

LNG Review February 2024
- Recent issues and events - #98
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Introduction

Global spot gas prices have been in a downward trend, with European spot gas and Asian spot LNG prices declining from around USD 10 per million Btu at the end of 2023 to USD 9s at the end of January and USD 8s in late February 2024. The trend could stimulate appetites for LNG cargoes in LNG markets especially in Asia, Africa, and South America.

Australia's Woodside and Santos said on 7 February 2024 that they had ceased discussions regarding a potential merger, two weeks after they revealed they were in early-stage discussions.

Both companies announced progresses in their respective LNG projects and their efforts to mitigate GHG emissions during the month.

Woodside announced arrival of first three of 51 Pluto Train 2 modules in Karratha, Western Australia, for the Scarborough project. The project is targeting first LNG cargo in 2026. Woodside also announced JERA's participation in the project, as well as LNG sales deals with JERA and Kogas (Korea Gas Corporation). Woodside said it had been moving towards portfolio marketing over the last decade.

According to the company, for the company's targeted reduction in Scope 1 and 2 GHG emissions of 30% by 2030 the biggest low-hanging fruit is to bring solar power, low emissions power into the Pluto LNG facility.

Santos said that the first well at the Barossa gas development had been completed and the second well was underway, with first gas expected in the third quarter of 2025 to backfill Darwin LNG. The Barossa project is one of the several potential CO₂ sources for the Bayu-Undan CCS project. Santos also announced its participation in the Aiming for Zero Methane Emissions Initiative and the World Bank's Zero Routine Flaring by 2030 Initiative.

QatarEnergy announced in late February the "North Field West" project to raise Qatar's LNG production capacity to 142 million tonnes per year before the end of 2030. QatarEnergy also announced a long-term LNG sales deal with India's Petronet LNG.

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[Asia Pacific]

TotalEnergies announced on 29 February 2024 that it had signed an SPA (sale and purchase agreement) with Singapore's Sembcorp Fuels, a subsidiary of Sembcorp Industries for up to 0.8 million tonnes per year of LNG for 16 years from 2027, to be sourced from TotalEnergies' global portfolio. The new agreement adds to the companies' current SPA, which runs until 2029.

Singapore's Seatrium Limited announced on 14 February 2024 that Seatrium had renewed its long-term Favoured Customer Contract (FCC) with GasLog LNG Services Ltd and Shell International Trading and Shipping Company Limited (STASCO) to provide ship repairs, refurbishment and upgrading for their LNG carriers from 2024 to 2029.

Thailand's Gulf Energy Development said on 16 February 2024 that it expected to import the first LNG cargo in the month.

According to PetroVietnam Gas Corporation (PV Gas) in late January 2024 the company expects to supply regasified LNG from its Thị Vải LNG terminal to industrial customers in Southeast Vietnam from the second quarter of 2024. PV Gas has also been implementing Phase 2 of the terminal to 3 million tonnes per year capacity by 2026. PV Gas has been launching the Sơn Mỹ LNG terminal project in Bình Thuận, with capacity reaching up to 6 million tonnes per year in the South Central region. In the Northern and Central regions of Vietnam, PV Gas is evaluating locations of two LNG hubs.

The Philippines' First Gen Corporation (FGEN) announced on 19 February 2024 that the company had invited bids for a single cargo of LNG on a DES (Delivered Ex-Ship) basis, through First Gen Singapore Pte. Ltd, to be utilized by FGEN's gas-fired power plants in the First Gen Clean Energy Complex in Batangas. According to First Gen, the selected bidder will deliver the cargo to the FSRU BW Batangas from 15 to 31 March. First Gen expects to award the tender on 6 March.

Maritime equipment manufacturer Straatman announced on 8 February 2024 its collaboration with Samsung Heavy Industries (SHI) for the ZFLNG project of Petronas. Straatman will supply a Ship-to-Shore Link system to facilitate seamless communication between the ZFLNG facility and LNG carriers. The ZFLNG project, to be located offshore near Sabah in Malaysia, will be Pertronas' third FLNG (floating LNG) project.

