



## **Cheniere Energy, Inc.**

NYSE: LNG

*November 17, 2023*

**Buy Recommendation**

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## I. Company Overview

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## Business Description

- Cheniere Energy, Inc. is an energy infrastructure company headquartered in Houston that specializes in LNG liquefaction and regasification
- Cheniere Energy, Inc. is the largest producer of LNG in the United States
- Operates the Sabine Pass LNG facility as well as the Corpus Christi LNG facility
- Over 3,070 cumulative LNG cargoes have been produced and exported from their LNG facilities, and they have been delivered to 39 markets around the globe

## Facilities and Pipelines

- The Sabine Pass Liquefaction facility has been in service since 2016 and has a production capacity of ~30 mtpa
- The Corpus Christi Liquefaction facility has been in service since 2019 and has a production capacity of ~15 mtpa
- The Creole Trail Pipeline connects the Sabien Pass LNG facility with several interstate gas pipelines
- The Corpus Christi Pipeline connects the Corpus Christi LNG facility with several interstate and intrastate natural gas pipelines
- Cheniere has an equity investment in the Midship Pipeline, which connects gas production from the Anadarko Basin to Gulf Coast and Southeast markets

## Historic Stock Price



## Key Stats

Market Cap: 40.9B	LTM Revenue: 24.5B
Enterprise Value: 67.5B	LTM EBITDA: 21.0B
LTM EV/EBITDA: 3.2x	Net Debt/EBITDA: 1.1x
P/E: 3.4x	Beta 5Y: 0.97

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## II. Liquefied Natural Gas Overview

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# Liquefied Natural Gas Overview

## Production/transportation process

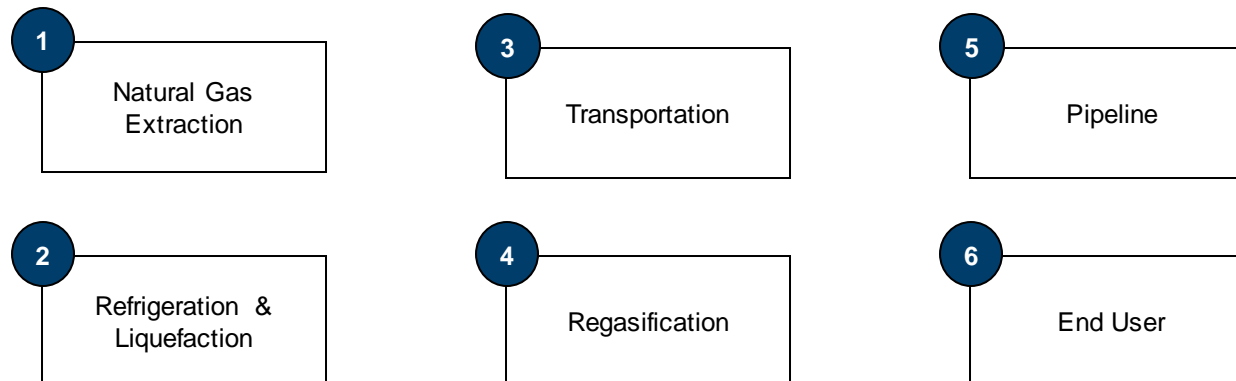
### Liquefaction

- Typically contains more than 90% methane, with the remaining 10% being other hydrocarbons
- At the liquefaction production unit or "train," the natural gas is treated to remove any contaminants
- The cooling phase initiates with a propane refrigerant, then an ethylene refrigerant, and finally cooled to -260 F
- LNG is then transported overseas through specialized LNG tankers or domestically through specialized LNG trucks
- This process can be done on land or offshore (FLNG)

### Regasification

- Regasification is the process of turning a gas back to its gaseous state by heating its liquefied form
- LNG is transferred from the carrier into an LNG terminal where the regasification process begins
- Uses sea water as a heat medium or air vaporizers to change the LNG from a liquid to gaseous state
- The natural gas is then transported through a pipeline gas network to end users
- This process can be done on land or offshore (FRSU)

### LNG Process Flow



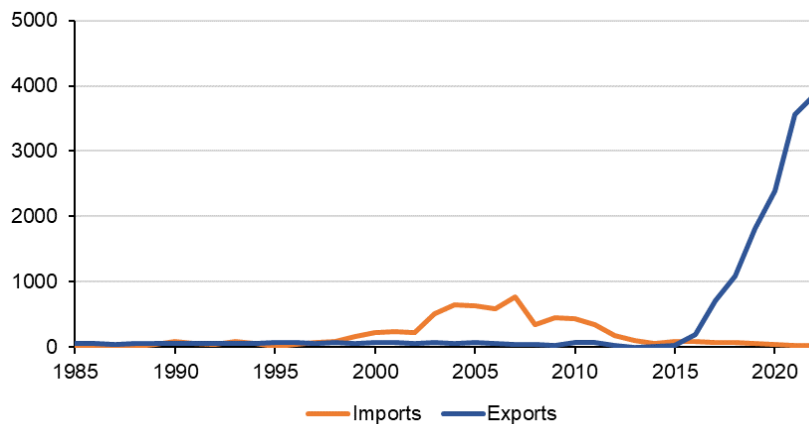
# Liquefied Natural Gas Overview

## A brief history

### Historical Significance

- The first commercial shipment of LNG happened in 1964, going from Algeria to the UK and France
- Asian imports begin to ramp up in the 70s, with Japan increasing its LNG capabilities after the Oil Crisis of 1973
- This was followed by increased imports in Korea in the 80s and Taiwan in the 90s, leading to Asia dominating the world in LNG consumption
- Due to the shale boom, the United States became one of the largest exporters of LNG in the 2010s
- In 2022, the supply cutoff of Russian natural gas led European demand for LNG to skyrocket, benefiting American companies

