

The Evolution of Midstream Energy  
Infrastructure: Poised for the Transition

EPISODE 2

# Midstream Long-Term Drivers

DECEMBER 2022

CONFIDENTIAL

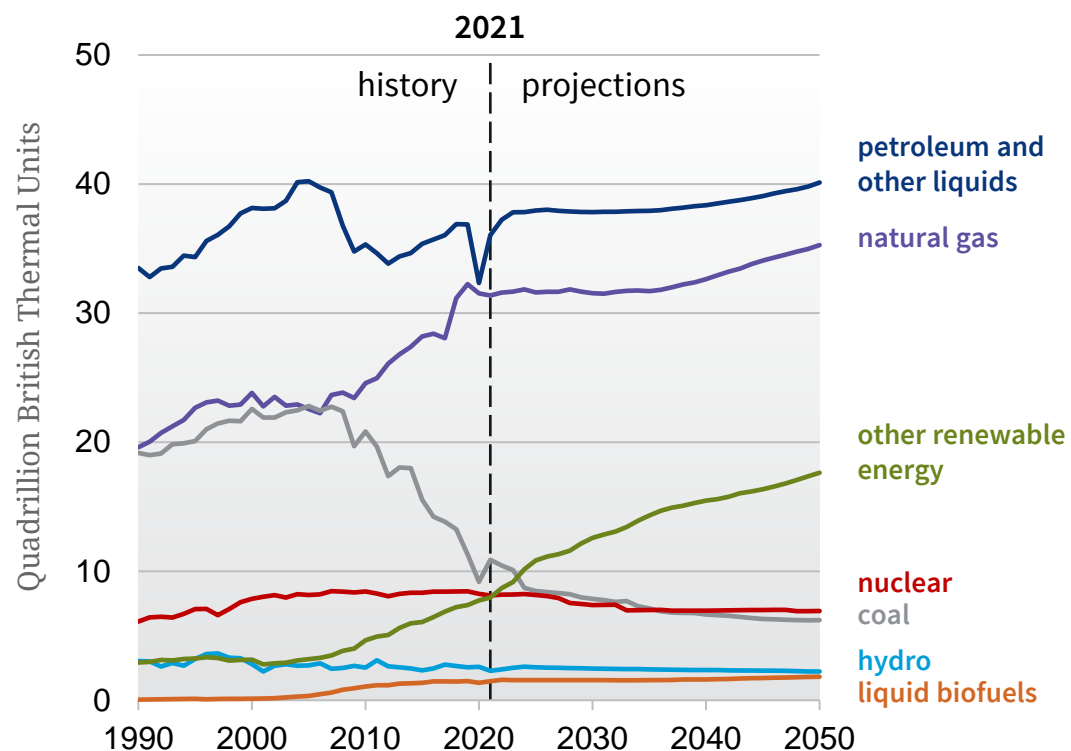
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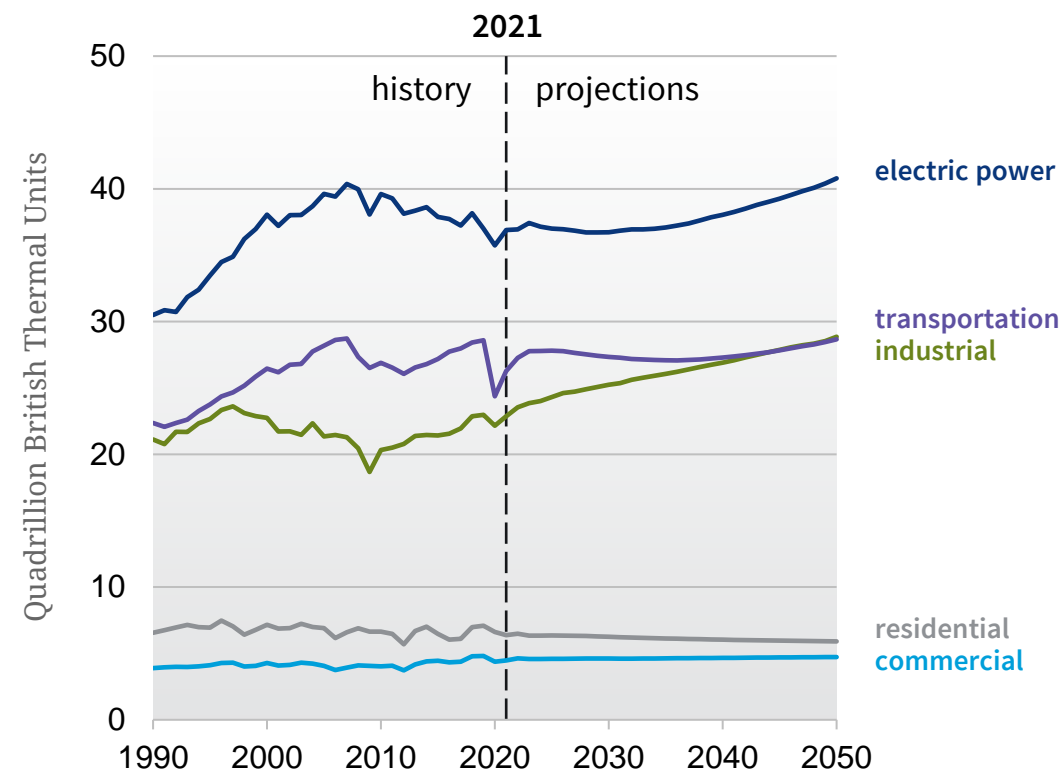
# Market Opportunity