Höegh LNG announced on 5 February 2024 that the charterer of PGN FSRU Lampung and Höegh LNG had entered an amicable settlement of disputes, claims and counterclaims between the parties that and agreed to terminate the arbitrations with immediate effect. The charter contract for PGN FSRU Lampung remains in force.

TotalEnergies and Oil and Natural Gas Corporation (ONGC) signed on 6 February 2024 a Cooperation Agreement to carry out methane emissions detection and measurement campaigns using TotalEnergies' AUSEA (Airborne Ultralight Spectrometer for

Environmental Applications) technology.

Russia's Prime Minister issued an order on 9 February 2024 authorizing until December 2040 the supply of LNG from the Yamal LNG plant to SEFE Marketing & Trading Singapore, amending a previous order of 10 June 2023 setting a December 2024 deadline.

Equinor announced on 19 February 2024 that it had signed a 15-year agreement for supplies of LNG with deliveries starting in 2026 with Indian fertiliser and petrochemical company Deepak Fertilisers. Deepak will use the gas mainly as feedstock for production of ammonia. The agreement covers supply of around 0.65 million tonnes per year.

India's Petronet LNG said on 9 February 2024 that it would supply LNG to Sri Lanka for five years starting in 2025. Petronet will ship 850 tonnes per day to Sri Lanka in 50 containers of 17 tonnes each. The project will supply two gas-fired power plants.

The Australian Energy Producers (AEP) said on 5 February 2024 that Australia's government must immediately look for new gas supplies and approve new LNG projects to address "near-term" structural gas shortfalls. AEP has proposed an Australian LNG Producer-Consumer Taskforce to strengthen regional relationships and ensure Australia benefits from a potential 10-fold growth in Asian LNG demand.

Australia's Venice Energy said on 15 February 2024 that after GasLog "underwent a major restructure and in doing so made the decision to sell-off a number of vessels to others" in 2023, "AG&P emerged as the purchaser of the vessel" assigned to Venice's project and Venice had "secured a new commercial agreement that guarantees the project will receive the converted FSRU at an improved cost and in a timely manner."

Australia's Santos announced on 26 February 2024 that the company had secured finance for the company's share of the Moomba CCS (carbon capture and storage) project in South Australia.

Australia's Woodside and Santos announced on 7 February 2024 that they had ceased discussions regarding a potential merger.

Mitsui O.S.K. Lines, Ltd. (MOL) announced on 14 February 2024 the signing of a non-binding MOU (memorandum of understanding) with Woodside, Korean shipbuilding and engineering company HD Korea Shipbuilding and Offshore Engineering Co., Ltd. (HD KSOE) and shipping company Hyundai Glovis Co., Ltd., to study bulk marine transportation of liquid hydrogen.

Woodside announced on 21 February 2024 that the first three Pluto Train 2 modules for the Scarborough Energy Project had arrived in Karratha, Western Australia. The modules, fabricated by Bechtel in Indonesia, weigh a combined total of more than 4,000 metric tonnes. The modules are three of a total of 51 that will be shipped to site from the module yard to form Pluto Train 2, according to the announcement. The Scarborough project is more than 55% complete, targeting first LNG cargo in 2026.

Japan's JERA and Woodside announced on 23 February 2024 the sale of a 15.1% interest (LNG: Up to 1.2 million tonnes per year) in the Scarborough Joint Venture (JV) from Woodside to JERA with a transaction effective date of 1 January 2022. Woodside and JERA have also entered into a non-binding HOA (heads of agreement) for the sale and purchase of six LNG cargoes (up to 0.4 million tonnes) on a DES (delivered ex-ship) basis per year for 10 years commencing in 2026 from Woodside's global portfolio. A non-binding agreement for new energy collaboration including potential opportunities in ammonia, hydrogen, carbon management technology and CCS (carbon capture and storage) was also signed to support common decarbonisation ambitions.

Woodside said on 27 February 2024 that for the company's targeted reduction in Scope 1 and 2 emissions of 30% by 2030 the biggest low-hanging fruit was to bring solar power, low emissions power into the Pluto LNG facility.

Woodside announced on 28 February 2024 an SPA (sale and purchase agreement) with Korea Gas Corporation (KOGAS) for the long-term supply of LNG to Korea, for 0.5 million tonnes per year for 10.5 years from 2026 on a DES (delivered) basis. The LNG will be sourced from uncommitted volumes across Woodside's global portfolio, including the Scarborough project.

