

LNG Review March 2023
- Recent issues and events -
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Introduction

The global LNG market had a relatively relaxed short-term balance of supply and demand during the first quarter of 2023. Asian spot LNG and European spot gas prices for front-month deliveries declined from equivalent of around USD 34 per million Btu in December 2022 to around USD 13 at the end of March 2023, while the expected average price for the year 2023 also fell from around USD 37 to around USD 19 during the same period.

The Freeport LNG project in the United States announced in early March that it had received approvals from the federal regulators to restart the final of the project's three trains with the aggregated capacity of 15 million tonnes per year. Full capacity production is anticipated to occur over the next few months.

Two positive FIDs (final investment decisions) for LNG production projects were announced in March 2023 also in the Gulf of Mexico region in the United States - Venture Global LNG's second phase of the Plaquemines LNG facility and Sempra Infrastructure Partners' Port Arthur LNG Phase 1 project. Venture Global LNG also announced closing of the project financing for the second phase, making the total investment of the phases one and two combined the largest project financing ever done, the company claims. Sempra also announced closing of the project's debt financing, as well as the planned project shareholdings, including ConocoPhillips and an infrastructure fund.

Term contracting activities continued mainly from LNG production projects in the United States in the first quarter of the year. Binding sale and purchase deals for a combined total of around 14 million tonnes per year were announced. Over half of the volumes were committed by portfolio players as offtakers, without designating final destinations.

Chesapeake Energy and commodity trader Gunvor announced in early March a Heads of Agreement (HOA) for up to 2 million tonnes per year of LNG from Chesapeake to Gunvor for 15 years. The deal represents the first case where a major upstream gas producer commits direct sales of LNG and an optimal liquefaction facility will be selected later, with a targeted start in 2027.

* The writer belongs to the Fossil Energy and International Cooperation Unit. Some information pieces that some readers may consider very important may not be included due to different reasons.

[Asia Pacific]

JERA announced on 8 March 2023 that the company had signed with Chevron a Memorandum of Understanding (MOU) that provides a framework for their collaboration on carbon capture and storage (CCS) projects located in the United States and Australia.

JGC Holdings Corporation announced on 7 March 2023 that the JGC Group joined the Aiming for Zero Methane Emissions Initiative on 14 February. Aiming for Zero is a project of the Oil and Gas Climate Initiative (OGCI) focusing on reducing methane emissions from the industry. The JGC Group is the first Japanese participant in the initiative.

China's CNOOC and France's TotalEnergies had completed China's currency (CNY) settled LNG trade through the Shanghai Petroleum and Natural Gas Exchange, the exchange said on 28 March 2023. The LNG was imported from UAE.

A first floating storage and regasification unit (FSRU) for Hong Kong is on the move to Hong Kong but will deliver a cargo in Korea en route. The 263,000 Bauhinia Spirit (ex-FSRU MOL Challenger, built 2017) left Singapore on 13 March 2023 and is due to arrive in Incheon, Korea, on 24 March. The vessel is due to arrive in Hong Kong in ballast before 10 April where it will start work as CLP Power's LNG import terminal.

JFE Engineering announced on 28 March 2023 that it had secured a contract from CPC Corporation, Taiwan, for the design, procurement, construction and commissioning (EPCC) support for the LNG terminal offshore Taoyuan City in Chinese Taipei.

India's GAIL on 17 March 2023 said it has signed a memorandum of understanding (MOU) with Shell Energy India Pvt Ltd to explore ethane sourcing and other opportunities along the energy value chain. GAIL is planning to import ethane from the United States to replace natural gas and naphtha as feedstock at petrochemical plants. The MoU envisages to explore prospects in import and handling of different hydrocarbons which are important chemical and petrochemical precursors, LNG for road transport, regasification of imported LNG and renewables, the statement added.

The Australian Energy Market Operator (AEMO) said on 16 March 2023 in its annual report, from 2026, without an expansion, or development of alternatives including hydrogen and biomethane, "gas contracted for export by Queensland LNG producers may instead need to be used to maintain domestic gas adequacy."

Australia's Parliament passed a legislation - a revision to the Safeguard Mechanism - on 30 March 2023 requiring emissions cuts by 4.9% each year. It will apply to 215 large industrial facilities.

ConocoPhillips announced on 27 March 2023 that it planned to become upstream operator of Australia Pacific LNG (APLNG) following the closing of EIG's transaction with Origin Energy. In connection with this announcement, ConocoPhillips has agreed to

purchase up to an additional 2.49% shareholding interest in APLNG. ConocoPhillips currently holds a 47.5% APLNG shareholding interest and will own up to 49.99% of APLNG upon closing. Both the assumption of upstream operatorship and the shareholding acquisition are dependent on EIG closing its transaction with Origin. EIG's transaction with Origin and ConocoPhillips' shareholding acquisition are subject to Australian regulatory approvals and other customary closing conditions. The transaction is expected to close in early 2024. The effective date of the transaction will be 1 July 2022.