# EIA Outlook to 2050: Hydrocarbon Sources Remain the Primary Fuel Source

Energy consumption by fuel  
AEO2022 Reference case



Energy consumption by sector  
AEO2022 Reference case



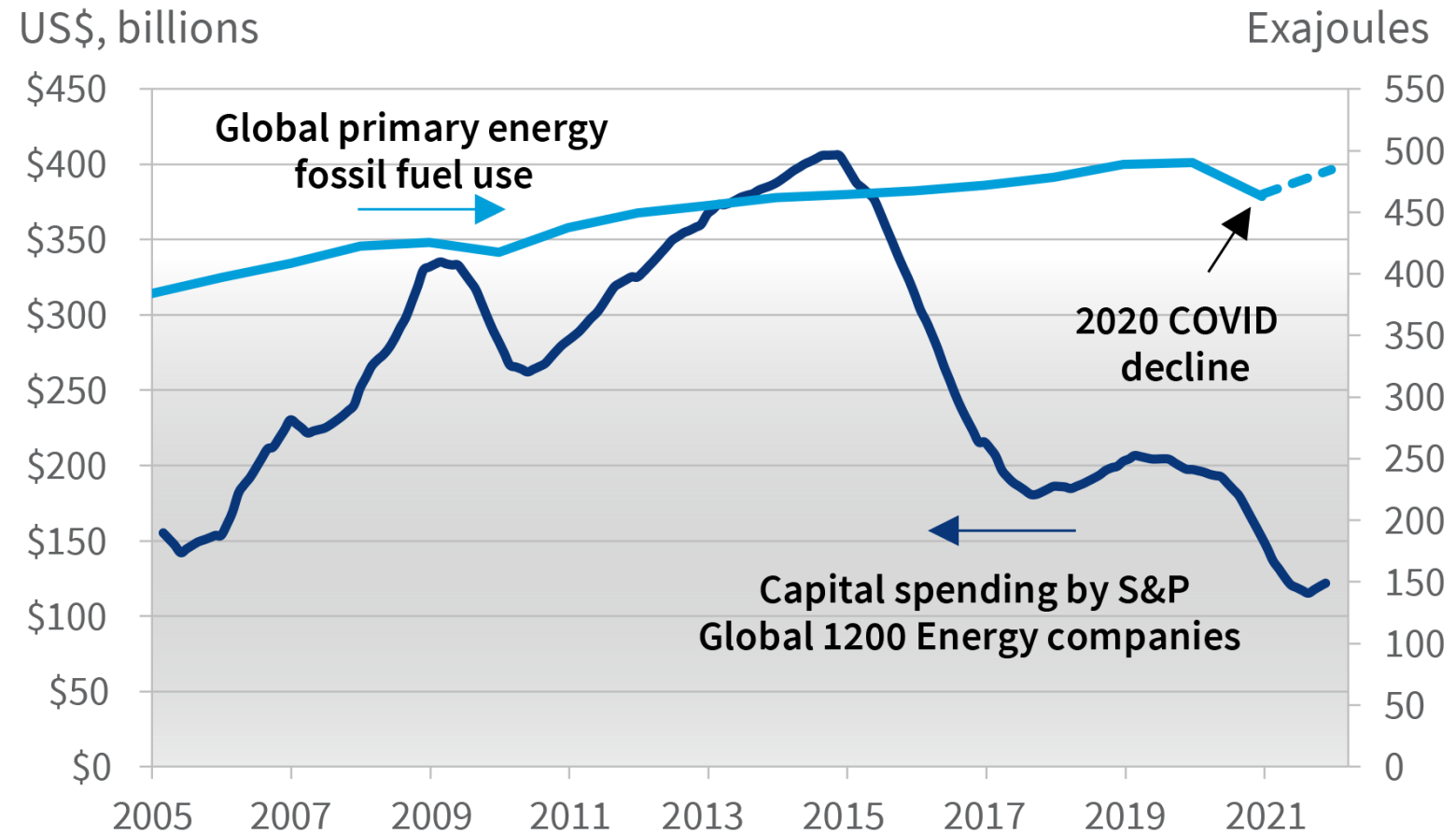
Note: Biofuels are shown separately and included in petroleum and other liquids.

# Underinvestment in Global Energy Supply

Capital markets have dissuaded public energy companies from making new investments.

