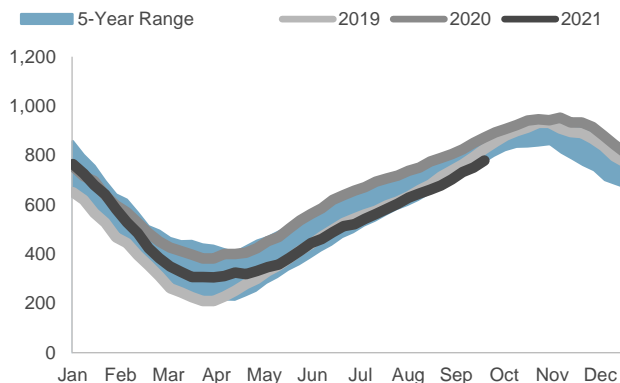
Note: Data is collected on a monthly basis and subject to irregular updates.

Natural Gas Storage (Bcf)

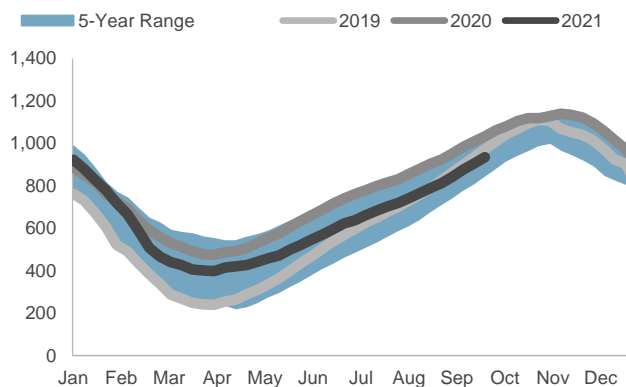
Total U.S.



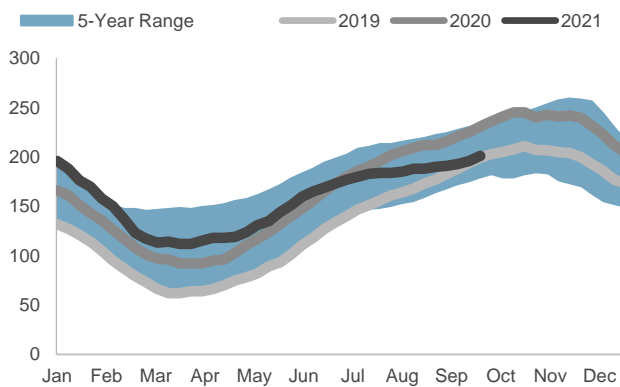
East



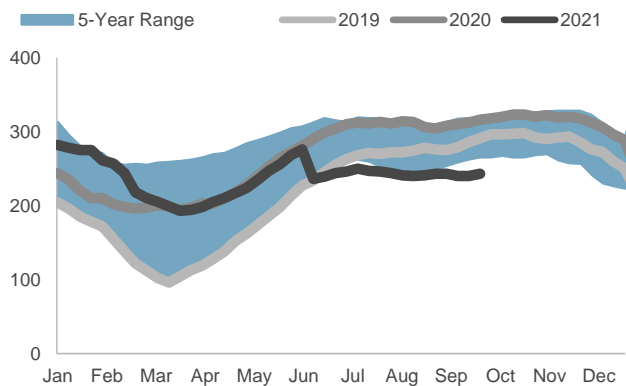
Midwest



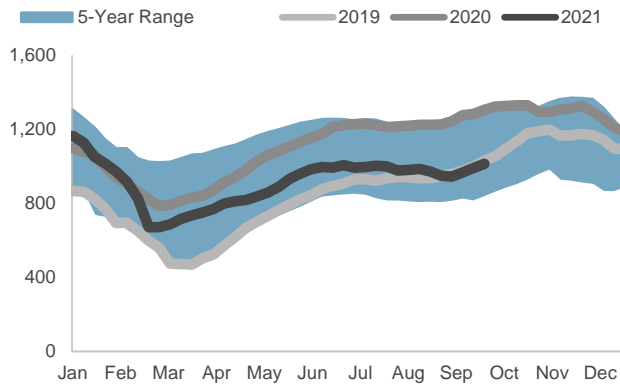
Mountain



Pacific

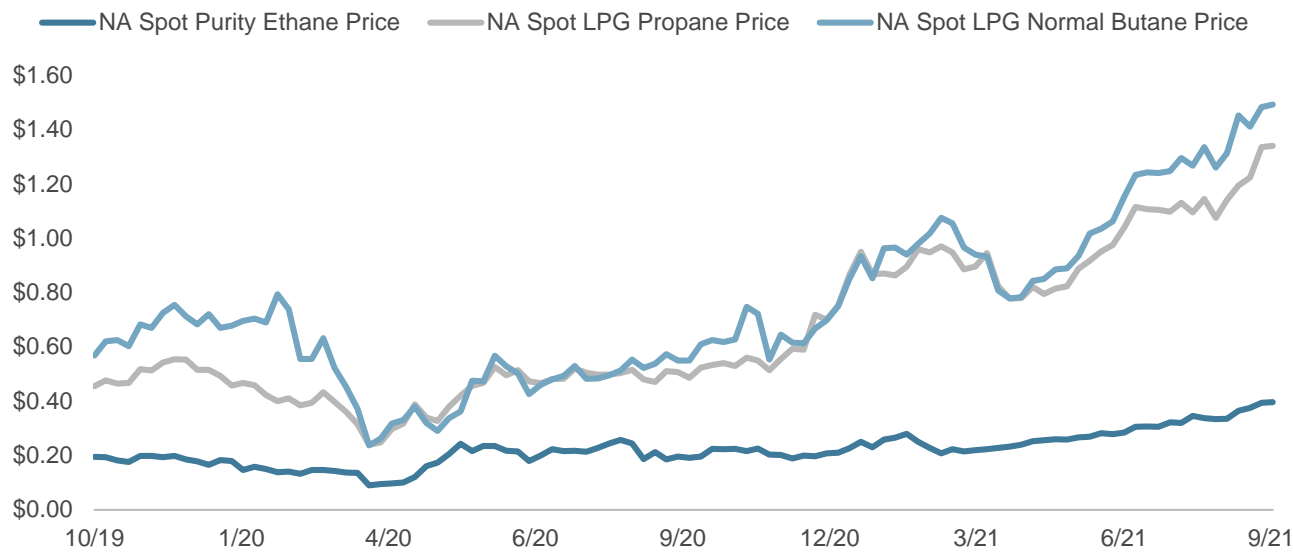


South Central



NGLs Spot Pricing

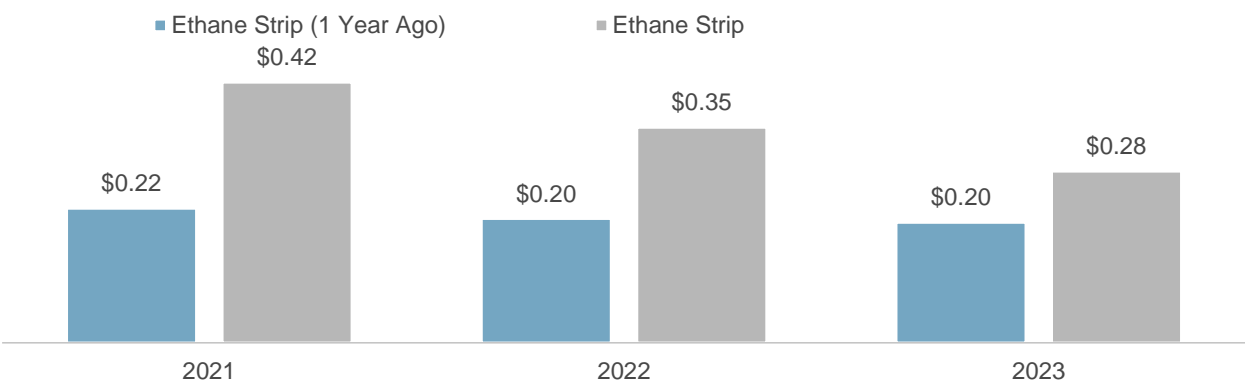
Pricing (\$/gal)



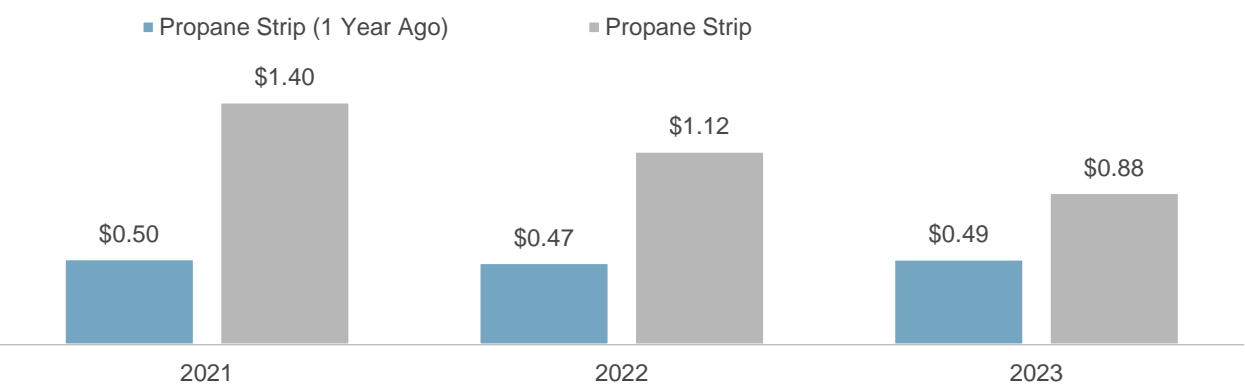
Note: All data as of September 30, 2021. Data collected on a weekly basis.
Source: Bloomberg.

NGLs Strip Pricing

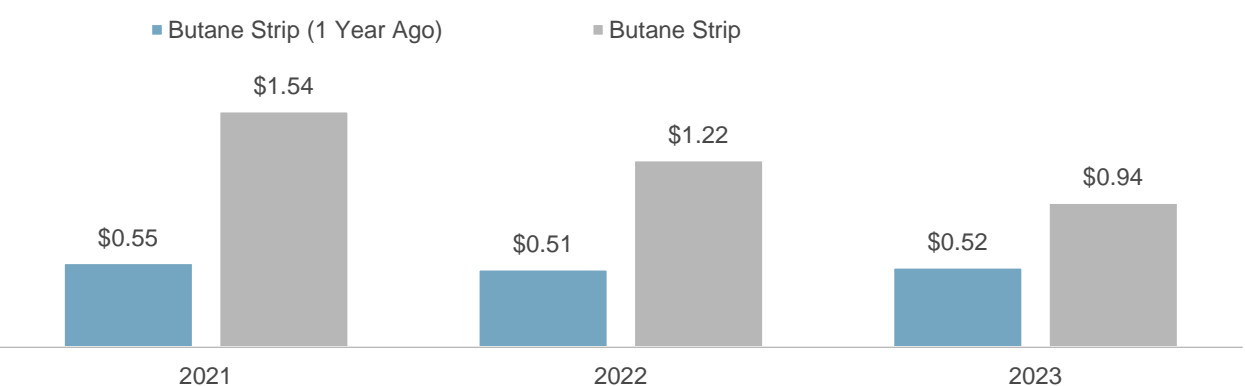
Ethane Strip Pricing Comparison (\$/gal)



Propane Strip Pricing Comparison (\$/gal)

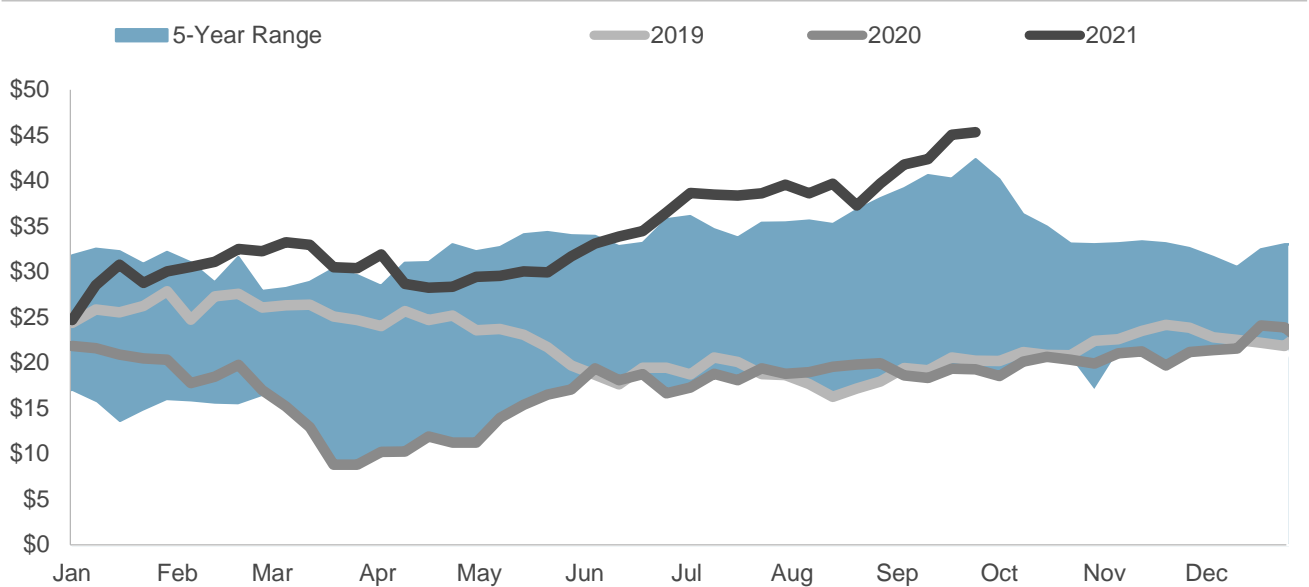


Butane Strip Pricing Comparison (\$/gal)



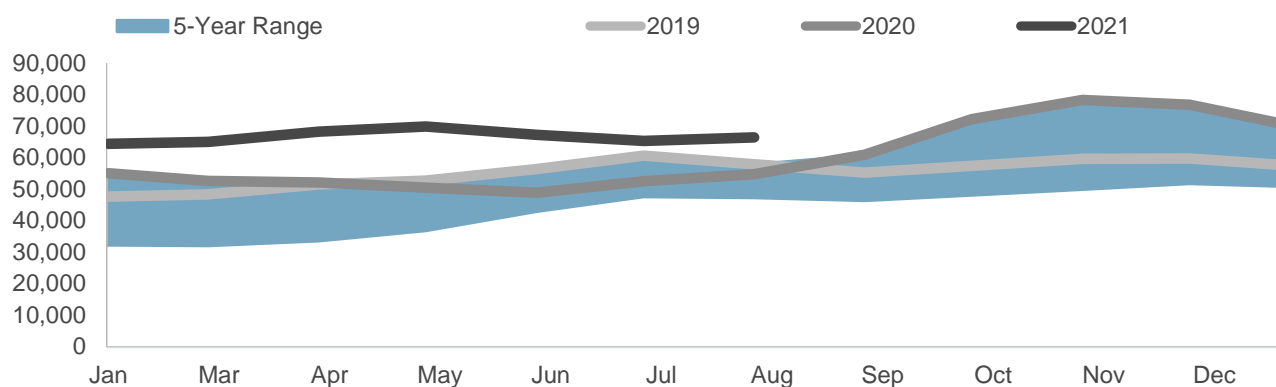
NGLs Frac Spreads

Mont Belvieu Frac Spread (\$/bbl)

