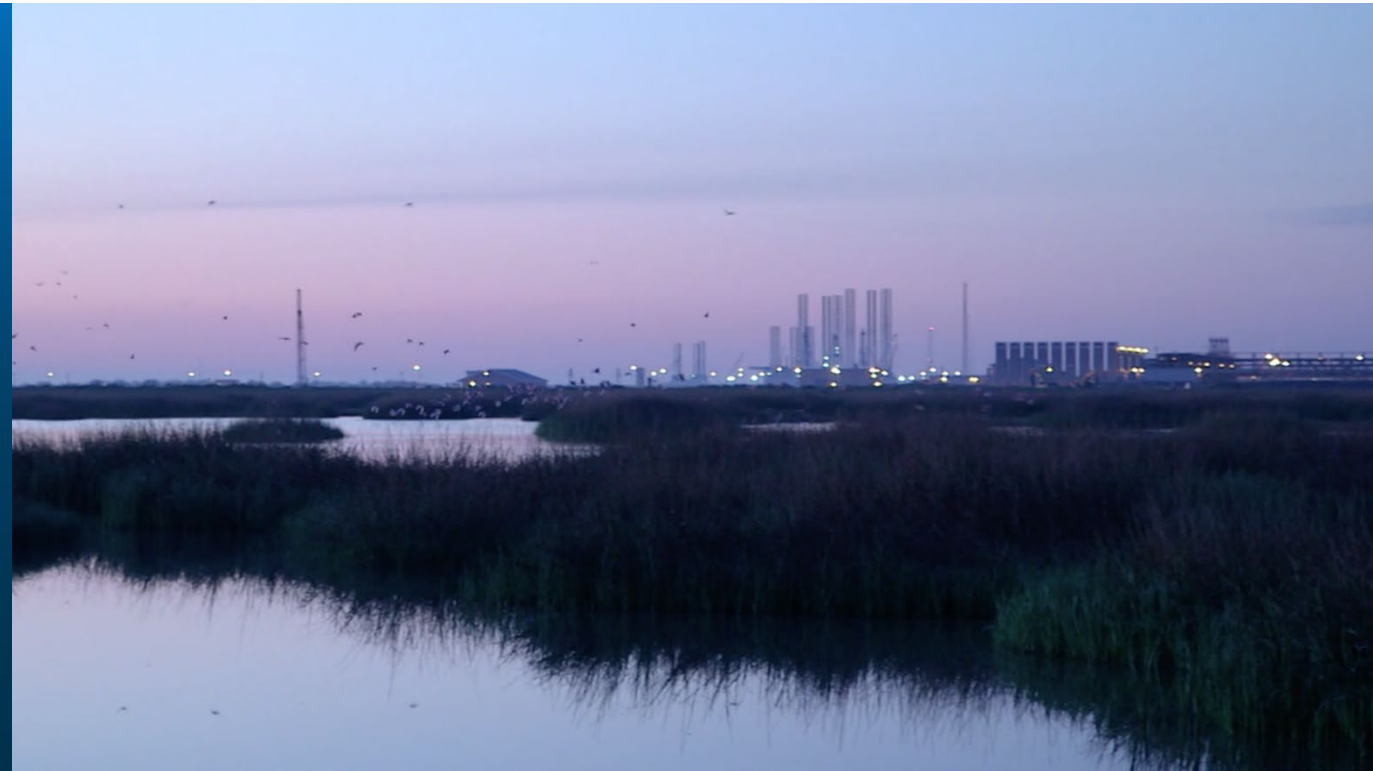
# Cheniere and Climate

October 2021



# Safe Harbor Statements

## Forward-Looking Statements

This presentation contains certain statements that are, or may be deemed to be, "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements, other than statements of historical or present facts or conditions, included or incorporated by reference herein are "forward-looking statements." Included among "forward-looking statements" are, among other things:

- statements that Cheniere Energy Partners, L.P. expects to commence or complete construction of its proposed liquefied natural gas ("LNG") terminals, liquefaction facilities, pipeline facilities or other projects, or any expansions or portions thereof, by certain dates or at all;
- statements that Cheniere Energy, Inc. expects to commence or complete construction of its proposed LNG terminals, liquefaction facilities, pipeline facilities or other projects, or any expansions or portions thereof, by certain dates or at all;
- statements regarding future levels of domestic and international natural gas production, supply or consumption or future levels of LNG imports into or exports from North America and other countries worldwide, or purchases of natural gas, regardless of the source of such information, or the transportation or other infrastructure, or demand for and prices related to natural gas, LNG or other hydrocarbon products;
- statements relating to the construction of our proposed liquefaction facilities and natural gas liquefaction trains ("Trains") and the construction of our pipelines, including statements concerning the engagement of any engineering, procurement and construction ("EPC") contractor or other contractor and the anticipated terms and provisions of any agreement with any EPC or other contractor, and anticipated costs related thereto;
- statements regarding any agreement to be entered into or performed substantially in the future, including any revenues anticipated to be received and the anticipated timing thereof, and statements regarding the amounts of total LNG regasification, natural gas, liquefaction or storage capacities that are, or may become, subject to contracts;
- statements regarding counterparties to our commercial contracts, construction contracts and other contracts;
- statements that our Trains, when completed, will have certain characteristics, including amounts of liquefaction capacities;
- statements regarding our business strategy, our strengths, our business and operation plans or any other plans, forecasts, projections or objectives, including anticipated revenues, capital expenditures, maintenance and operating costs, cash flows, EBITDA, Adjusted EBITDA, distributable cash flow, and distributable cash flow per share and unit, any or all of which are subject to change;
- statements regarding projections of revenues, expenses, earnings or losses, working capital or other financial items;
- statements regarding legislative, governmental, regulatory, administrative or other public body actions, approvals, requirements, permits, applications, filings, investigations, proceedings or decisions;
- statements regarding our anticipated LNG and natural gas marketing activities;
- statements regarding the outbreak of COVID-19 and its impact on our business and operating results, including any customers not taking delivery of LNG cargoes, the ongoing credit worthiness of our contractual counterparties, any disruptions in our operations or construction of our Trains and the health and safety of our employees, and on our customers, the global economy and the demand for LNG; and
- any other statements that relate to non-historical or future information.

These forward-looking statements are often identified by the use of terms and phrases such as "achieve," "anticipate," "believe," "contemplate," "continue," "could," "develop," "estimate," "example," "expect," "forecast," "goals," "guidance," "intend," "may," "opportunities," "plan," "potential," "predict," "project," "propose," "pursue," "should," "subject to," "strategy," "target," "will," and similar terms and phrases, or by use of future tense. Although we believe that the expectations reflected in these forward-looking statements are reasonable, they do involve assumptions, risks and uncertainties, and these expectations may prove to be incorrect. You should not place undue reliance on these forward-looking statements, which speak only as of the date of this presentation. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of a variety of factors, including those discussed in "Risk Factors" in the Cheniere Energy, Inc. and Cheniere Energy Partners, L.P. Annual Reports on Form 10-K filed with the SEC on February 24, 2021, which are incorporated by reference into this presentation. All forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by these "Risk Factors." These forward-looking statements are made as of the date of this presentation, and other than as required by law, we undertake no obligation to update or revise any forward-looking statement or provide reasons why actual results may differ, whether as a result of new information, future events or otherwise.