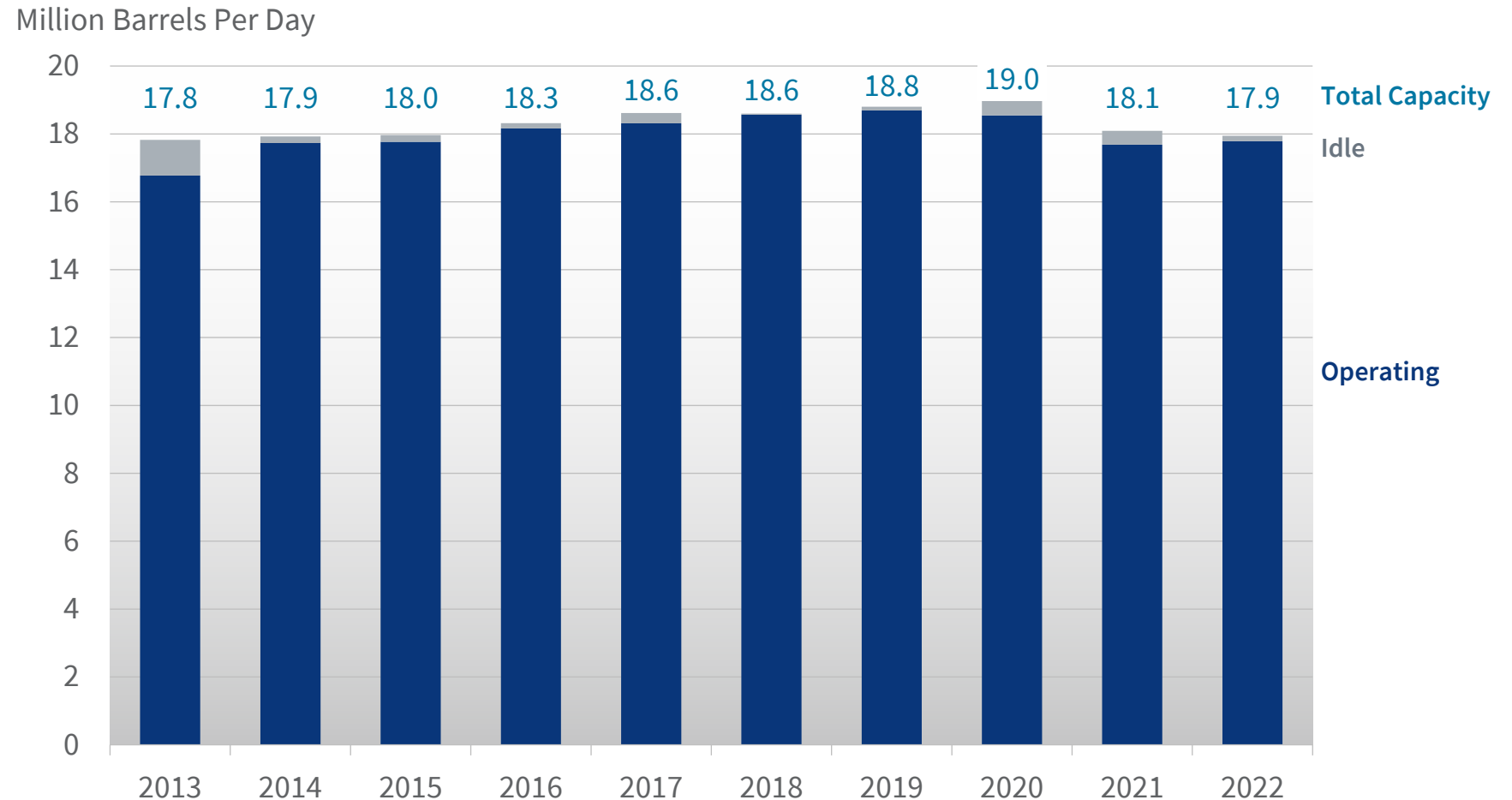
However, global primary energy use has recovered to pre-pandemic levels, and the U.S. and Global economies run the risk of having a greater demand for fossil fuels than what the market can supply.

Source: JP Morgan, "Eye on the Market Outlook 2022", January 1, 2022.



# Underinvestment in Refining Capacity

Policy disincentives have caused underinvestment in U.S. refining capacity.



