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# Rockies West LDC Forum Presentation

Stan Brownell VP Business Development Natural Gas & LNG  
August 2022



illuminating the markets

Market Reporting

Consulting

Events

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# A VIEW OF ARGUS

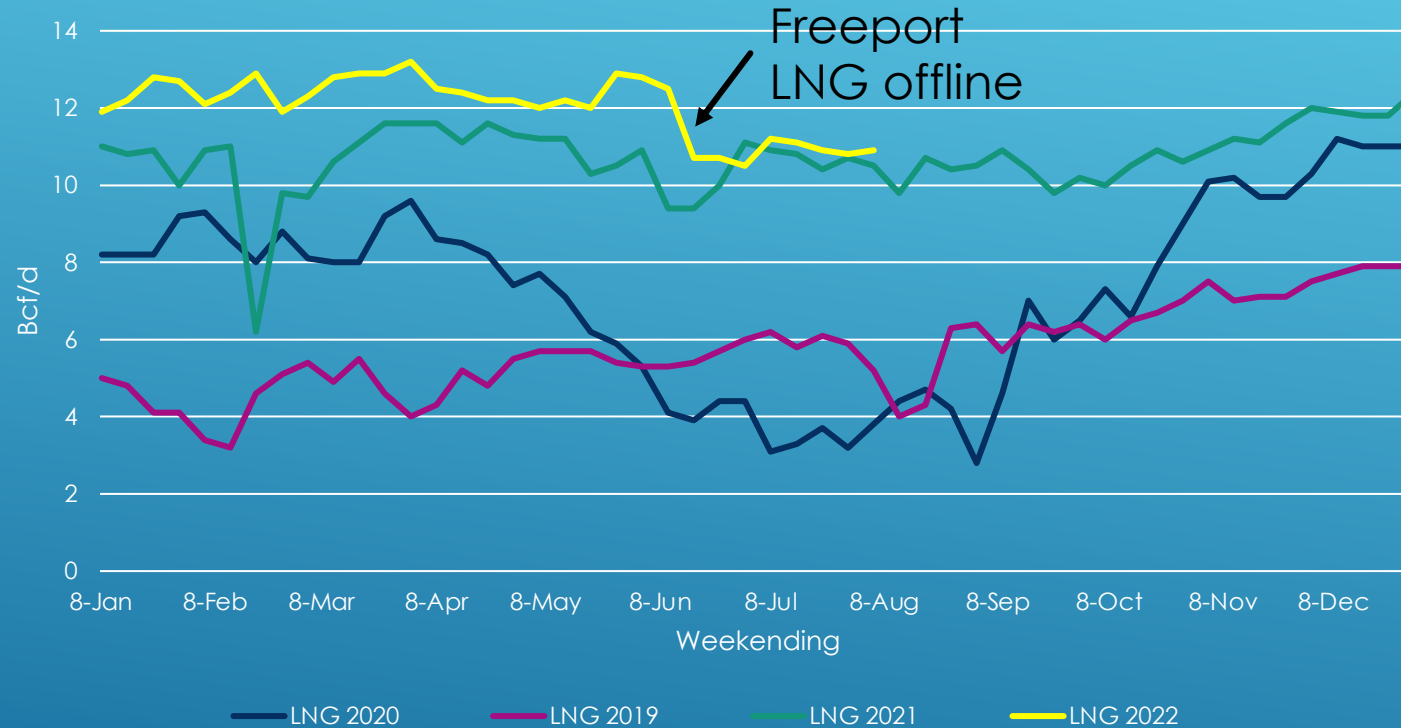
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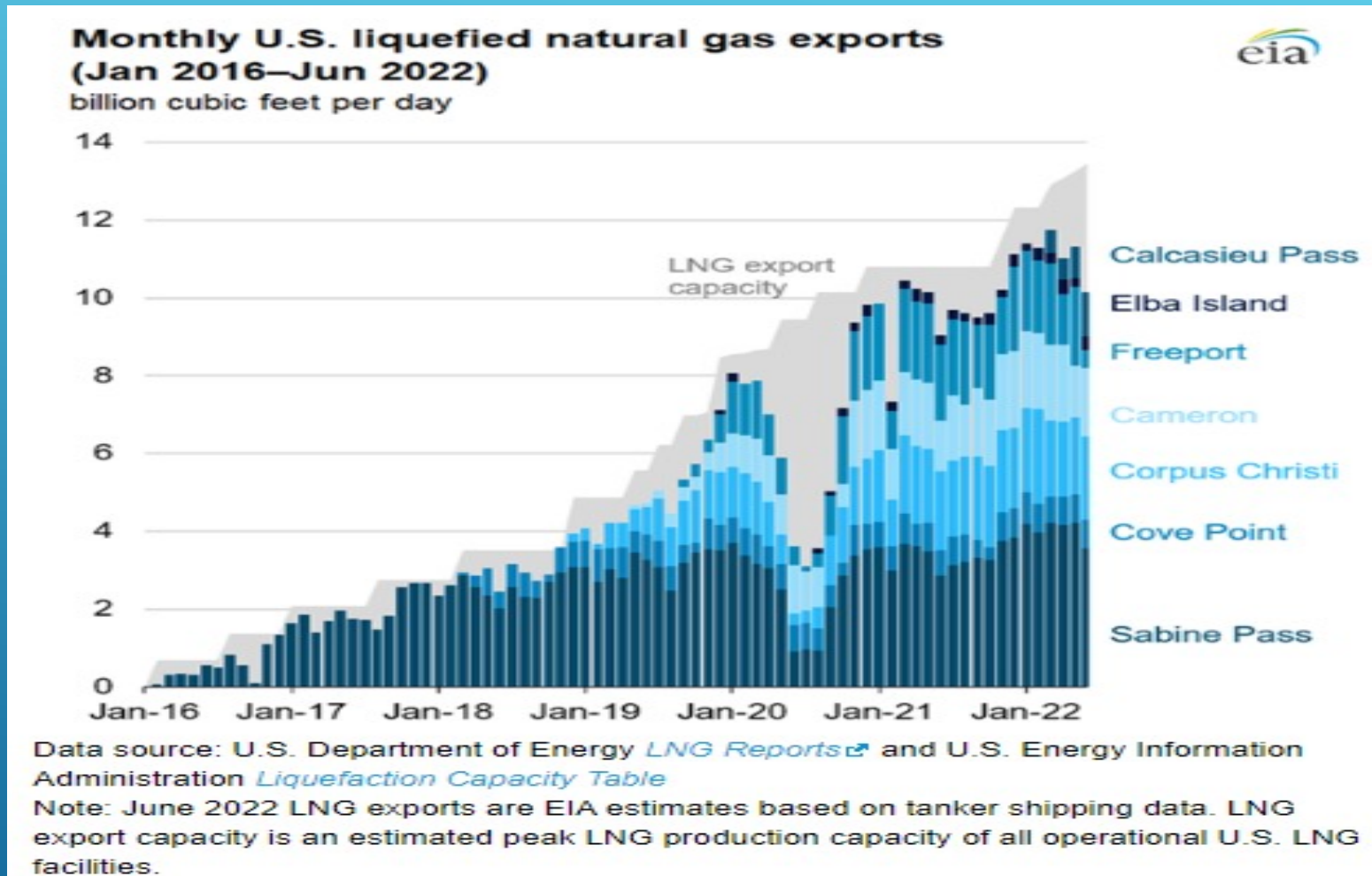
# US LNG EXPORTS FALL TO 2021 LEVELS

