

## LNG Review August 2020 - Recent issues and events -

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### **Introduction**

Asia's assessed spot LNG prices rose to more than a six-month high (around USD 4 per million Btu for October delivery) by the end of August 2020 on concerns over production from some export plants and demand from some buyers in the region.

Japan's monthly LNG import decreased year-on-year by 11.5% in July 2020 to 6.04 million tonnes, the lowest July figure in 10 years. The average price fell to the low of USD 7s for the first time since January 2017. Among the cargoes imported in Japan, nine cargoes each in June and July were priced below USD 5 per million Btu, compared to two such cargoes in May

According to the August 2020 issue of LNG Monthly Report from DOE (Department of Energy, United States), the country exported 25.40 million tonnes and 2.27 million tonnes of LNG, during the first half and the month of June 2020, increasing by 58% and decreasing by 23% year-on-year, respectively. Eight cargoes were exported in June from the Sabine Pass facility which had been the largest exporting site since the country's first LNG export in 2016, while twelve cargoes or 0.78 million tonnes were shipped out from Cameron LNG taking over the top spot for the first time.

Utilisation rates of LNG export facilities in the United States remained low throughout July and August, due to a large number of cargo cancellations. A hurricane in late August caused temporary shutdowns of the nation's largest LNG export facilities in Texas and Louisiana.

### **[Asia Pacific]**

Japan Petroleum Exploration Company (JAPEX) announced in late August 2020 that the No.2 unit of Fukushima Natural Gas Power Plant commenced commercial operation. The No.2 LNG tank of 230,000 kl capacity and additional regasification equipment of the second phase at the Soma LNG terminal also began full-scale operation.

Kawasaki Kisen Kaisha (K-Line) announced in late August that the LNG-fuelled car carrier under construction at Tadotsu Shipyard (Imabari Shipbuilding Group) was launched

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

in late July.

Ecobunker Shipping's first vessel, "Ecobunker Tokyo Bay" had its naming ceremony at Fukuoka Shipbuilding shipyard in early August. The ship is a multi-bunkering vessel capable of both Ship-to-Ship LNG and VLSFO (very low sulphur fuel oil) bunkering.

In early August, NYK Line, Japan Marine United Corporation, and Nippon Kaiji Kyokai (ClassNK) signed a joint R&D agreement for the commercialization of an ammonia-fuelled ammonia gas carrier (AFAGC) that would use ammonia as the main fuel, in addition to an ammonia floating storage and regasification barge (A-FSRB).

Vietnam's Ministry of Industry and Trade (MOIT) official newsletter in July published an article featuring the expected addition of the Mui Ke Ga LNG project (MKG) to the National Power Development Plan. ECV (Energy Capital Vietnam) plans to reach an FID by September 2021.

McDermott International in late August announced that it had been awarded a contract by Delta Offshore Energy (DOE) to provide front-end engineering design (FEED) services for a subsea pipeline that will connect a regasification platform, located 35 km offshore, to the planned 3.2 GW power plant in Bạc Liêu, Vietnam. Stena Power & LNG Solutions announced in early September that it had agreed to a license agreement with DOE to grant utilization of its proprietary Jetty-Less LNG technology for the project.

The Department of Energy (DOE) of the Philippines directed First Gen Corporation to complete additional requirements for its LNG terminal project that had been revised from an onshore facility to a floating storage and regasification unit (FSRU). First Gen has advanced the project's timeline to April from August 2022 after DOE's request.

According to data from China's Customs Statistics, the country imported 5.03 million tonnes of LNG and 2.31 million tonnes of pipeline gas in July 2020, as Japan regained the top spot in LNG import in the month. China was the largest importer of natural gas as a whole with 7.35 million tonnes. According to data from NDRC (National Development and Reform Commission), during the first seven months of the year, China's gas consumption and production were up 3.3% and 9% y-o-y at 180.24 bcm and 109.25 bcm, respectively. Shanghai Petroleum and Natural Gas Exchange (SHPGX) started the trial run of its online platform for international LNG trading in late August.

The Board of Investment of Sri Lanka announced in late August that it had signed an agreement with Pearl Energy (Pvt) Ltd., to launch 'Hambantota LNG Hub' - a floating storage LNG trading facility at the Port of Hambantota, with a primary aim of trading LNG in the region. Pearl Energy will utilise a floating storage unit (FSU) with an initial capacity of 1 million tonnes per year within 6 months, BOI said. The company will deploy small LNG Carriers to re distribute LNG to South India & the Maldives.