Source: U.S. Energy Information Administration, *Refinery Capacity Report*, June 29, 2022

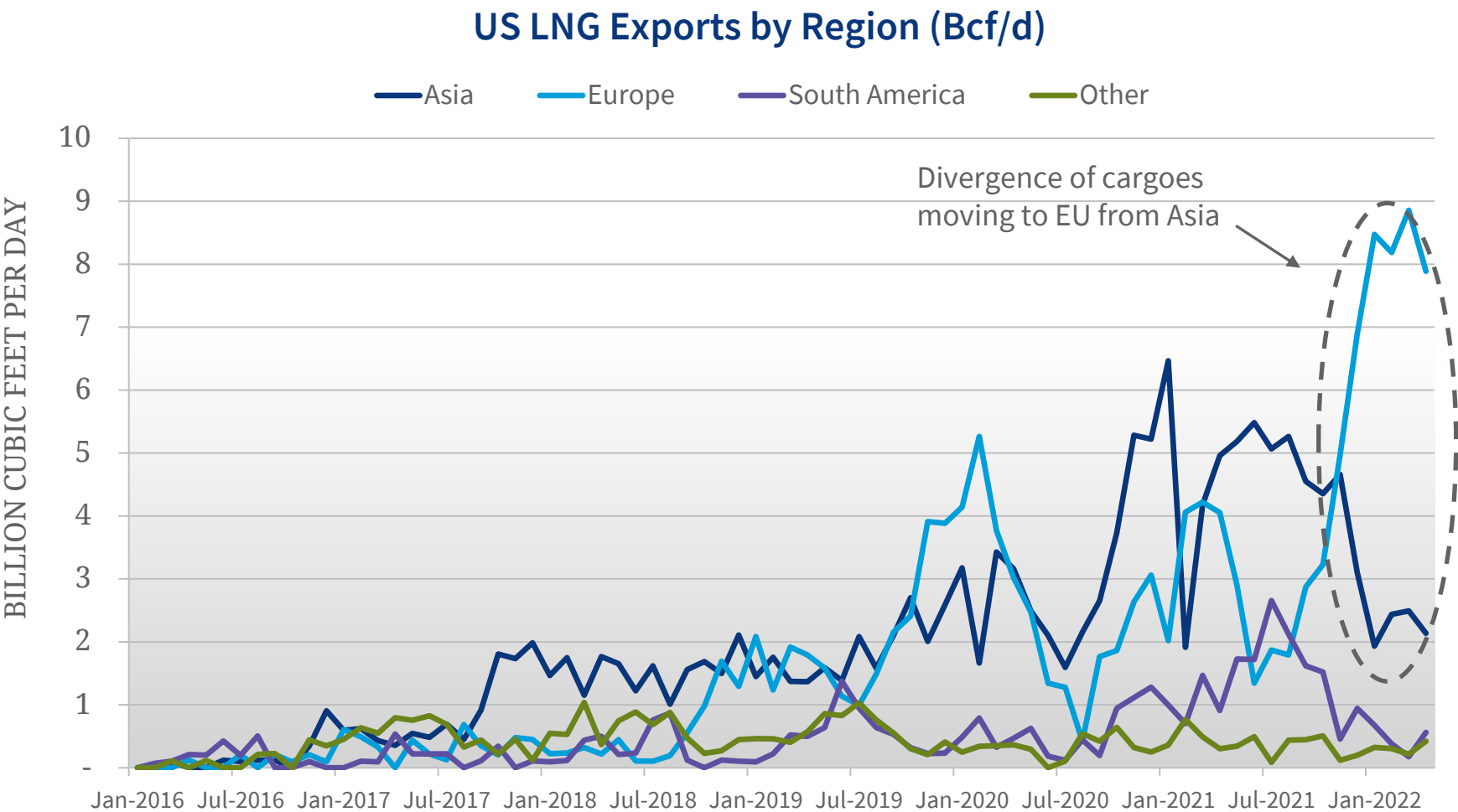


Russia’s invasion of Ukraine has placed a renewed focus on Global energy security.

On 3/25/22, the Joint Task Force for Energy Security was established to supply EU nations with an incremental 4.8 billion cubic feet per day (Bcf/d) of liquefied natural gas (LNG) until at least 2030.

Midstream assets are mission critical to delivering increased U.S. natural gas volumes to export markets.