LNG Demand for Natural Gas



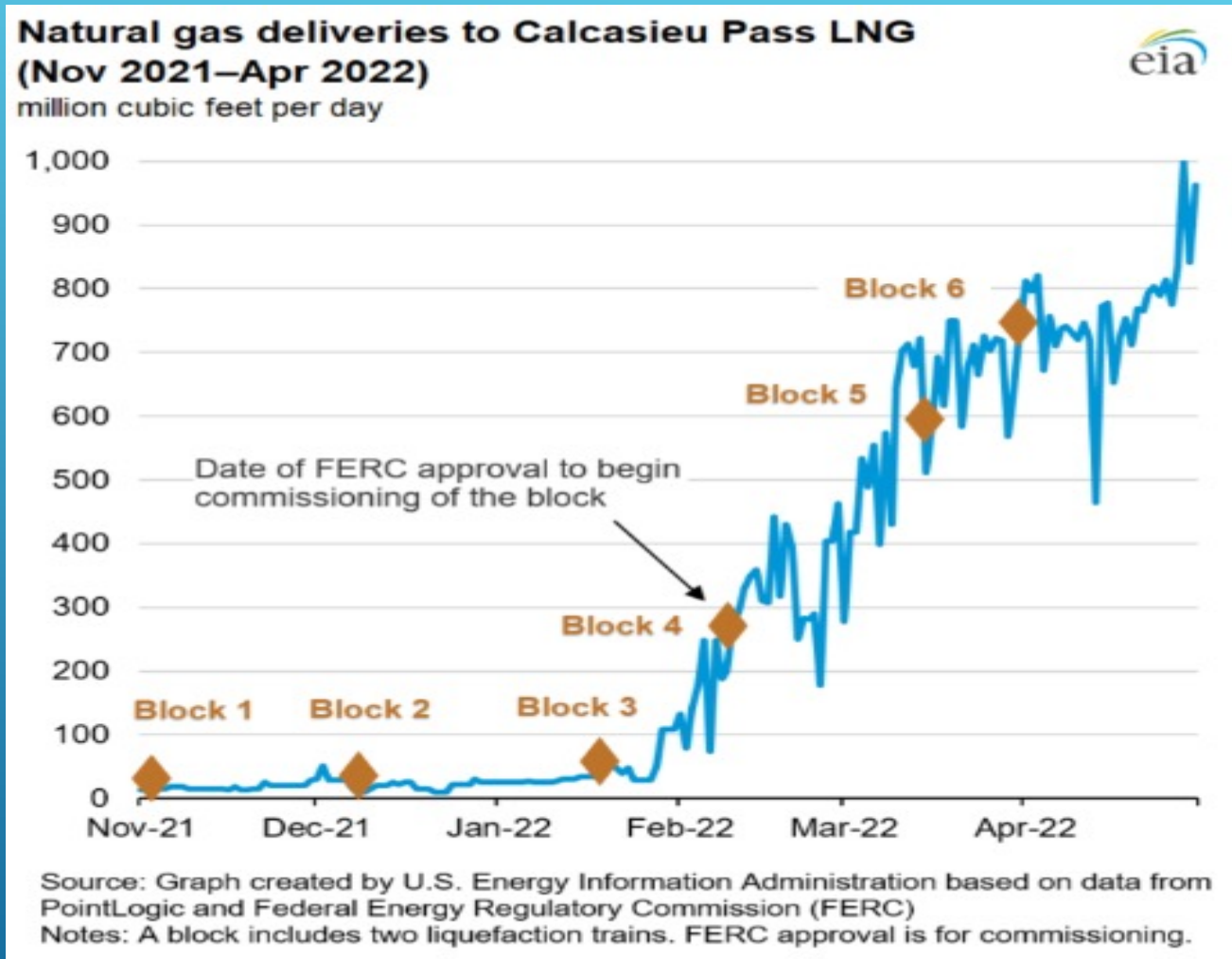
- 2021 Avg 10.7 Bcf/d
- 2020 Avg 7.2 Bcf/d
- 2019 Avg 5.7 Bcf/d
- 2022 Jan-July 12.1 Bcf/d