Australia Pacific LNG (APLNG) announced on 21 March 2023 that it had agreed to supply gas to Energy Australia and Alinta Energy. APLNG will supply 0.9 PJ of gas (17 thousand tonnes) to Energy Australia and 1.2 PJ (22 thousand tonnes) to Alinta. In addition to the latest gas sales, APLNG provides approximately 130 PJ of gas (2.389 million tonnes) into the domestic market during 2023 under medium and long-term gas supply agreements.

JOGMEC (Japan Organization for Metals and Energy Security) announced on 6 March 2023 that it and Malaysia's PETRONAS had signed a Memorandum of Cooperation (MOC) to cooperate to create projects carbon-neutral fields in Malaysia and other areas. The parties will commence discussion and joint study to formulate and promote projects related to hydrogen/fuel ammonia, CCS, and GHG emissions management, including Japanese companies.

TotalEnergies announced on 7 March 2023 the launch of the integrated Front-End Engineering and Design (FEED) for the Papua LNG project. The partners have selected a concept including four electrical LNG trains (e-trains) with a total capacity of 4 million tonnes per year. These trains will be built within the existing liquefaction plant of PNG LNG. Papua LNG has also secured the use of 2 million tonnes per year of additional liquefaction capacity in the existing trains of PNG LNG. Papua LNG plans to re-inject the native CO₂ produced into the reservoirs. In the framework of the integration between Papua LNG and PNG LNG, TotalEnergies also announced a head of agreement (HOA) with JX Nippon in the view to sell a 2% interest (post Kumul back-in right) in Papua LNG. JX Nippon is an affiliate of ENEOS and already holds a 4.7% interest in PNG LNG. TotalEnergies holds 40.1% interest in Papua LNG, along with its joint venture partners ExxonMobil (37.1%) and Santos (22.8%). The State of Papua New Guinea may exercise a back-in right of up to 22.5% interest at the Final Investment Decision. JGC Holdings Corporation announced on 17 March 2023 that JGC Corporation in partnership with Hyundai Engineering & Construction had been awarded the Front End Engineering Design (FEED) and Engineering, Procurement and Construction (EPC) estimation contract for the downstream LNG facilities.

[North America]

The American Petroleum Institute and U.S. Chamber of Commerce on 8 March 2023 joined with allied trades in calling on the G7 nations to expeditiously act on policies that ensure international commitments to replace Russian natural gas are achieved. In a letter to Japanese Prime Minister and current G7 Chair Fumio Kishida, the signatories stressed the importance of natural gas and LNG in meeting shared energy security and climate objectives.

Sempra announced on 20 March 2023 that Sempra Infrastructure Partners, LP, had reached a positive final investment decision (FID) for the development, construction and operation of the Port Arthur LNG Phase 1 project in Jefferson County, Texas. Sempra Infrastructure closed its joint venture with an affiliate of ConocoPhillips, as well as announced an agreement to sell an indirect, non-controlling interest in the project to an infrastructure fund managed by KKR. Baker Hughes announced on 27 March 2023 that it had been awarded an order by Bechtel to supply two Main Refrigerant Compressors (MRCs) for Sempra Infrastructure's Port Arthur LNG Phase 1 project.

Freeport LNG Development, L.P. announced on 8 March 2023 that it had received regulatory approvals from the Federal Energy Regulatory Commission (FERC) and the Pipeline and Hazardous Materials Safety Administration (PHMSA) to restart Train 1, the final train of Freeport LNG's three train liquefaction facility to receive restart authorization.

According to Venture Global LNG's filing of 28 March 2023 to FERC (Federal Energy Regulatory Commission), the company had notified FERC and customers of technical problems at its Calcasieu Pass LNG project in Louisiana. The filing said that during routine tests, the facility experienced failures at the power island and heat steam recovery generator. Following further tests, the issues with the heat system were traced to weld leaks. Those issues require an investigation by supplier General Electric Co. (GE), according to the filing. "Although these circumstances do not raise any safety concerns, the units will require extensive repairs and replacements before the power island can function reliably and as designed."

Venture Global LNG announced on 13 March 2023 a final investment decision (FID) and closing of the USD 7.8 billion project financing for the second phase of the Plaquemines LNG facility.

Chesapeake Energy Corporation and Gunvor Group Ltd announced on 6 March 2023 that Gunvor Singapore Pte Ltd had entered into a Heads of Agreement (HOA) with Chesapeake Energy Marketing L.L.C. Chesapeake will supply up to 2 million tonnes per year of LNG to Gunvor with the purchase price indexed to Japan Korea Marker (JKM) for 15 years. Chesapeake and Gunvor will jointly select the most optimal liquefaction facility in the United States to liquify the gas produced by Chesapeake and deliver the LNG to Gunvor on a Free-

on-Board (FOB) basis with a targeted start date in 2027.

Yara International and Enbridge announced on 31 March 2023 a letter of intent to develop a low-carbon blue ammonia production facility at the Enbridge Ingleside Energy Center (EIEC) near Corpus Christi, Texas.

JOGMEC announced on 6 March 2023 that it completed drillings of wells for production demonstration of methane hydrates in the state of Alaska on 28 February.

