

LNG Review October 2024 - Recent issues and events - #106

Hiroshi Hashimoto*

Introduction

According to preliminary figures from Japan's Customs Statistics, the country imported 49.189 million tonnes of LNG during the first nine months of 2024, a slight increase from the same period in 2023. However, the LNG import in September 2024 was smaller than one year ago. The other three markets in Northeast Asia - Korea, China, and Chinese Taipei, respectively imported 14.5%, 21.7%, and 18.1% more LNG in September 2024 than one year earlier. Northeast Asia in total imported 17.60 million tonnes of LNG in September 2024, an increase of 11.6% or 1.83 million tonnes from September 2023. The four markets imported 156 million tonnes of LNG during the first nine months of 2024, 6.1% more than the same period in 2023.

The world LNG trade increased slightly by 1% year-on-year to around 300million tonnes during the first nine months of 2024. While the total volume did not change much, geographical distribution of volumes shifted much. After expanding their combined share in the global LNG market to a little less than three-tenth in 2022 and 2023 from around one-fifth in 2020 and 2021 and being the largest element in the changes in the market, the European Union and the United Kingdom imported 68 million tonnes of LNG, or 23% of the global total, during the first nine months of 2024, a 20% or 17 million tonne reduction year-on-year. By contrast, with Southeast Asia's 23% increase to 19 million tonnes, South Asia's 17% increase to 30 million tonnes, and the above-mentioned increase in the Northeast Asia's four market, Asia in total imported nearly 210 million tonnes of LNG during the first nine months of 2024, representing almost seven-tenth of the global total, compared to 64% in the twelve months of 2023.

Among the LNG exporting countries during the same nine-month period in 2024, the United States, Russia, and Australia increased their respective LNG exports by 1 million tonnes or more year-on-year, although Egypt decreased its LNG export significantly due to slower domestic gas production combined with an increase in gas demand in the country.

LNG transportation activities underwent significant changes during the same nine-month period in 2024. The Panama Canal, due to drought induced low water levels, and the Red Sea and the Suez Canal transportation corridor,

* The writer belongs to the Energy Security Unit.

due to security concern, lost the majority of regular LNG traffics. 54 out of 72 LNG cargoes from the United States to Japan and 35 out of 39 from Qatar to Italy were detoured around the southern tip of Africa. were detoured around the southern tip of Africa, compared to 10 out of 63 and zero out of 37, respectively, during the same period in 2023.

There have been accelerated LNG-related activities around, including LNG sales transactions, LNG production development, and value chain improvement (carrier ship design improvement and development, methane emission management). Emerging Asian markets that have already started importing LNG are moving to procure spot LNG cargoes.

Progress has been observed in several engineering deals regarding LNG projects in the United States, the Middle East and Africa.

[Asia Pacific]

Japan's METI (Ministry of Economy, Trade and Industry) announced on 7 October 2024 that the ministry and IEA (International Energy Agency) hosted the LNG Producer Consumer Conference 2024 on Sunday 6 October in Hiroshima in partnership with GIIGNL (The International Group of LNG Importers).

JOGMEC (Japan Organization for Metals and Energy Security) announced on 7 October 2024 that it released the first result of CLEAN (Coalition for LNG Emission Abatement toward Net-zero) initiative, "CLEAN Annual Report 2024", at the LNG Producer-Consumer Conference 2024. In the report, JOGMEC compiled information on methane emissions and reduction efforts on a project basis for the first time in the world, based on the results of a survey on methane emission reductions among producers, distributed by JERA and KOGAS based on their LNG SPAs (Sales and Purchase Agreements). In addition, JOGMEC announced that 22 additional companies would participate in the CLEAN initiative.

According to China's NBS (National Bureau of Statistics), the country produced 19.3 bcm and 183.0 bcm of natural gas in September and the first nine months of 2024, year-on-year increases of 6.8% and 6.6%, respectively. China's NDRC (National Development and Reform Commission) said on 25 October 2024 that the country consumed 318.37 bcm of natural gas during the first nine months of the year, an increase of 9.9% year-on-year. China imported 99.08 million tonnes of natural gas, including pipeline gas and LNG, during the first nine months of September 2024, 13.0% more than the same period in 2023, according to China's customs statistics according to data from the General Administration of Customs of the People's Republic of China on 18 October. China imported 11.99 million tonnes in September 2024. LNG import during the nine-month period in 2024 was 57.09 million tonnes, an increase of 11.9% year-on-year but 2.1% smaller than the volume in the same

period of 2021.