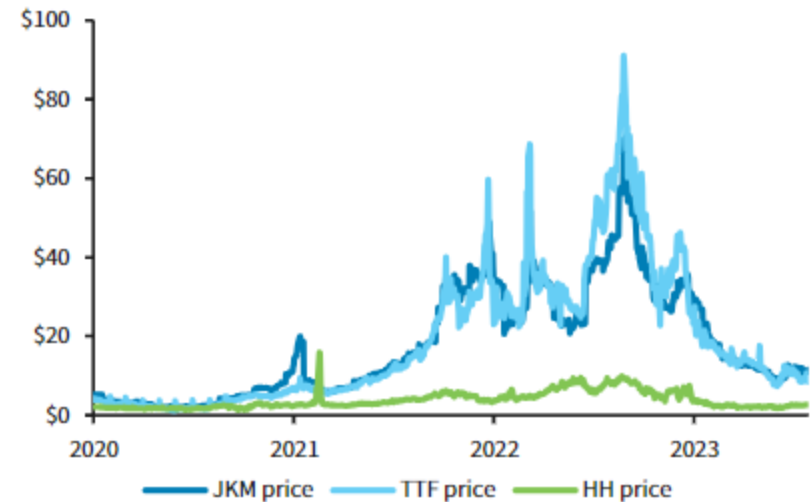
### Historical US Imports and Exports



### Recent News

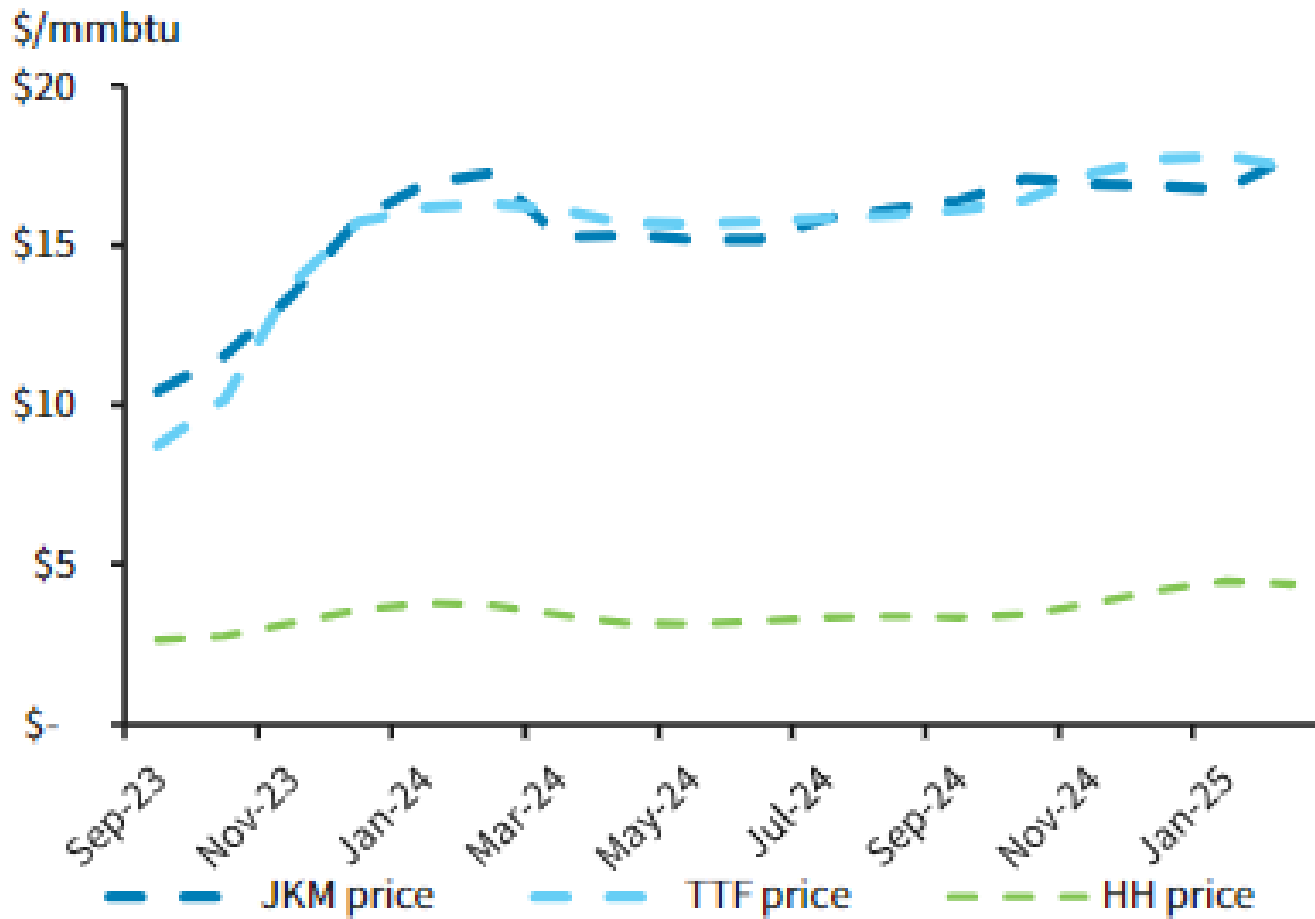
- QatarEnergy and Sinopec have signed a new 27-year LNG deal where they will cooperate on the North Field expansion project, which will supply LNG to Sinopec
- Chevron is negotiating contracts to supply LNG to Europe for up to 15 years due to expectations that the region will rely on imports for longer than expected
- Qatar supplies gas to Europe through 27-year deals with Shell and TotalEnergies
- Sanctions placed on Russia's newest LNG project, Arctic LNG 2, effectively blocking European and Asian countries from buying the project's gas

### Historic Natural Gas Prices



# Liquefied Natural Gas Overview

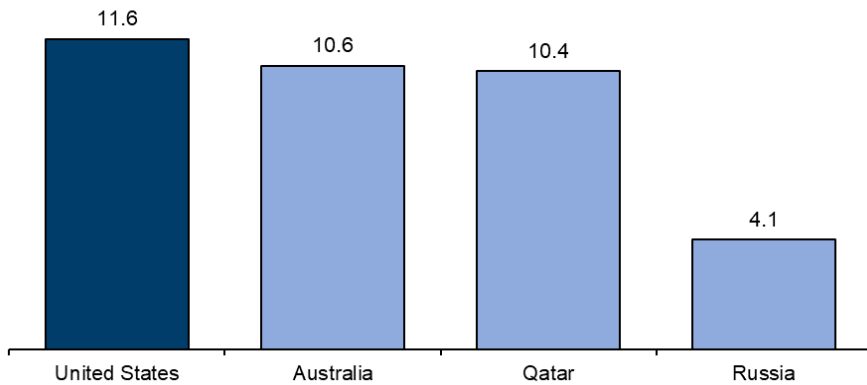
Spreads Expected to Strengthen



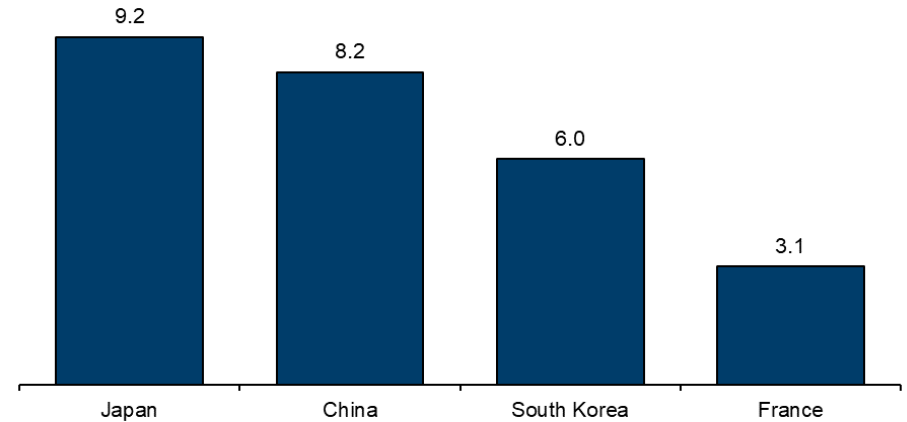
# Liquefied Natural Gas Overview

## Suppliers & Demanders

Key Supplier Countries by BCF/d (1H23)



Key Demander Countries by BCF/d (2022)