# 5 Years: From Developer to World Class LNG Operator

**1,700+**
CARGOES EXPORTED FROM CHENIERE PROJECTS

**#2**
SECOND LARGEST LIQUEFACTION PLATFORM GLOBALLY

**~200%**
INCREASE IN LNG SHARE PRICE

**1,520**
FULL-TIME EMPLOYEES

**+5 mtpa**
INCREASE IN RUN RATE PRODUCTION CAPACITY

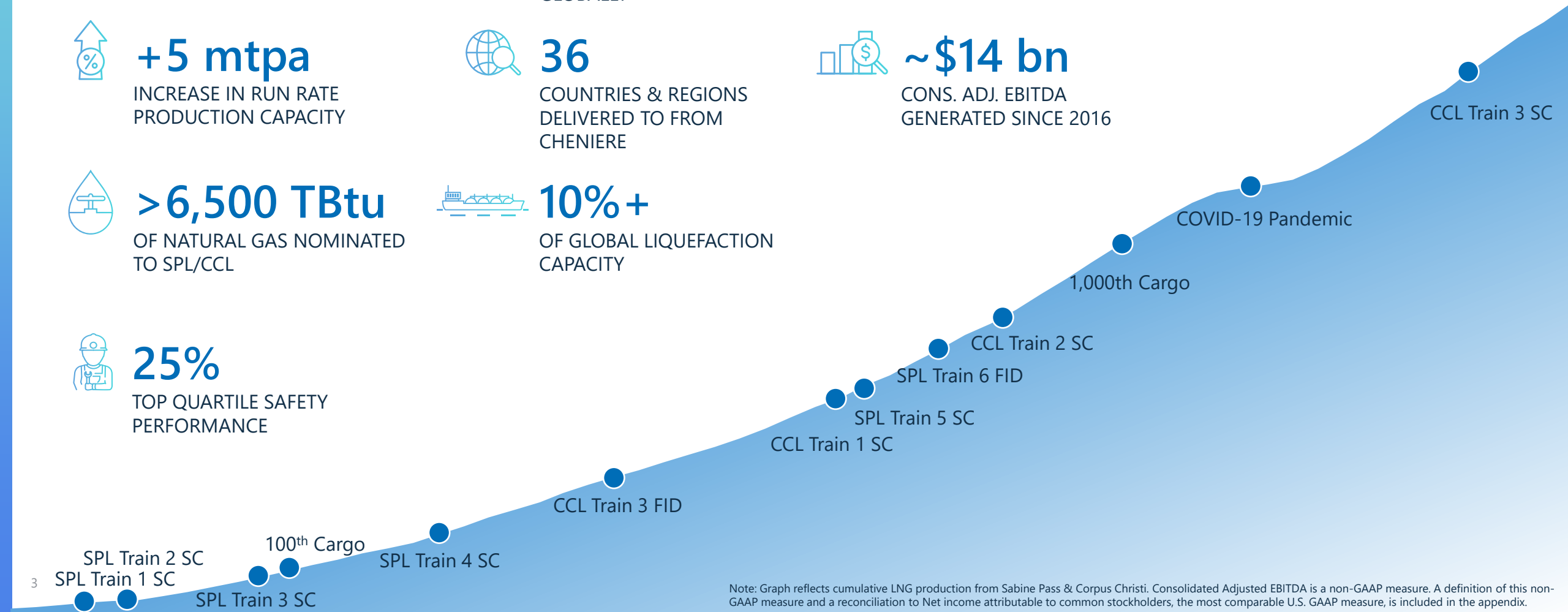
**36**
COUNTRIES & REGIONS DELIVERED TO FROM CHENIERE

**~$14 bn**
CONS. ADJ. EBITDA GENERATED SINCE 2016

**>6,500 TBtu**
OF NATURAL GAS NOMINATED TO SPL/CCL

**10%+**
OF GLOBAL LIQUEFACTION CAPACITY

**25%**
TOP QUARTILE SAFETY PERFORMANCE

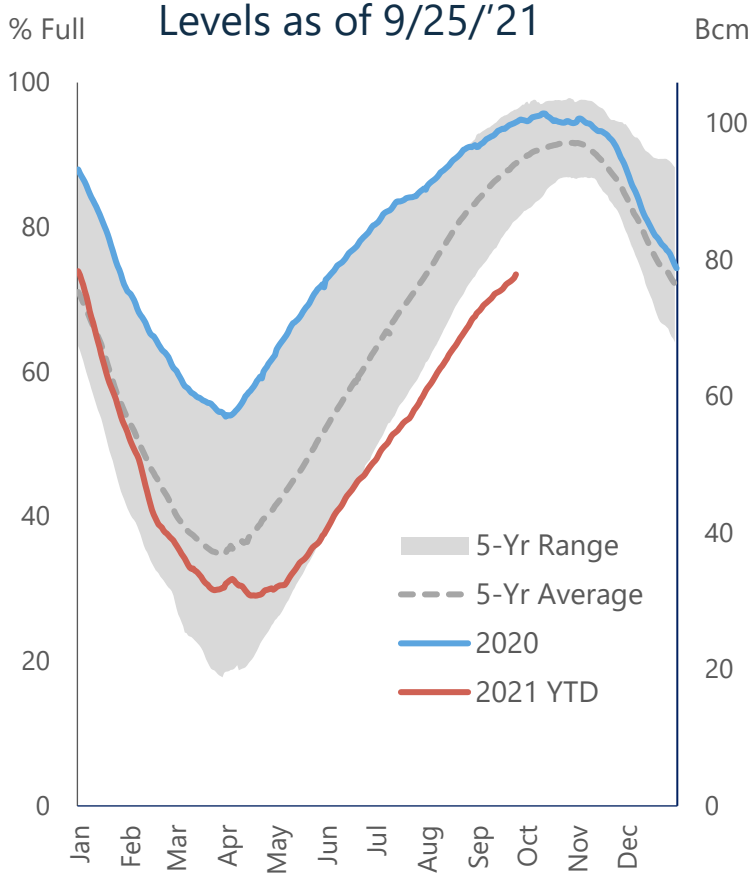



Note: Graph reflects cumulative LNG production from Sabine Pass & Corpus Christi. Consolidated Adjusted EBITDA is a non-GAAP measure. A definition of this non-GAAP measure and a reconciliation to Net income attributable to common stockholders, the most comparable U.S. GAAP measure, is included in the appendix.