# LNG EXPORT CAPACITY CONTINUES TO INCREASE



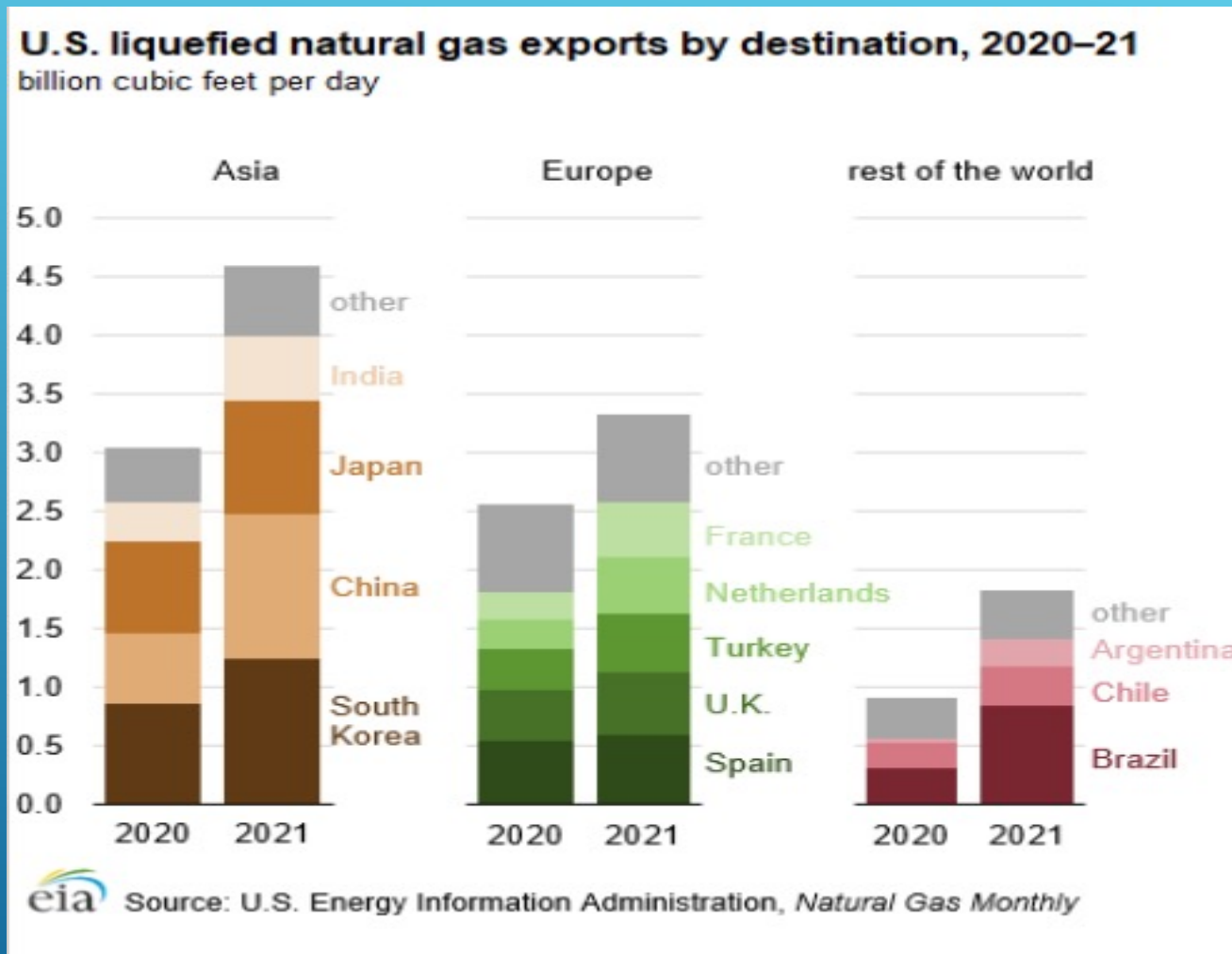
US Export Capacity increased by **2.1 Bcf/day** since November 2021