The ACCC's (Australian Competition and Consumer Commission) Gas Inquiry 2017-2025 Interim Report revealed that Australia's east coast gas users were paying prices above export parity prices. The ACCC recommended the extension of the existing Commonwealth Government's Heads of Agreement with LNG producers, due to expire at the end of 2020.

Chevron Australia in early September advised additional time would be taken to complete repairs of propane heat exchangers on LNG Train 2 at the Gorgon plant. Chevron expects the repairs to the heat exchangers, where weld quality issues were discovered during scheduled maintenance in July, to be complete and to restart production at the train in October. Earlier, Western Australia's Department of Mines, Industry Regulation and Safety had approved a plan to shut the other two trains in stages for equipment inspections.

Woodside announced in August that the North West Shelf (NWS) project had agreed non-binding key principles for processing third-party gas through the NWS facilities with Woodside, in respect of gas from the Pluto fields, and with Mitsui E&P and Beach Energy, in respect of the onshore Waitsia Gas Project Stage 2. Gas produced from the Pluto fields is planned to be transported to the NWS facilities through the Pluto-KGP Interconnector, which is targeting ready for start-up (RFSU) in 2022. The agreement with Mitsui E&P and Beach contemplates the tolling of gas from the onshore Waitsia Stage 2 from 2023.

During the half-year 2020 results reporting, Woodside confirmed deferral of the targeted FIDs for Scarborough and Pluto Train 2 from 2020 to H2 2021, as well as the one for Browse to 2023 or later. Woodside added that the company and BHP had agreed to extend the validity of the tolling price for processing gas from the Scarborough offshore field at Pluto LNG, originally agreed in November 2019, until the end of 2020.

INPEX announced that it had recognized impairment losses of JPY 192.4 billion, including JPY 130.8 billion on the Prelude FLNG project for the second quarter of 2020.

Santos reported net loss after tax of USD 289 million for the first half of 2020 including the previously announced non-cash impairment due to revised oil price assumptions. While an FID on the Barossa project was deferred, since assuming operatorship the company said that it had progressed value improvement work.

Shell Australia announced that it would acquire 100% of Select Carbon, a specialist company that was engaged in carbon farming projects throughout Australia. Shell said that the acquisition was the globally first for its Nature-Based Solutions business.

PT. Nusatama Properta Panbil has invited submission of proposal from interested firms to execute a feasibility study on development of an LNG bunkering and breakbulk terminal on Asam Island in the Malacca Strait, located in Karimun District, Kepulauan Riau.

## **[North America]**

Cheniere Energy recognized USD 761 million in revenues associated with LNG cargoes for which customers had notified the company that they would not take delivery, during the first six months of 2020. Corpus Christi Train 3 and Sabine Pass Train 6 are expected to be substantially completed in 1H 2021 and 2H 2022, respectively, which is earlier than the previous estimate.

Sempra LNG announced in early August that the first phase development three trains of Cameron LNG export facility in Hackberry, Louisiana, had begun full commercial operations. Its partners are developing the Phase 2, previously authorized by FERC (Federal Energy Regulatory Commission). According to Sempra's 10-Q report, when the Port Arthur EPC contract was executed in February 2020, the price was estimated to be approximately USD 8.9 billion, which if not issued by 15 October 2020 would require renegotiation of the EPC contract.

The Elba Liquefaction Company announced in late August the commercial in-service of Unit 7, the last of 10 Movable Modular Liquefaction units of the project. The Elba Island Liquefaction facility has a total capacity of approximately 2.5 million tonnes per year.

According to the company's presentation, Tellurian has achieved cost reductions of 30% in its phase 1 planning for the Driftwood LNG project, down to ~USD 1,000/tonne including upstream, pipeline and liquefaction, enabling <USD 3.50/million Btu projected LNG FOB U.S. Gulf Coast.

FERC approved in the middle of August Rio Grande LNG design change proposals. The previous design included six trains each capable of producing 4.5 million tonnes per year. NextDecade announced in July it would be possible to produce the same volumes with five trains in an optimization move that includes slashing emissions.