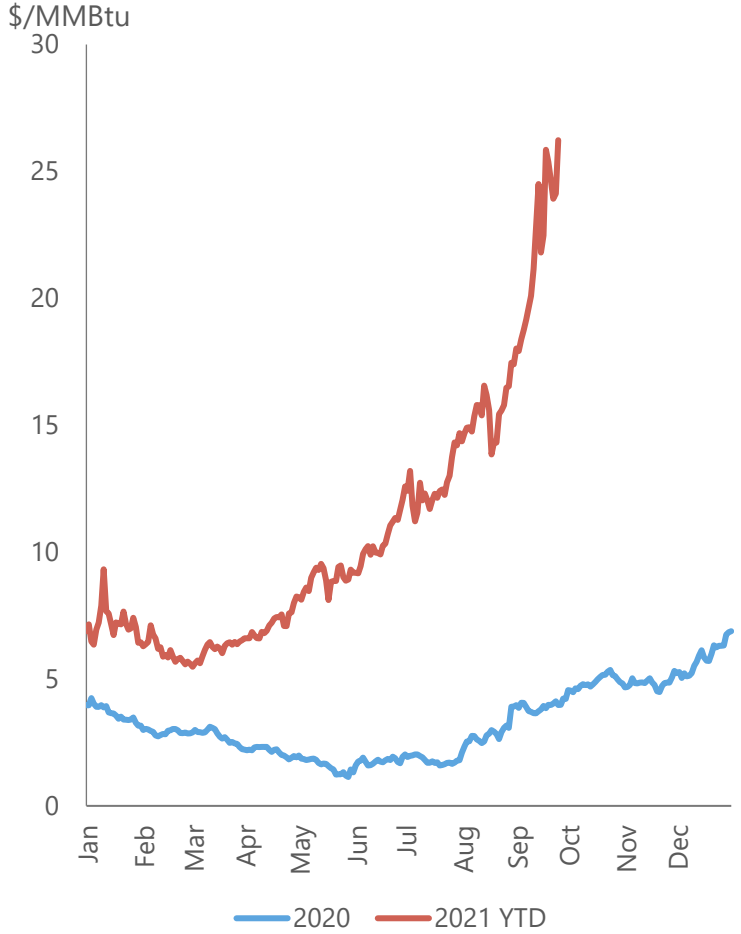
# Current Market Balance (2021 YTD vs. 2020)

## European storage needs to be refilled, U.S. supply running at ~full capacity YTD

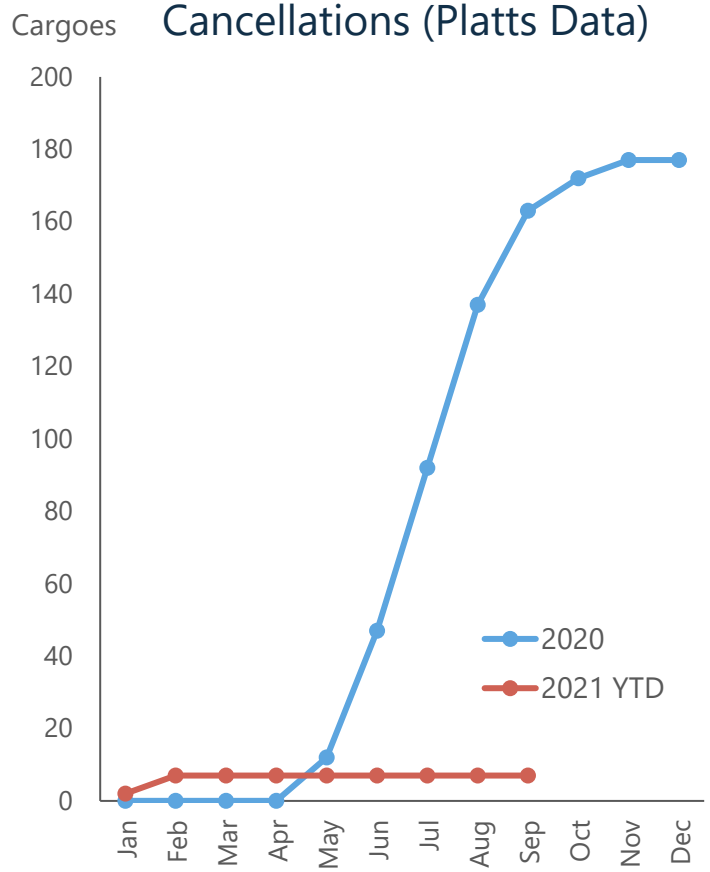
### European Natural Gas Storage Levels as of 9/25/'21




### TTF Price, 2020 vs. 2021 YTD




### Cumulative U.S. LNG Cargo Cancellations (Platts Data)




Source: GIE, ICE, S&P Global Platts
Prices as of September 27, 2021



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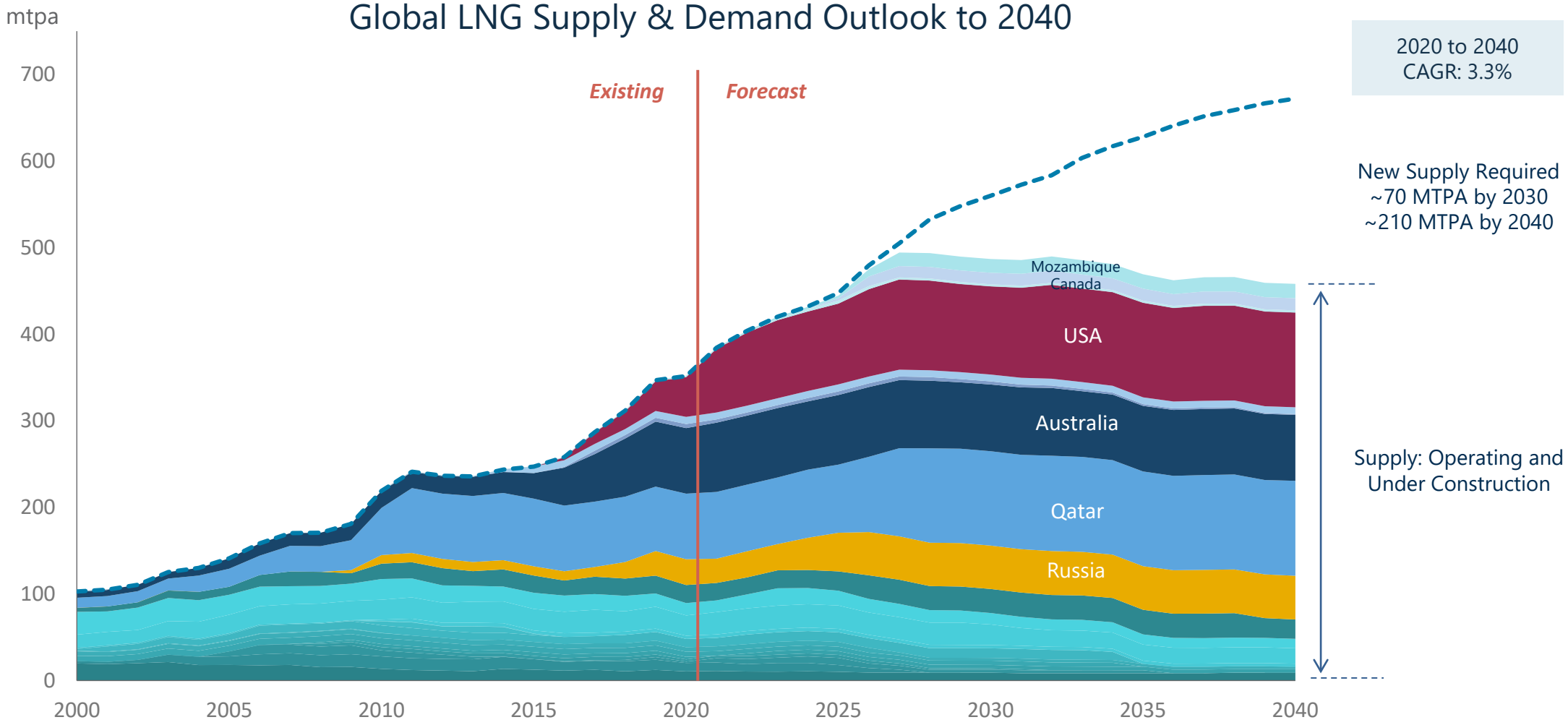
# Long-term LNG Fundamentals Expected to Remain Robust