# CALCASIEU PASS LNG RAMPS UP



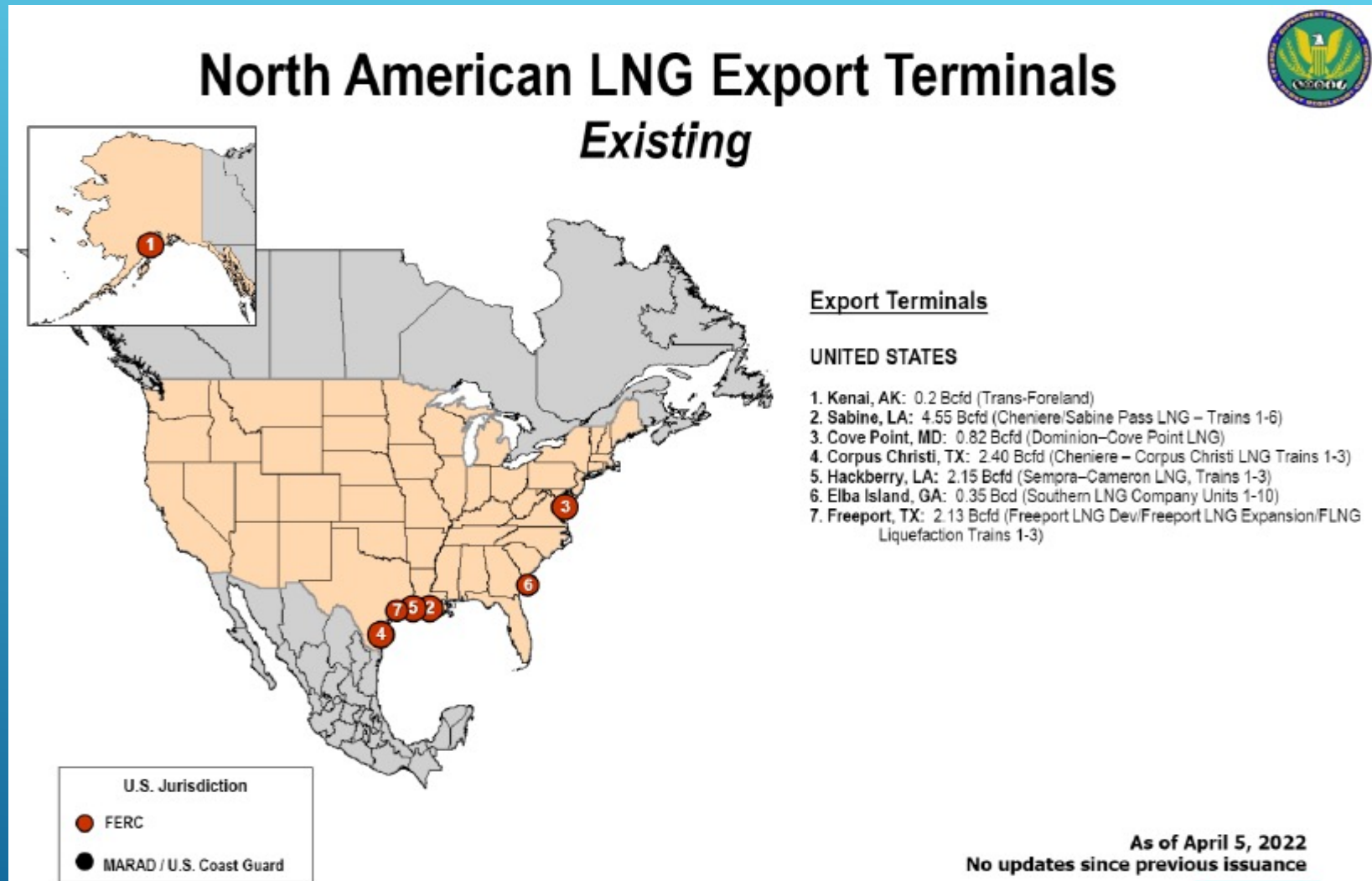
Calcasieu Pass  
is a 1.3  
Bcf/day facility