Vitol announced on 18 October 2024 that China Gas Hongda Energy Trading Co., LTD. and Vitol had entered into a long-term swap arrangement. Vitol will purchase 0.5 million tonnes of LNG from China Gas' contracted volume in the United States on FOB basis and sell 0.5 million tonnes of LNG to China Gas on DES basis from 2029.

Mitsui O.S.K. Lines, Ltd. (MOL) announced on 23 October 2024 an agreement with Singapore LNG Corporation Pte. Ltd. on a long-term time charter contract for one newbuilding FSRU. The FSRU will be built at Hanwha Ocean Co., Ltd. in Korea. The FSRU will be moored at the Jurong Port in Singapore. Engineering company Wood Group announced on 24 October 2024 that it had been awarded the FEED (front-end engineering design) contract for the development of Singapore's Second LNG Terminal by Singapore LNG Corporation (SLNG). The project will feature an FSRU (floating storage and regasification unit). Wood will review the FSRU design and coordinate its integration into the onshore connecting infrastructure.

Singapore's Pacific International Lines (PIL) announced on 28 October 2024 that PIL and bunkering supplier Shanghai SIPG Energy Service (SSES) completed the inaugural LNG bunkering of PIL's first LNG-powered container vessel, Kota Eagle, on 26 October 2024. In the ship-to-ship LNG bunkering operation conducted at the Yangshan port in Shanghai, the Kota Eagle received about 8,000 m³ of LNG.

EVN (Tập đoàn Điện lực Việt Nam) announced on 4 October 2024 that EVN and PetroVietnam signed a power purchase agreement for Nhơn Trạch 3 and 4 Power Plants and an MOU (Memorandum of Understanding) on the supply of regasified LNG from Vũng Áng 1 LNG terminal to Quảng Trạch II LNG Thermal Power Plant.

Malaysia's Genting Berhad announced on 28 October 2024 that regarding the Genting FLNG Project, its 95%-owned indirect subsidiary PT Layar Nusantara Gas (PTLNG) entered into an agreement with China National Machinery Import & Export Corporation (CMEC) and Shandong Kerui Energy Development Co. Ltd. (Kerui) for the design, engineering and procurement activities for the onshore gas processing plant, connecting pipelines and supporting facilities for the Genting FLNG Project to be located in West Papua, Indonesia on 23 October 2024. On 28 October, PTLNG also entered into a separate contract for the construction, installation and commissioning of the Midstream Infrastructure with a local Indonesian company called PT China Construction Yangtze River Indonesia (PT CCYRI). The Midstream Infrastructure is estimated to be completed in 25 months. Once it is completed, it shall be ready to receive raw gas from the Asap, Merah and Kido structures within the concession area of the Kasuri Block in West Papua awarded to Genting Oil Kasuri Pte Ltd (GOKPL), another 95% indirect subsidiary of the Company pursuant to a production sharing contract signed in May 2008 between GOKPL and BP MIGAS, the Indonesian oil and

gas regulator (which had since been succeeded by SKK MIGAS). The FLNG vessel which is being constructed by Wison New Energies Co., Ltd. is 32.83% completed as of 26 September 2024.

Singapore's AG&P LNG announced on 24 October 2024 that it had agreed to acquire Venice Energy, the developer of the LNG import terminal at Outer Harbor (Outer Harbor LNG Import Terminal) in Port Adelaide, South Australia.

Australia's Santos Limited said on 17 October 2024 that the Moomba CCS (Carbon Capture and Storage) project had completed commissioning and was online and storing CO₂ in Cooper Basin depleted reservoirs at full rate. Santos expects to inject approximately 250,000 tonnes (gross) of CO₂ in 2024.

Australia's Santos announced on 2 October 2024 the signing of a mid-term LNG supply contract with TotalEnergies Gas & Power Asia Private Limited for 20 LNG cargoes, or up to approximately 0.5 million tonnes of LNG per year over a period of 3 years plus one quarter. The contract will commence in Q4 2025 with LNG being supplied from Santos' global portfolio on a DES (delivered ex-ship) basis, with oil indexed pricing.

Australia's Woodside announced on 11 October 2024 the completion of the installation of the Scarborough Energy Project trunkline. The 433 km trunkline will transport gas from the offshore Scarborough field to the onshore Pluto LNG processing facility in Karratha. The installation took around 12 months. The first Scarborough LNG cargo is targeted in 2026. The Scarborough Energy Project is more than two-thirds complete.

Australia's Woodside said on 16 October 2024 that the Sunrise Joint Venture participants continued negotiations with the Australian and Timor-Leste Governments to progress a new Production Sharing Contract, Petroleum Mining Code and fiscal regime during the third quarter of 2024 and that the concept study for the potential development of Greater Sunrise was expected to conclude in Q4 2024.