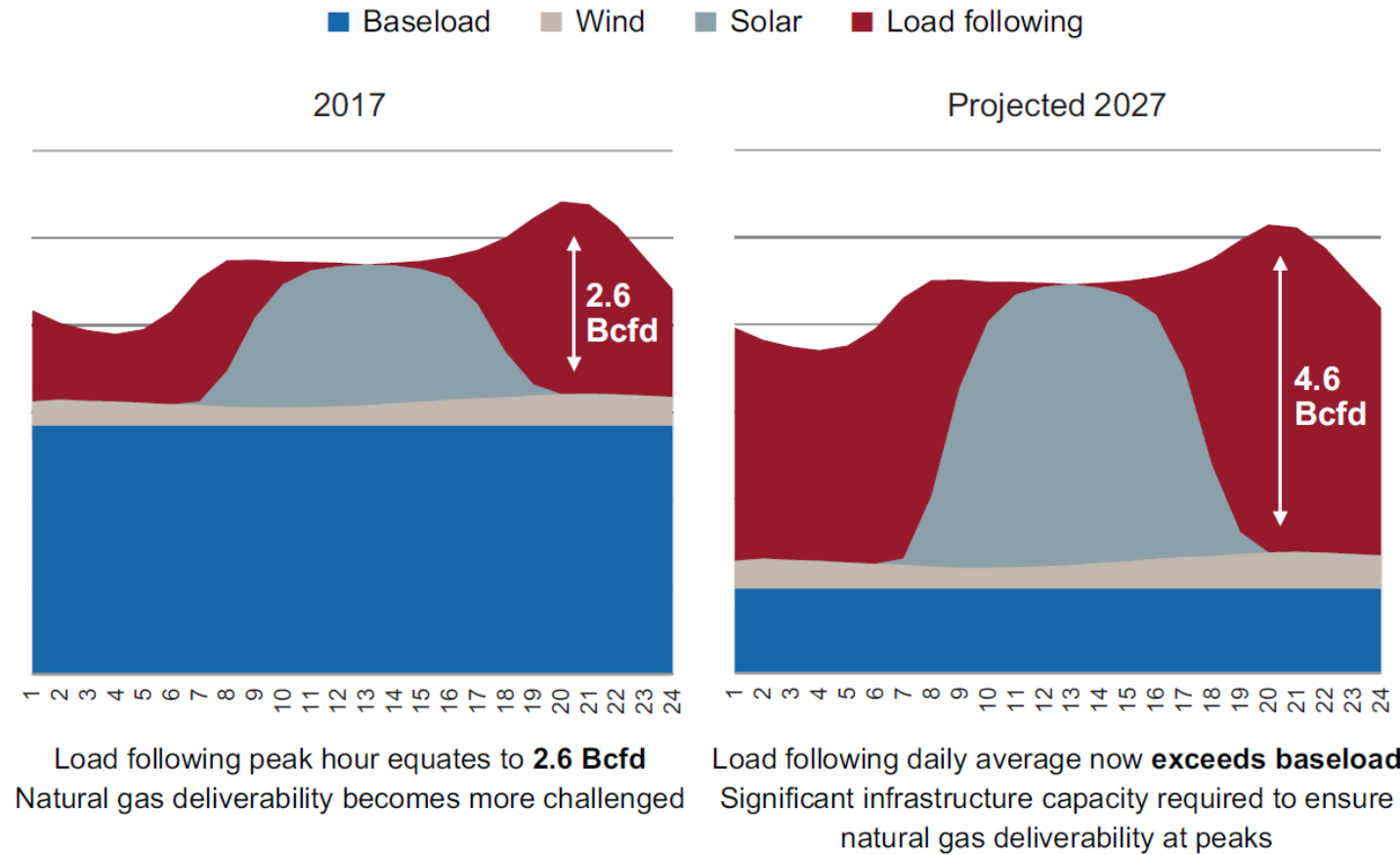
Source: U.S. Department of Energy



# Natural Gas' Role in Renewables Growth

Because renewable power currently lacks viable storage options, natural gas is needed to balance baseload power and could play an increasing role alongside the growth of renewables and other intermittent sources.