Eagle LNG Partners celebrated the 100th bunkering event of LNG from its Talleyrand LNG Bunker Station in Jacksonville, with Crowley Maritime. Eagle LNG Talleyrand has delivered almost 50,000 tonnes over the 100 bunkering activities. The facility is the first of its kind in North America to provide shoreside storage and bunkering equipment. Eagle LNG's Maxville LNG Facility delivers LNG by truck to Talleyrand. Eagle LNG is also supplying LNG to ISO tank containers into the Caribbean for power and industrial users. Eagle LNG is also moving forward on a new larger, on-water liquefaction plant and terminal in Jacksonville, the Jacksonville LNG Export Facility, capable of producing 1 million tonnes per year with 45,000 m<sup>3</sup> or almost 12 million gallons of storage.

Castleton Resources announced that it had entered into an agreement to acquire the Terryville upstream assets in Northern Louisiana from Range Resources. Castleton Resources will own over 315,000 net acres of leasehold in East Texas and Northern Louisiana

with total daily net production of nearly 500 million cfe (cubic feet equivalent)/d.

Williams announced in late August its climate commitment, setting a goal of 56% absolute reduction from 2005 levels in company-wide greenhouse gas (GHG) emissions by 2030. To reach the target, the company is pursuing methane emissions reduction opportunities through leak detection and repair, work practice improvements, and evaluating equipment upgrades on a site-specific basis. Other efforts will focus on exploring renewable energy opportunities, including renewable natural gas (RNG) and solar energy.

In California, a heatwave triggered emergency declarations in the middle of August from the state ISO involving the first rolling blackouts since 2001, prompting California to rely on gas-fired power for backup. Regulators (California Water Resources Control Board) at the beginning of September extended the life of four coastal gas-fired power plants previously scheduled to retire in the year.

In late August, DOE (Department of Energy, United States) issued an order authorizing Alaska LNG to export LNG to any country with which the United States has not entered into a free trade agreement (FTA). The announcement follows FERC approval of the siting, construction and operation of the liquefaction terminal and a related pipeline. The export plant is planned in the Nikiski area of the Kenai Peninsula. The DOE approval authorizes LNG exports of up to 2.55 Bcf/d (19.37 million tonnes per year).

Canada's Pieridae Energy said during its Q2 2020 results reporting that the company had reached a resolution with KBR following KBR's announcement that it was no longer prepared to conclude a lump sum turnkey engineering, procurement, construction and commissioning (EPCC) contract for Pieridae's Goldboro LNG Facility. Pieridae acquires the right to transition all of KBR's work product created to date to a replacement EPCC contractor. Pieridae also said that progress was made for Shell and Pieridae to re-apply to the Alberta regulator for the license transfers of its Southern Alberta Foothills assets to Pieridae.

Sempra Energy said in its second quarter 2020 report that it continued working closely with the Mexican government on obtaining a 20-year export permit for Phase 1 of the proposed Energía Costa Azul (ECA) LNG export project in Baja California, Mexico. Phase 1 is planned to be a single-train LNG export facility with an initial offtake capacity of approximately 2.5 million tonnes per year. In April, ECA LNG executed 20-year LNG sale and purchase agreements with Mitsui & Co. and TOTAL for approximately 0.8 million tonnes per year of LNG and 1.7 million tonnes per year of LNG, respectively.

### **[Middle East]**

Air Products announced that it had been selected to provide its proprietary AP-X® Natural Gas Liquefaction Process technology and equipment to Qatargas for the first phase

of the expansion project (North Field East = NFE).

### **[Africa]**

Keppel Offshore & Marine (Keppel O&M) said in late August 2020 that its conversion of an LNG Carrier (LNGC) into a Floating Liquefaction Vessel (FLNG) using a design and execution model jointly engineered by Keppel O&M and Golar LNG Limited (Golar), is estimated to save approximately 33% of greenhouse gas (GHG) emissions compared to an FLNG new build, according to a study conducted by environmental consultants, Environmental Resources Management (ERM). Keppel O&M is undertaking its second FLNG conversion, Gimi, for Golar which is being repurposed for the 20-year BP Greater Tortue Ahmeyim contract offshore West Africa.

Total announced in late August that it had signed a new Memorandum of Understanding (MoU) with the Government of Mozambique regarding the security of Mozambique LNG project activities.

### **[Europe / Russia]**

bp unveiled in early August a new strategy aimed at transforming the company within a decade to put the company on track towards climate neutrality. Upstream gas projects must be able to demonstrate a payback within 15 years to compete for capital investment. bp will increase its LNG portfolio to 25 mtpa (million tonnes per year) by 2025 and to at least 30 mtpa by 2030, compared to 14.9 mtpa today.