Australia's Woodside and Singapore's Keppel announced on 21 October 2024 that the companies had signed a conditional Offtake Term Sheet for supply and purchase of liquid hydrogen aimed at powering Keppel's data centres in Singapore from as early as 2030. The Term Sheet follows the signing of a non-binding HOA (Heads of Agreement) in April 2023. The sources of liquid hydrogen would include Woodside's proposed production facilities, including H₂Perth.

Australia's Santos announced on 10 October 2024 that the Darwin LNG joint venture (operated by Santos and in which Santos holds a 43.43% interest) had achieved financial close of new syndicated bank loan facilities totalling USD 800 million. The facilities comprise a USD 350 million 7-year, partially amortising loan maturing in 2031 and a USD 450 million, 12-year partially amortising loan maturing in 2036. Following cessation of LNG production from the Bayu-Undan field in late 2023, Darwin LNG is undertaking 'Life Extension' works

to extend the design life of the plant and to provide gas processing and marine loading services under long-term contract to the Barossa Joint Venture, which will supply feed gas from an offshore gas and light condensate project situated ~300 km north of Darwin.

Wison New Energies (WNE) announced on 18 October 2024 that the company and Papua New Guinea's Kumul Petroleum Holdings Limited (KPHL) signed an FLNG pre-FEED contract. With an expected capacity of 1.5 million tonnes per year, Papua New Guinea's first FLNG is planned to be deployed to Gulf of Papua. The pre-FEED will be completed by June 2025.

[North America]

DOE (U.S. Department of Energy) announced on 3 October 2024 progress achieved by an international working group to advance credible information about greenhouse gas emissions (GHG) across the natural gas supply chain to drive emissions reductions in the global marketplace. The absence of an agreed framework for MMRV (measurement, monitoring, reporting, and verification) limits the ability of buyers to use purchasing decisions to incentivize greenhouse gas emissions reductions. The International MMRV Working Group has reached milestones in its effort to develop and deliver the framework for comparing natural gas supply chain GHG emissions from different suppliers in the global market, starting in 2025.

DOE (U.S. Department of Energy) issued an Order on 17 October 2024 granting long-term authorization to export LNG to FTA (Free Trade Agreement) nations from the Sabine Pass Stage 5 Expansion Project. The volume authorized in the Order is equivalent to 899.46 billion cubic feet per year (18.716704 million tonnes /yr) of natural gas for a 25-year term to commence on the date of first commercial export from the Stage 5 Project. The Stage 5 Project includes two new natural gas liquefaction trains (Trains 7 and 8). The portion of Sabine Pass's Application that seeks authorization to export LNG to FTA countries is approved in this Order. The portion of the Application that seeks authorization to export LNG to non-FTA countries will be addressed in a separate order. Sabine Pass anticipates that exports from the Stage 5 Project "could commence as early as 2030," but "may not commence until the early years of the 2030s" depending on the timing of regulatory approvals and other factors.

FERC (Federal Energy Regulatory Commission) issued a letter on 17 October 2024 to Corpus Christi Liquefaction, LLC granting the company's request of 12 August to commence in service of the terminal supply line associated with the Stage 3 Project.

According to EIA (U.S. Energy Information Administration) "U.S. liquefaction capacity" 3Q 2024 quarterly update, estimated in-service dates of Goldan Pass Liquefaction Trains 1, 2, and 3 have been pushed back to December 2026, June 2027, and December 2027 from previous 1H 2025, 2H 2025 and 1H 2026, and those of Rio Grande LNG Phase 1 Trains

1 - 3 have been modified to 2027, 2028, and 2029 from previous 2027, 2027 and 2028.

FERC (U.S. Federal Energy Regulatory Commission) issued a letter on 24 October 2024 to Golden Pass LNG Terminal, LLC granting the company's request of 28 August for an extension of time to 30 November 2029 to complete construction. The project had also requested to DOE (Department of Energy) that its deadline for first LNG exports be extended to 2027.

Tellurian Inc. announced on 4 October 2024 that its stockholders had approved the Merger Agreement Proposal (with Australia's Woodside Energy).