# WHERE IS THE LNG GOING?



- 2021 avg send-out: 9.2 Bcf/d
- 3.2 Bcf/d increase over 2020

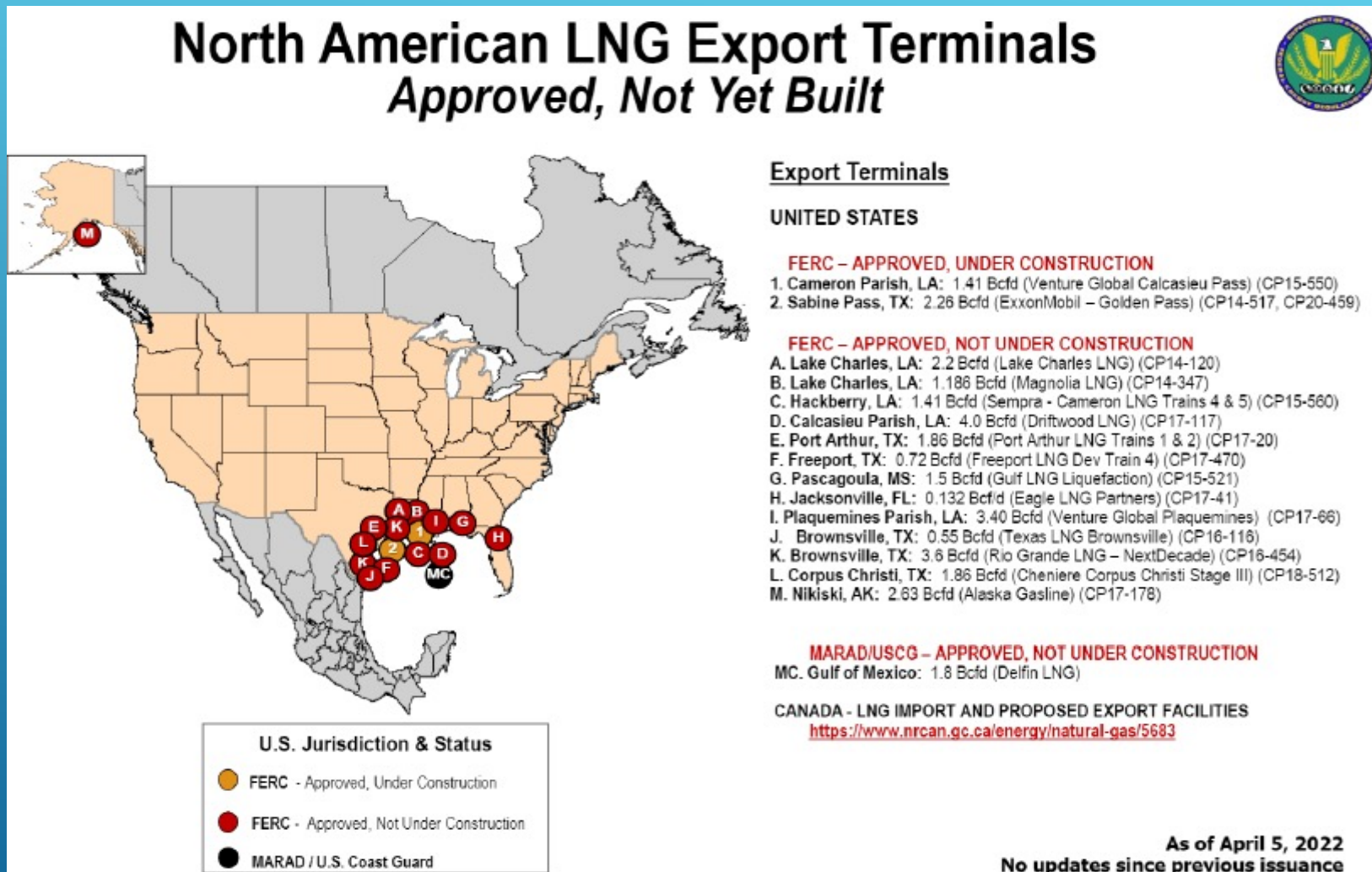
# CURRENT LNG EXPORT CAPACITY



Total Export Capacity: **13.9** Bcf/d (fuel Adjusted)