## Driven by growing economies with a desire for secure, affordable and cleaner-burning fuels






Source: Cheniere Research estimates (July 2021), Wood Mackenzie for historical figures. Area chart includes all recent FIDs through February 2021 (up to and including QG NFE)

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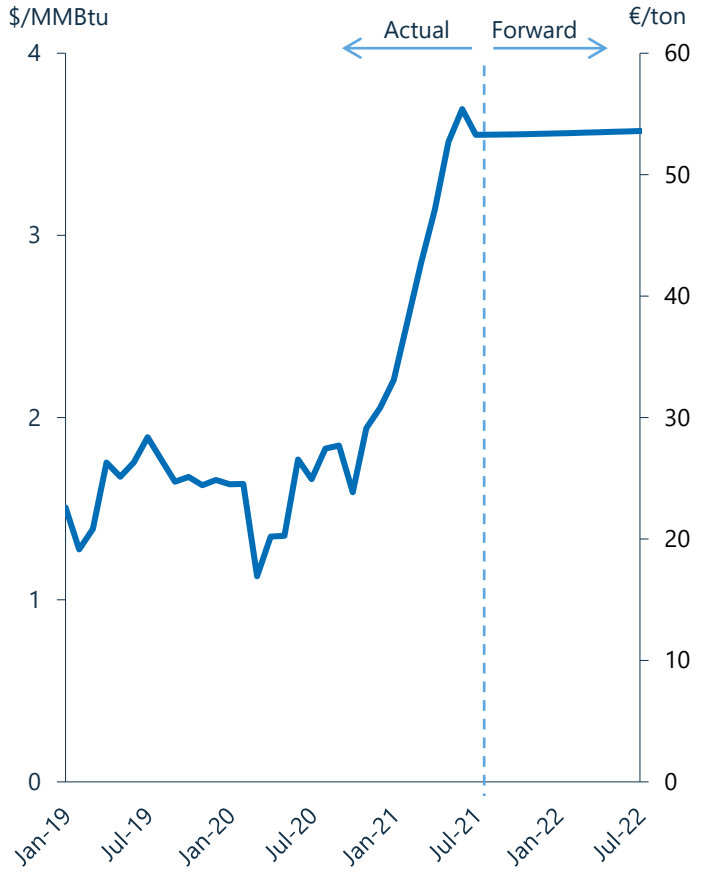
# Buyers and Sellers Increasingly Focused on Emissions

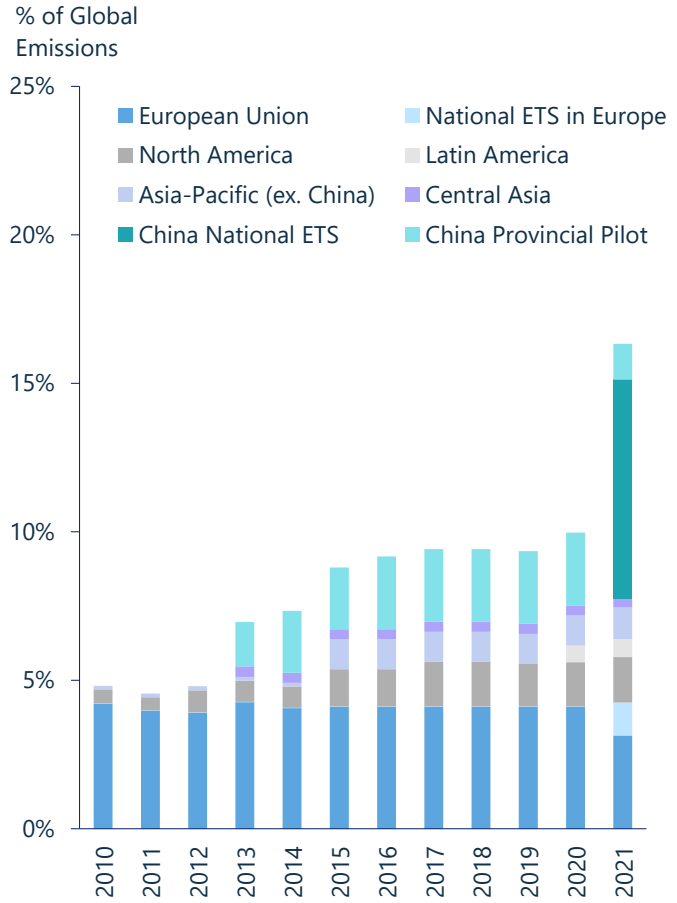
## EU Carbon Price

EU carbon prices soared to all-time highs due to reduced supply and expected reforms