Santos said on 21 February 2024 that the first well at the Barossa gas development had been completed and the second well was underway, with the project 66.4% completed at the end of 2023 with first gas expected in the third quarter of 2025 to backfill Darwin LNG. The company said full production rates when reached should add 1.8 million tonnes per year to the company's LNG portfolio. The Barossa project is one of the several potential CO₂ sources for Bayu-Undan CCS, and the project is targeting an FID (final investment decision) in 2025.

Santos announced on 21 February 2024 that it had joined the Aiming for Zero Methane Emissions Initiative and the World Bank's Zero Routine Flaring by 2030 Initiative.

Australia's Santos announced on 1 February 2024 that Papua New Guinea's Kumul Petroleum Holdings Limited had paid USD 352 million to Santos (equivalent to a ~1.6% interest of PNG LNG). Kumul had taken an effective interest in the Santos entity that holds the 2.6% sale interest.

[North America]

A Full Committee Hearing of Senate Committee on Energy and Natural Resources was held on 8 February 2024 to examine the administration's pause on LNG export approvals and the Department of Energy's (DOE) process for assessing LNG export applications.

The U.S. House of Representatives voted on 15 February 2024 to strip the DOE of its approval power for LNG facilities, reversing the pause of the approval process introduced by

the administration.

The USLNG Association (LNG Allies) along with the American Petroleum Institute and five other associations requested on 26 February 2024 the Department of Energy (DOE) to reconsider the 26 January decision to pause further LNG export authorizations.

EPA (U.S. Environmental Protection Agency) and DOE announced on 9 February 2024 a Notice of Intent (NOI) to make funds available to help measure and reduce methane emissions from the oil and gas sectors.

Cheniere Energy, Inc. said on 22 February 2024 that first LNG production from the first train of the CCL Stage 3 project was forecast to be achieved at the end of 2024. The CCL Stage 3 project is an expansion being constructed adjacent to the CCL Project consisting of seven midscale trains with an expected total production capacity of over 10 million tonnes per year of LNG. CCL Stage 3 Project completion percentage as of 31 December 2023: engineering 83.7%, procurement 72.2%, subcontract work 66.9% and construction 11.1%.

Cheniere Energy Inc. said DOE's suspension of determinations on authorizations for LNG exports to non-free trade agreement countries did not currently impact its expansion projects or its FERC (Federal Energy Regulatory Commission) processes at Sabine Pass and Corpus Christi, but it did introduce regulatory and permitting uncertainty into the U.S. LNG industry as a whole. The company believes that it would secure all necessary regulatory approvals for mid-scale Trains 8 and 9, and the SPL expansion project within the company's expected timelines. Cheniere targets FIDs (final investment decisions) for the two projects in 2025 and 2026 respectively.

Sempra Infrastructure, and JBIC (Japan Bank for International Cooperation) announced on 2 February 2024 that they had signed an MOU (memorandum of understanding) to cooperate on opportunities to advance the energy transition.

According to Sempra on 27 February 2024, Sempra has "a dual coast LNG export strategy." The ECA LNG Phase 1 approaches its summer 2025 COD (Commercial Operation Date), to bring one of the first North American Pacific Coast LNG export projects to market, with full year operations expected in 2026, to be followed by Port Arthur Train 1, 2027 and Train 2 in 2028. At Cameron LNG Phase 2, Sempra has been working with Bechtel on value engineering, while evaluating other potential EPC contractors. Sempra anticipates an FID on Cameron 2 as early as the first half of 2025.

FERC on 15 February 2024 granted Tellurian Inc. a 3-year extension to put its Driftwood LNG plant in service by April 2029. FERC said Driftwood LNG had "demonstrated good cause." Tellurian asked in October 2023 FERC for more time to construct the plant citing "entirely unforeseeable circumstances" related to the pandemic.

Tellurian announced on 22 February 2024 an agreement for an amendment to the terms of certain debt instruments to enhance near-term liquidity and provide the company

with flexibility to complete the sale of its upstream assets.