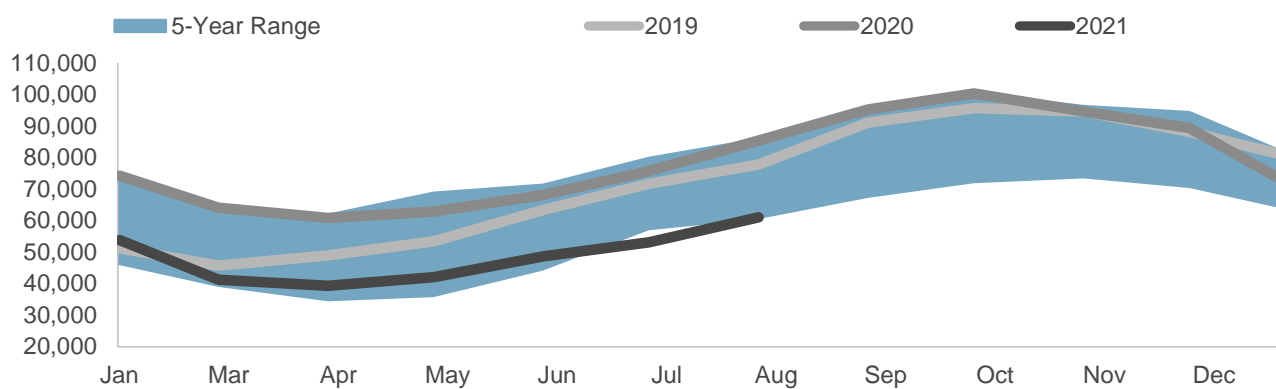


NGLs Inventory

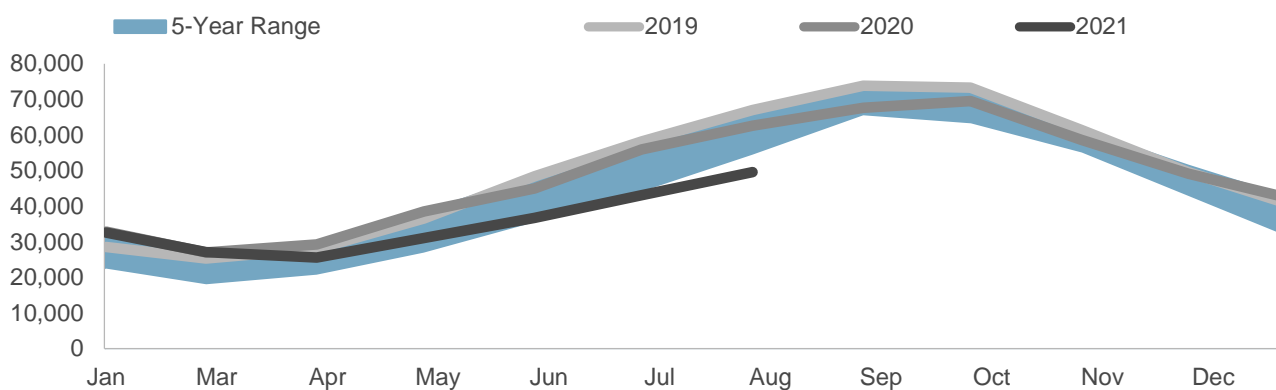
U.S. Ending Stocks Ethane (Mbbbls)



U.S. Ending Stocks Propane (Mbbbls)



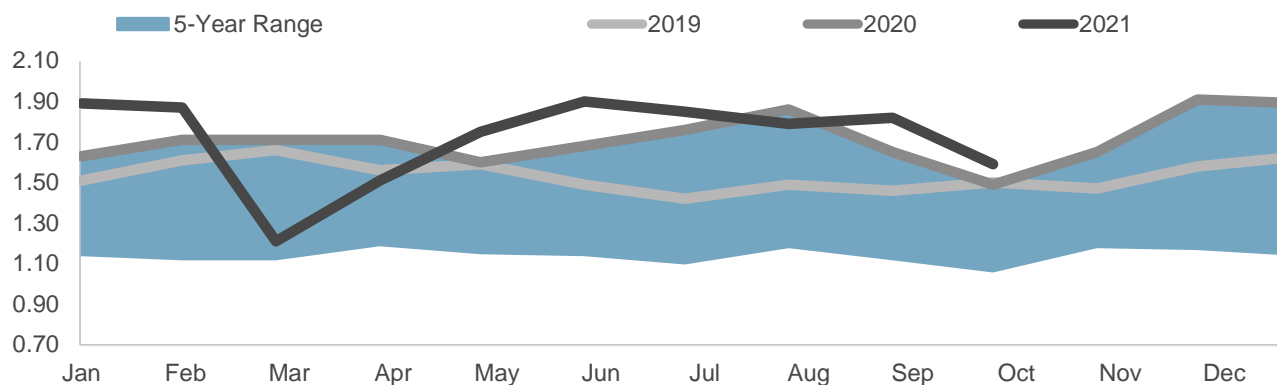
Normal Butane/Butylene (Mbbbls)



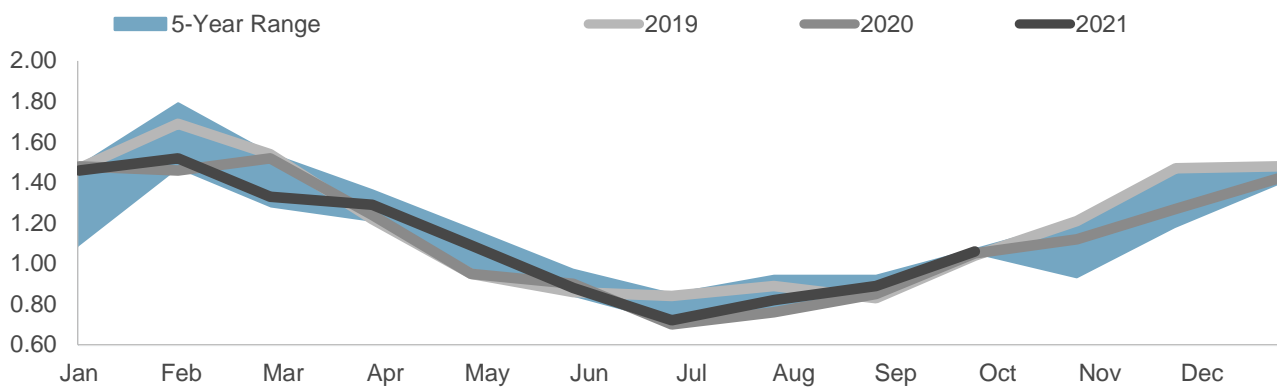
Note: All data as of September 30, 2021. Data is collected on a monthly basis and subject to a two-month lag.
Source: Bloomberg.

NGLs Consumption

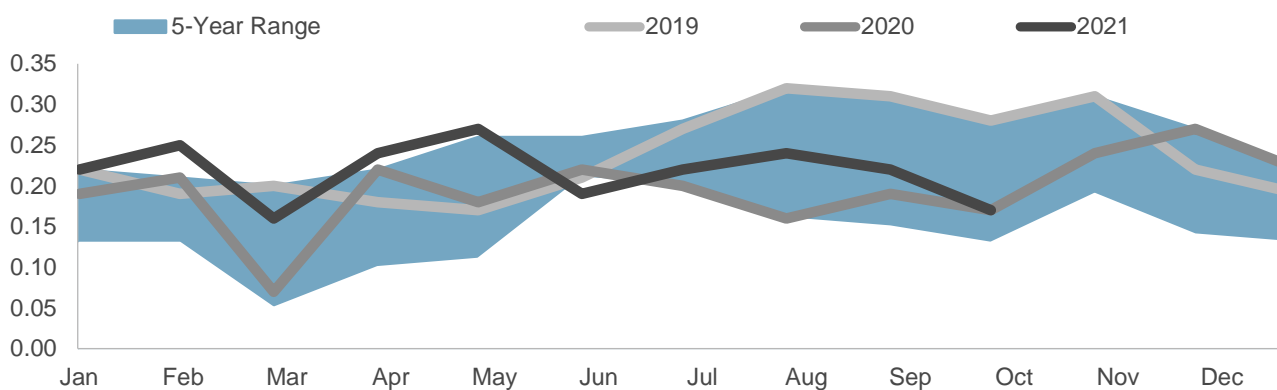
U.S. Ethane/Ethylene Consumption (MMboe/d)



U.S. Propane/Propylene Consumption (MMboe/d)



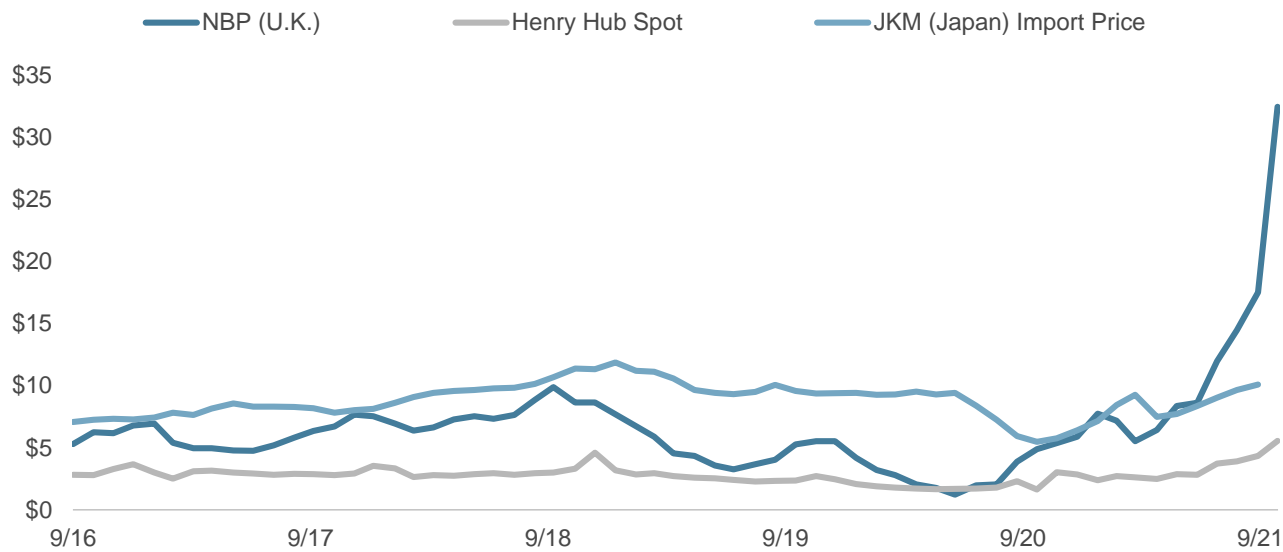
U.S. Butane/Butylene Consumption (MMboe/d)



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Spot Pricing

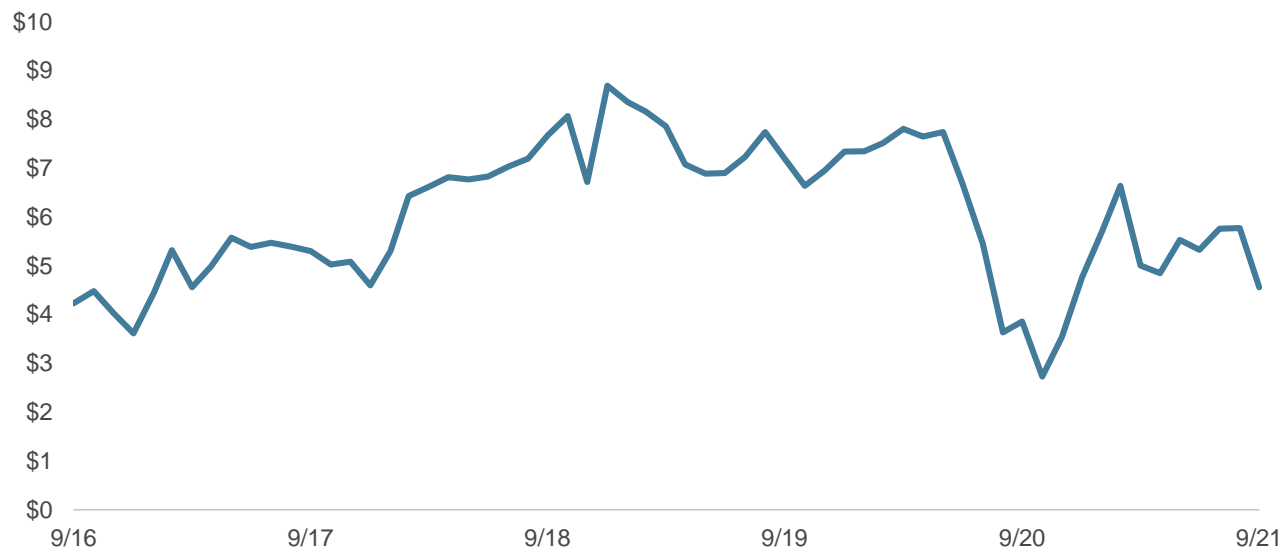
Spot Pricing (\$/MMbtu)



*Note: All data as of September 30, 2021. Data collected on a monthly basis.
NBP (U.K.) refers to the ICE U.K. Natural Gas NBP Month 1 Futures.
Source: Bloomberg.*

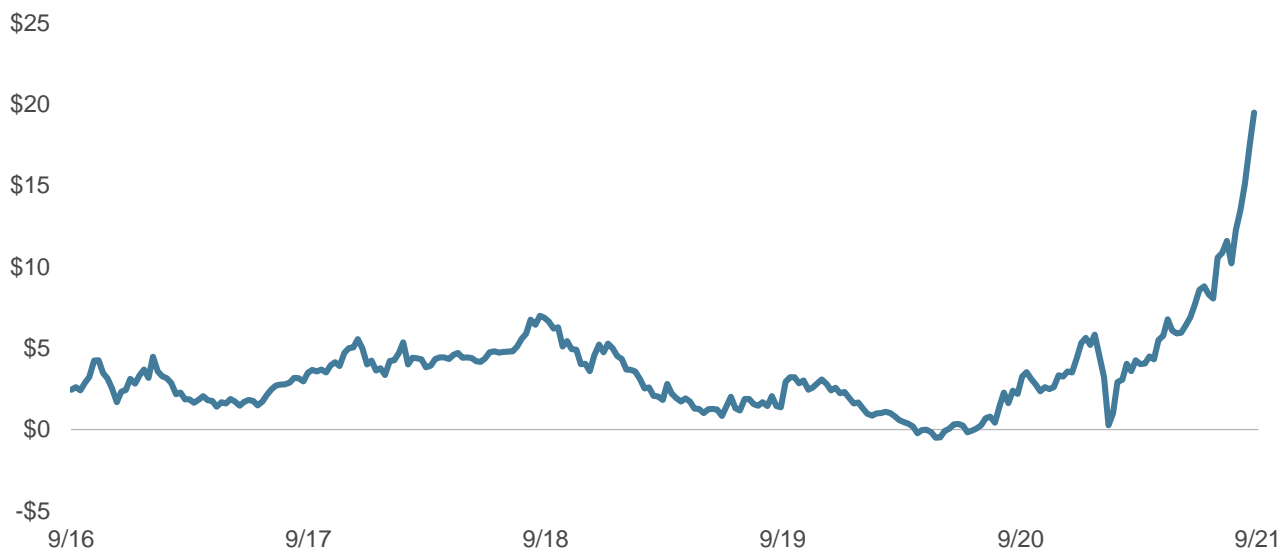
Differentials

JKM – Henry Hub (\$/MMbtu)



Note: Data collected on a monthly basis.

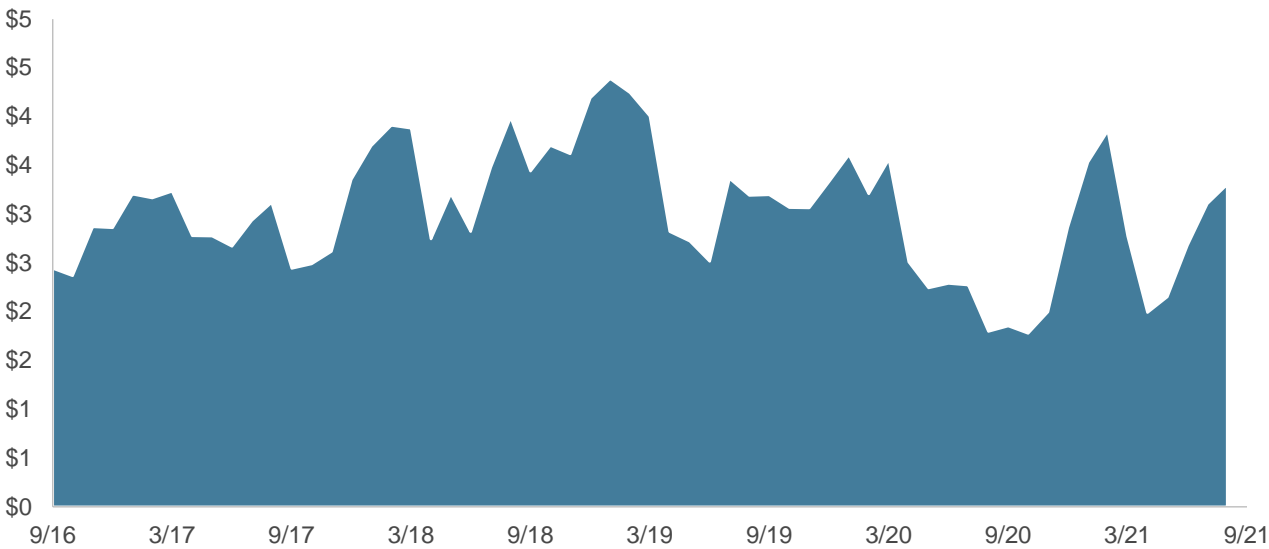
NBP – Henry Hub (\$/MMbtu)



Note: Data collected on a weekly basis.