## Average Daily California Power Generation

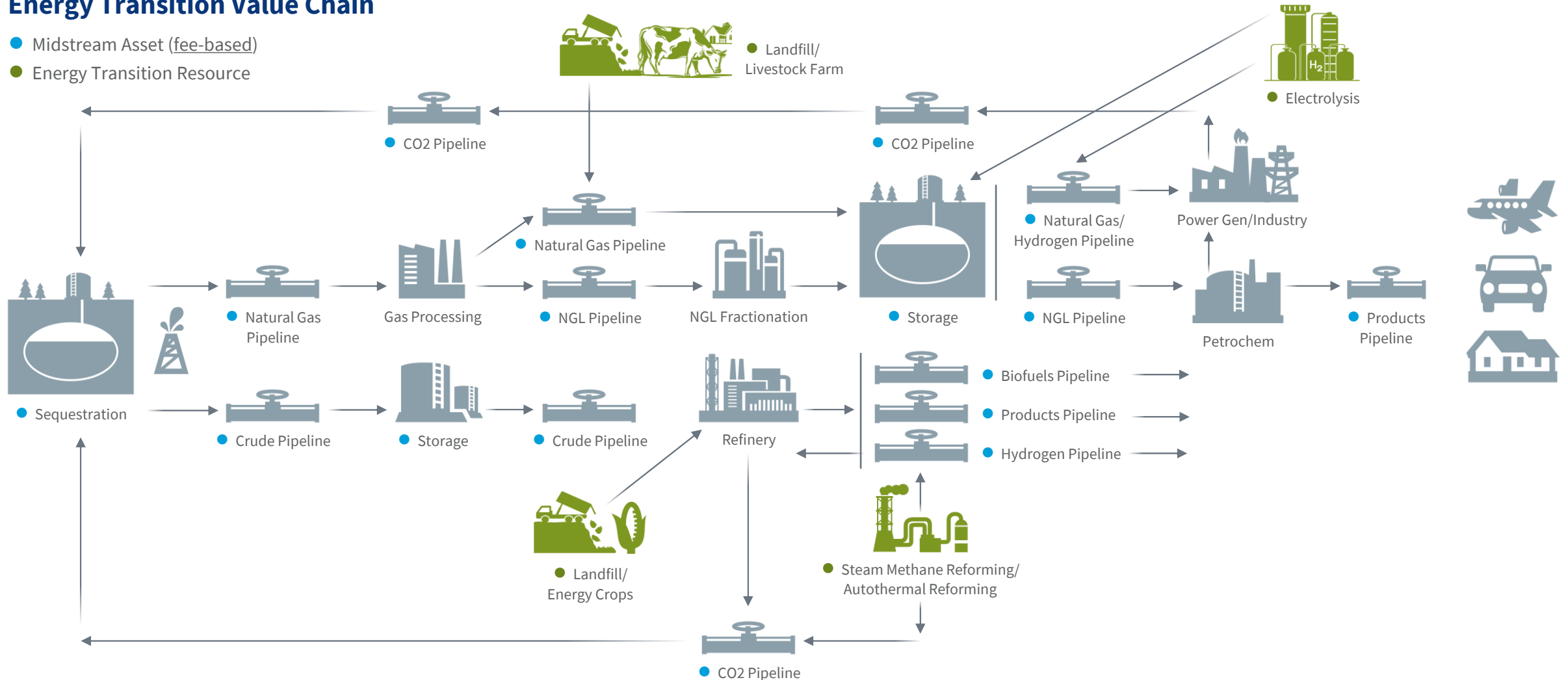


Source: Kinder Morgan Inc.

# Midstream Value Chain in the Energy Transition

## Energy Transition Value Chain

- Midstream Asset (fee-based)
- Energy Transition Resource





# New & Repurposed Infrastructure Opportunities

## NEXT 5 YEARS



**\$30** BILLION  
THROUGH  
2032<sup>1</sup>

### High Carbon Displacement (HCD)

Gas & NGLs substitute coal  
and crude oil

Gas emissions reduction  
technologies

Advanced plastics recycling and  
other efficiency measures



**\$160** BILLION  
PER YEAR  
BY 2030<sup>2</sup>

### Bioenergy

Converting waste-to-energy

Repurposing infrastructure to  
facilitate decarbonization efforts



**\$220** BILLION  
PER YEAR  
BY 2030<sup>2</sup>

### Carbon Capture Utilization and Sequestration (CCUS)

Repurposing infrastructure to  
facilitate decarbonization efforts

## 5-10 YEARS



**\$180** BILLION  
PER YEAR  
BY 2030<sup>2</sup>

### Hydrogen

Investable contracted  
infrastructure timeline  
is likely > 5 years out

(1) Wood Mackenzie, "North American gas investment horizon outlook to 2032", November 19, 2021. Estimate is for total new, North America natural gas infrastructure through 2032 only. Does not include other categories of high carbon displacement.

(2) International Energy Agency, "Roadmap to Net Zero by 2050", May 17, 2021. Estimates are for annual new global infrastructure per year by 2030 for the category indicated.

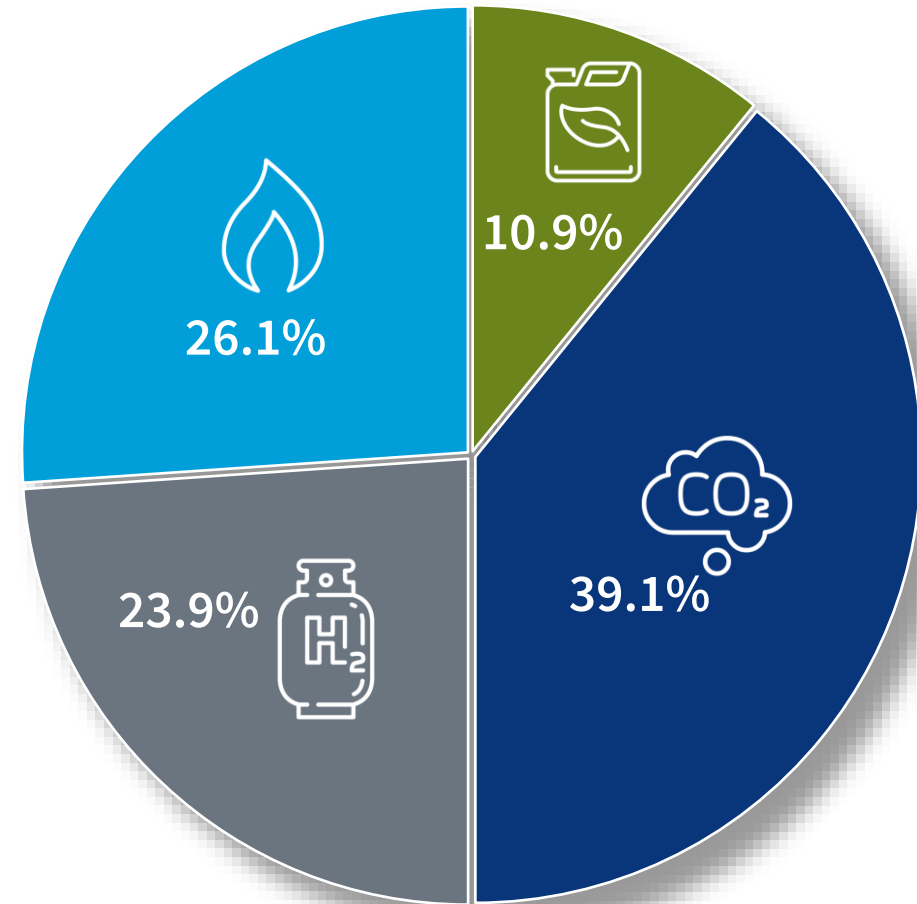
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# Midstream Energy Transition Announcements