Tellurian. said on 23 February 2024 that during 2023 the company advanced the Driftwood LNG project, having driven over 14,000 piles at site and making progress on concrete foundations for critical equipment. Tellurian also secured FERC Certificate for the company's pipelines (Lines 200 and 300) and continued to advance the fabrication of Baker Hughes zero-emissions ICL compressors for the pipeline.

Shell NA LNG LLC in its filing to FERC on 16 February 2024 expressed continued support of bp's complaint against VGCP (Venture Global Calcasieu Pass, LLC) and alternative request for proceedings before an ALJ (administrative law judge).

Venture Global LNG has asked FERC to extend the in-service condition for its Calcasieu Pass LNG export facility to 21 February 2025, according to the company's filing on 15 February 2024.

Venture Global LNG, through Venture Global CP2 LNG, LLC and Venture Global CP Express, LLC, in a letter of 15 February 2024 urged FERC to issue an order authorizing the CP2 LNG project no later than the Commission's next open meeting on 21 March 2024.

Texas LNG announced on 16 February 2024 that it had selected Gulf LNG Tugs of Texas, LLC, a consortium of Suderman & Young Towing Company, Bay-Houston Towing, and Moran Towing Corporation to build, deliver and operate tugboats under a long-term agreement to assist LNG carriers arriving at the facility.

Chesapeake Energy Corporation, Delfin LNG LLC and Gunvor Group Ltd, through Gunvor Singapore Pte Ltd, announced on 13 February 2024 the entrance into an LNG export deal that includes SPAs (Sales and Purchase Agreements) for long-term liquefaction offtake. Chesapeake will purchase 0.5 million tonnes per year of LNG from Delfin at a Henry Hub price and contract targeted start date in 2028 then deliver to Gunvor on an FOB basis with the sales price linked to the Japan Korea Marker (JKM) for 20 years. These volumes will represent 0.5 million tonnes per year of the previously (March 2023) announced up to 2 million tonnes per year HOA with Gunvor.

Vitol Inc. announced on 22 February 2024 a natural gas SPA (sale and purchase agreement) with EOG Resources, Inc. EOG will supply 180,000 million Btu/d of natural gas (equivalent of 1.25 million tonnes per year of LNG) to Vitol with 140,000 million Btu/d at a purchase price indexed to Brent Crude Oil and the remaining volumes indexed to Brent or a US Gulf Coast gas index for 10 years from 2027.

Canada's Cedar LNG and its partners, the Haisla Nation and Pembina Pipeline, provided an update on project development on 23 February 2024, including obtaining regulatory approvals, advancing inter-project agreements with Coastal GasLink and LNG Canada, signing an HOA (heads of agreement) with Samsung Heavy Industries and Black & Veatch, and executing a lump sum EPC (engineering, procurement, and construction)

agreement. An FID (final investment decision) is expected in the middle of 2024.

New Fortress Energy Inc. (NFE) said on 29 February 2024 that the company expected the first LNG in March and the first cargo in April from its first Fast LNG unit offshore Altamira, Mexico. The company has secured financing commitments for the second FLNG project located onshore Altamira, and expects to complete construction in the first quarter of 2026, according to the announcement.

FERC granted an authorisation on 15 February 2024 to Saguaro Connector Pipeline, which would be the connector for Mexico Pacific's Saguaro LNG project in Sonora, Mexico. Saguaro LNG already has an authorisation from DOE (Department of Energy) to export natural gas to Mexico and then export LNG to countries without a free-trade agreement with the United States.

[Middle East]

GTT announced on 13 February 2024 that it had received an order from a Chinese shipyard for the tank design of eight new LNG carriers. Each carrier will offer five tanks with a total capacity of 271,000 m³. The tanks will be fitted with the NO96 Super+ membrane containment system developed by GTT. Delivery is scheduled between the second quarter of 2028 and the fourth quarter of 2029.

GTT announced on 26 February 2024 that it received in early 2024 an order from Korean shipyard Samsung Heavy Industries (SHI) for the tank design of 15 new LNG Carriers on behalf of a leading LNG player. The vessels will each offer a capacity of 174,000 m³. The tanks will be fitted with the Mark III Flex membrane containment system developed by GTT. The delivery of the vessels is scheduled between the fourth quarter of 2026 and the fourth quarter of 2028.