The Haisla Nation and Pembina Pipeline Corporation, partners in the development of the proposed Cedar LNG Project, announced on 14 March 2023 that Cedar LNG had received its Environmental Assessment Certificate (EA) from the B.C. Environmental Assessment Office, and has signed a Memorandum of Understanding (MOU) with ARC Resources Limited for a long-term liquefaction services agreement. Cedar LNG is a proposed floating LNG facility located on Haisla Nation-owned land in Kitimat, B.C. with the capacity of 3 million tonnes per year of LNG.

Shell Eastern Trading (Pte) Ltd and a subsidiary of Mexico Pacific Limited announced 27 March 2023 that they had signed an additional sales and purchase agreement for Shell to offtake 1.1 million tonnes per year of LNG from the third train of Mexico Pacific's LNG export facility, Saguaro Energía, located in Puerto Libertad, Sonora, Mexico. Shell will purchase LNG on a free on-board (FOB) basis over a term of 20 years. When fully operational, the first phase of the facility will have three trains and a combined capacity of 14.1 million tonnes per year.

[Middle East]

bp announced on 28 March 2023 that bp and ADNOC had made a non-binding offer to take NewMed Energy private through an acquisition of the free float and a partial acquisition of Delek's stake, which would result in bp and ADNOC holding 50% of NewMed Energy. bp and ADNOC intend to form a new joint venture that will be focused on gas development in international areas including the East Mediterranean.

[Africa]

Marathon Oil Corporation announced on 30 March 2023 that through its affiliated company Marathon E.G. Holding Limited the company had signed a Heads of Agreement (HOA) with the Republic of Equatorial Guinea (E.G.) and Noble Energy E.G. Ltd, a Chevron company, to progress the next phases (Phases II and III) in the development of the Equatorial Guinea Regional Gas Mega Hub (GMH). A recently established bilateral treaty on cross-border oil and gas development between E.G. and Cameroon provides opportunities to further expand the GMH.

Germany's Conjuncta GmbH announced on 8 March 2023 that Infinity Power Holding, the joint venture between Egypt's Infinity and UAE's Masdar and Conjuncta GmbH had signed a Memorandum of Understanding (MOU) with the government of Mauritania, represented by the Ministry of Petroleum, Mines and Energy to develop a Green Hydrogen plant over four phases, which is expected to produce up to 8 million tonnes of Green Hydrogen or other renewable fuels of non-biological origins.

[Europe / Russia]

The EU's commissioner for energy made some remarks on One Year of REPowerEU on 9 March 2023. The commissioner said that Europe cannot let its guard down on gas security of supply. She urged EU countries to stop importing LNG from Russia and not renew contracts, citing "reputational risks to buyers". The European Commission (EC) proposed on 20 March 2023 to prolong emergency legislation on measures to reduce gas demand by 15% for another 12 months from the end of March.

The European Council agreed on 28 March 2023 on its negotiating positions ('general approaches') on two proposals that set common internal market rules for renewable and natural gases and hydrogen. The Council clarified the rules for tariffs and tariff discounts for hydrogen and renewable gases seeking to access the gas grid and gave more flexibility to member states for setting them. It differentiated between tariff discounts for renewable (100%) and low-carbon gases (75%) in the natural gas system. The general approach allows for the blending of hydrogen into the natural gas system of up to 2% by volume (instead of 5%) in order to ensure a harmonised quality of gas.

TotalEnergies LNG Services France said on 28 March 2023 that it was conducting a binding Open Season to market Le Havre LNG Terminal long-term capacities. 23 TWh (1.52 million tonnes) per year for five years (2023-2028) is offered.

Spain's Enagás announced on 2 March 2023 that, as of 6 March, it would begin an Open Season for logistics services at El Musel LNG terminal in Gijón. El Musel is part of the Government's More Energy Security Plan (Plan Más Seguridad Energética). The process will begin with a first non-binding phase in which trading companies will be able to express their interest in the logistics services offered by the infrastructure for LNG unloading, storage and loading operations, on an unregulated access basis.

KN (AB "Klaipėdos nafta") announced on 10 March 2023 that the company had been chosen by Italy's Snam FSRU Italia to cooperate in the start-up of a greenfield FSRU-based LNG terminal project in Tuscany, in the province of Livorno and the west coast port of Piombino. The terminal design is based on the floating storage and regasification unit (FSRU), Golar Tundra. According to Snam, the docking operations of the FSRU Golar Tundra

in the port of Piombino ended on 19 March. The company expects to put the FSRU into operation at the beginning of May with its regasification capacity of 5 bcm per year.

[Global issues]

Seven international LNG shipowners and operators, CoolCo, United Overseas Management, Capital Gas, Celsius Tankers, Global Meridian Holdings, Mitsui OSK Lines (MOL), and TMS Cardiff Gas, announced on 16 March 2023 that they had joined the Methane Abatement in Maritime Innovation Initiative (MAMII).

MiQ announced on 21 March 2023 that it had launched a certification program of an assessment of greenhouse gas (GHG) emissions from the LNG supply chain. MiQ says its new framework tracks 100% of methane, carbon dioxide and nitrous oxide emissions from every segment of the LNG supply chain.

Reference: Company announcements, Cedigaz News Report.

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