Key Supplier Companies



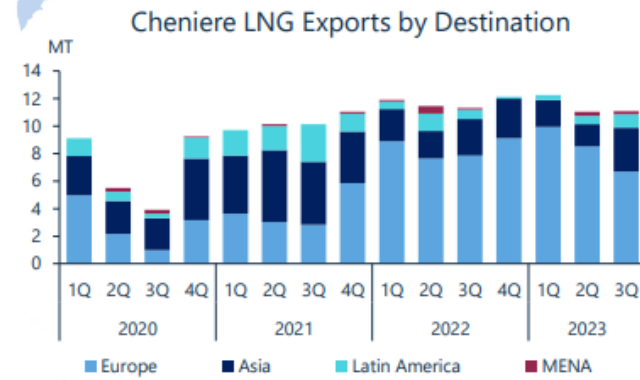
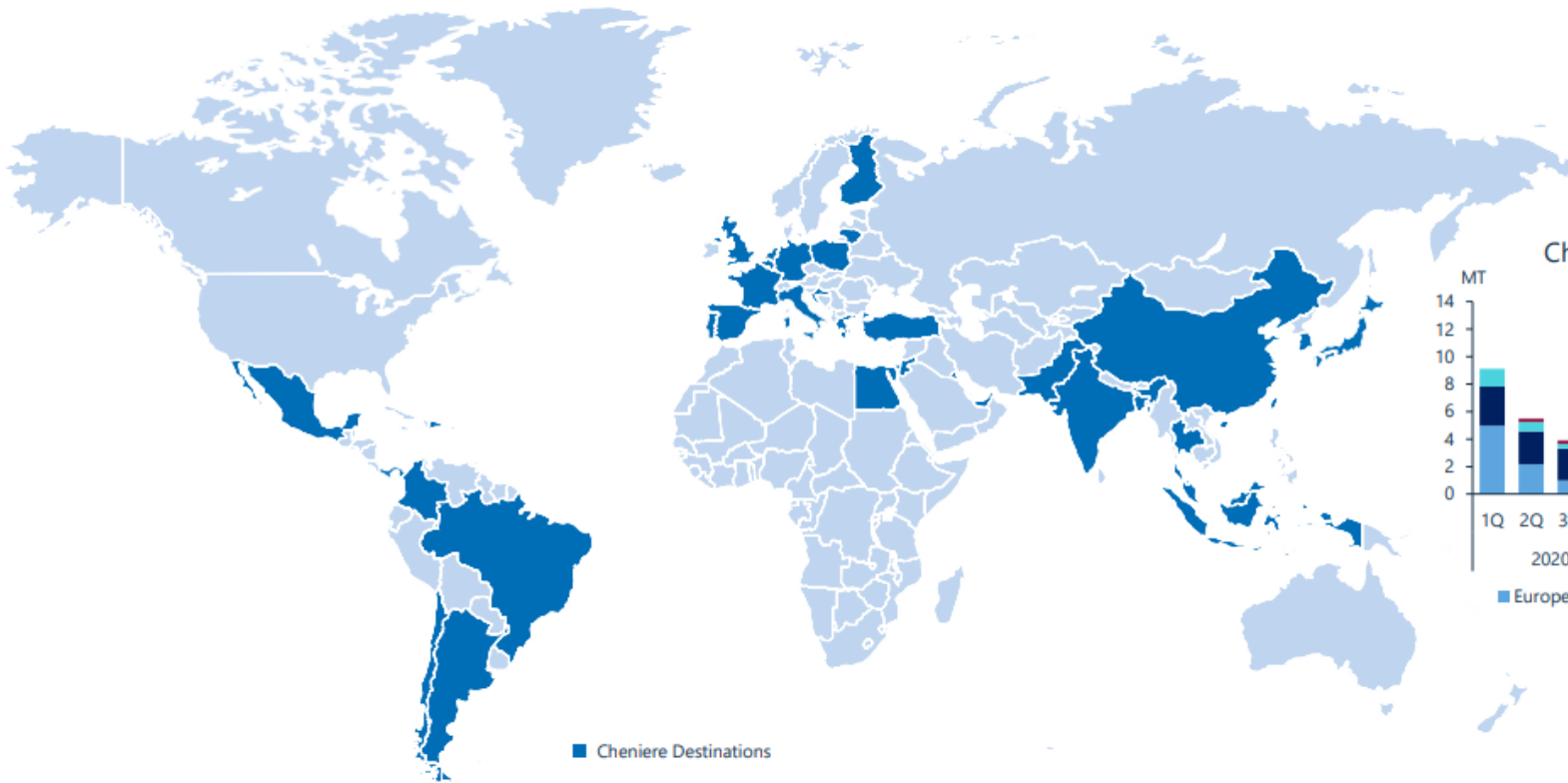
Key Demand Companies





# Liquefied Natural Gas Overview

## Cheniere Specific Global Breakdown



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## III. Thesis

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# Thesis

## Growing Demand and Uniquely Positioned

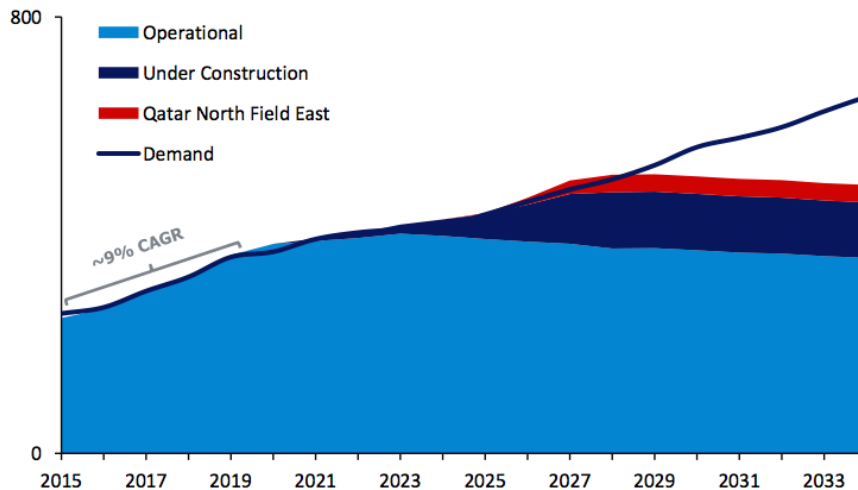
### LNG is the Future of Natural Gas

- Natural gas demand is projected to peak in 2037, while LNG demand is projected to peak in 2046
- LNG demand is projected to increase by 53% by 2030, from 388.5 mtpa to 595.7 mtpa by 2030

"There is an **enormous amount of latent demand**". It will take **years "before you can see a truly balanced market"**.

- Executive Vice President Anatol Feygin

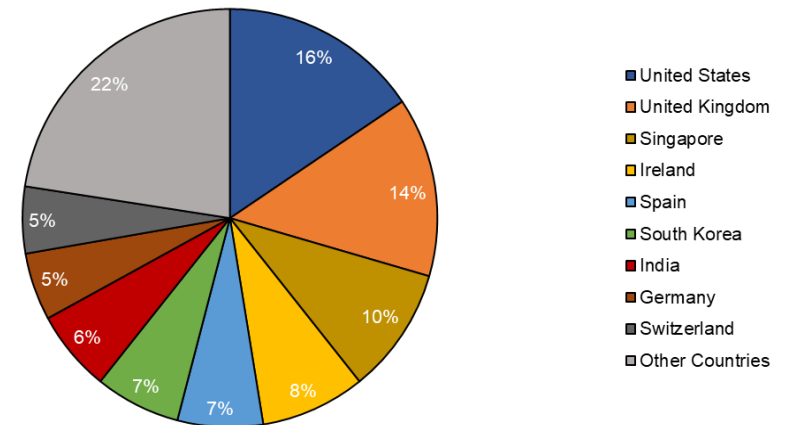
### LNG Demand (mtpa)



### Reliable & Diversified Contracts Minimize Downside

- Cheniere's long-term contracts are indexed to Henry Hub and contain additional Liquefaction fees for their services providing limited exposure to commodity downside
  - Indexed 115% to Henry Hub Price
- 95% of total expected production from Liquefaction Projects is contracted out through the mid-2030s
- Cheniere has little freight commodity fluctuation risk due to most contracts being FOB Shipping Point
- Notable Recent Long-Term Agreements: Foran Energy, Equinor, Glencore, Chevron, & PetroChina

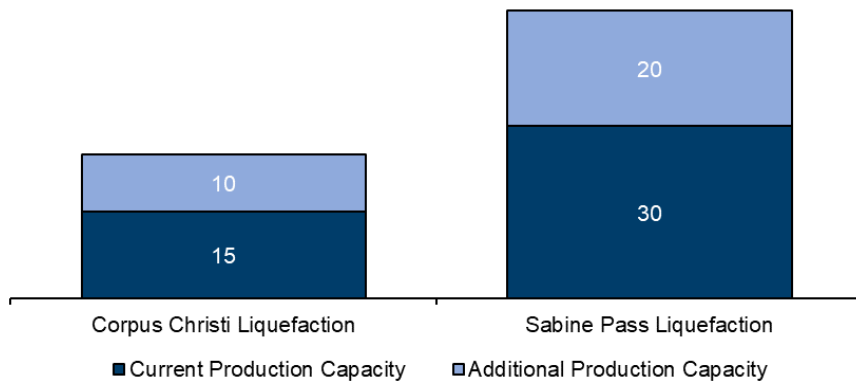
### Cheniere Exports by Region (2022)