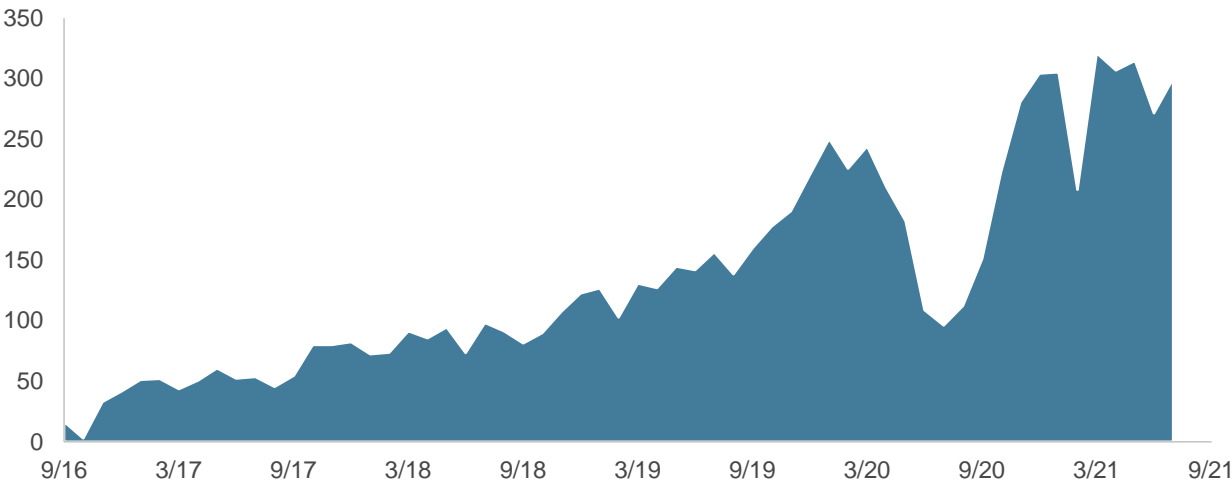
Exports

LNG Japan Import Value (US\$ in billions)



Note: Data is collected on a monthly basis and subject to a one-month lag.

U.S. LNG Exports (Bcf)

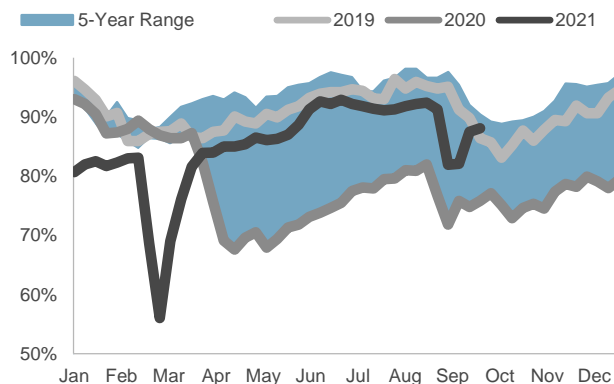


Note: Data is collected on a monthly basis and subject to a two-month lag.

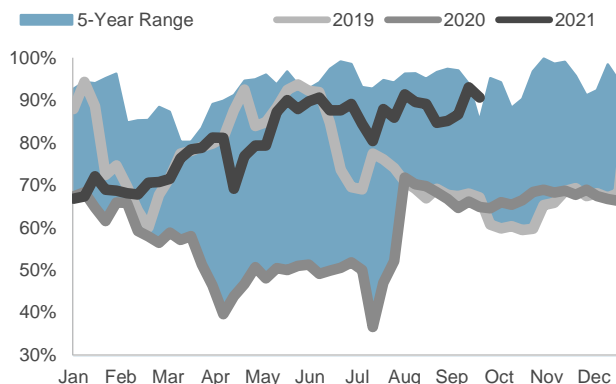
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Refining – Utilization (%)

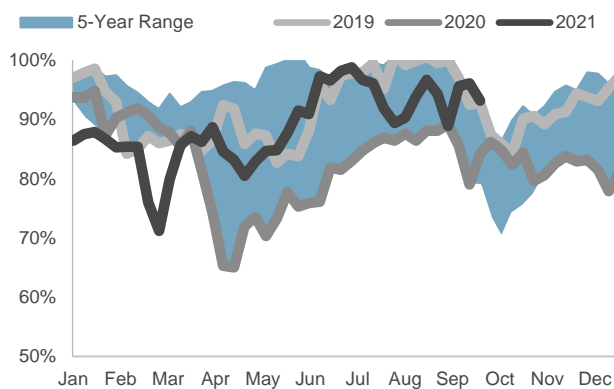
Total U.S.



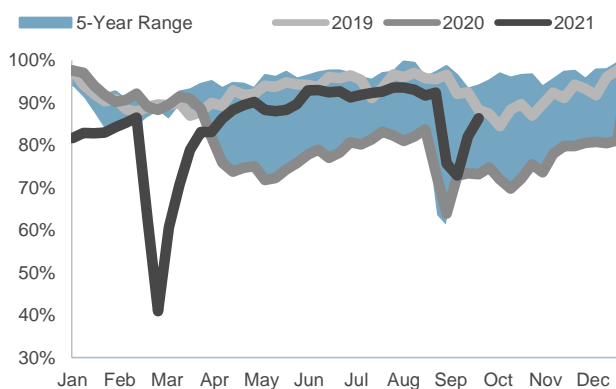
PADD I



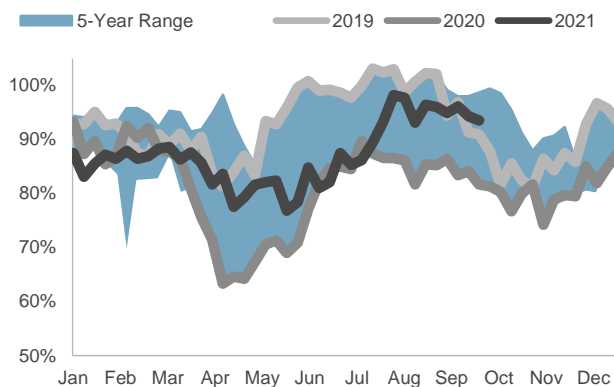
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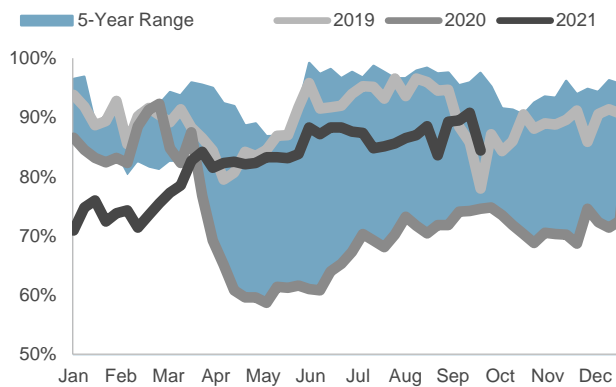
PADD III



PADD IV

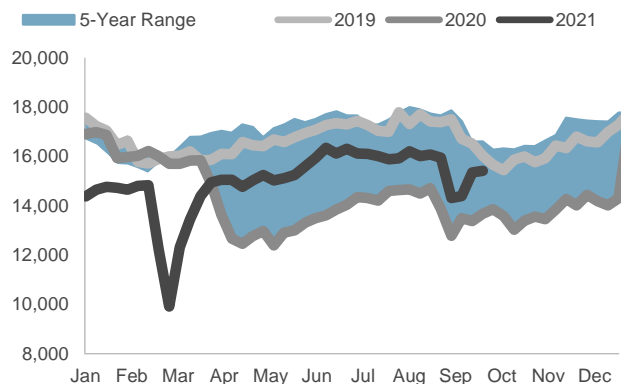


PADD V

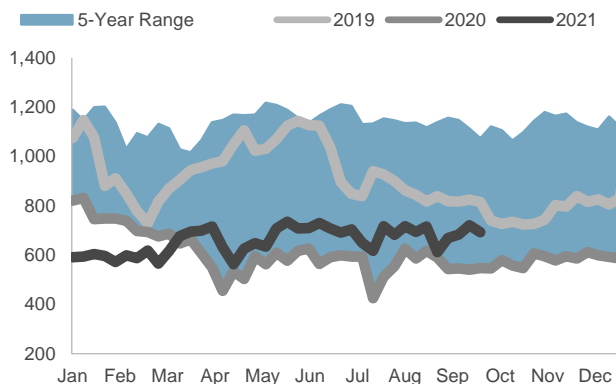


Refining – U.S. Crude Runs (Mbbbl/d)

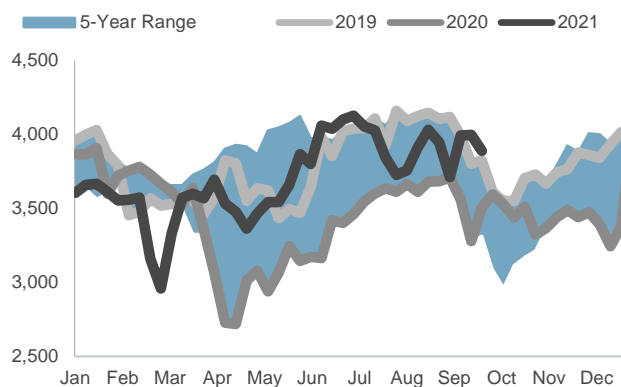
Total U.S.



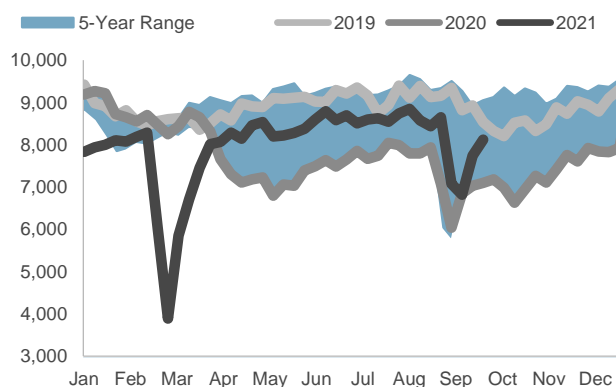
PADD I



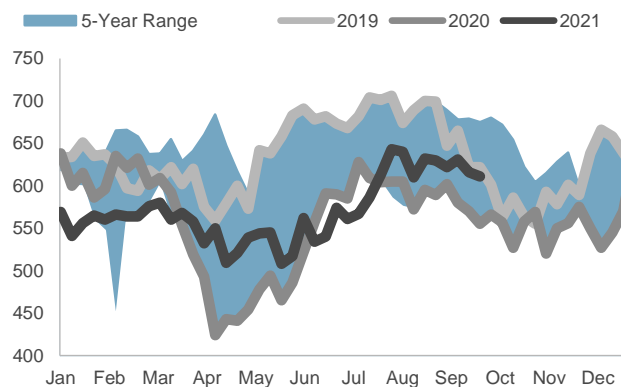
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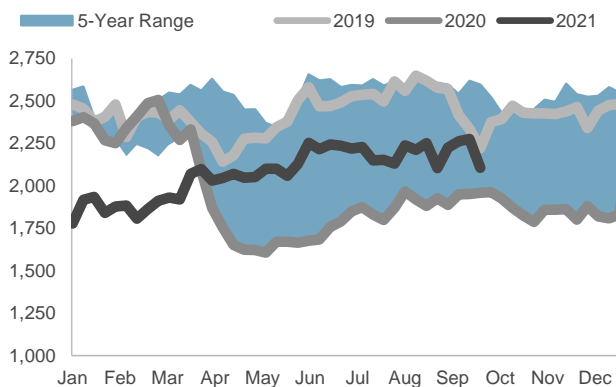
PADD III



PADD IV

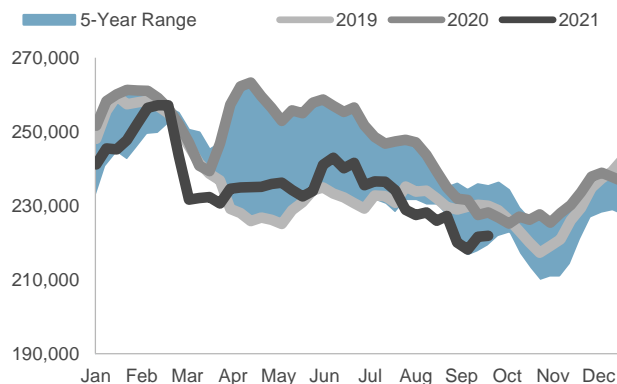


PADD V

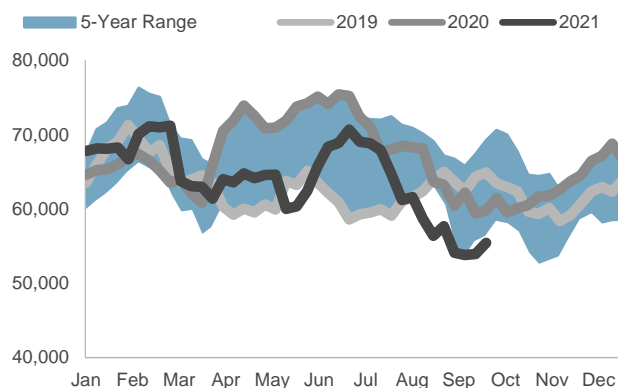


Refining – Motor Gasoline Inventory (Mbbl)

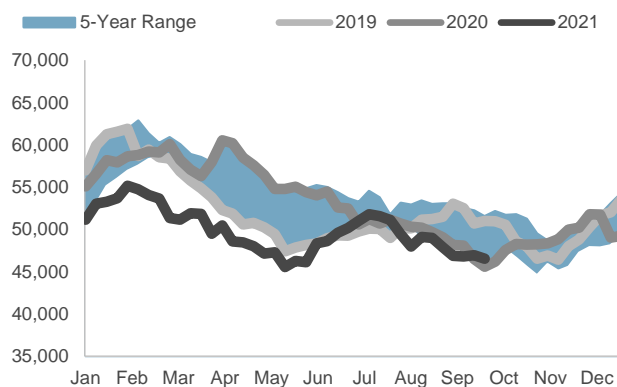
Total U.S.



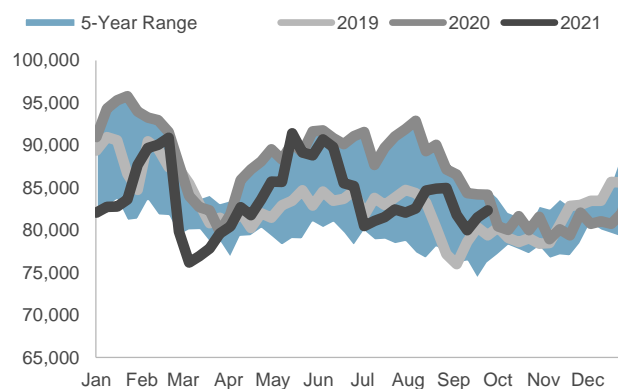
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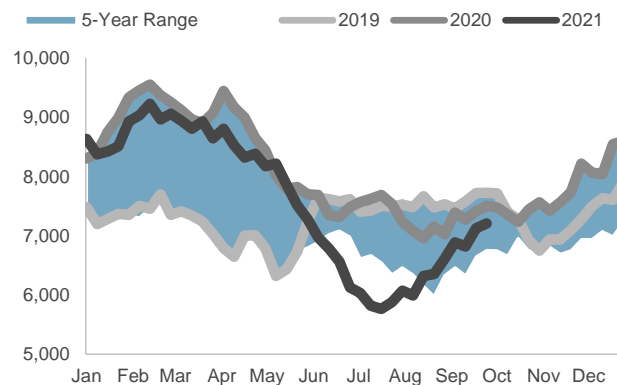
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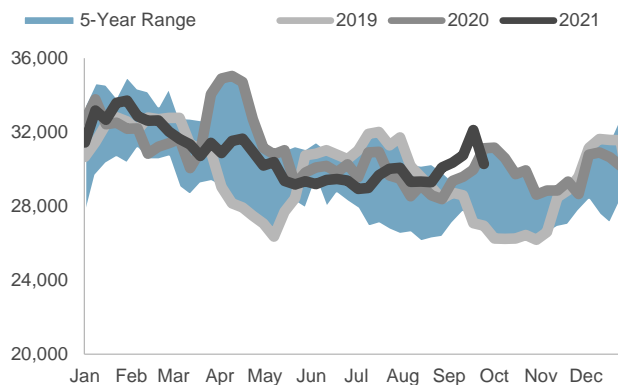
PADD III



PADD IV

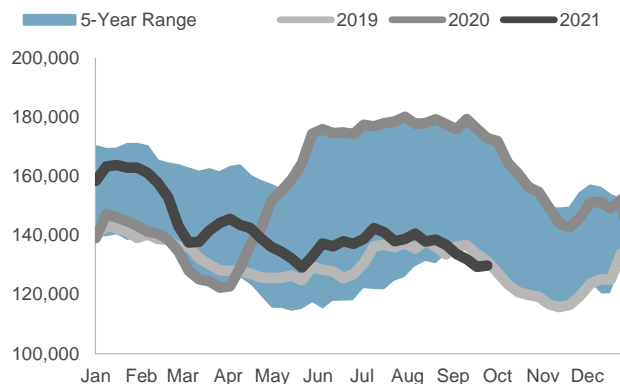


PADD V

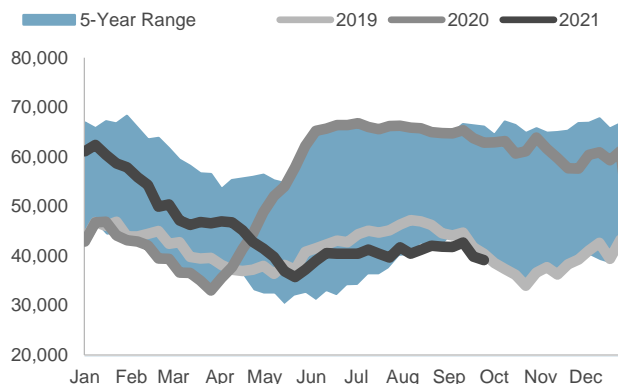


Refining – Distillate Fuel Oil Inventory (Mbbl)

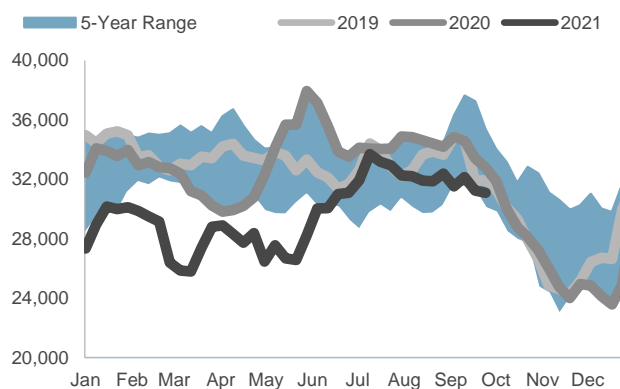
Total U.S.



