14th Multi-Year Expert Meeting on Commodities and Development

09-11 October 2023, Geneva

The Emerging Challenges and Opportunities in the Global Gas Market

By

Andrew Walker, Vice President, Global Gas Centre

The views expressed are those of the author and do not necessarily reflect the views of UNCTAD.
The Emerging Challenges and Opportunities in the Global Gas Market

Andrew Walker, Vice President, Global Gas Centre

UNCTAD, 9 October 2023
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 regarding the ability of Cheniere Energy Partners, L.P. to pay or increase distributions to its unitholders or Cheniere Energy, Inc. to pay or increase dividends to its shareholders or participate in share or unit buybacks;
• statements regarding Cheniere Energy, Inc.’s or Cheniere Energy Partners, L.P.’s expected receipt of cash distributions from their respective subsidiaries;
• 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 regarding any financing transactions or arrangements, or ability to enter into such transactions;
• statements relating to Cheniere’s capital deployment, including intent, ability, extent, and timing of capital expenditures, debt repayment, dividends, share repurchases and execution on the capital allocation plan;
• statements regarding our future sources of liquidity and cash requirements;
• 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 our sources of liquidity and cash requirements;
• 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 regarding our planned development and construction of additional Trains or pipelines, including the financing of such Trains or pipelines;
• 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, free cash flow, run rate SG&A estimates, cash flows, EBITDA, Consolidated Adjusted EBITDA, distributable cash flow, distributable cash flow per share and unit, deconsolidated debt outstanding, and deconsolidated contracted EBITDA, 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; 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 23, 2023, 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.
Overview

• LNG and gas market update

• Comment on current market dynamics

• Outlook
European Gas Market Balance 2023(E)

All eyes remain on European gas market fundamentals in 2023 – and potential market risks

Sources: Cheniere Research based on data from Commodity Essentials, Kpler, IHS Markit

EU27+UK Gas Demand & Supply Balance 2023 (vs. pre-war)

- Russian Pipe Gas
- Reduction in Russian Pipe Gas 2023
- Demand Reduction
- LNG
- Increase in LNG supply
- Full curtailment
- Dom/Pipe

Key risks to the 2023 balance
- Weather
- China post-pandemic rebound
- Further Russian curtailments
- LNG supply performance
- Other?

Notes:
1. Pre-war Russian supply = 2021 annual supply volume (134 Bcm)
2. Assuming Russian pipe flows remain at 2022 levels for Oct-Dec 2023
3. Assumes LNG and Dom/Other Pipe remain at 2022 levels in Oct-Dec 2023
4. Based on average EU27+UK consumption 2017 to 2021 = ~463 Bcm
# Global Gas and LNG Price Overview

## Forward Curves

- **Brent ($/bbl)**: 98.86 (CAL 2022) - 80.09 (WINTER 2023)
- **JKM**: 34.25 (CAL 2022) - 11.97 (WINTER 2023)
- **TTF**: 40.80 (CAL 2022) - 11.10 (WINTER 2023)
- **HH**: 6.64 (CAL 2022) - 2.38 (WINTER 2023)
- **EU Carbon (€/ton)**: 81.40 (CAL 2022) - 84.11 (WINTER 2023)

## Key Events

- **Price crisis H2 2021**
- **Start of Ukraine war**
- **Tight market**
- **Loose market**
- **War fallout / supply curtailments**
- **Global pandemic**
- **EU demand management, LNG inflows and storage fill**
- **Slow Chinese economic rebound and growing nuclear (J,K)**

## Sources

- Cheniere Research, CME, ICE, S&P Global Commodity Insights

## Notes

- Forward curves as well as the Summer 2023 and Winter 2023 strips represent prices on September 27, 2023.
- Asia LT Contract Proxy = 14.85% Brent (3-month average) + $0.50/MMBtu.
The Current Market Impacts are Global

Global LNG trade balance 2023 YTD, plus LNG imports in selected markets 2021 to 2023

- **South Korea Imports**: -4% YTD vs. 2021
- **China Imports**: -13% YTD vs. 2021
- **India Imports**: -10% YTD vs. 2021
- **Pakistan Imports**: -15% YTD vs. 2021
- **Japan Imports**: -13% YTD vs. 2021
- **Thailand Imports**: +93% YTD vs. 2021