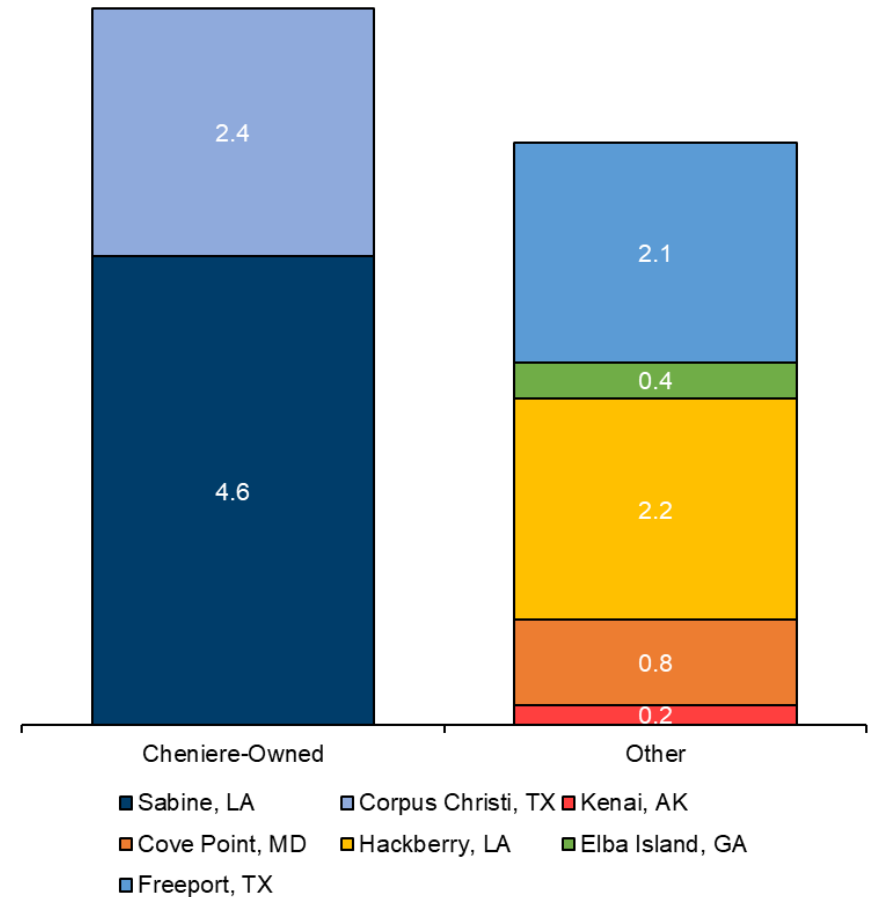
### Upgrading LNG Export Facilities

- Cheniere has proposed the development of the Sabine Pas Stage 5 Expansion Project adjacent to the existing SPL project in Cameron Parish, Louisiana
  - Consists of three large trains with expected nominal production capacity of 6.5 mtpa each
- Cheniere is also developing the Corpus Christi Stage 3 project adjacent to the CCL project for up to seven midscale trains with total production capacity of around 10 mtpa
  - The project is progressing ahead of schedule, with total project progress reaching 44.1% according to Cheniere's Q3 presentation

### Liquefaction Capacity Expansion (mtpa)



### Majority of U.S. Market Share by a Large Margin (bcf/d)



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## IV. Valuation

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# Valuation

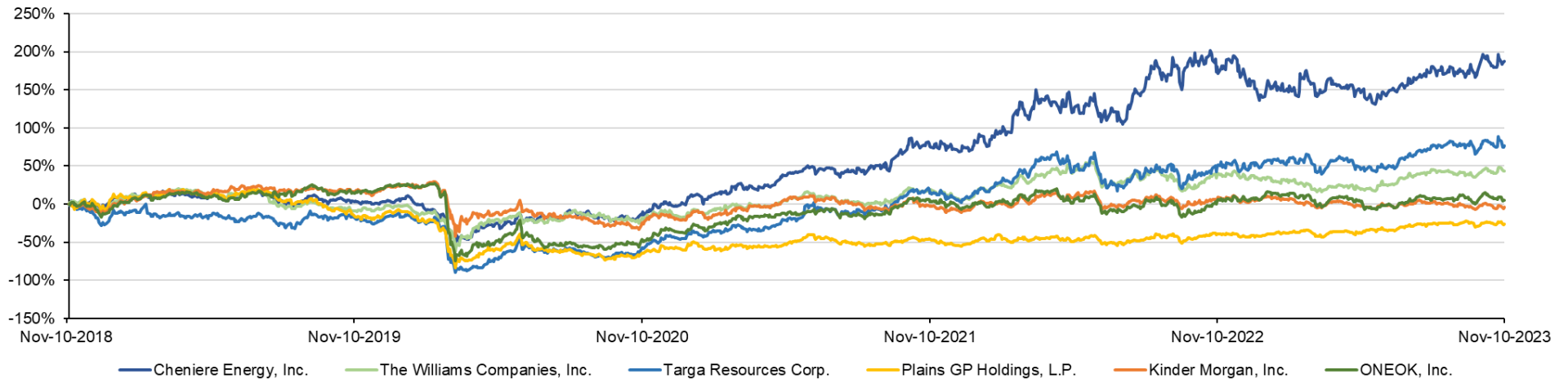
## Comparable Company Analysis



### Comps Analysis

Company	Ticker	Current Share Price	Equity Value	Enterprise Value	Enterprise Value/						LTM EBITDA Margin	LTM Debt/EBITDA
					2022 EBITDA	LTM EBITDA	2024E EBITDA	2022 EBIT	LTM EBIT	2024E EBIT		
Cheniere Energy Inc.	LNG	\$171.6	\$40,889	\$67,536	10.6x	3.3x	10.5x	14.8x	3.7x	13.5x	30.0%	1.3x
The Williams Companies, Inc.	WMB	34.9	42,432	68,542	13.5x	10.8x	10.0x	22.6x	15.9x	18.1x	9.3%	4.0x
ONEOK, Inc.	OKE	64.4	37,493	59,268	17.3x	13.9x	10.6x	21.1x	16.5x	13.1x	7.2%	5.2x
Plains GP Holdings LP	PAGP	15.8	3,094	24,398	8.4x	11.8x	8.9x	13.1x	19.0x	16.0x	8.5%	4.0x
Kinder Morgan	KMI	16.4	36,542	68,786	10.9x	10.5x	8.6x	16.8x	15.8x	14.3x	9.5%	4.8x
Targa Resources Corp.	TRGP	84.6	18,855	33,543	11.7x	8.6x	8.6x	19.1x	13.1x	12.6x	11.6%	3.3x
<b>Mean</b>					<b>12.1x</b>	<b>9.8x</b>	<b>9.6x</b>	<b>17.9x</b>	<b>14.0x</b>	<b>14.6x</b>	<b>12.7%</b>	<b>3.8x</b>
<b>Median</b>					<b>11.3x</b>	<b>10.7x</b>	<b>9.5x</b>	<b>18.0x</b>	<b>15.9x</b>	<b>13.9x</b>	<b>9.4%</b>	<b>4.0x</b>

### Historical Price vs Comparable Companies



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## V. Key Risks

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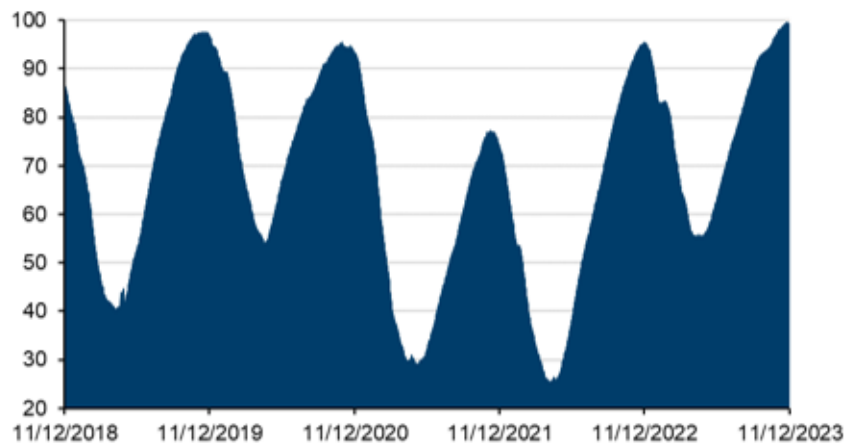
# Key Risks