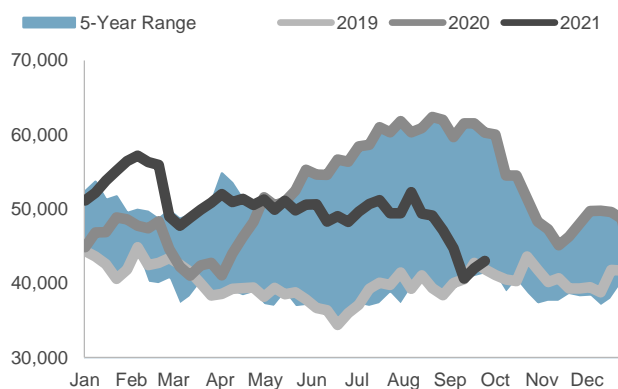
PADD I



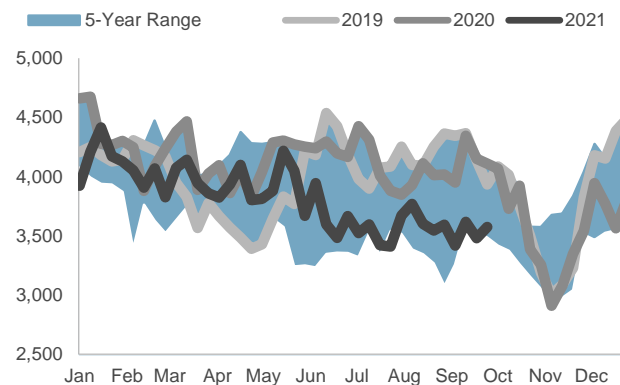
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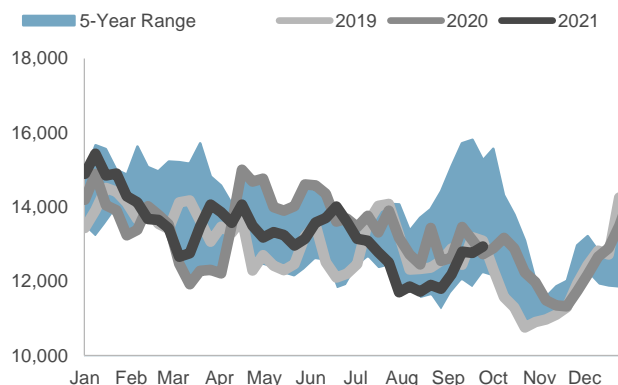
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PADD IV

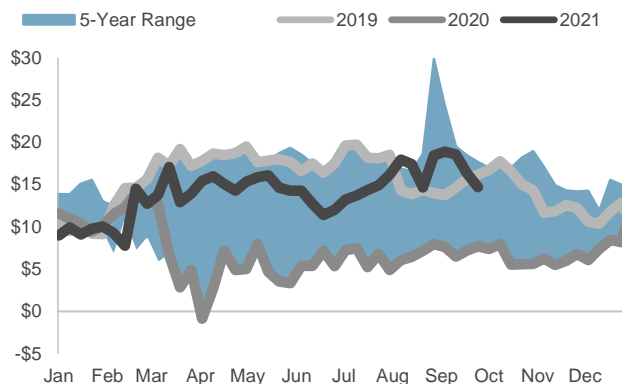


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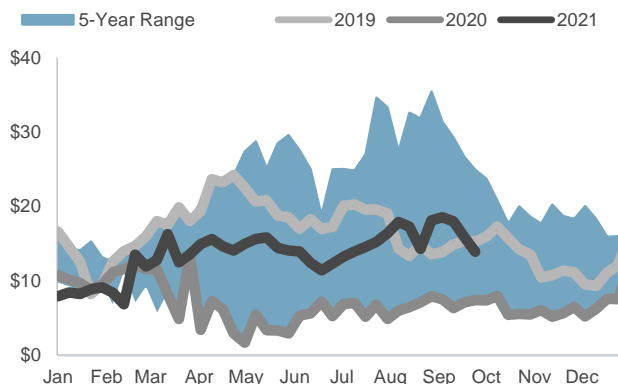


Refining – 3:2:1 Crack Spreads (\$/bbl)

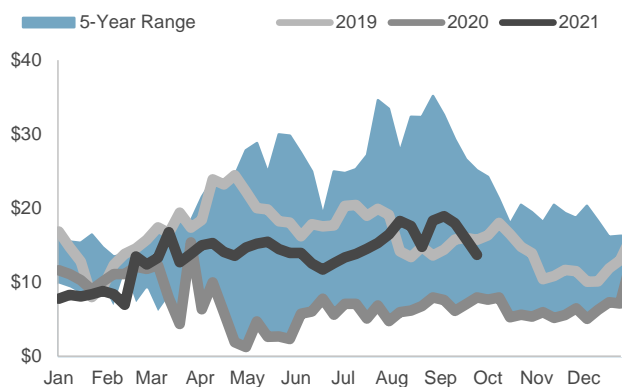
WTI Cushing (U.S. Gulf Coast)



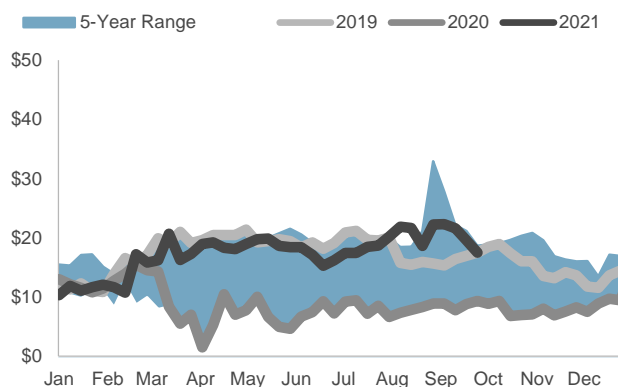
WTI Midland (U.S. Gulf Coast)



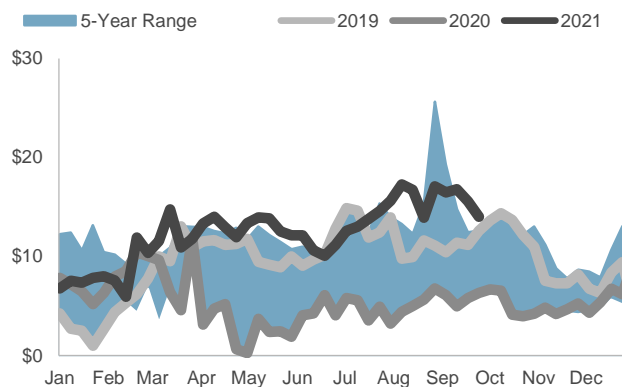
WTS Midland (U.S. Gulf Coast)



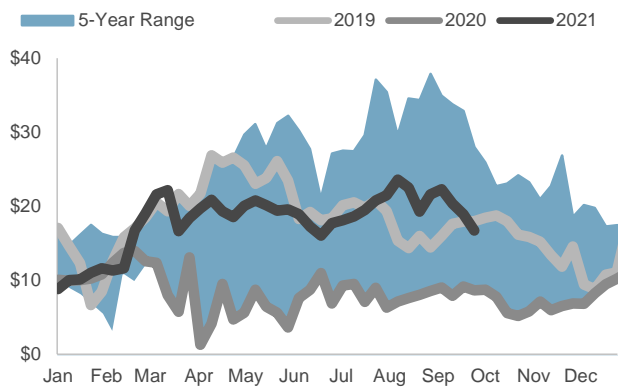
WTI Cushing ULSD (U.S. Gulf Coast)



LLS (U.S. Gulf Coast)

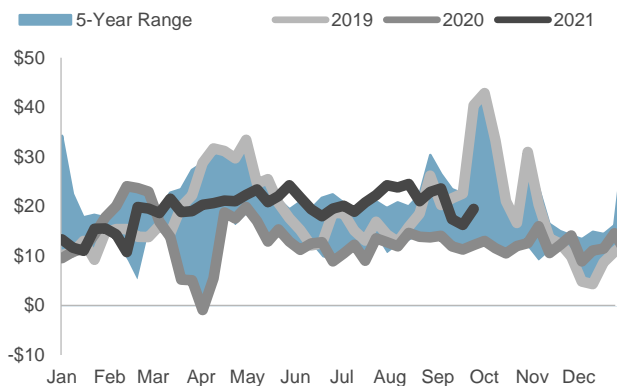


WTI Midland ULSD (U.S. Mid-Continent)

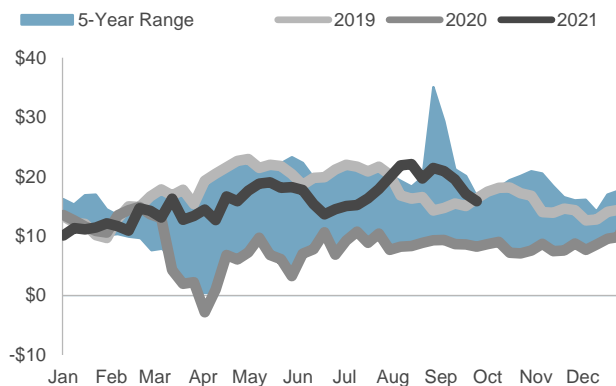


Refining – 3:2:1 Crack Spreads (\$/bbl) (cont.)

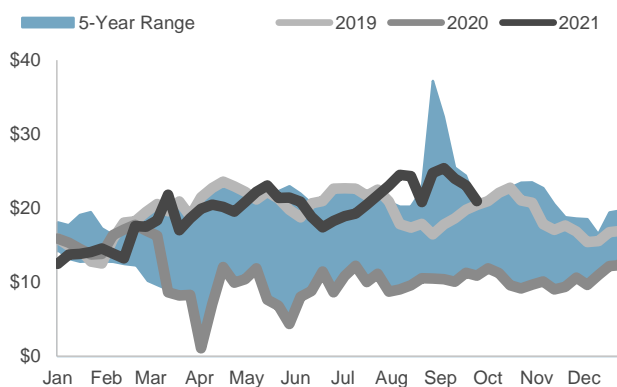
ANS (U.S. West Coast)



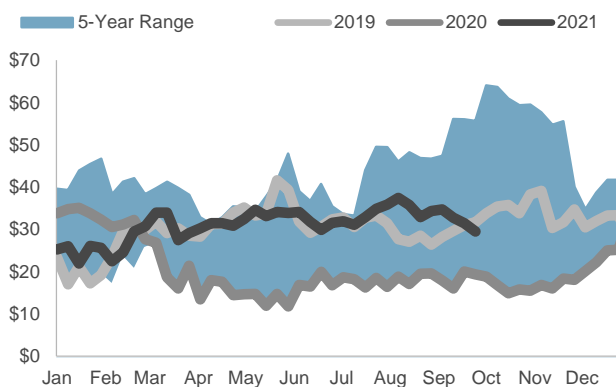
WTI Cushing (NYH RBOB Gasoline)



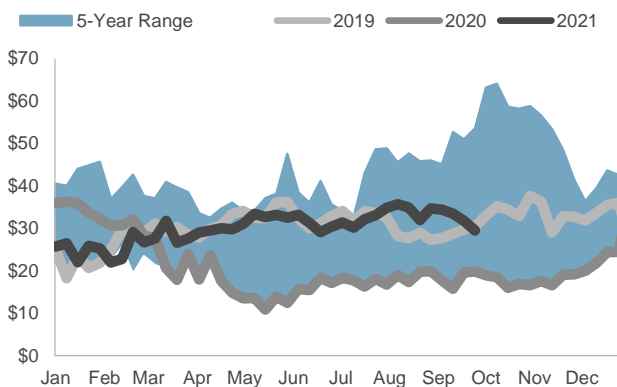
WTI Cushing ULSD (NY Harbor)



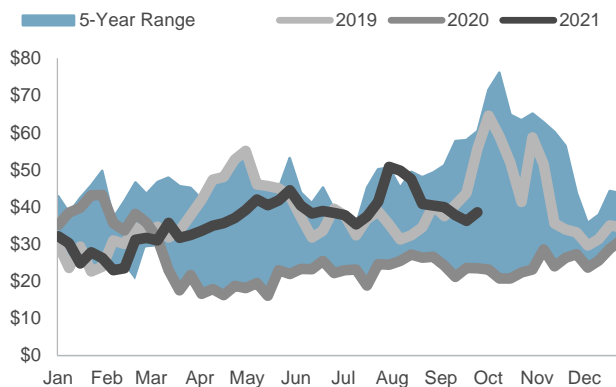
WCS (U.S. Mid-Continent)



WCS (U.S. Gulf Coast)

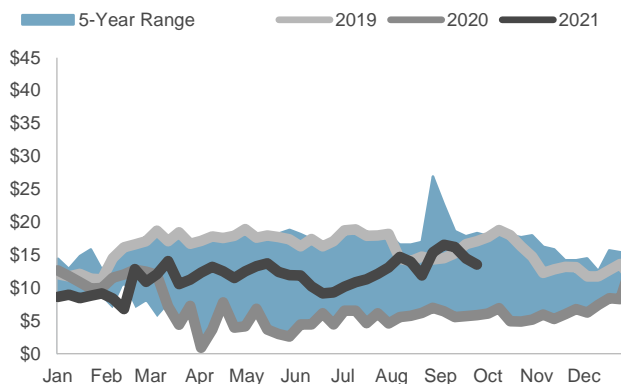


WCS (San Francisco)

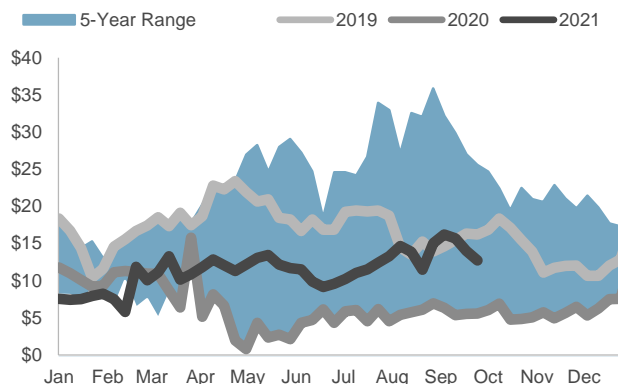


Refining – 2:1:1 Crack Spreads (\$/bbl)