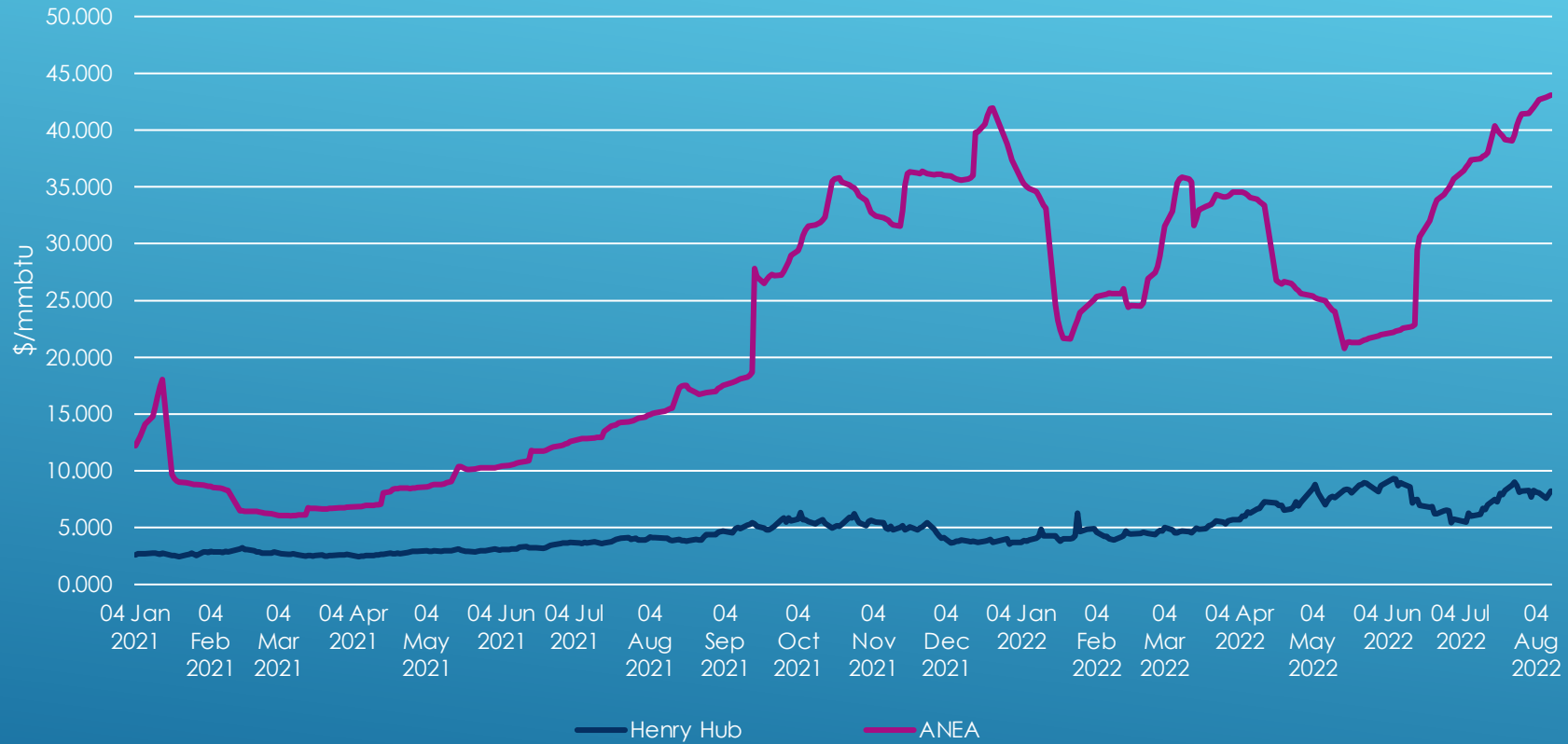


# LNG EXPORT CAPACITY YET TO COME

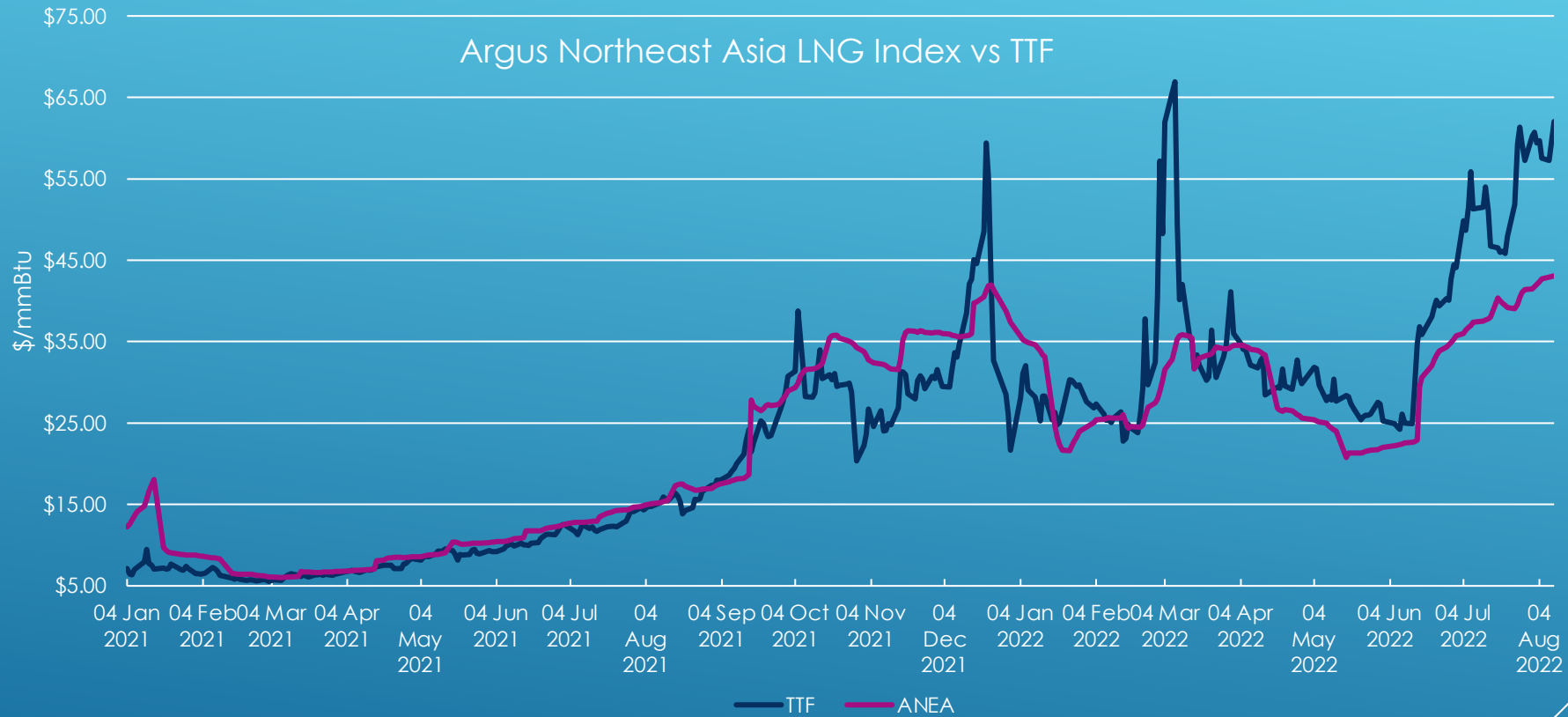


# ASIAN LNG MARKETS REACH NEW HIGHS

Henry Hub vs Argus Northeast Asia (ANEA)