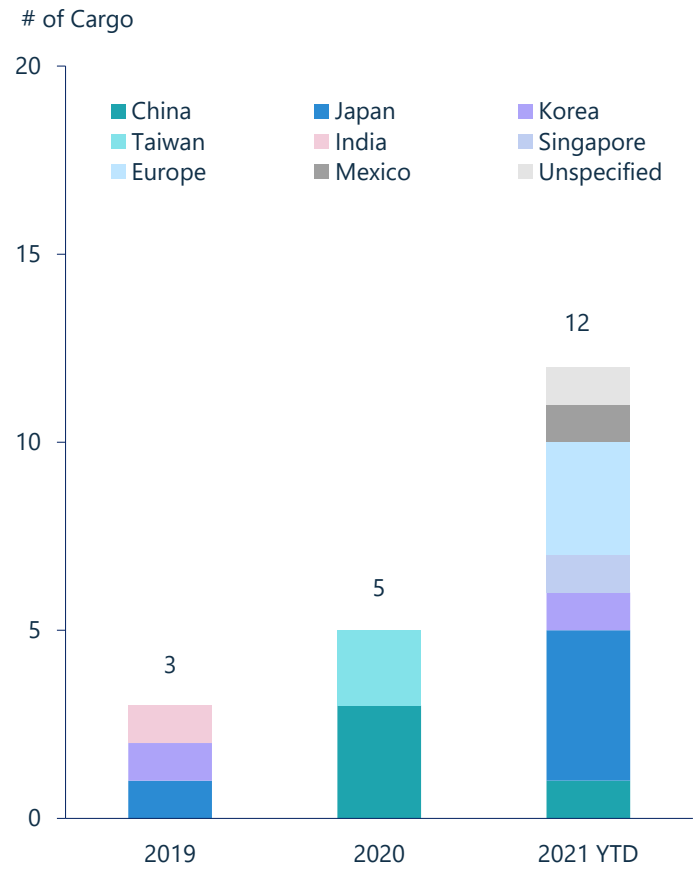

## Share of Global Emissions Covered by ETS

ETS initiatives implemented as of July 2021 cover 8.73 Gt CO2e, representing over 16% of global GHG emissions




## Carbon-Neutral LNG Cargo by Destination

Fast growing carbon-neutral LNG trade calls for greater emissions transparency






Sources: Cheniere Research, Bloomberg, World Bank.

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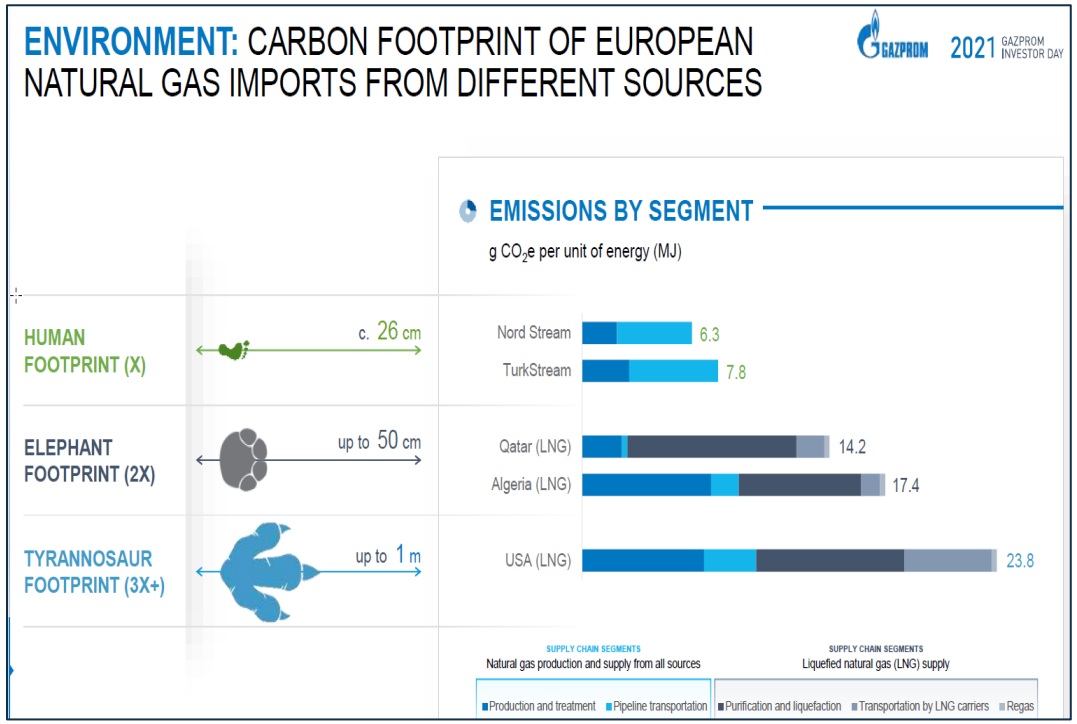
# Benefits of LNG Being Undermined by Poor Data

## Estimated and averaged generic data being used to support a wide range of views




"From the standpoint of climate change, LNG is a very poor fuel choice. I urge Ireland to prohibit the importation of fracked shale gas from the United States" [1]

"Booming LNG industry could be as bad for climate as coal, experts warn" [2]

"A new analysis by NRDC … shows that LNG exports have, at best, little climate benefit compared to other options" [3]

"Fracking boom tied to methane spike in Earth's atmosphere" [4]

"LNG not seen helping shipping industry meet 2050 climate goals" [5]

(1) Testimony of Robert W. Howarth, Ph.D. Cornell University, Ithaca, NY 14853 USA before the Joint Committee on Climate Action House of Oireachtas, Ireland 9 October 2019
(2) Bloomberg report on Global Energy Monitor Report, 2019
(3) Sailing to Nowhere. National Resources Defense Council Report, Published Dec 2020
(4) National Geographic Article, August 2019
(5) S&P Global Platts Article, June 2020


Sources: Gazprom Investor Presentation, Various news articles

# Our Foundation – Cheniere's Climate and Sustainability Principles

**Cheniere established its Climate and Sustainability Principles in 2018 to guide our efforts to integrate sustainability into our business and achieve our vision to provide clean, secure and affordable energy to the world.**

## Science

We promote and follow peer-review science to assess our impacts, anchor our engagements and determine our actions.

## Operational Excellence

We design and operate our facilities with the goal of reducing environmental impacts.

## Transparency

Transparent communication and engagement with our stakeholders are also key priorities.

## Supply Chain

We are working with our partners to reduce environmental impacts throughout our supply chain.