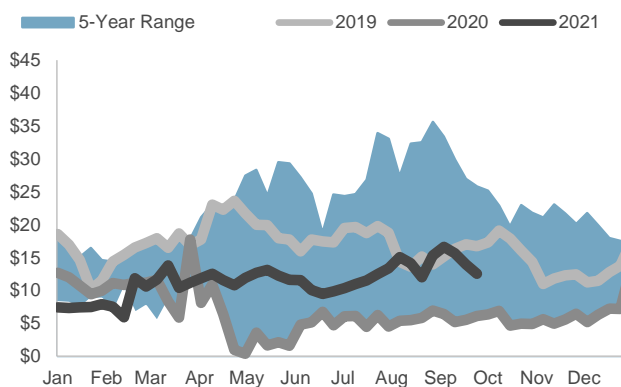
WTI Cushing (U.S. Gulf Coast)



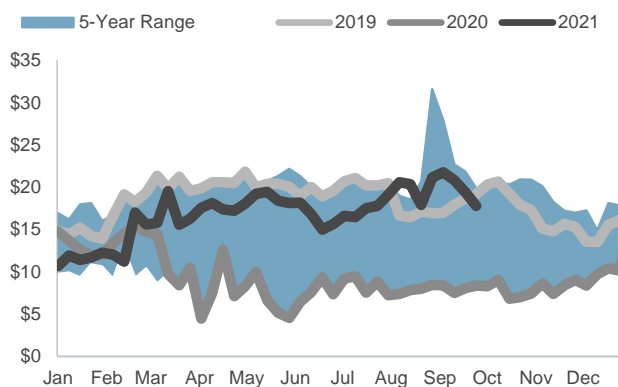
WTI Midland (U.S. Mid-Continent)



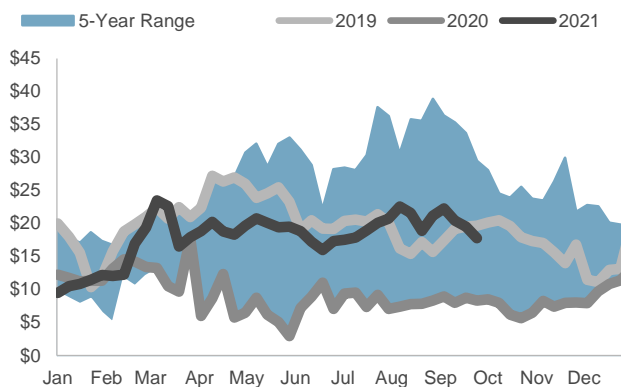
WTS Midland Crude (U.S. Gulf Coast)



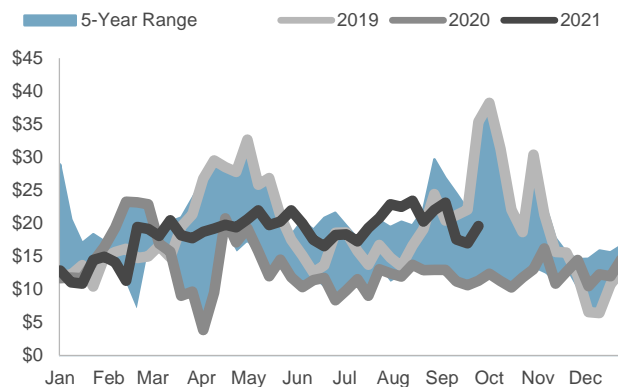
WTI Cushing ULSD (U.S. Gulf Coast)



WTI Midland ULSD (U.S. Mid-Continent)

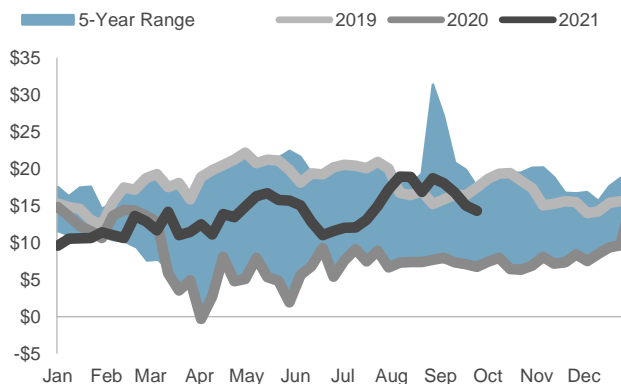


ANS (U.S. West Coast)

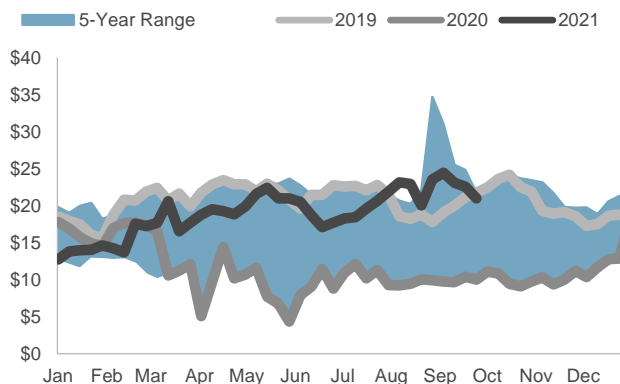


Refining – 2:1:1 Crack Spreads (\$/bbl) (cont.)

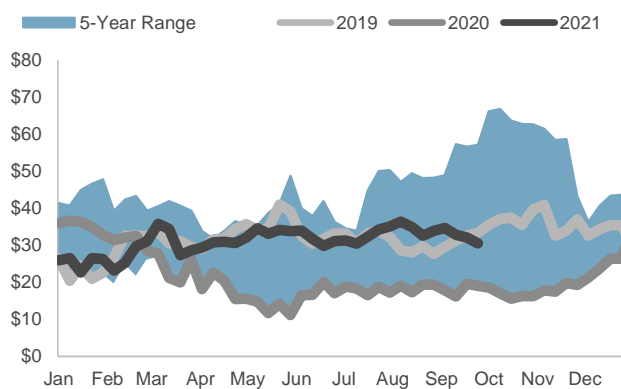
WTI Cushing (NYH RBOB Gasoline)



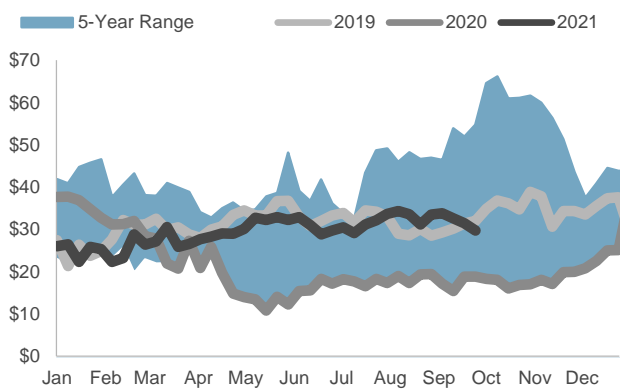
WTI Cushing ULSD (NY Harbor)



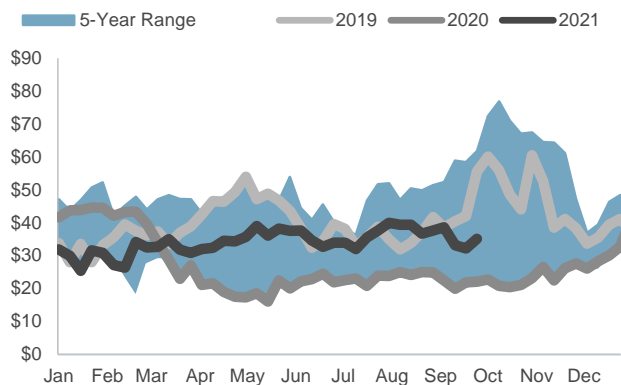
WCS (U.S. Mid-Continent)



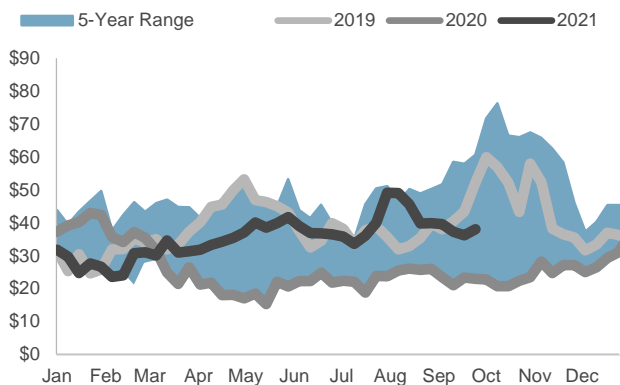
WCS (U.S. Gulf Coast)



WCS (U.S. West Coast)

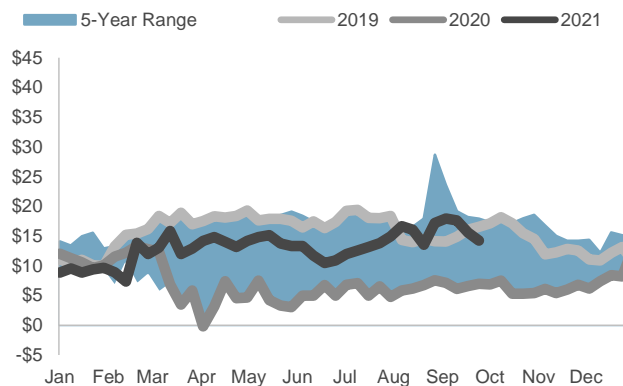


WCS (San Francisco)

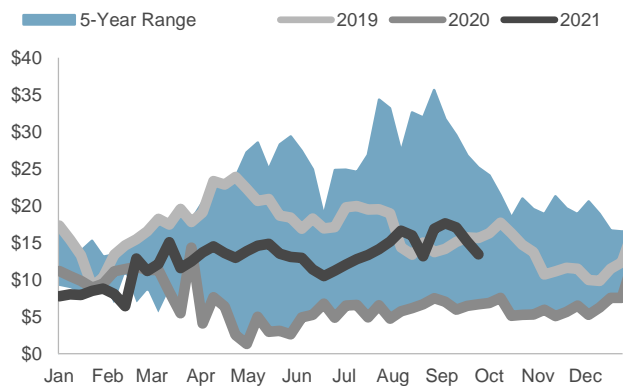


Refining – 5:3:2 Crack Spreads (\$/bbl)

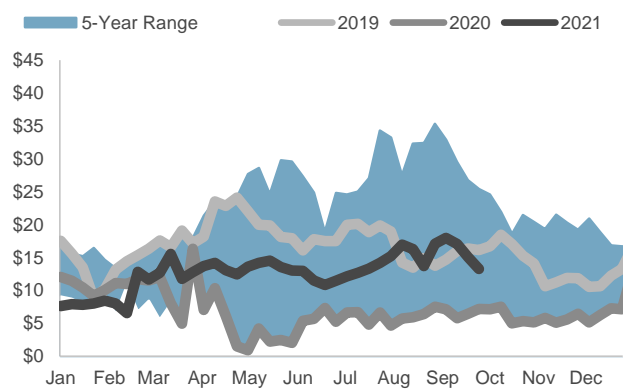
WTI Cushing (U.S. Gulf Coast)



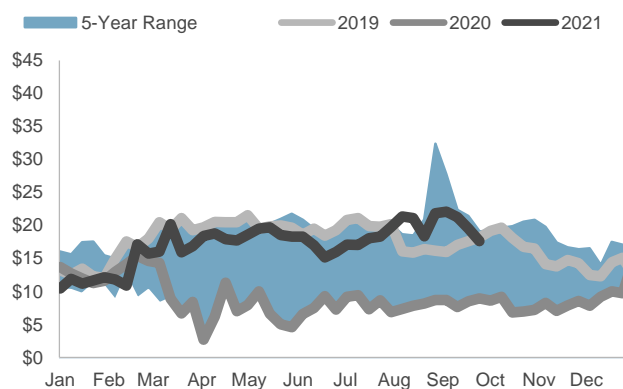
WTI Midland (U.S. Gulf Coast)



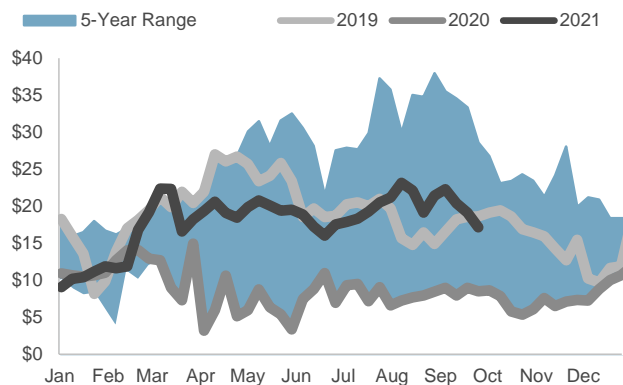
WTS (U.S. Gulf Coast)



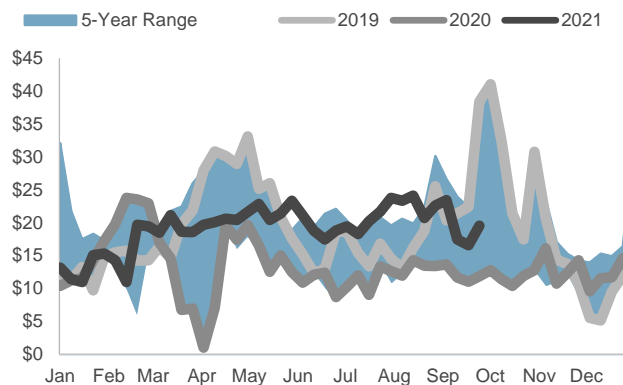
WTI Cushing ULSD (U.S. Gulf Coast)



WTI Midland ULSD (U.S. Mid-Continent)

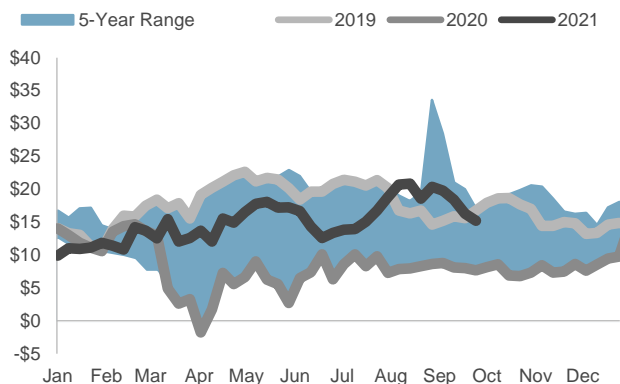


ANS (U.S. West Coast)

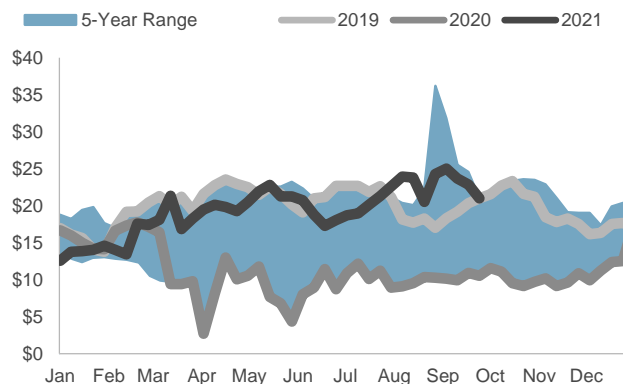


Refining – 5:3:2 Crack Spreads (\$/bbl) (cont.)