## Risky Business

### Geopolitical Conflict Resolution

- European demand for United States LNG was extremely high due to the ongoing conflict between Russia and Ukraine, which caused Dutch TTF prices to skyrocket in mid-2022
  - The tensions between Russia and Ukraine could be resolved, which could lead to a decreased HH-TTF spread, which would decrease reliance on LNG from the U.S. hurting Cheniere's exports
- LNG imports to Europe from the United States have been slumping since January 2023 due to EU storage capacity being nearly full as well as the HH-TTF spread decreasing

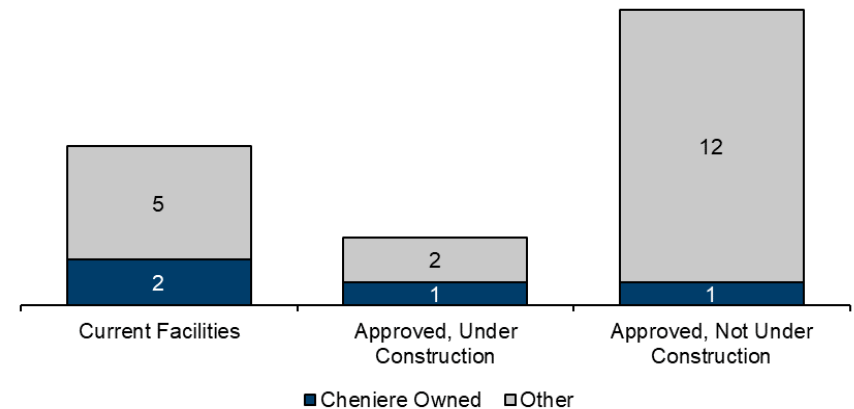
### High European Storage Utilization and Warmer Winter



### Competing Liquefaction Plants

- Current LNG export terminals are fairly limited, with Cheniere possessing 2 out of the 7 large export facilities in the U.S. However, competing companies have begun plans to develop their own export facilities
  - Cheniere is uniquely positioned in the US LNG market for the next 5 years, however, as competing facilities arise, it is crucial Cheniere continues facility development to remain competitive
- Qatar Energy has aggressively expanded into LNG markets through production deals with TotalEnergies, Sinopec, and China National Petroleum Corporation. As the LNG market expands, Qatar could become a critical competitor in the global market