# Cheniere's action on climate - ESG as a Core Competency

Building a company that can **help meet the world's energy needs** while **integrating sustainability** into our business

February — March — April — May — June — July — August


**Cargo Emissions Tags**

Cheniere to provide estimated greenhouse gas emissions data associated with each LNG cargo to customers in 2022

**Climate Scenario Analysis**

Analyzed long-term resilience of Cheniere's business in various future climate scenarios through 2040


**Shipping Emissions Study**

First study to directly measure methane emissions from an LNG carrier completed


**QMRV Collaboration**

Collaboration with natural gas suppliers and academic institutions to quantify, monitor, report, and verify GHG emissions at natural gas production sites

**2020 CR Report**

Published 2020 Corporate Responsibility report which highlights Cheniere's resiliency, responsible operations and response to COVID-19


**Life Cycle Assessment**

First-of-its-kind peer-reviewed, LNG life cycle assessment published in the *American Chemical Society Sustainable Chemistry & Engineering Journal*



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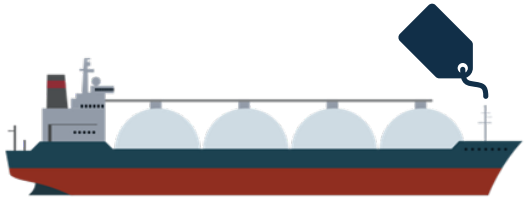
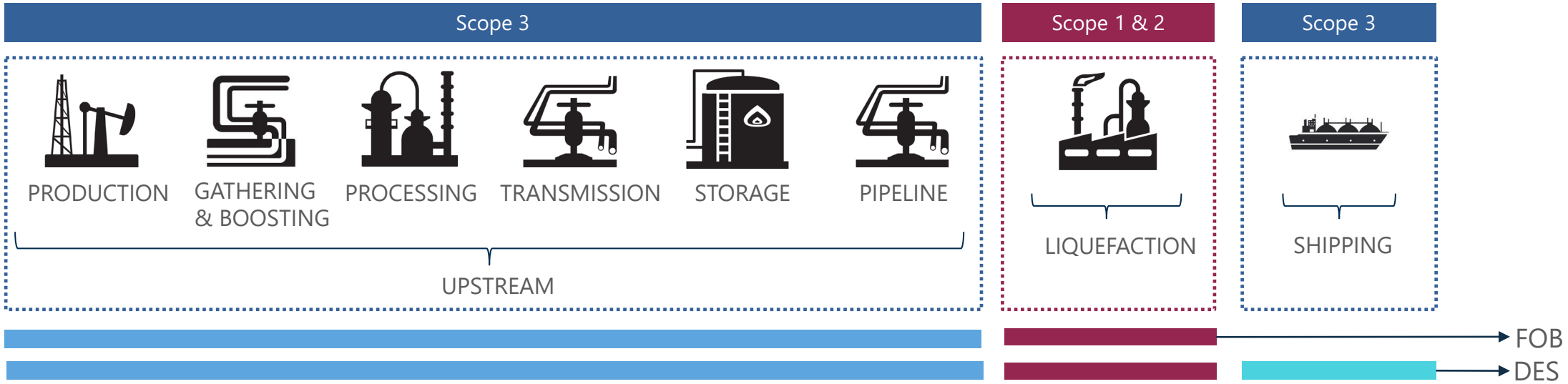
# Cargo Emissions Tag (CE Tag)



The Cheniere LCA Model accounts for GHG emissions data from each step in the LNG value chain from the wellhead to the cargo delivery point




**The CE Tag will provide customers with an estimated CO2e profile for each cargo loaded at SPL/CCL and will be calculated utilizing Cheniere's lifecycle analysis ("LCA") model**



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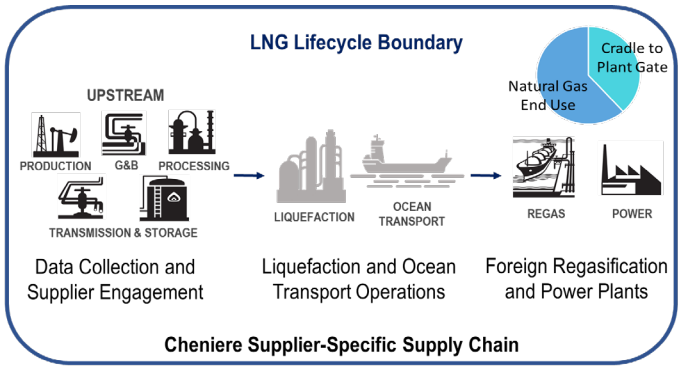
# Framework for customized life cycle GHG assessments for LNG supplies

ACS Sustainable Chemistry & Engineering
pubs.acs.org/journal/ascecg
Research Article

**LNG Supply Chains: A Supplier-Specific Life-Cycle Assessment for Improved Emission Accounting**

Selina A. Roman-White, James A. Littlefield, Kaitlyn G. Fleury, David T. Allen, Paul Balcombe, Katherine E. Konschnik, Jackson Ewing, Gregory B. Ross, and Fiji George*

Cite This: https://doi.org/10.1021/acssuschemeng.1c03307 Read Online




**Co-Authors**

The University of Texas at Austin
Queen Mary University of London
CHENIERE
KEYLOGIC
Duke University

## Key Study Findings

**National/regional average supply chains do not accurately represent unique supply chains**

- Individual supplier GHG performance varies significantly
- Our supply-chain specific GHG is 30-43% lower than other studies employing average values to estimate U.S. LNG emissions

**Supply chain emissions upstream of end use are significant**

- Upstream (prior to power plant) GHG emissions are> 30% of total GHG emissions on a $CO_2e$ basis
- Methane emissions matter: ~ 8-18% of the total GHG emissions (100-yr to 20-yr basis)

**Coal supply chains are also variable due to upstream methane emissions**

- Characterizing this variability is important for quantifying the benefits of coal to gas switching

**Characterizing the GHG intensity of specific gas supplies via LCAs is critical for informing differentiated gas supply, as well as policy and decision makers looking to develop climate strategies**

- Ex: a 50% reduction in methane emissions results in 14-24% reduction in lifecycle emissions from production through liquefaction

In a case study to quantify coal-to-gas switching benefits, the study estimates Cheniere's LNG exported to China for **power generation to be 47-57% less GHG intense than coal power generation** on an equivalent MWh basis (100-yr and 20-yr GWP)



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# QMRV – LNG Shipping

## First study to directly measure GHG emissions from an operating LNG carrier

- Cheniere-chartered newbuild vessel the GasLog Galveston
- Round-trip voyage from Cheniere's Corpus Christi liquefaction facility in Texas to a discharge port in Europe (Q2 2021)
- Study undertaken by Queen Mary University, London with support from CAMS
- Comprehensive direct measurements including engine exhaust and fugitive emissions.
- Results planned to be released in a peer-reviewed journal.