## Transition in Action

Since March 31, 2021, Midstream companies across a range of categories have made over 45 announcements related to their Energy Transition infrastructure efforts.

- Bioenergy | 5 Announcements
- Carbon Capture | 18 Announcements
- Hydrogen | 11 Announcements
- High Carbon Displacement | 12 Announcements



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# Financial Opportunity

# Midstream Repurchase Authorizations

17 Midstream companies have authorized repurchases, including re-loading of completed programs.

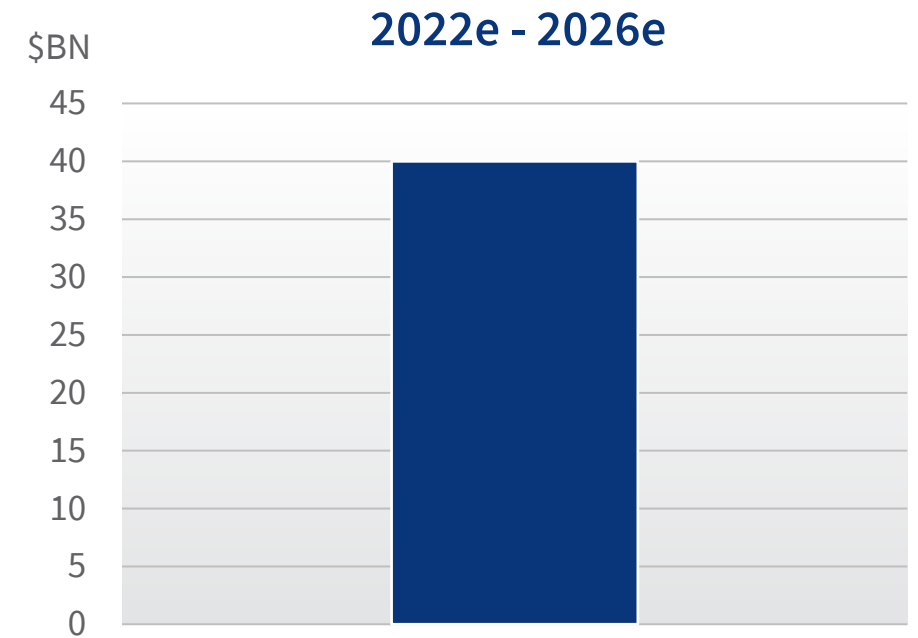
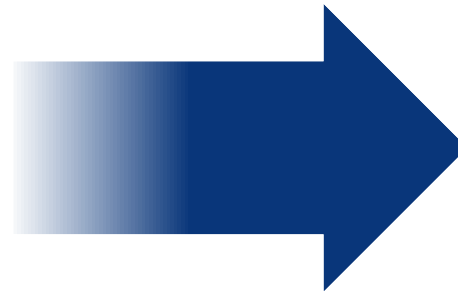
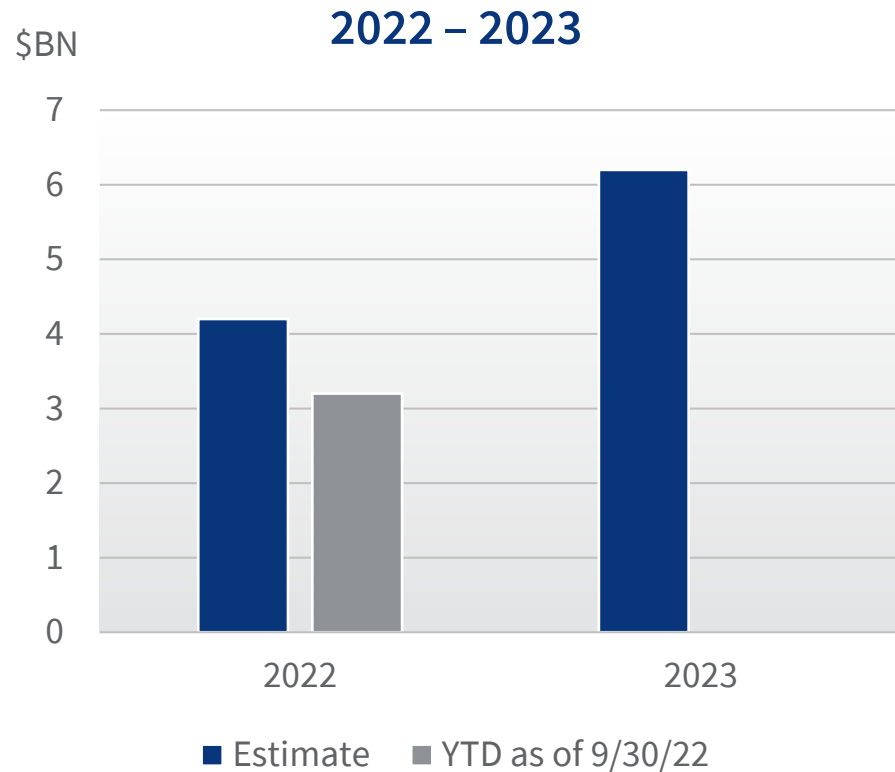
An estimated \$12.9 billion of existing authorizations remain available.