### Facility Construction Outlook



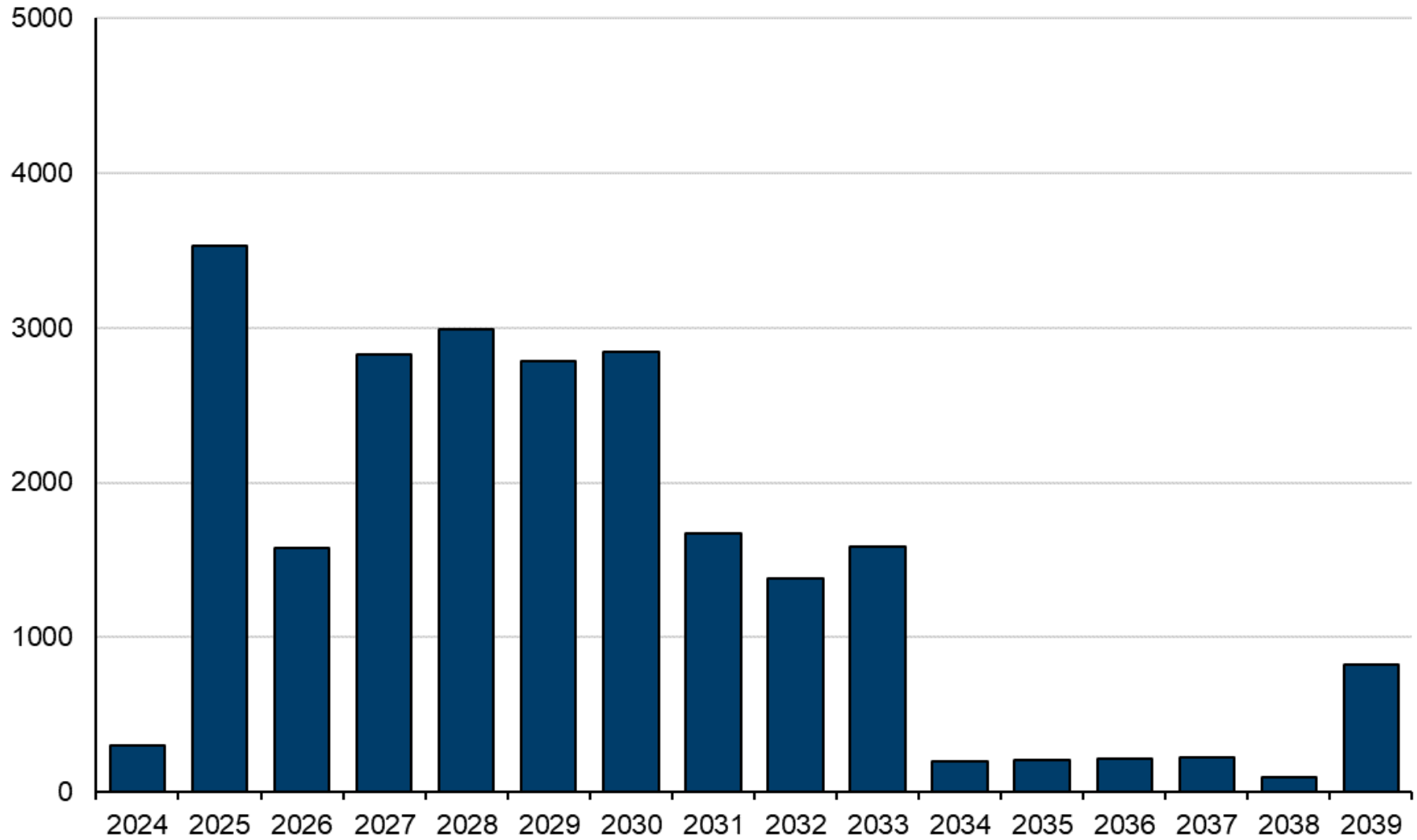


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# Appendix

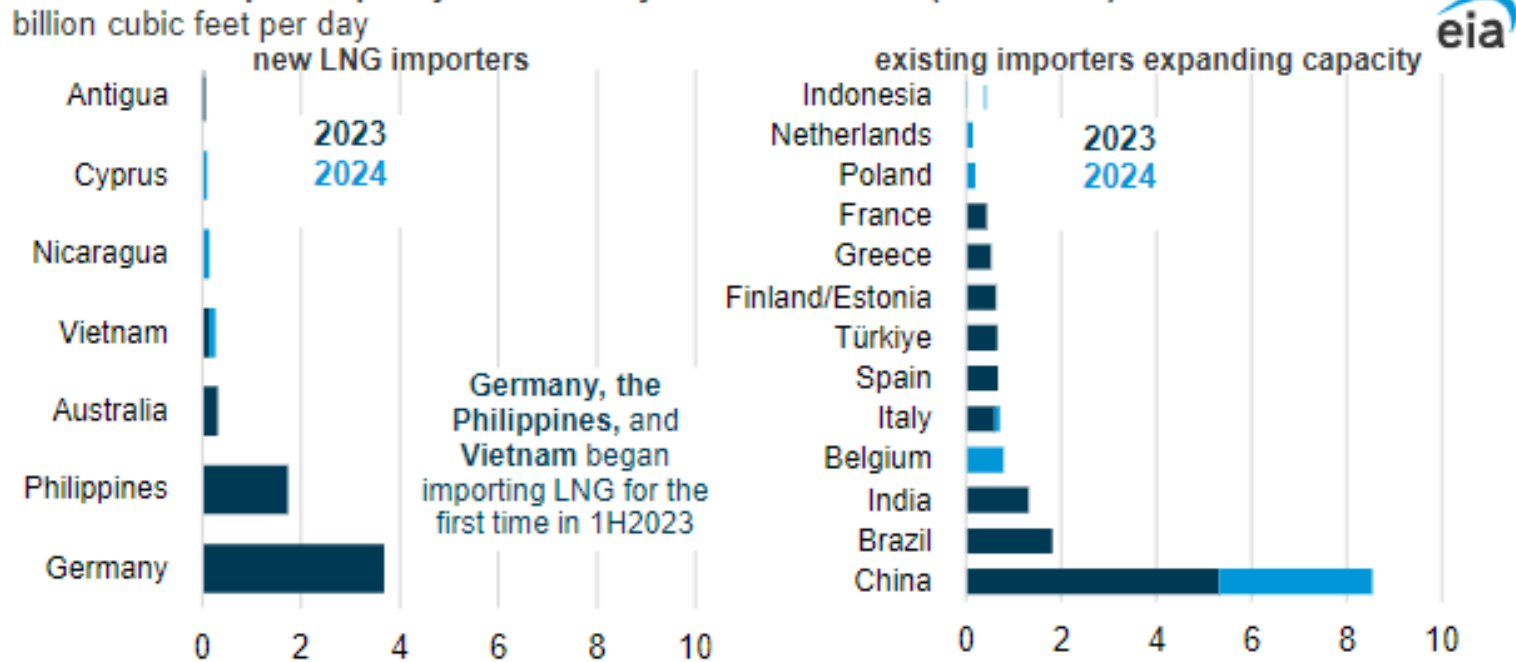
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# Debt Maturity Schedule



# LNG Import Capacity Expansions by Country

Global LNG import capacity additions by select countries (2023–2024)



Data source: U.S. Energy Information Administration estimates based on trade press and data by the International Group of Liquefied Natural Gas Importers (GIIGNL)

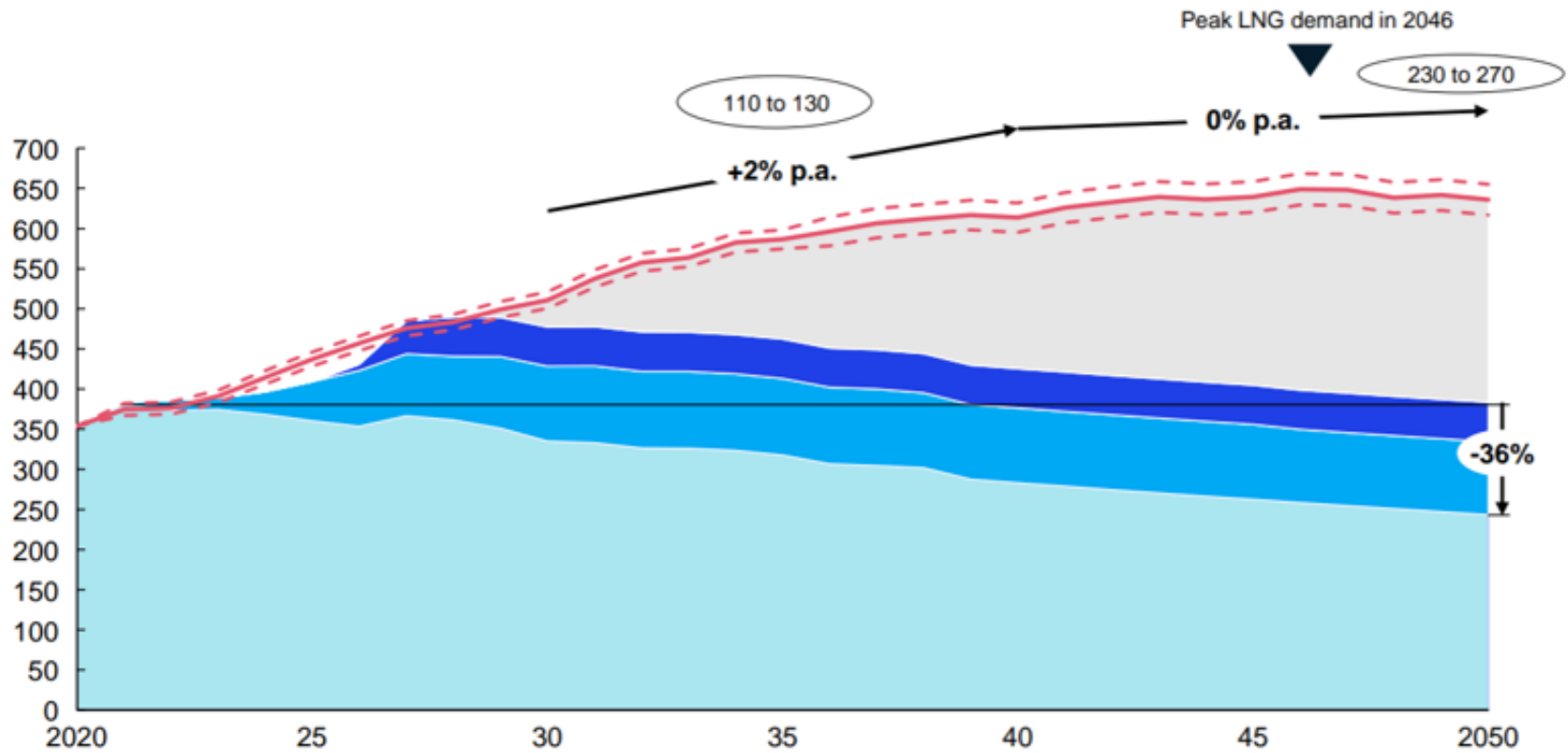
Note: Capacity additions include projects that came online in Jan–Jul 2023 and projects under construction and expected to be in service in 2023–24. LNG=liquefied natural gas. 1H2023=first half of 2023.

# Global LNG & Natural Gas Demand

**LNG balance, MT**  
**Reference Case**  
**Balanced illustration**

Supply gap to meet demand
  Full Qatar expansion (6 trains)
  Under construction
  Existing

- - - LNG demand range (+/- 2% to 2035, +/- 3% to 2050)
 ( X to Y ) Range of required pre-FID LNG, MT

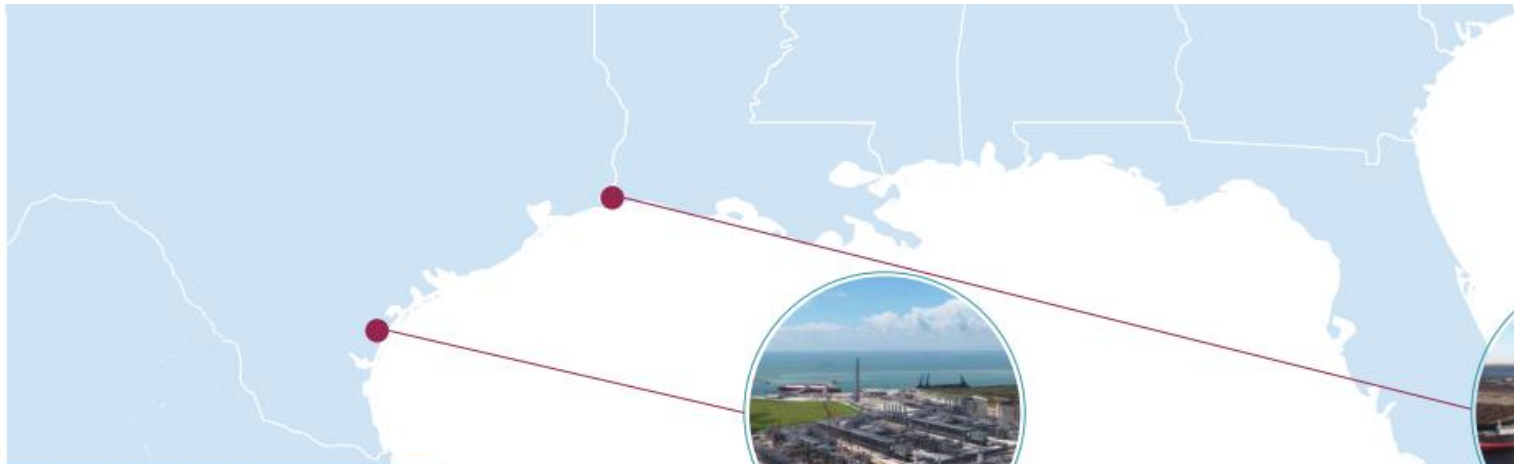


# Cheniere Exports Map

LNG from SPL Has Now Been Delivered to 25 Countries and Regions Across the Globe  
Approximately 300 Cargoes (~1,050 Tbtu) Exported



Sources: Cheniere Research, Kpler  
Note: Cumulative cargoes and volumes exported as of February 2018.