### Asia LNG Import Variance (2023 YTD vs. 2021 YTD)

- **Thailand**: Increase of 5 MT
- **Singapore**: Increase of 3 MT
- **Taiwan**: Increase of 2 MT
- **Malaysia**: Increase of 1 MT
- **Indonesia**: Increase of 4 MT
- **Philippines**: Increase of 6 MT
- **Myanmar**: Increase of 9 MT
- **Pakistan**: Increase of 3 MT
- **South Korea**: Increase of 5 MT
- **India**: Increase of 1 MT
- **Japan**: Increase of 2 MT
- **China**: Increase of 5 MT

---

**Notes**

- Chinese imports rose 12% YOY so far this year but have only recently returned to 2021 levels.
- India’s LNG imports have increased so far this year as a result of lower spot LNG prices.
- South Korea has prioritised nuclear power over gas to keep imports broadly flat YOY.
- Declining domestic production and imports from Myanmar has led to higher imports YOY.
- Japanese imports fell 11% YOY so far this year mainly due to higher nuclear availability.
- The drop in LNG prices in 2023 has supported Pakistan to procure more spot cargoes.

---

Source: Cheniere interpretation of Kpler data, Cheniere Research (*Data through end of September.)
Natural Gas: A Key Enabler of the Energy Transition

Improving the overall sustainability, affordability and security of energy

Energy Transition Drivers

- **Displacing coal and oil**
  Meeting the desire of growing economies worldwide to displace dirtier fuels with cleaner-burning, secure, and affordable natural gas

- **Enabling renewables**
  A functional role in meeting energy demand and stabilizing energy systems
  - Balancing renewables
  - Meeting seasonal demand

- **Platform for future fuels**
  Solutions for hard-to-electrify sectors & reduction of cost through utilization of existing infrastructure
  - Platform for hydrogen, biogases and syngases
  - Natural gas with CCUS
The Next LNG Supply Wave (2025-2030) in Context

Cheniere LNG Trade Forecast 2023

3rd LNG supply wave 2025-2030

S/D Gap = ~ 80 mtpa (2030)

~180 mtpa capacity under construction

Global LNG Supply & Demand Outlook to 2032

Current installed capacity = ~470

Growth 2025-2030

Under Construction

Operational

Capacity under construction by country

Source: Cheniere Research
Cheniere QMRV Program

✓ **Upstream**

>0.4 Bcf/d of natural gas production across 3 basins

✓ **Midstream**

Analyzing pipelines, compressor stations, gathering & boosting, processing & storage facilities

Gillis Compressor Station
Pilot Project for Midstream QMRV

✓ **Shipping**

Completed academic study and in process of installing continuous monitors on ~85% of CMI long-term charters

✓ **Liquefaction**

Initiated measurements including aerial campaigns, ground-based OGI, and satellites.
U.S. Projects Drive LNG Industry Growth to 2040

U.S. becomes the largest exporter. Top 5 markets are all in Asia, but Europe as a region also important

"A new gas order is emerging, with U.S. LNG helping to accelerate a shift towards a more flexible, liquid, global market."

"The transformation of LNG markets creates a huge opportunity for gas users in Asia."

Source: Cheniere interpretation of Wood Mackenzie data (March 2023 and Q2 2023), IEA World Energy Outlook 2017 (quotes)
Summary

• Current global LNG market conditions are being driven primarily by events in the Europe region

• LNG has been helpful in mitigating the impacts of the current supply shock in Europe and re-allocating some of the supply-demand imbalance globally

• LNG inflows, combined with reduction in gas demand, has allowed Europe to manage through the crisis – but there is limited spare ‘system’ capacity in the next few years to deal with any additional supply or demand issues

• The next wave of LNG supply (2025+) will help bring the global gas market back towards balance

• Beyond this, LNG is expected to continue to play an important role in providing long-term diversification of energy supply for developing nations – by supporting renewables build-out, displacing coal and providing a platform for future low-carbon gases

• Adequate future LNG supply needs to be maintained
Thank you

Questions?