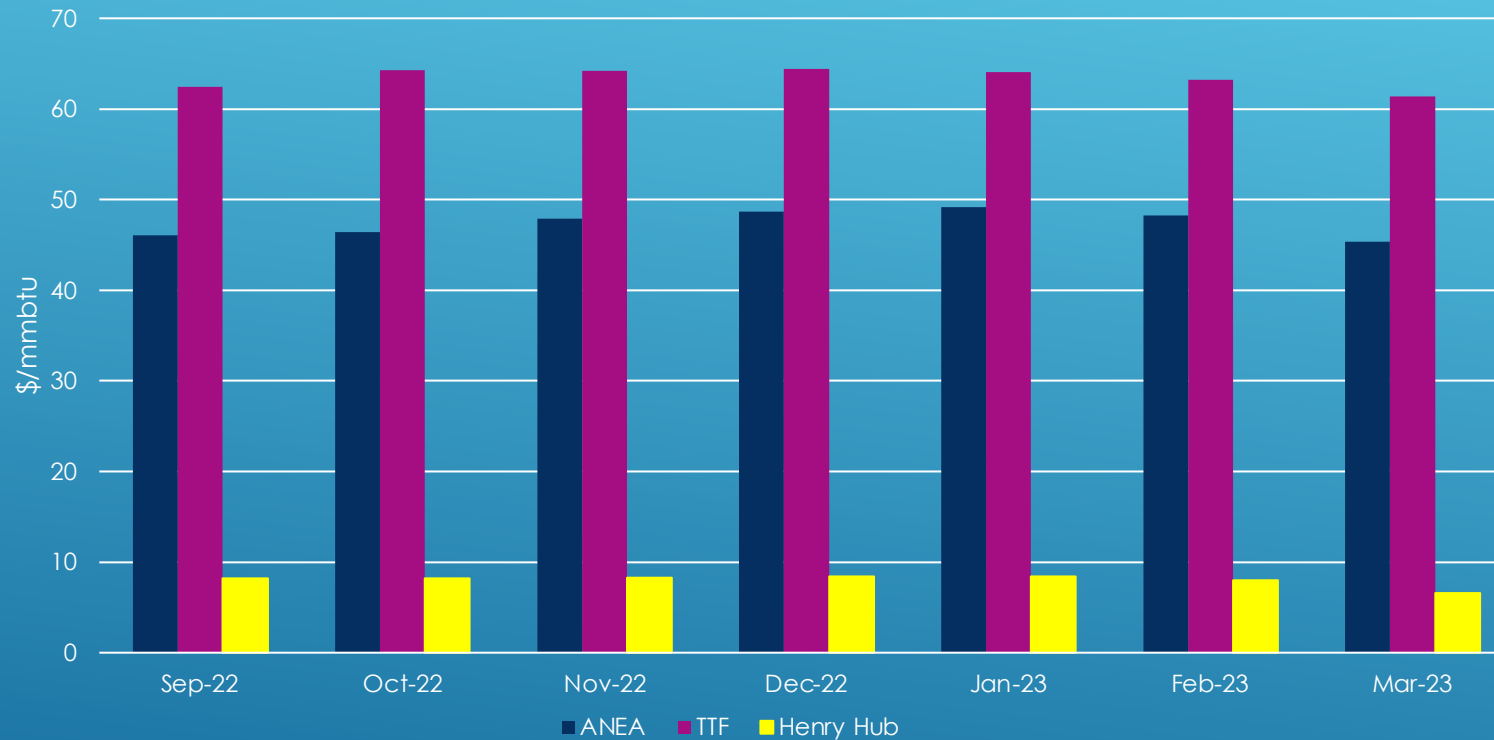


# LNG DESTINED FOR ASIAN A BARGAIN COMPARED TO THE TTF



# ASIAN AND EUROPEAN SPREAD EXPECTED TO PERSIST

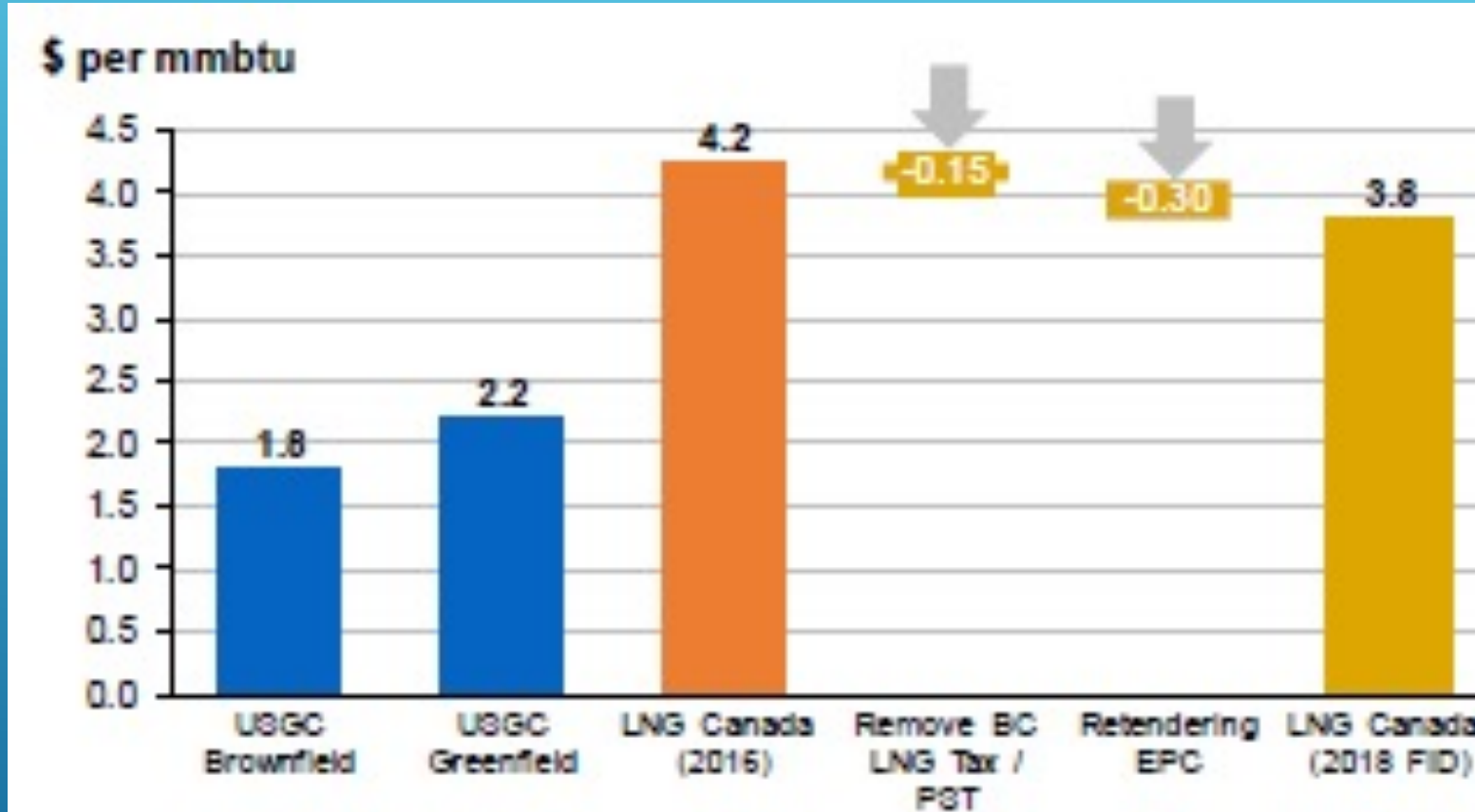
ANEA, TTF and Henry Hub forward prices



Note: Prices based on August 10, 2022 Close



# CAPITAL COST COMPARISON FOR LIQUEFACTION (US VS CANADA)



Capital Costs for  
LNG Liquefaction  
Double US Costs

Source: Canadian LNG Competitiveness

# WEST COAST LNG SHIPPING ADVANTAGE

Days	Sabine Paas, LA to Tokyo	23.25		9,209.00	Nautical Miles
shipping Rate:		\$ 80,430.50	\$ 1,870,009.13		
Panama Canal			\$ 595,800.00		
			2,465,809.13	Total Cost	
			\$ 0.40	cost per mmbtu	
Days	Vancouver, CN to Tokyo	10.29		4,081.00	Nautical Miles
shipping Rate:		\$ 80,430.50	\$ 827,629.85		
Panama Canal			\$ -		
			\$ 827,629.85	Total Cost	
			\$ 0.14	cost per mmbtu	
Days	Topolobampo, MX To Tokyo	13.75		5,452.00	Nautical Miles
shipping Rate:		80,430.50	1,105,919.38		
Panama Canal		850,000.00	-		
			1,105,919.38	Total Cost	
			0.18	cost per mmbtu	

Panama holds only 2 slots per day for LNG Tankers.

Panama has let up to 4 LNG Tankers per day

The travel time for a Gulf Coast LNG Tanker must travel an additional 7,673 nautical miles

Going around Cape Horn increases the shipping cost to **\$0.57/mmbtu**

**Note:**

LNG Tankers travel @ Max speed of 20 to 25 knots, avg 16.5 Knots  