QatarEnergy announced on 10 February 2024 that it had selected Qatar Gas Transport Company Limited (Nakilat) to be the owner and operator of up to 25 conventional-size LNG carriers. The 25 vessels, each with a capacity of 174,000 cubic meters, will be owned 100% by Nakilat. They are scheduled for construction at Korean shipyards.

India's Petronet LNG Limited (PLL) and QatarEnergy announced on 6 February 2024 an LNG Sale & Purchase Agreement (LNG SPA) for 7.5 million tonnes per year with on a long-term basis. This is pursuant to extension of an existing LNG SPA on an FOB basis signed in 1999 for supplies until 2028. Under the new agreement, LNG supplies will be made on a delivered (DES) basis from May 2028 until 2048. Similar to earlier agreement of 1999, the LNG volumes under the new SPA shall also be offtaken by GAIL (India) Limited (60%), Indian Oil Corporation Limited (30%) and Bharat Petroleum Corporation Limited (10%) after regasification primarily from the Dahej terminal.

QatarEnergy announced on 4 February 2024 a long-term condensate supply

agreement with Mitsui & Co. Energy Trading Singapore Pte. Ltd. The 10-year agreement stipulates the supply of up to 11 million barrels of condensates per year, starting in April 2024. The terms of the agreement provide options for increasing the condensate volumes once the North Field East (NFE) and North Field South (NFS) expansion projects come online.

QatarEnergy announced on 23 February 2024 that it had named the first LNG carrier to be delivered as part of its new LNG fleet expansion program the "Rex Tillerson" in recognition of the former Chairman and Chief Executive Officer of Exxon Mobil Corporation (ExxonMobil), who also served as the 69th United States Secretary of State. The "Rex Tillerson" is expected to be put in service in September 2024 and is under construction at the Hudong Zhonghua Shipyard in China as part of a 12-ship construction program that makes up the first batch of orders from China in QatarEnergy's LNG shipbuilding program.

QatarEnergy announced on 25 February 2024 the "North Field West" project to raise Qatar's LNG production capacity to 142 million tonnes per year before the end of 2030. According to the announcement, appraisal drilling and testing have confirmed that productive layers of the North Field extend towards the west. According to the announcement, QatarEnergy will immediately commence the basic engineering works necessary to ensure that the planned progress is achieved according to the approved schedule for the North Field West project.

[Africa]

ADNOC and bp announced on 14 February 2024 that they had agreed to form a new joint venture (JV) in Egypt (51% bp and 49% ADNOC).

bp announced on 15 February 2024 that the FLNG (floating liquefied natural gas) vessel of the Greater Tortue Ahmeyim (GTA) LNG project had arrived at its destination on the Mauritania and Senegal maritime border. The FLNG vessel, Gimi, of the GTA Phase 1 development, is operated by bp with partners, Kosmos Energy, PETROSEN and SMH. GTA Phase 1 is set to produce around 2.3 million tonnes per year of LNG. Owned and operated by Golar LNG, the Gimi FLNG vessel set sail from Singapore in November 2023.

Allseas announced on 20 February 2024 that the Pioneering Spirit had completed the infield pipelay scope for bp's ultra-deepwater GTA LNG project offshore Mauritania and Senegal, two months after arriving at the field. The pipelay scope comprises approximately 75 km of 16-inch export lines and 10 km of 10-inch CRA infield lines, some of the pipeline infrastructure exceeding 2700 metres water depth at the deep end. The Pioneering Spirit will conclude the offshore works by installing the six outstanding flowline termination assemblies.

ENI mentioned on 16 February 2024 the commissioning of the Tango FLNG vessel in block Marine XII off Congo, which was expected to deliver the first LNG cargo in the first quarter 2024. Eni announced on 27 February that the first shipment of LNG from the

Republic of the Congo was celebrated. The cargo is being loaded and will sail to Piombino's regasification terminal, in Italy, in the coming days.

Regarding Mozambique, TotalEnergies said on 7 February 2024 that after the company received the security and human rights reports, the company was remobilizing the contractors. The company hopes that construction will come back by middle of 2024.