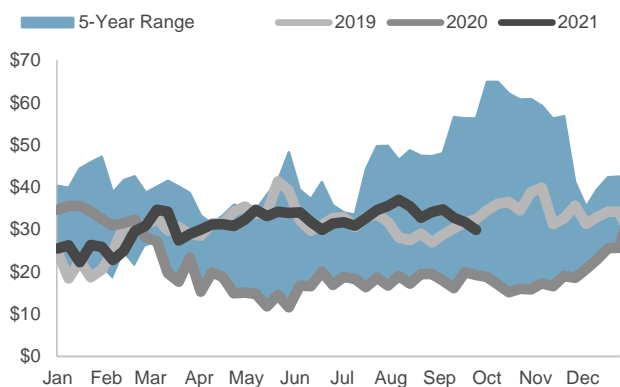
WTI Cushing (NYH RBOB Gasoline)



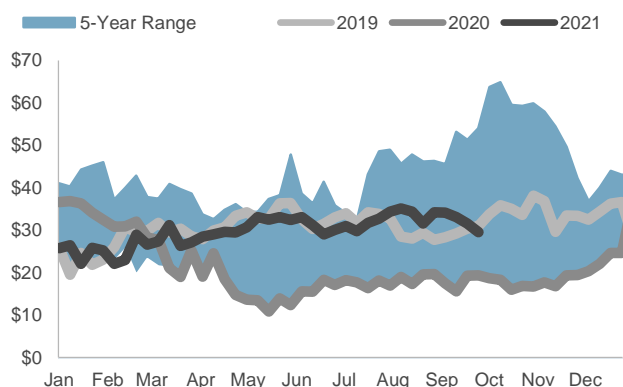
WTI Cushing ULSD (NY Harbor)



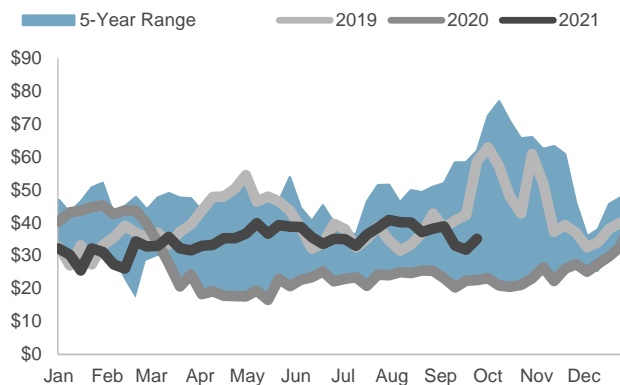
WCS (U.S. Mid-Continent)



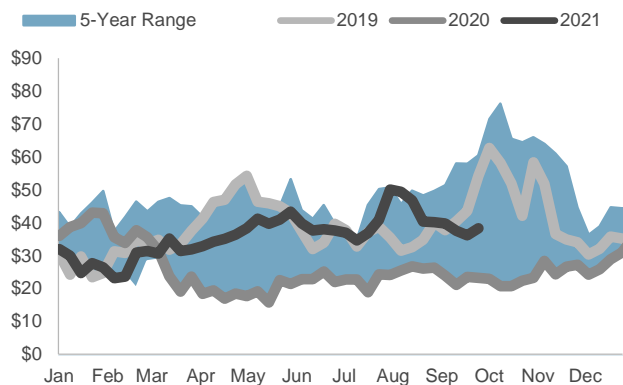
WCS (U.S. Gulf Coast)



WCS (U.S. West Coast)

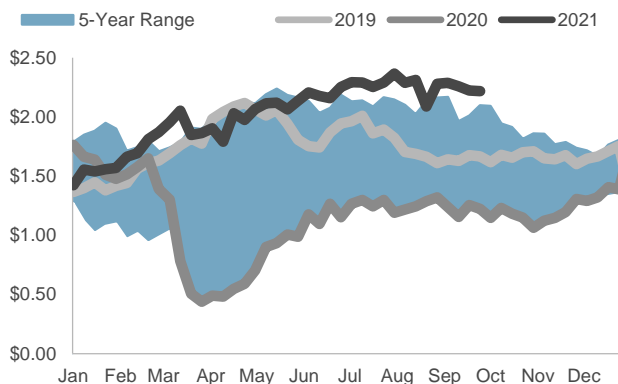


WCS (San Francisco)

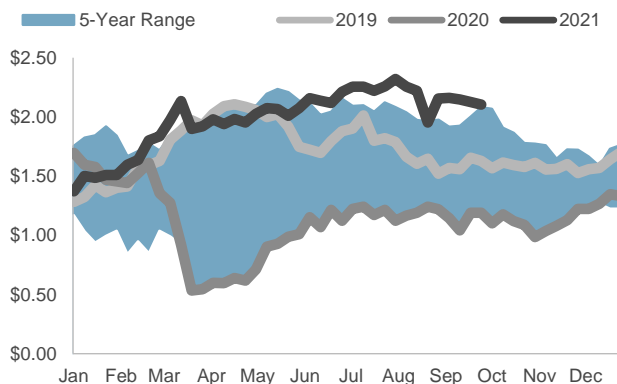


Refining – Product Prices (\$/gal)

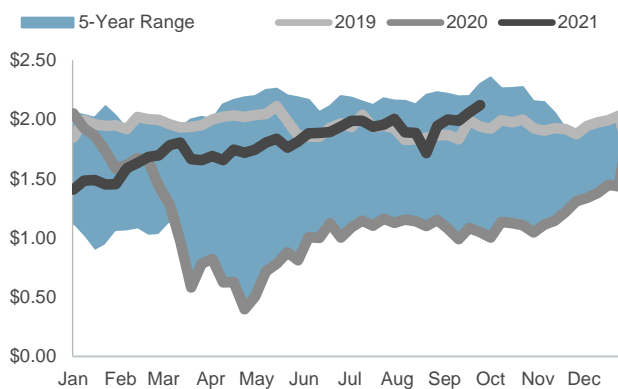
84 RBOB Gasoline (NY Harbor)



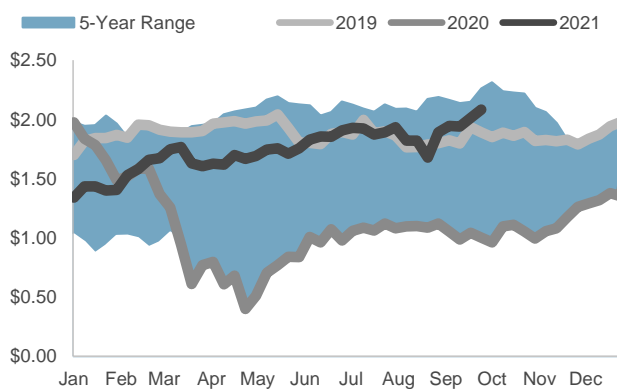
84 RBOB Gasoline (U.S. Gulf Coast)



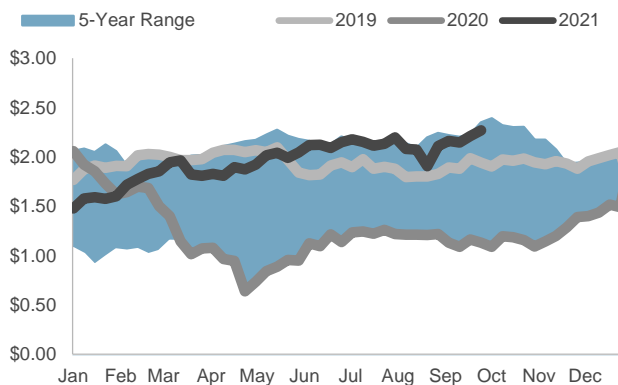
54-Grade Jet Fuel (NY Harbor)



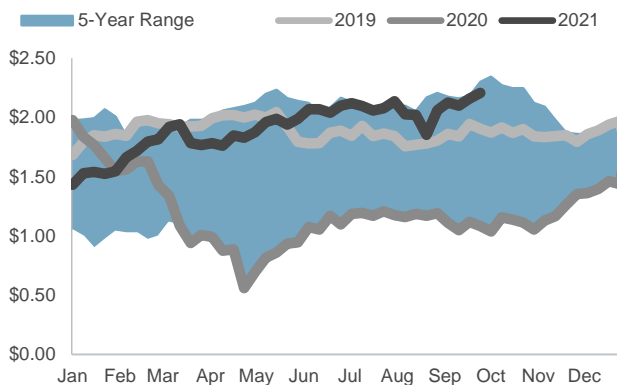
54-Grade Jet Fuel (U.S. Gulf Coast)



ULSD (NY Harbor)



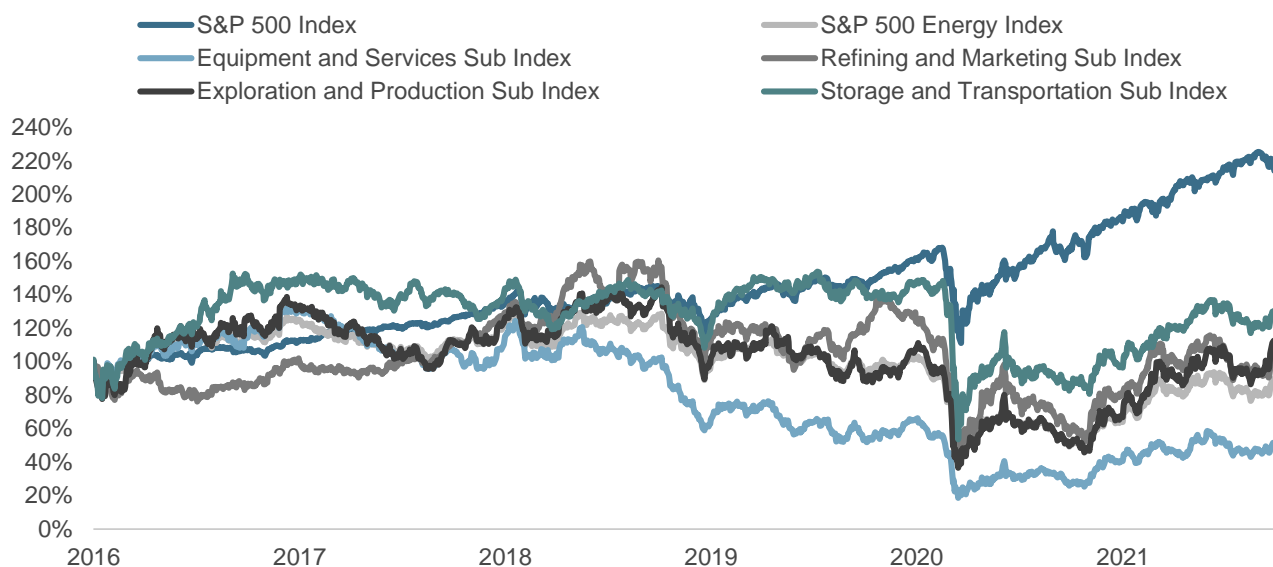
ULSD (U.S. Gulf Coast)



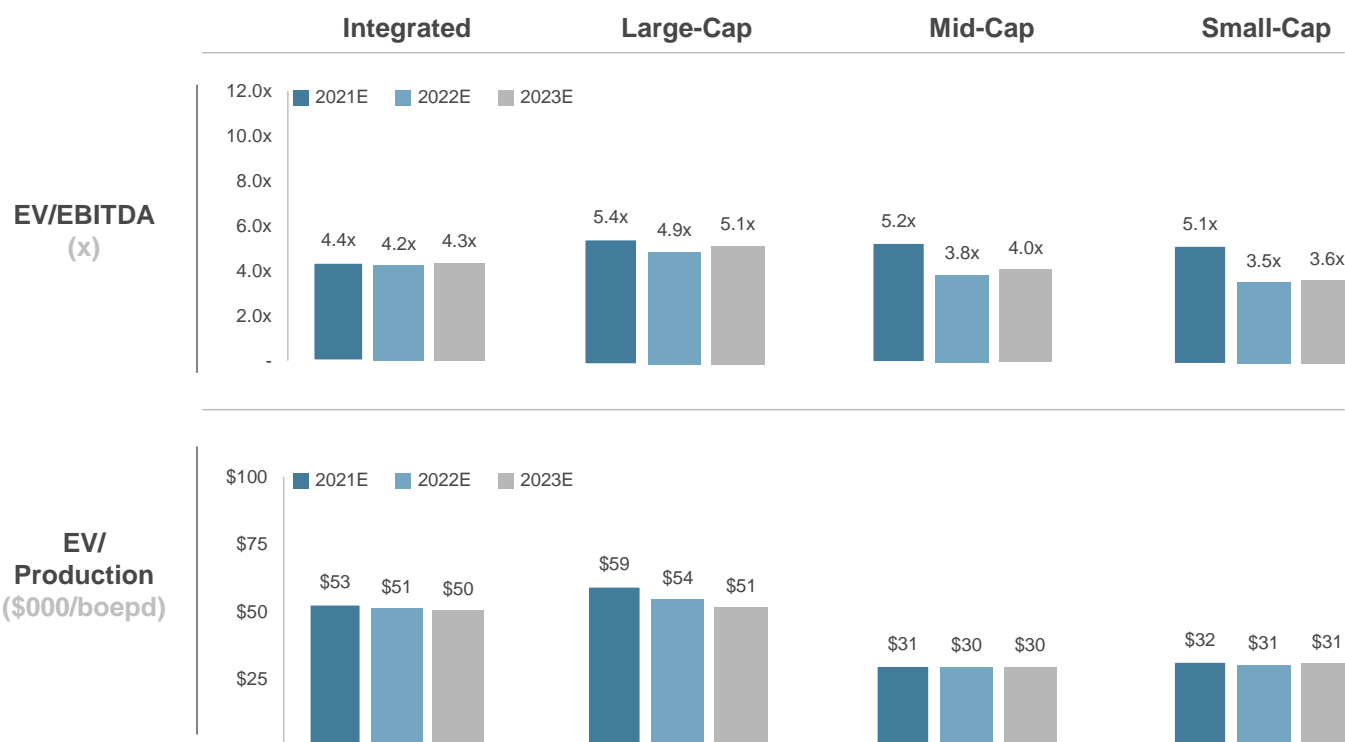
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Public Markets Overview

12 Months Indexed Stock Price Performance (January 1, 2016 = 100%)



Public E&P Company Trading Metrics



Note: Trading multiples are based on share price and market data listed as of September 30, 2021, and broker consensus future earnings estimates from S&P Capital IQ as of September 30, 2021.
Source: S&P Capital IQ.

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E&P

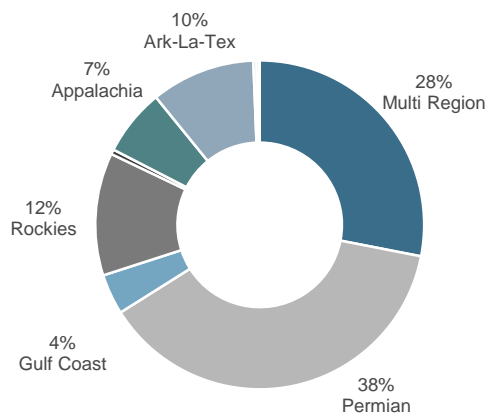
M&A (\$ in billions)

US Region	2019	2020	YTD September		%Δ
			2020	2021	
Multi Region	\$62.3	\$21.5	\$19.0	\$15.6	-18%
Permian	10.7	24.2	1.4	21.1	NMF
Gulf Coast	1.3	0.4	0.2	2.2	NMF
Rockies	3.6	0.8	0.2	6.7	NMF
Mid-Continent	3.9	0.6	0.3	0.3	-24%
Appalachia	1.4	3.3	2.6	3.7	41%
Ark-La-Tex	3.0	0.4	0.3	5.7	NMF
Gulf of Mexico	3.2	1.0	0.5	0.2	-69%
West Coast	0.7	0.0	0.0	0.2	NMF
Alaska	6.2	0.0	0.0	0.0	122%
Total	\$96.2	\$52.4	\$24.5	\$55.6	127%

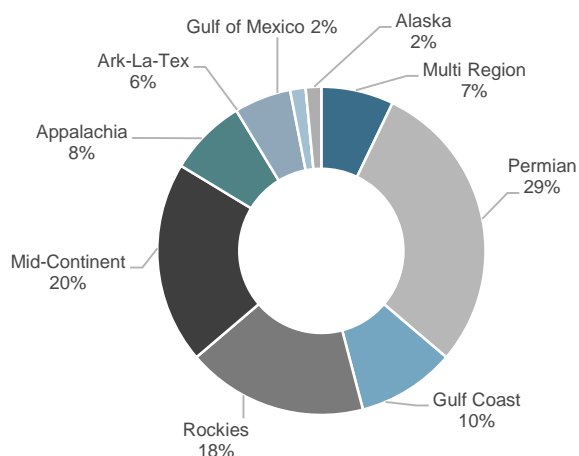
M&A (Deal Count)

US Region	2019	2020	YTD September		%Δ
			2020	2021	
Multi Region	54	45	31	27	-13%
Permian	290	120	76	92	21%
Gulf Coast	92	53	40	33	-18%
Rockies	115	46	35	51	46%
Mid-Continent	159	67	51	64	25%
Appalachia	28	39	31	21	-32%
Ark-La-Tex	41	20	13	24	85%
Gulf of Mexico	27	8	6	8	33%
West Coast	7	9	8	4	-50%
Alaska	8	6	5	4	-20%
Total	821	413	296	328	11%

M&A – Q3 2021 (\$ in billions)



M&A – Q3 2021 (Deal Count)

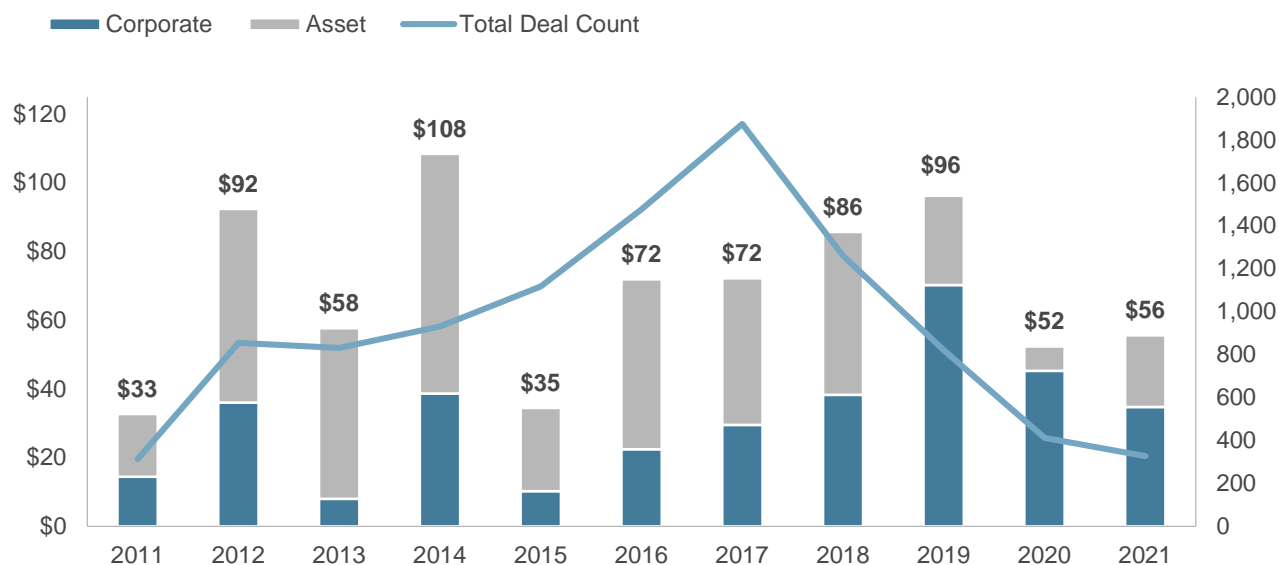


Note: All data as of September 30, 2021.