 LNG Tankers from Sabine avg 174,000 cubic meters or 6.1 Bcf  
 Panama Canal rate is 2023 to 2025 avg tariff rate



# WEST COAST LNG MAY HAVE A PRICE ADVANTAGE TO ASIAN MARKETS

	Tokyo Delivered LNG Cost Difference (\$/Mmbtu)		
	US Gulf Delivered	Canada Aeco	Mexico Waha
Gas Supply Differential	\$ 0.71	\$ (1.14)	(\$0.900)
Liquefaction	\$ 2.20	\$ 3.80	\$ 2.20
Shipping	\$ 0.40	\$ 0.14	0.18
<b>Total</b>	<b>\$ 3.32</b>	<b>\$ 2.80</b>	<b>\$ 1.48</b>
B/E Incremental transport		\$ 0.52	\$ 1.83
Forward Curve Average NYMEX 2023 -2027		\$4.75	on August 10, 2022

Note: Calculation does not take into account boil off or LNG used as fuel

# KEY TAKEAWAYS SHORT TERM:

- ▶ Expect US LNG demand to increase as projects come online
- ▶ Expect strong competition from Europe for LNG cargoes due to the need replace Russian supplies
- ▶ Expect closer alignment between the TTF and price of LNG to Asia



# LONG TERM CONSIDERATIONS:

- ▶ What approved LNG projects will reach FID
- ▶ Are any pipeline expansion approved to serve new LNG facilities
- ▶ Can Western Canadian production ramp up
- ▶ Will the Asia markets switch to west coast supplies
- ▶ Will Japan be able to restart 4 nuclear plants as announced

**THANK YOU!**

- ▶ Stan Brownell
- ▶ VP Business Development Natural Gas & LNG
- ▶ (832) 986-6805 or (908) 342-1491
- ▶ Stan.Brownell@argusmedia.com
- ▶ Houston, Texas