Announcement Date	Ticker	Company Name	Total Authorized Repurchase (\$MM)	% of Float at Announcement	Amount Remaining (\$MM)	% of Float at Announcement Remaining
August 12, 2019	AM	Antero Midstream	\$300	2.2%	\$150	1.1%
March 25, 2021	CEQP	Crestwood Midstream	\$175	10.3%	\$175	10.3%
January 5, 2022	ENB	Enbridge Energy	\$1,181	1.5%	\$986	1.2%
November 4, 2020	ENLC	EnLink Midstream	\$100	14.7%	\$0	0.0%
December 20, 2021	ENLC	EnLink Midstream	\$41	2.6%	\$43	2.7%
January 31, 2019	EPD	Enterprise Product Partners	\$2,000	5.2%	\$1,484	3.9%
February 18, 2015	ET	Energy Transfer Partners	\$2,000	6.9%	\$880	3.0%
March 5, 2018	GMLP	Golar LNG Partners	\$25	5.1%	\$25	5.1%
July 19, 2017	KMI	Kinder Morgan Inc	\$2,000	5.2%	\$1,150	3.0%
June 3, 2019	LNG	Cheniere Energy Inc	\$1,000	6.2%	\$22	0.1%
September 12, 2022	LNG	Cheniere Energy Inc	\$4,000	10.3%	\$4,000	10.2%
January 21, 2020	MMP	Magellan Midstream	\$750	5.2%	\$0	0.0%
October 20, 2021	MMP	Magellan Midstream	\$750	7.0%	\$460	4.3%
November 2, 2020	MPLX	MPLX	\$1,000	14.8%	\$202	3.0%
August 29, 2017	NGL	NGL Energy Partners	\$15	1.3%	\$15	1.3%
November 2, 2020	PAA	Plains All American	\$500	3.8%	\$197	4.8%
February 25, 2021	PBA	Pembina Pipeline	\$955	12.1%	\$844	3.4%
October 5, 2020	TRGP	Targa Resources Corporation	\$500	13.8%	\$215	5.9%
November 9, 2020	WES	Western Midstream	\$250	12.0%	\$0	0.0%
February 23, 2022	WES	Western Midstream	\$1,000	19.4%	\$575	11.2%
September 8, 2021	WMB	Williams Companies	\$1,500	5.0%	\$1,500	5.0%

Note: Actual share repurchases may vary significantly

Source: Company filings, CCM as of 9/30/22

# Midstream Buyback Forecast



Sources: Wells Fargo, "Weekender", April 1, 2022; CCM



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*Liquefied Natural Gas or LNG* is natural gas that has been converted to a liquid form for the ease and safety of natural gas transport. Natural gas is cooled to approximately -260 F, creating a clear, colorless, and non-toxic liquid that can be transported from areas with a large supply of natural gas to areas that demand more natural gas.

*Midstream companies*, as used herein, are companies engaged primarily in midstream energy infrastructure regardless of entity structure or tax status. Midstream companies includes master limited partnerships (MLPs) that are organized as partnerships or limited liability companies which elect to be taxed as partnerships, as well as corporations and other entities which elect to be taxed as corporations (i.e., C-corps), many of which are the successors to MLPs that have consolidated into or with a C-corp parent or subsidiary thereof. Midstream interests, as used herein, are securities issued by Midstream companies.

*NGLs or Natural Gas Liquids* are hydrocarbons—in the same family of molecules as natural gas and crude oil, composed exclusively of carbon and hydrogen. Ethane, propane, butane, isobutane, and pentane are all NGLs. There are many uses for NGLs, spanning nearly all sectors of the economy. NGLs are used as inputs for petrochemical plants, burned for space heat and cooking, and blended into vehicle fuel.

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