COLLABORATORY TO ADVANCE METHANE SCIENCE



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QUANTIFY MONITOR REPORT VERIFY

# QMRV – Natural Gas Production

## Collaboration with 5 leading US natural gas producers and academic institutions

- Quantification, Monitoring, Reporting and Verification (QMRV) of GHG emissions at natural gas production sites
- Testing novel measurement technologies
  - On-the-ground optical imaging
  - Equipment-level using drones
  - High-level using aerial and satellite monitoring
- Objectives
  - Assess efficacy and scalability of advanced monitoring technology and protocols
  - Verify emissions performance
  - Identify emissions reductions opportunities
  - Supporting Cheniere's CE Tags

PIONEER NATURAL RESOURCES

ASCENT RESOURCES

EQT

AETHON

Indigo



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# Thank you

## Questions?

For More Information, Visit: **www.cheniere.com/IMPACT**

Fiji George

Fiji.George@cheniere.com

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# Appendix

# Cheniere LNG GHG Lifecycle Assessment


- Cheniere sponsored the development and publication of a peer-reviewed, LNG supplier-specific life-cycle assessment study that uses greenhouse gas (GHG) emissions data specific to Cheniere's supply chain, from natural gas production through LNG shipping, for Sabine Pass Liquefaction in 2018
- The study is co-authored by individuals from the University of Texas at Austin, Queen Mary University of London, Duke University, KeyLogic Systems and Cheniere
- The study underwent peer review and has been published in the *American Chemical Society Sustainable Chemistry & Engineering Journal*



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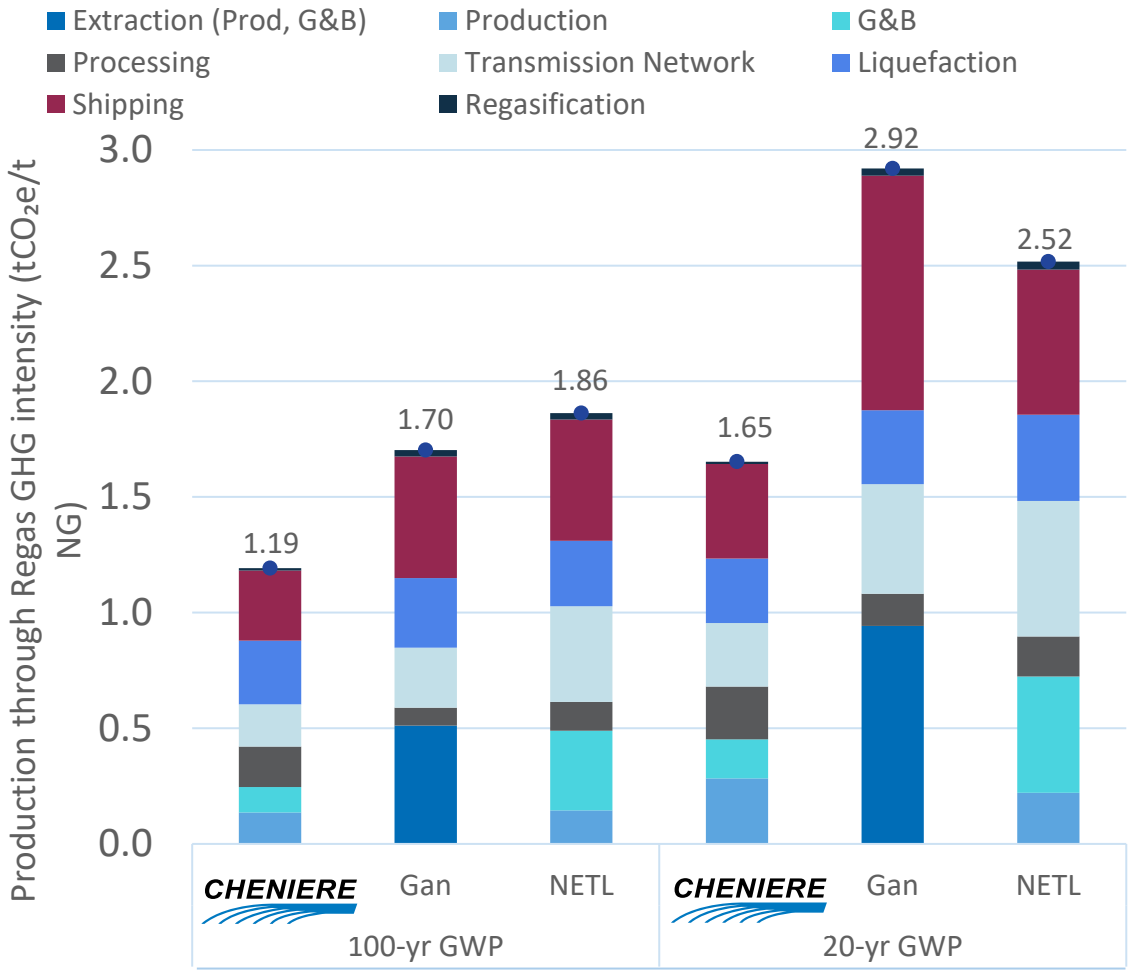
# Key Findings of the Cheniere LCA

- Compared to two other LNG studies that examined U.S. LNG exported to China, the study estimates Cheniere LNG to have a **30-43% lower GHG intensity** than Gan et al. and NETL studies (100-yr to 20-yr GWP)
- Gan et al. and NETL employ national and regional average estimates to represent the supply chain, which the study finds are not representative of specific supply chains



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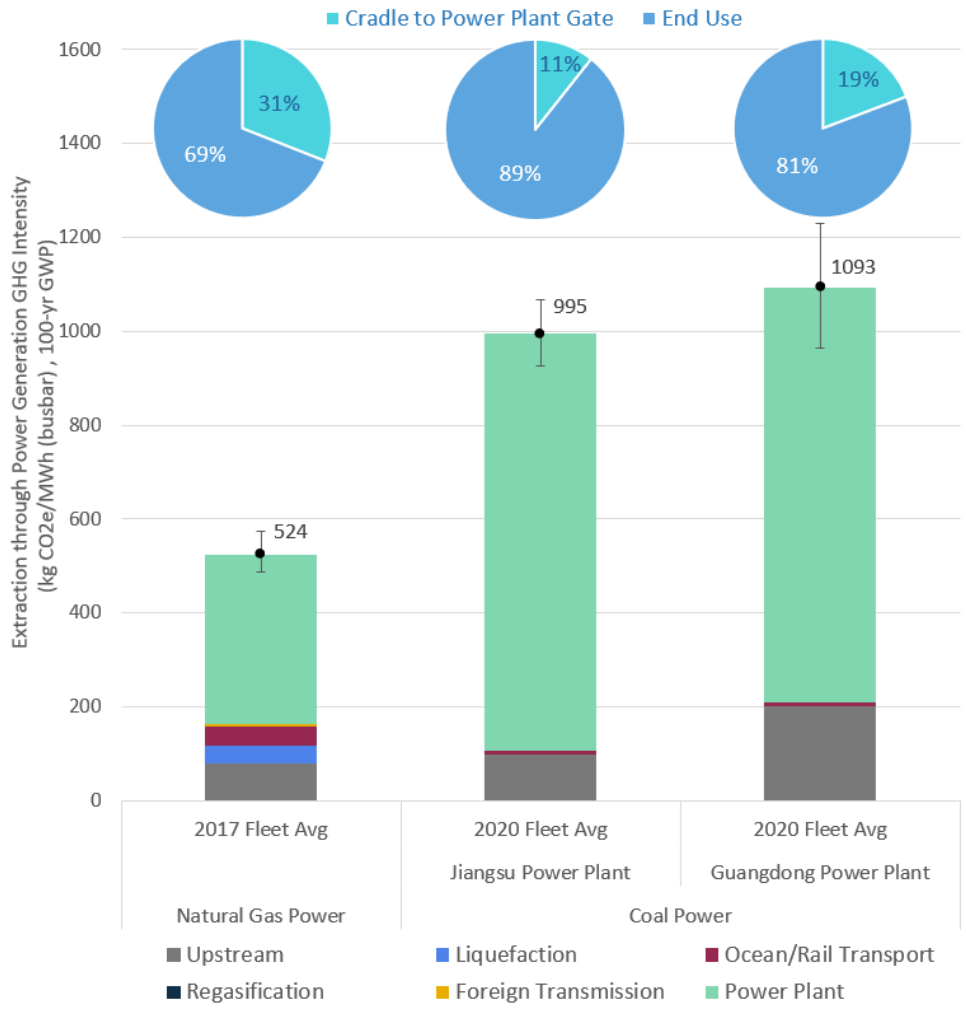
# Key Findings of the Cheniere LCA (continued)