**Corpus Christi LNG Terminal**  
~25+ mtpa Total Production Capacity

Trains 1-3 operating, contracts with long-term buyers commenced  
Trains 1-3 delivered ahead of schedule and within budget  
10+ mtpa Stage 3 expansion project under construction



**Sabine Pass Liquefaction**  
~30 mtpa Total Production Capacity

Trains 1-6 operating, most contracts with long-term buyers commenced  
Trains 1-6 delivered ahead of schedule and within budget

> 1,600 Employees  
6 Offices Worldwide  
Houston | London | Washington D.C.  
Singapore | Beijing | Tokyo

# Why was COGS so High in 2022?

## 1. Increased Cost of Sales:

- The major reason for this surge was an almost \$9.9 billion rise in the cost of natural gas, the primary raw material for their LNG products.
  - **Reasons for the Cost Increase:**
    - **Higher U.S. Natural Gas Prices:** The costs went up due to an increase in the prices of natural gas in the United States.
    - **Increased Volume:** The company also liquefied and delivered more natural gas as LNG, contributing to the overall increased costs.

## 2. Derivative Losses:

- There was a \$2.0 billion increase in losses from changes in the fair value and settlements of these derivative instruments.
  - **Reasons for the Increase:**
    - **Unfavorable Changes in Fair Value:** These losses were primarily due to non-cash, unfavorable changes in the fair value of their commodity derivatives, linked to international gas prices.

## 3. Operating and Maintenance Expense Increase:

- The \$237 million increase was primarily due to several factors:
  - **Increased Demand Charges:** After completing Train 6 and Train 3, there was higher demand for natural gas transportation and storage capacity, leading to increased charges for these services.
  - **Third-Party Service and Maintenance Costs:** Additional expenses were incurred for third-party services and maintenance contracts related to their operations.

# Why Would It be Considered COGS?

- For the buyer of the futures contract, the fixed price agreed upon initially serves as a means of securing a known cost for the acquisition of natural gas. Therefore, if the market price at maturity is lower than the contract price, while it might seem like a 'loss' when considering the market value, it's crucial to remember the original intention of the derivative. In this case, the higher contract price isn't a loss but rather a known and secured cost for the company's future procurement.
- However, accounting practices and financial reporting might necessitate the recognition of this difference between the contracted price and the lower market price as a 'loss' in financial statements. It's a financial reporting requirement to represent the variation between the contracted price and the market price, and it doesn't necessarily reflect an operational or economic loss for the company.
- This 'loss' on the derivatives is often a non-cash, mark-to-market accounting adjustment that reflects the change in the fair value of the derivative contract due to market fluctuations. It's more of a reflection of the change in the derivative's value rather than a tangible monetary loss that affects the company's operations.



# Liquefied Natural Gas Overview

## Key Catalysts

### Political Tensions

- Russia – Ukraine War
  - Europe's dependence on Russian energy
  - U.S. LNG saves Europe
  - Positions America as a reliable and strategic energy ally
- Japan/Korea energy dependence
- Relocating E&P assets to U.S.
  - Exxon and Chevron
- U.S. – Iran relations

### Pipeline Vulnerability

- Nord Stream 1 and Nord Stream 2 sabotage
  - highlights the vulnerability of pipeline infrastructure during a conflict.
- 2019 Saudi-Aramco pipeline and facility attack
- More examples include attacks by Islamic State in Syria, by unidentified forces in Myanmar and an oil pipeline pumping station attacked in Yemen, during its civil war.
- LNG carriers are significantly harder to locate and attack
- LNG would be a strategic advantage during a time of conflict