Australia's Woodside Energy Group Limited announced on 9 October 2024 that it had completed the acquisition of Tellurian Inc. and its Driftwood LNG development opportunity on the Louisiana Gulf Coast. Woodside also announced that it had renamed the Driftwood LNG development opportunity Woodside Louisiana LNG. Woodside Louisiana LNG is an under-construction, pre-FID (pre-final investment decision), LNG production and export terminal in Calcasieu Parish, Louisiana, with a total permitted capacity of 27.6 million tonnes per year. Woodside said the project would enable the company "to better serve global customers and capture further marketing optimisation opportunities across both the Atlantic and Pacific Basins." "Woodside is targeting FID readiness from the first quarter of 2025, with the experienced Tellurian team and engineering, procurement and construction contractor Bechtel having completed substantial work to advance the opportunity to this stage.

Venture Global Calcasieu Pass, LLC submitted on 1 October 2024 its Semi-annual Status Report to the Department of Energy, Office of Fossil Energy and Carbon Management (DOE/FECCM). According to the report, Calcasieu Pass anticipates that it will commence full commercial operations by the end of 2024. Its previous report of 1 April said, "Calcasieu Pass anticipates that it will commence full commercial operations in the fourth quarter of 2024."

According to Italy's Edison on 14 October 2024, Venture Global LNG wrote in a letter of 9 October that sales of LNG cargoes from the Calcasieu Pass plant sales on the spot market would continue until at least April 2025.

Venture Global Plaquemines LNG, LLC submitted on 1 October 2024 its Semi-annual Status Report to the Department of Energy, Office of Fossil Energy and Carbon Management (DOE/FECCM). According to the report, Plaquemines LNG currently anticipates that it will commence operations with the first export of LNG targeted before the end of 2024, the commencement of commercial operations of the initial phase of the Project in mid-2026, and the commencement of commercial operations of the second phase in the mid-2027.

FERC (Federal Energy Regulatory Commission) issued a letter on 16 October 2024 to Venture Global Plaquemines LNG, LLC granting the project's request on 10 October to commission the Liquefaction Train System Block 4 with nitrogen gas.

Sapphire Gas Solutions announced on 28 October 2024 that it had received approval

from DOE (U.S. Department of Energy) to export LNG through 2050. The approval allows Sapphire to export up to 51.75 billion cubic feet (Bcf) (1 million tonnes) per year of LNG to FTA (Free Trade Agreement) and non-FTA countries.

Honeywell announced on 30 September 2024 the completion of its acquisition of Air Products' LNG process technology and equipment business. Honeywell says its full-service solution provides customers a holistic offering that encompasses natural gas pre-treatment, state-of-the-art liquefaction and digital automation technologies unified under the Honeywell Forge and Experion platforms, as well as the addition of Air Products' coil-wound heat exchangers (CWHE) technology.

Sempra Infrastructure, on behalf of ECA Liquefaction, S. de R.L. de C.V., submitted the semi-annual report to DOE (U.S. Department of Energy) on 1 October 2024. According to the report, ECA Liquefaction is targeting the commencement of commercial operations in spring 2026, pushing back from summer 2025 in the previous report. Sempra's 2Q 2024 report on 6 August had included an update of the ECA project, including ECA LNG Phase 1 progress of 85% completion; Steel construction completion and focus on above-ground piping (65% complete); and COD (commercial operations date) expected spring 2026 with the new schedule driven by contractor labour retention and productivity issues.

Sahara Group announced on 25 October 2024 that that it had entered into an HOA (Heads of Agreement) with Mexico's Amigo LNG SA de CV to supply LNG from its liquefaction facility in Guaymas, Sonora, Mexico.

[Middle East]

McDermott announced on 3 October 2024 that the company had been awarded an EPCI (engineering, procurement, construction and installation) contract by QatarEnergy LNG for the North Field South (NFS) Offshore Pipelines and Cables Project. The new contract is in addition to the awards received by McDermott earlier for the NFS Pipelines FEED, the NFS Jackets EPCI, and the NFXP Topsides and Pipelines which included the NFS Topsides. The NFS infrastructure is designed to supply feed gas for two additional LNG trains and is part of the North Field Expansion Project (NFXP). The scope of the contract comprises EPCI of almost 250 kilometers of offshore and onshore gas pipelines connecting five new offshore wellhead platforms with two new onshore LNG trains in addition to subsea composite power and control cables.

QatarEnergy said on 3 October 2024 that the energy ministers of Qatar and Iran held a meeting to discuss "energy relations and cooperation between Qatar and Iran" meaning to enhance them.

Oman LNG L.L.C. said on 9 October 2024 that it had signed a 4-year contract with Kansai Electric Power starting in 2026. The contract secures 0.4 million tonnes per year.