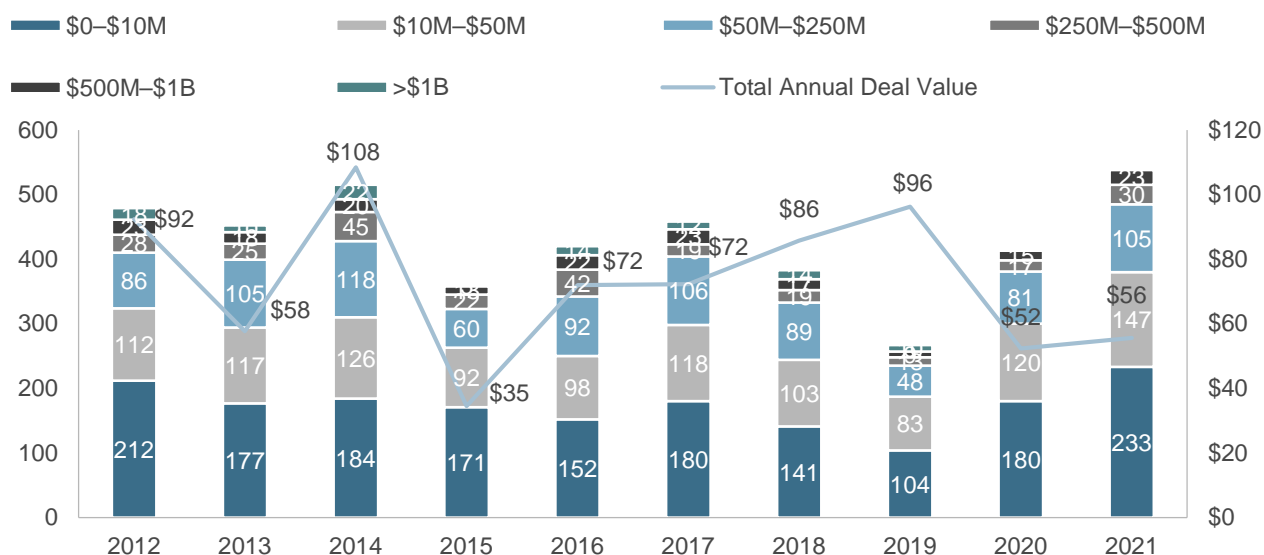
Source: Enverus based on selection criteria of seller assets being located in the U.S. Current year may not include values for all announced transactions or findings. Historical amounts may be adjusted as additional information is available.

Historical E&P Transaction Activity

U.S. Transactions Since 2011 (\$ in billions)



U.S. Transactions by Deal Size Since 2011⁽¹⁾ (\$ in billions)



Note: All data as of September 30, 2021.

Source: Enverus based on selection criteria of seller assets being located in the U.S.

(1) Deal count excludes transactions without a publicly disclosed deal value.

OFS

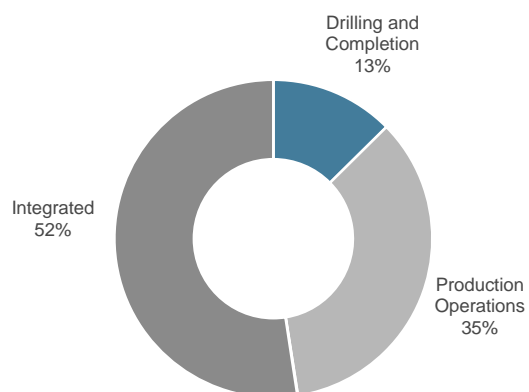
M&A (\$ in billions)

Segment	2019	2020	YTD September		%Δ
			2020	2021	
Drilling and Completion	1.8	0.2	0.1	0.2	18%
Production Operations	2.8	0.7	0.7	0.4	-34%
Information Services	0.1	0.0	0.0	0.0	-93%
Integrated	7.9	0.0	0.0	0.7	NMF
Other	0.0	0.0	0.0	0.0	NMF
Total	\$12.6	\$0.8	\$0.8	\$1.3	55%

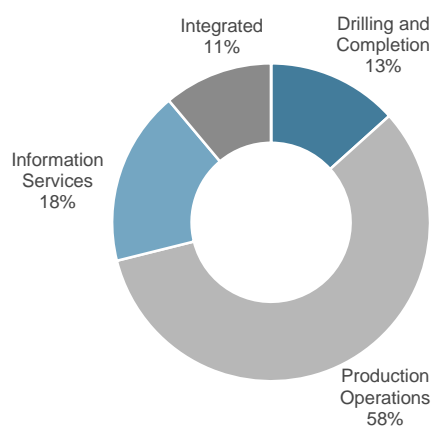
M&A (Deal Count)

Segment	2019	2020	YTD September		%Δ
			2020	2021	
Drilling and Completion	20	16	11	6	-45%
Production Operations	63	33	24	26	8%
Information Services	22	6	3	8	167%
Integrated	15	4	4	5	25%
Other	0	0	0	0	NMF
Total	120	59	42	45	7%

M&A – Q3 2021 (\$ in billions)



M&A – Q3 2021 (Deal Count)



Note: All data as of September 30, 2021.

Source: Enverus based on selection criteria of seller headquarters being located in the U.S.

Downstream

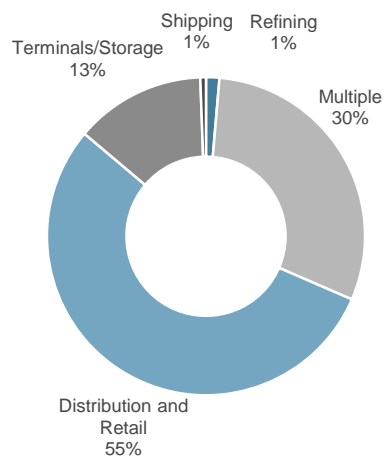
M&A (\$ in billions)

Segment	2019	2020	YTD September		%Δ
			2020	2021	
Refining	0.0	0.3	0.0	0.1	NMF
Multiple	11.2	0.7	0.7	3.1	362%
Distribution and Retail	6.4	22.9	21.7	5.6	-74%
Terminals/Storage	0.4	4.2	1.0	1.4	33%
Shipping	0.4	0.5	0.3	0.1	-83%
Total	\$18.3	\$28.7	\$23.7	\$10.3	-57%

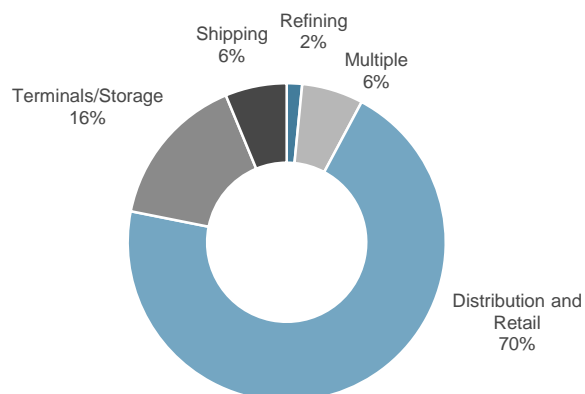
M&A (Deal Count)

Segment	2019	2020	YTD September		%Δ
			2020	2021	
Refining	2	2	1	1	0%
Multiple	8	4	3	4	33%
Distribution and Retail	50	49	25	45	80%
Terminals/Storage	2	12	7	10	43%
Shipping	5	4	2	4	100%
Total	67	71	38	64	68%

M&A – Q3 2021 (\$ in billions)



M&A – Q3 2021 (Deal Count)



Note: All data as of September 30, 2021.

Source: Enverus based on selection criteria of seller headquarters being located in the U.S.

Midstream

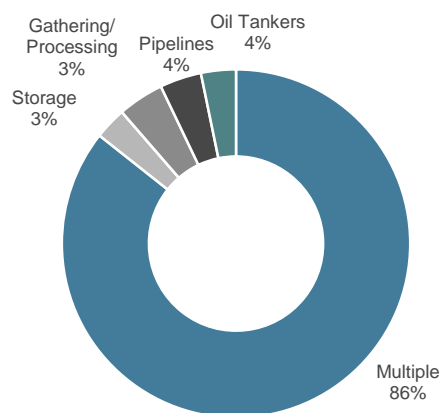
M&A (\$ in billions)

Segment	2019	2020	YTD September		%Δ
			2020	2021	
Multiple	43.0	15.2	15.2	22.5	48%
Gathering/ Processing	8.6	1.6	1.6	0.8	-51%
Gas Processing	0.0	0.0	0.0	0.0	NMF
Pipelines	4.5	3.5	0.2	1.1	NMF
Oil Tankers	0.2	0.1	0.0	1.0	NMF
Storage	0.7	0.4	0.2	0.9	282%
Total	\$57.0	\$20.8	\$17.2	\$26.3	52%

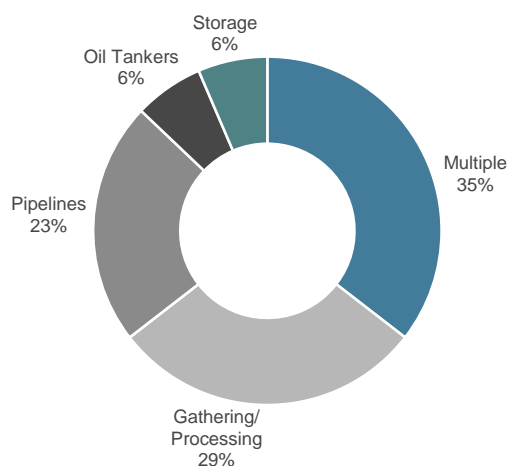
M&A (Deal Count)

Segment	2019	2020	YTD September		%Δ
			2020	2021	
Multiple	16	9	7	11	57%
Gathering/ Processing	31	16	11	9	-18%
Gas Processing	0	0	0	0	NMF
Pipelines	17	11	7	7	0%
Oil Tankers	4	3	0	2	NMF
Storage	5	4	2	2	0%
Total	73	43	27	31	15%

M&A – Q3 2021 (\$ in billions)



M&A – Q3 2021 (Deal Count)



Note: All data as of September 30, 2021.

Source: Enverus based on selection criteria of seller headquarters being located in the U.S.

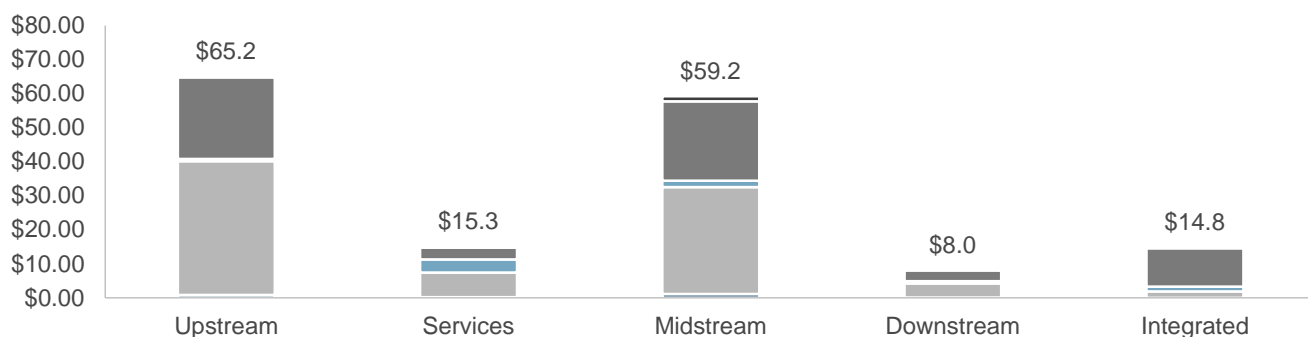
Financing by Instrument (\$ in billions)

Financing by Instrument (\$ in billions)

Capital	2019	2020	YTD September		%Δ
			2020	2021	
Upstream					
Equity	\$1.7	\$1.1	\$0.8	\$0.8	3%
Credit Facility	25.2	46.1	28.6	39.3	37%
Loan	4.4	12.7	11.8	0.7	-94%
Bond	27.5	32.9	26.6	23.9	-10%
Other	0.0	0.1	0.1	0.5	341%
Total	\$58.9	\$92.9	\$67.9	\$65.2	-4%
Services					
Equity	\$0.4	\$0.0	\$0.0	\$0.2	NMF
Credit Facility	19.4	18.6	15.7	7.2	-54%
Loan	7.7	5.8	5.3	3.9	-28%
Bond	8.3	6.6	6.5	3.5	-47%
Other	0.0	0.2	0.0	0.6	NMF
Total	\$35.8	\$31.1	\$27.6	\$15.3	-44%
Midstream					
Equity	\$2.2	\$2.9	\$2.6	\$1.2	-55%
Credit Facility	28.5	28.4	19.7	31.4	59%
Loan	14.1	6.1	5.9	1.8	-70%
Bond	34.8	43.9	41.3	23.4	-43%
Other	0.7	2.6	2.6	1.5	-42%
Total	\$80.2	\$84.0	\$72.2	\$59.2	-18%
Downstream					
Equity	\$0.0	\$0.0	\$0.0	\$0.1	NMF
Credit Facility	11.4	8.7	8.7	4.2	-52%
Loan	1.0	1.3	1.3	0.6	-56%
Bond	3.4	15.6	13.1	3.2	-76%
Other	0.1	0.0	0.0	0.0	-100%
Total	\$16.0	\$25.6	\$23.1	\$8.0	-65%
Integrated					
Equity	\$2.3	\$1.1	\$1.1	\$0.0	-100%
Credit Facility	10.0	0.9	0.9	1.9	111%
Loan	0.0	0.7	0.7	1.4	119%
Bond	24.3	73.1	71.6	11.2	-84%
Other	0.0	1.5	1.5	0.2	-87%
Total	\$36.6	\$77.3	\$75.8	\$14.8	-81%
Grand Total	\$227.6	\$310.9	\$266.5	\$162.6	-39%

Financing by Instrument – Q3 2021 (\$ in billions)

■ Equity ■ Credit Facility ■ Loan ■ Bond ■ Other



Note: All data as of September 30, 2021. Current year may not include values for all announced transactions or findings. Historical amounts may be adjusted as additional information is available.