- In a case study to quantify coal-to-gas switching benefits, the study estimates Cheniere's LNG exported to China for power generation to be **47-57% less GHG intense** than coal power generation on an equivalent MWh basis (100-yr and 20-yr GWP)
- The study used the latest published science to estimate the GHG intensity of coal-fired power generation in China



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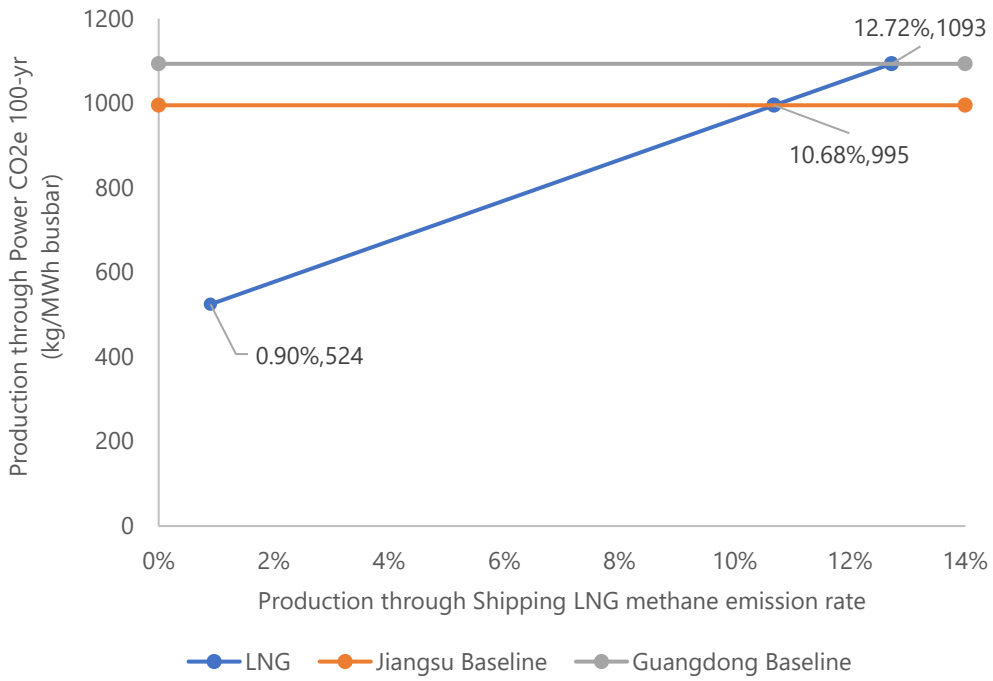
# Crossover Analysis for Methane Emission Intensity Rates

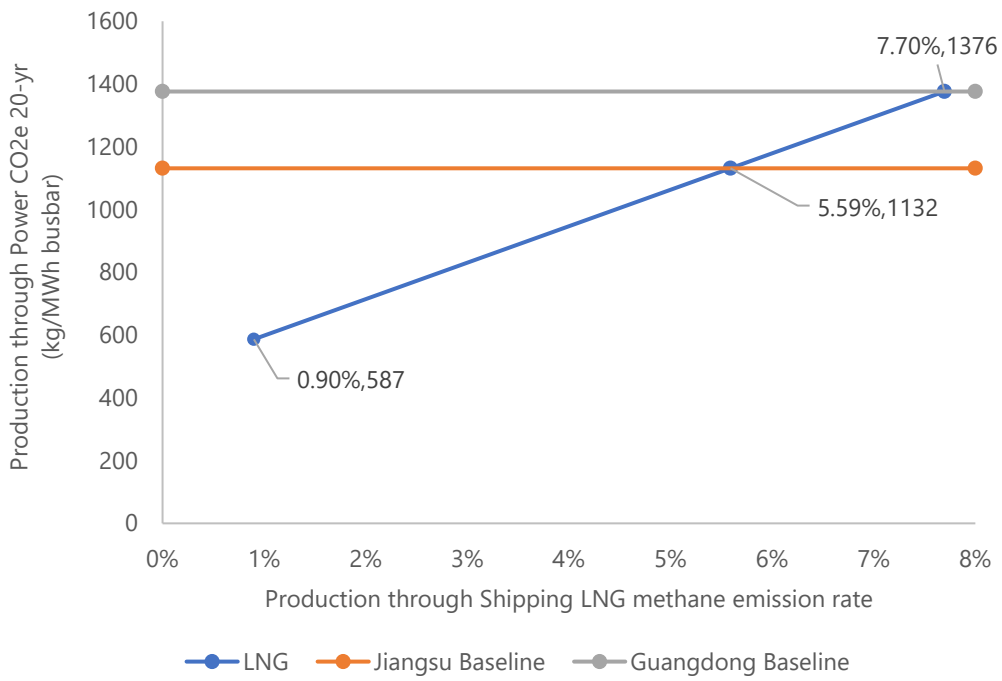
*The Cross Over point is the point where the methane leakage of the gas-fired power plant (upstream through end use) is large enough to render its emission intensity higher than the intensity of a coal-fired power plant.*

- In a case study of power generation in China, the LCA study found that the methane leakage rate from the well-head through shipping must exceed 5.59% for coal generation to be more beneficial than LNG delivered by Cheniere to China.
- The study found Cheniere's methane leakage rate to be 0.9%, significantly lower than the cross over points.

100-yr GWP Basis




20-yr GWP Basis



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