[Africa]

On 7 October 2024, the International Chamber of Commerce informed Kosmos Energy Limited that a final award had been issued in the arbitration proceedings with BP Gas Marketing regarding future LNG sales from the Greater Tortue Ahmeyim project in Mauritania and Senegal. The final, binding award prohibits Kosmos Energy from selling LNG cargos to third party buyers during the contract term of the LNG sales agreement, which the Kosmos Energy has an option to end in 2033.

Chart Industries announced on 4 October 2024 ExxonMobil's - on behalf of Mozambique Rovuma Venture (MRV), operator of the Area 4 concession in northern Mozambique's Rovuma Basin - decision to select Chart Industries' IPSMR® liquefaction technology and proprietary equipment for the Rovuma LNG project.

GTT announced on 21 October 2024 that it had been awarded a service contract with Coral FLNG for Eni's Coral Sul FLNG barge. The FLNG is located off the coast of Mozambique with a production capacity of 3.4 million tonnes of LNG per year and a storage capacity of 238,700 m³ and equipped with the Mark III membrane containment system. GTT will provide technical support services to ensure the efficient operation and maintenance of the LNG storage tanks on board of the Coral Sul FLNG.

According to Bloomberg on 15 October 2024, TotalEnergies SE aims to approve an LNG import terminal in Mozambique that may help users in South Africa in 2025. Gas shipments may flow from the Matola project by the end of 2027, according to Gigajoule, a partner helping develop the facility. The project next to Mozambique's capital of Maputo will have the capacity to bring in 2.5 million tonnes per year of LNG, TotalEnergies said. An FID (final investment decision) should take place by the second quarter of 2025, according to Gigajoule.

[Europe / Surrounding regions]

National Grid operated Grain LNG terminal announced on 9 October 2024 that the methane emissions performance of its operations had been verified by MiQ. Graded a 'B' by MiQ, Grain LNG is the first LNG port in the world to receive MiQ's accreditation and is the first facility outside of North America. The certification will enable buyers of LNG to choose cargoes based upon methane emissions profile thanks to the third-party audited verification of emissions at Grain LNG.

Germany's SEFE (Securing Energy for Europe) announced on 23 October 2024 that the company and ConocoPhillips had entered into a long-term natural gas agreement, under which first gas deliveries had been completed. Over the next ten years, ConocoPhillips will deliver up to 9 bcm of natural gas from its portfolio to SEFE at trading hubs across Europe.

ConocoPhillips has a supply portfolio including Norwegian production and LNG imports.

ConocoPhillips announced on 25 October 2024 the signing of a 10-year natural gas agreement with EDF Trading.

Spain's Nedgia and CycleØ announced on 30 September 2024 commissioning of the first private biomethane connection point on the Spanish gas grid. The grid injection point is supplied by plants producing renewable natural gas in remote locations, which is then transported as CNG to the injection point to create a "virtual" gas pipeline.

Greece's Gastrade announced on 1 October 2024 that the Alexandroupolis LNG Terminal had entered commercial operations. According to the announcement, 14 Greek and international companies are participating commercially in the project, committing almost all of the terminal's capacity until at least 2030.

Bulgaria's Bulgargaz EAD announced on 4 October 2024 that six companies had submitted binding offers in the tender held by Bulgargaz EAD for the supply of LNG at the Alexandroupolis terminal in Greece for November and December 2024. TotalEnergies Gas and Power Limited was ranked first among the participants in the tender, according to Bulgargaz EAD. At the end of August, Bulgargaz announced three tender procedures for the supply of 5 cargoes of LNG within its booked capacity at the Alexandroupolis terminal. The first tender was for the supply in October, the second for November and December and the third tender is for January and February 2025. The first tender procedure closed on 11 September and the agreed quantity of LNG arrived on 3 October 2024 from Norway at the Alexandroupolis terminal.

Russia's Gazprom reported on 17 October 2024 progress of its LNG production projects. In the Ust-Luga region, construction of a Complex for processing ethane-containing gas continues. The Complex includes gas liquefaction facilities. Gazprom has also installed an LNG production facility in the Portovaya compressor station area.

[South America]

KBR announced on 14 October 2024 that it had been awarded an engineering and procurement services contract for the Beachfield Manatee upgrade, the onshore portion of the Manatee gas field project. KBR will provide engineering and procurement services for Shell's Manatee project located in the East Coast Marine Area of Trinidad and Tobago.

MidOcean Energy, an LNG company managed by EIG, announced on 24 October 2024 the completion of its previously announced agreement to acquire an additional 15% interest in Peru LNG from Hunt Oil Company. MidOcean's interest in PLNG now stands at 35%. Hunt will remain the operator of PLNG.

Contact: report@tky.ieej.or.jp