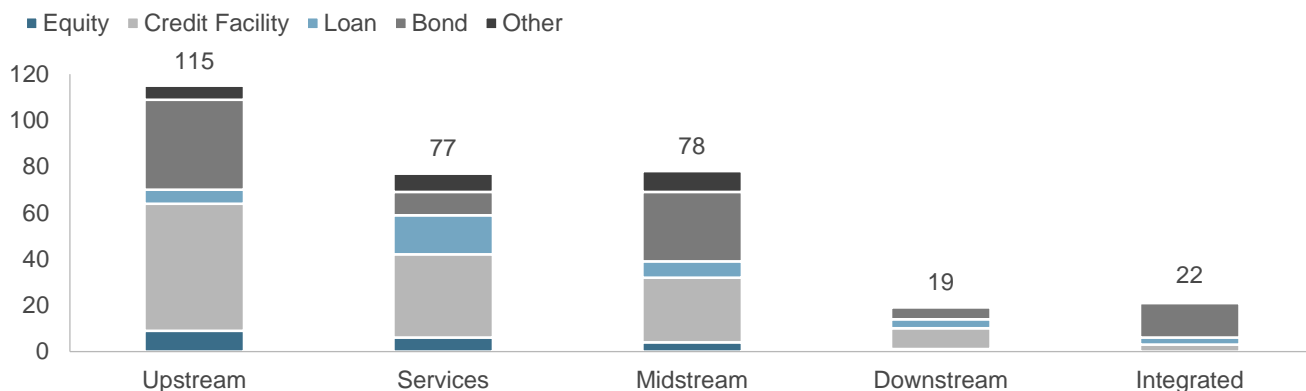
Source: Enverus.

Financing by Instrument (cont.)

Financing by Instrument (Count)

Capital	2019	2020	YTD September		%Δ
			2020	2021	
Upstream					
Equity	12	12	8	9	13%
Credit Facility	22	69	34	55	62%
Loan	18	28	21	6	-71%
Bond	31	47	39	39	0%
Other	1	2	2	6	200%
Total	84	158	104	115	11%
Services					
Equity	2	2	2	6	200%
Credit Facility	26	62	49	36	-27%
Loan	22	33	31	17	-45%
Bond	19	16	14	10	-29%
Other	1	6	4	8	100%
Total	70	119	100	77	-23%
Midstream					
Equity	6	6	5	4	-20%
Credit Facility	26	25	20	28	40%
Loan	20	12	11	7	-36%
Bond	50	59	53	30	-43%
Other	2	6	6	9	50%
Total	104	108	95	78	-18%
Downstream					
Equity	0	0	0	1	NMF
Credit Facility	8	9	9	9	0%
Loan	6	4	3	4	33%
Bond	5	25	21	5	-76%
Other	2	1	1	0	-100%
Total	21	39	34	19	-44%
Integrated					
Equity	3	2	2	0	-100%
Credit Facility	2	2	2	3	50%
Loan	1	2	2	3	50%
Bond	27	65	64	15	-77%
Other	0	2	2	1	-50%
Total	33	73	72	22	-69%
Grand Total	312	497	405	311	-23%

Financing by Instrument – Q3 2021 (Deal Count)

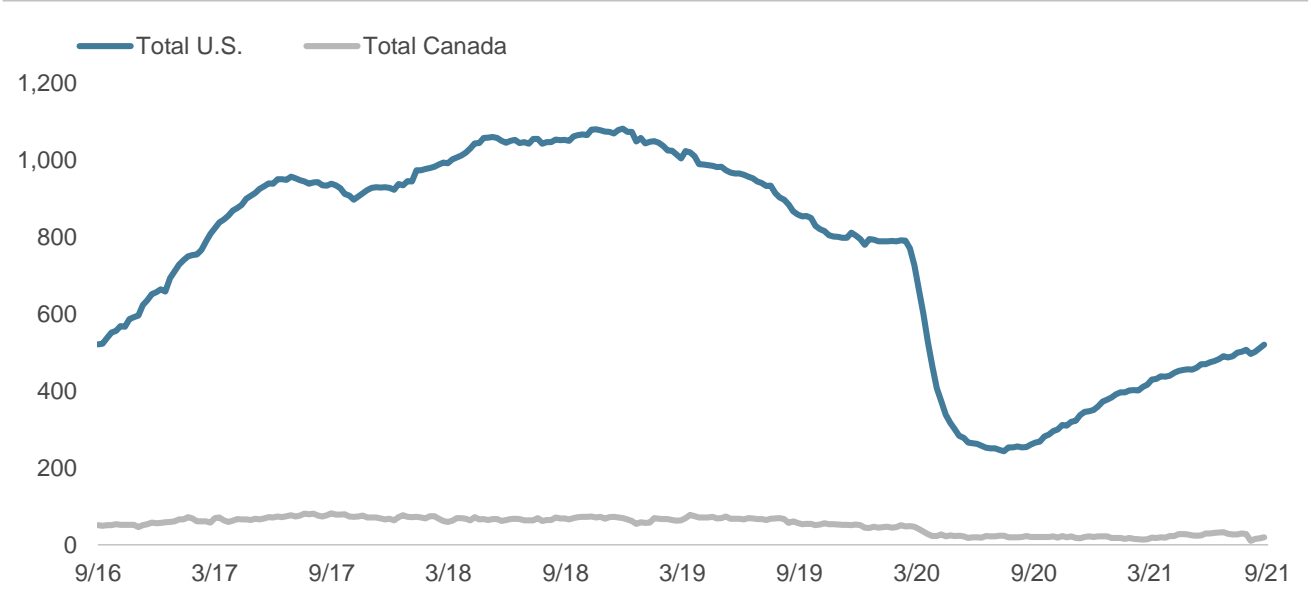


Note: All data as of September 30, 2021. Current year may not include values for all announced transactions or findings. Historical amounts may be adjusted as additional information is available.
Source: Enverus.

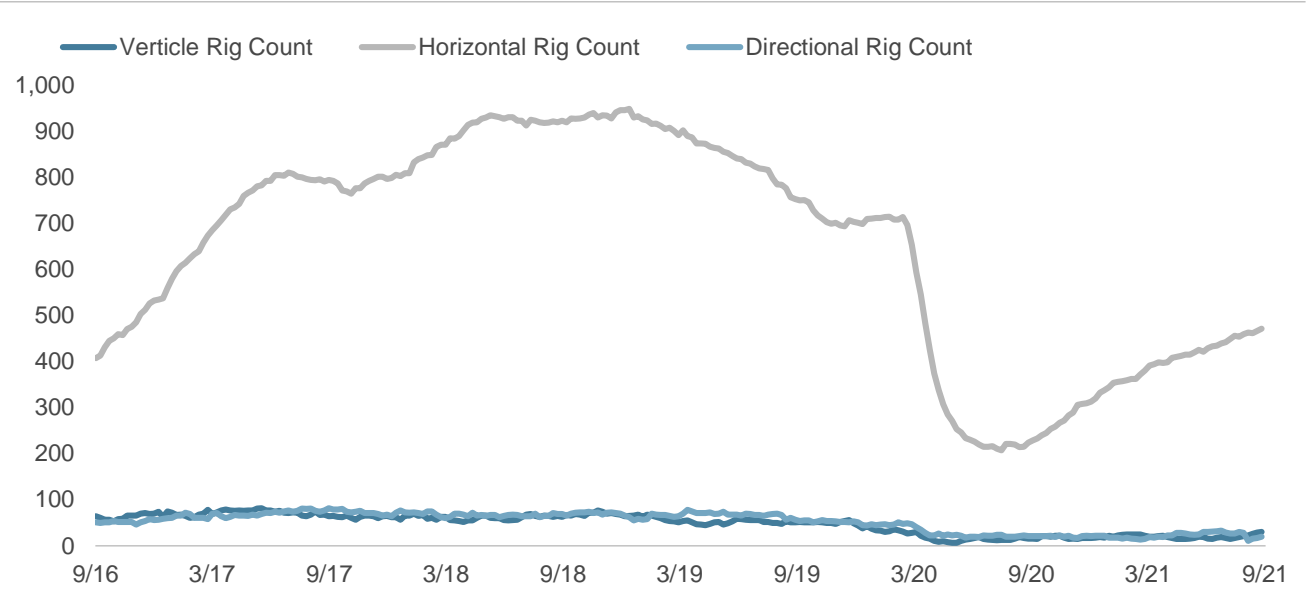
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Rigs

Total U.S. vs. Canada Rigs

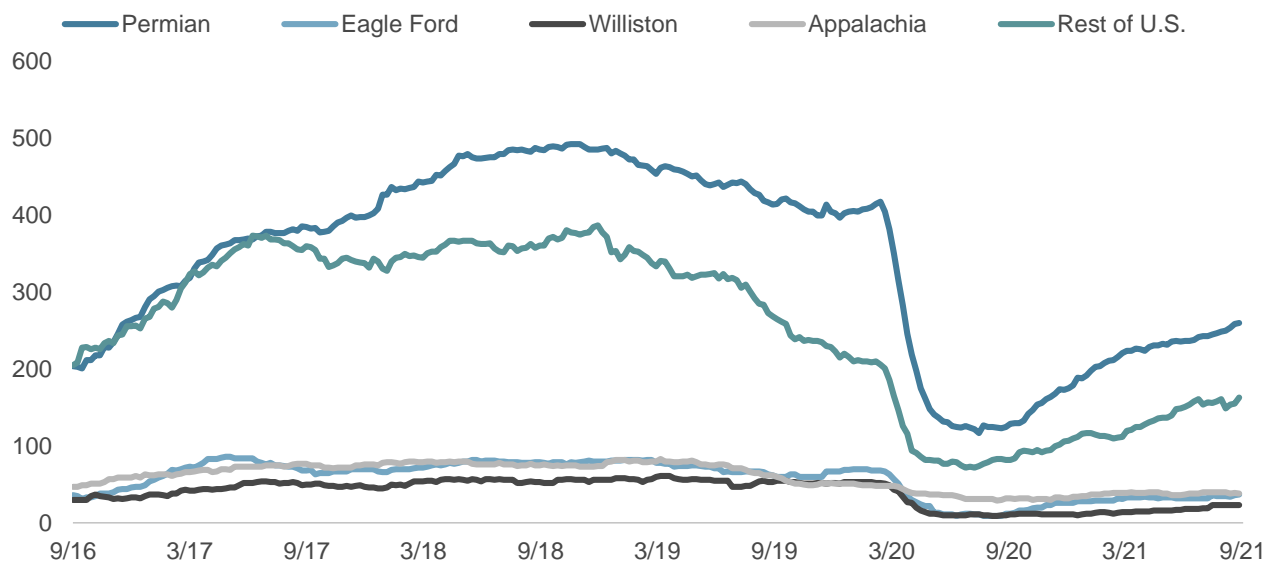


U.S. Rig Counts by Vertical, Horizontal, and Directional



Rigs (cont.)

U.S. Rigs by Regions

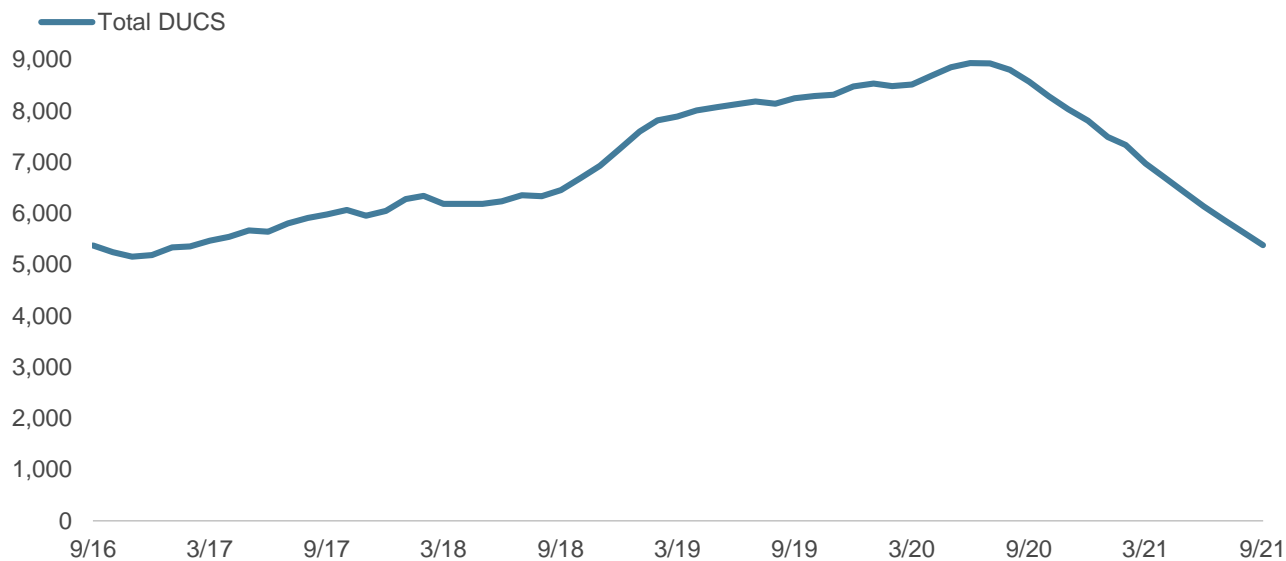


Change in Rig Counts

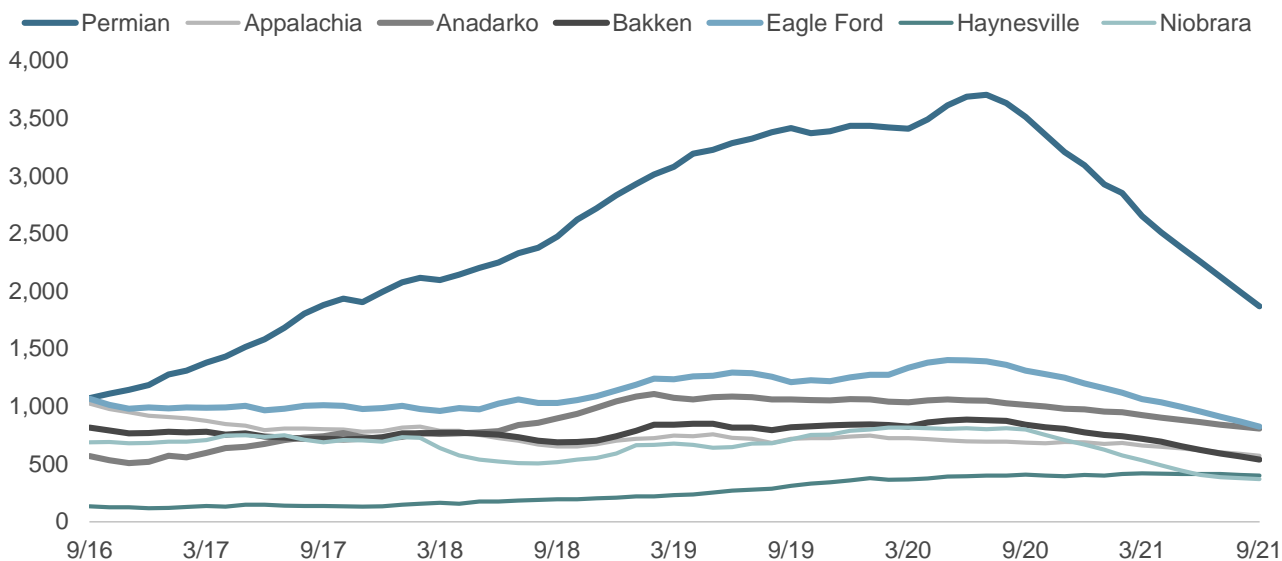
Region	9/30/2021	9/30/2020	6/30/2021	YoY % Change	QoQ % Change
Permian	260	125	236	108.0%	10.2%
Eagle Ford	37	12	32	208.3%	15.6%
Williston	23	10	17	130.0%	35.3%
Marcellus	26	26	27	0.0%	-3.7%
Cana Woodford	20	6	17	233.3%	17.6%
DJ Niobrara	12	4	9	200.0%	33.3%
Granite Walsh	3	1	2	200.0%	50.0%
Haynesville	47	36	49	30.6%	-4.1%
Utica	12	6	9	100.0%	33.3%
Rest of U.S.	81	35	72	131.4%	12.5%
Total	521	261	470	99.6%	10.9%

Rigs (cont.)

Total U.S. DUCs



Total DUCs by Basin



Note: All data as of September 30, 2021. Data is collected on a monthly basis and subject to a one-month lag.
Source: Bloomberg.

About Houlihan Lokey

Houlihan Lokey (NYSE:HLI) is a global investment bank with expertise in [mergers and acquisitions](#), [capital markets](#), [financial restructuring](#), and [valuation](#). The firm serves corporations, institutions, and governments worldwide with offices in the United States, Europe, the Middle East, and the Asia-Pacific region. Independent advice and intellectual rigor are hallmarks of the firm's commitment to client success across its advisory services. Houlihan Lokey is the No. 1 M&A advisor for the past six consecutive years in the U.S., the No. 1 global restructuring advisor for the past seven consecutive years, and the No. 1 global M&A fairness opinion advisor over the past 20 years, all based on number of transactions and according to data provided by Refinitiv.

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