[Europe / Surrounding regions]

The European Commission announced on 28 February 2024 that the first tender with a new mid-term product for the purchasing of gas under the EU Energy Platform closed the preceding night and attracted offers for 97.4 bcm. Through the AggregateEU mechanism, the Commission collected 34 bcm of gas demand from 19 companies earlier. The suppliers and consumers have now been matched through the AggregateEU platform, and companies will be able to enter contractual negotiations bilaterally. Under the mid-term tender buyers were able to submit gas demand for multiple 6-month periods, up to a maximum of 5 years, running from April 2024 to October 2029.

National Grid's Grain LNG announced on 31 January 2024 a ten-year agreement that would extend the long-term storage and redelivery capacity of Algeria's Sonatrach at the Grain LNG terminal from January 2029. According to Grain LNG, this is the first agreement for 125 GWh/d of import capacity (equivalent to 3 million tonnes per year of LNG) from Grain LNG's competitive auction process which was launched in September 2023.

Grain LNG and Venture Global LNG announced on 5 February 2024 a binding long-term terminal use agreement (TUA) enabling the regasification and sale of LNG from Venture Global's plants in Louisiana, including CP2 LNG. Venture Global will have the ability to access 3 million tonnes per year of LNG storage and regasification capacity at the Isle of Grain LNG receiving terminal for 16 years from 2029.

Centrica Energy and Repsol announced on 7 February 2024 a deal for 1 million tonnes of LNG shipments between 2025 and 2027. The cargoes are expected to be delivered to the Grain LNG import terminal in Kent.

bp said on 6 February 2024 that its "LNG supply portfolio increased by 20% to 23 million tonnes" per year, largely driven by Coral and Freeport" and bp "delivered 10 million tonnes" of incremental short- and mid-term merchant volumes. On LNG build-out, bp had 23 million tonnes in 2023 and 25 million tonnes in 2025 is the target, according to bp.

France's GTT announced on 26 February 2024 that the company received tank design orders for 73 LNG carriers and one FLNG in 2023.

Deutsche ReGas announced on 24 February 2024 that the "Deutsche Ostsee" terminal in the port of Mukran had begun trial operation. In the morning, FSRU ENERGOS POWER arrived at the port.

New Fortress Energy Inc. (NFE) announced on 15 February 2024 that it had completed the sale of its 20% equity interest in Energos Infrastructure to funds managed by Apollo.

Poland's Gas Transmission System Operator GAZ-SYSTEM S.A and Japan's Mitsui O.S.K. Lines, Ltd. (MOL) announced on 2 February 2024 that GAZ-SYSTEM had selected MOL as the preferred shipowner to time charter an FSRU (Floating Storage and Regasification Unit) for the planned LNG import terminal in the Gulf of Gdańsk, Poland.

JOGMEC announced on 2 February 2024 that it fulfilled a loan guarantee for €814 million on a loan taken by Japan Arctic LNG to finance the Arctic LNG 2 project because of the U.S. sanctions against the project company triggering a mandatory deadline set in the loan agreement between Japan Arctic LNG and banks.

[South America]

Höegh LNG said on 28 February 2024 that the Höegh Giant FSRU was expected to commence commissioning in Santos, Brazil towards the end of the first quarter 2024.

New Fortress Energy Inc. (NFE) announced on 29 February 2024 that its Barcarena LNG terminal located in Pará, Brazil was operational with the Energos Celsius FSRU (Floating Storage Regasification Unit) on-site. The terminal is located at the mouth of the Amazon River and serves as the sole natural gas supply source in the state of Pará and the North region of Brazil. The facility will supply regasified LNG to several industrial customers, including a 15-year contract with Norsk Hydro's Alunorte refinery, the largest alumina refinery in the world. The terminal will also fuel NFE's 630 MW power plant, under construction adjacent to the terminal.

EIG's MidOcean Energy announced on 8 February 2024 that it had entered into an agreement with SK Earthon to acquire SK's 20% interest in Peru LNG. PLNG owns and operates the LNG export plant in Pampa Melchorita, Peru. PLNG is operated by Hunt Oil Company. MidOcean also is in the process of completing its acquisition of Tokyo Gas' interests in Australian LNG projects, which is targeted to close at the end of February.

Reference: Company announcements, Cedigaz News Report.

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