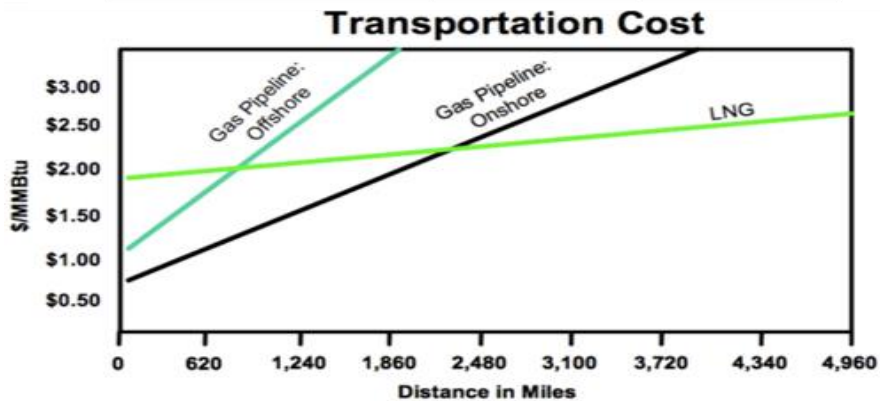
# Advantages of LNG

## Cost Efficiency

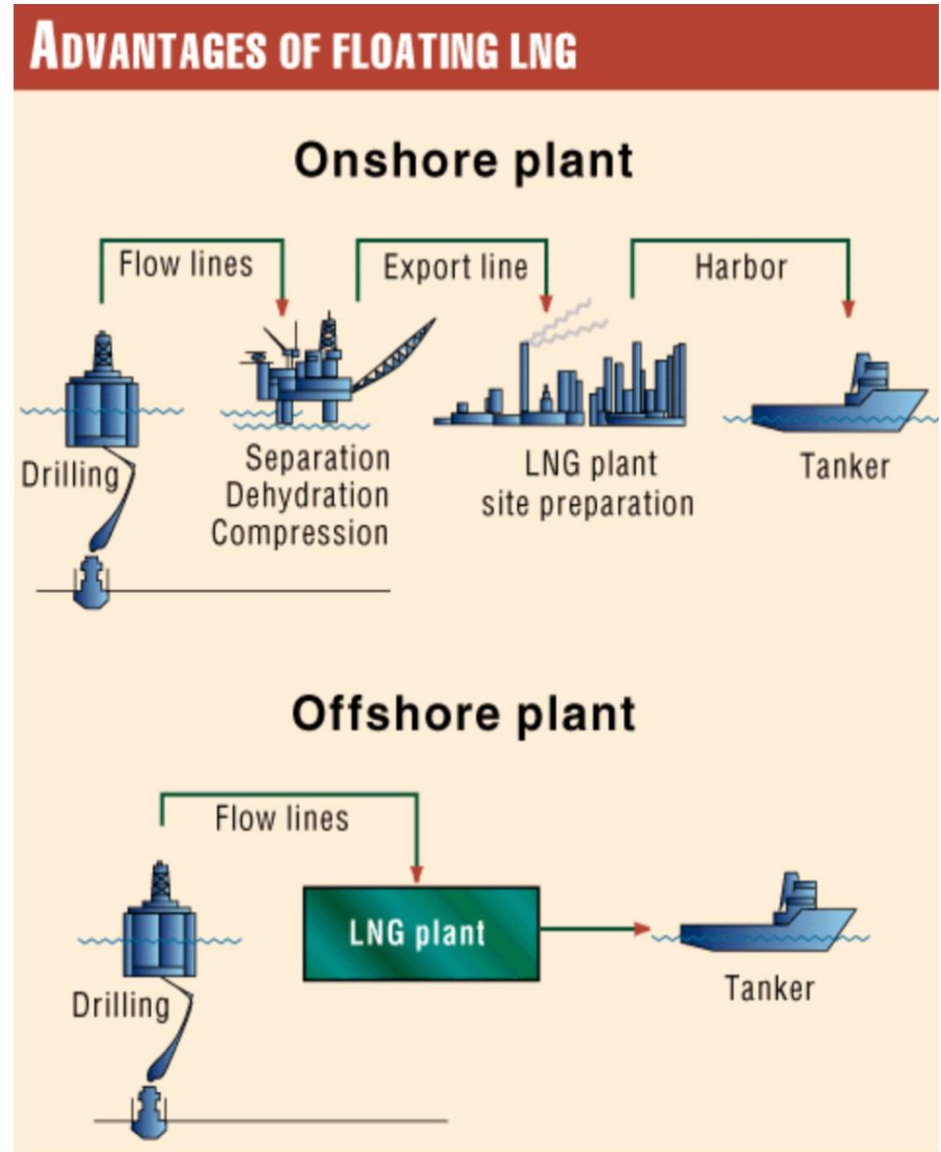
- **Technological Advances for Cost Efficiency:** Ongoing technological advancements, such as efficient ship designs, lower liquefaction plant costs, and floating liquification contribute to reducing the overall cost of LNG transportation.
- With respect to offshore gas discoveries, it also may reduce costs by eliminating the need for pipelines to transport natural gas from offshore wells to the onshore liquefaction plant (the floating liquefaction unit can be positioned on top of the offshore reservoir).
- Technological advances are reducing the economic justification gap for pipeline projects, shifting LNG use from exclusively long distances to shorter ones, as reflected in the declining cost profile from the 1990s to the 2000s.

Table 2: Cost reduction in the LNG chain (Middle East to Far East LNG project)  
\$/millionBtu

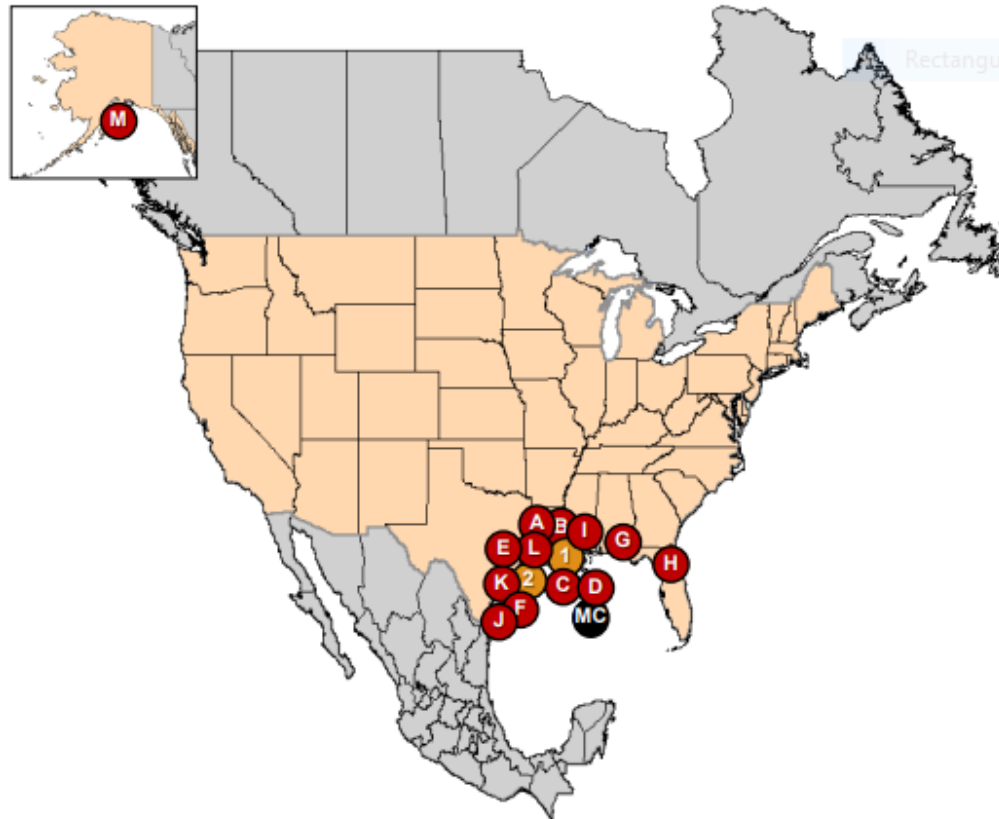
	Cost estimate Early 1990s	Cost estimate Early 2000s
Upstream development cost	0.5 - 0.8	0.5 - 0.8
Liquefaction	1.3 - 1.4	1.0 - 1.1
Shipping (LNG tanker)	1.2 - 1.3	0.9 - 1.0
Regasification	0.5 - 0.6	0.4 - 0.5
<b>Total cost</b>	<b>3.5 - 4.1</b>	<b>2.8 - 3.4</b>



Source: Institute of Gas Technology.



## North American LNG Export Terminals *Approved, Not Yet Built*



**U.S. Jurisdiction & Status**

- FERC - Approved, Under Construction
- FERC - Approved, Not Under Construction
- MARAD / U.S. Coast Guard

### Export Terminals

#### UNITED STATES

##### FERC – APPROVED, UNDER CONSTRUCTION

1. Cameron Parish, LA: 1.41 Bcfd (Venture Global Calcasieu Pass) (CP15-550)
2. Sabine Pass, TX: 2.26 Bcfd (ExxonMobil – Golden Pass) (CP14-517, CP20-459)

##### FERC – APPROVED, NOT UNDER CONSTRUCTION

- A. Lake Charles, LA: 2.2 Bcfd (Lake Charles LNG) (CP14-120)
- B. Lake Charles, LA: 1.186 Bcfd (Magnolia LNG) (CP14-347)
- C. Hackberry, LA: 1.41 Bcfd (Sempra - Cameron LNG Trains 4 & 5) (CP15-560)
- D. Calcasieu Parish, LA: 4.0 Bcfd (Driftwood LNG) (CP17-117)
- E. Port Arthur, TX: 1.86 Bcfd (Port Arthur LNG Trains 1 & 2) (CP17-20)
- F. Freeport, TX: 0.72 Bcfd (Freeport LNG Dev Train 4) (CP17-470)
- G. Pascagoula, MS: 1.5 Bcfd (Gulf LNG Liquefaction) (CP15-521)
- H. Jacksonville, FL: 0.132 Bcfd (Eagle LNG Partners) (CP17-41)
- I. Plaquemines Parish, LA: 3.40 Bcfd (Venture Global Plaquemines) (CP17-66)
- J. Brownsville, TX: 0.55 Bcfd (Texas LNG Brownsville) (CP16-116)
- K. Brownsville, TX: 3.6 Bcfd (Rio Grande LNG – NextDecade) (CP16-454)
- L. Corpus Christi, TX: 1.86 Bcfd (Cheniere Corpus Christi Stage III) (CP18-512)
- M. Nikiski, AK: 2.63 Bcfd (Alaska Gasline) (CP17-178)

##### MARAD/USCG – APPROVED, NOT UNDER CONSTRUCTION

- MC. Gulf of Mexico: 1.8 Bcfd (Delfin LNG)

#### CANADA - LNG IMPORT AND PROPOSED EXPORT FACILITIES

<https://www.nrcan.gc.ca/energy/natural-gas/5683>

As of February 16, 2022

**Annual North American liquefied natural gas export capacity by project (2016–2027)**  
billion cubic feet per day