Veolia announced at the end of August 2020 that it had made a firm offer to Engie for the acquisition of 29.9% of the Suez shares.

China's Hudong-Zhonghua Shipbuilding held a keel laying ceremony in the middle of August for the second LNG bunkering vessel owned by MOL (Mitsui O.S.K. Lines) and chartered by Total. The vessel has 18,600 m<sup>3</sup> storage capacity and is 135 meters long, the same as the first ship. The first one Gas Agilty departed the yard in May and reached Rotterdam in late August. Both of the ships feature GTT's Mark III Flex membrane containment system and Wärtsilä's dual-fuel engine. When delivered in the second half of 2021, the second ship will be stationed in the Marseille-Fos area in France.

LNG Terminal Wilhelmshaven GmbH (LTew), a subsidiary of Uniper, invites market participants to express their binding interest in throughput capacities in the project. This call follows the non-binding phase of the open season process in May 2019. The FSRU (Floating Storage and Regasification Unit) project is expected to have nominal send-out capacity of 9.78 bcm per year.

Wipro Limited, an information technology company, in late August announced a

blockchain-based small-scale LNG (ssLNG) trading platform for Uniper Global Commodities and its 100% LNG-for-trucks subsidiary Liqvis GmbH.

Gasum said in late August that it had bunkered United European Car Carriers' vessel *M/V Auto Energy* with LNG. The bunkering took place in Malmö at the Copenhagen Malmö Port (CMP) via a ship-to-ship operation from *Coralius*. The car carrier *Auto Energy* mainly operates between Zeebrugge and the St. Petersburg area. This is the first time CMP has hosted ship-to-ship LNG bunkering in Malmö.

The Greece's Gastrade announced in late August the signing of the agreement for the acquisition of 20% of its share capital by the Bulgaria's BULGARTRANS-GAZ EAD (BTG). Gastrade is developing an LNG floating storage and regasification unit (FSRU) offshore Alexandroupolis. The terminal is expected to be operational in early 2023.

Gazprom issued its interim financial information for the first six months of 2020. Net sales of gas to Europe and other countries decreased by RUB 677,312 million, or 47%, to RUB 756,279 million compared to the same period in 2019. The change was mainly due to the decrease in average prices of 38% in the Russian Ruble and of 42% in US Dollar and the decrease in volumes of gas sold by 17%, or 19.7 bcm (from 117.9 to 98.2).

Russia's state development bank VEB.RF (ВЭБ.РФ) said in late August that it would provide RusKhimAlyans, a joint venture between Gazprom and RusGazDobycha, with a RUB 55 billion (USD 741 million) loan for a gas processing and liquefaction project near Ust-Luga, in the Leningrad region. RusKhimAlyans plans to use the funds to prepare the project's documentation, for advance payments and some other costs, the bank said. The gas processing plant will have a capacity of 45 bcm per year and the liquefaction plant is planned at 13 million tonnes per year. First LNG is expected in the fourth quarter of 2023 and the second train should be online a year later. VEB is also providing up to RUB 111 billion loan for the gas chemical complex, planned to have capacity to produce 3 million tonnes per year of polyethylene.

Russia's NOVATEK announced in late August that in Magnitogorsk a ceremony had been held to launch the first small-scale LNG plant in the Chelyabinsk region with a design capacity of 40,000 tonnes per year. The main technological equipment was supplied by JSC NPO GELIYMASH. The LNG produced will be sold primarily as motor fuel. NOVATEK will construct a floating LNG-fired power plant for supply to the Baimsky Concentration Mill in Chukotka, one of the largest Russian copper and gold deposits, according to an energy official.

### **[South America]**

Prumo, a private Brazilian company controlled by EIG Global Energy Partners, announced in early August 2020 that Prumo, bp and Siemens signed a binding agreement

with SPIC Brasil. SPIC will initially acquire 33% of the GNA I and GNA II LNG-to-power projects, located in Port of Açu, Rio de Janeiro. SPIC has also entered into an agreement to participate in the future expansion projects GNA III and GNA IV, which are expected to be fueled by a combination of LNG and domestic gas from Brazil's vast pre-salt reserves. GNA I and GNA II is the largest gas-to-power project in Latin America, with 3 GW of installed capacity. The complex also includes an LNG terminal with a total capacity of 21 million m<sup>3</sup>/day. GNA I, which has an installed capacity of 1.3 GW, is expected to commence operations in the first half of 2021.

Global Energy Ventures (GEV) said in early August that it had signed a Joint Development Agreement (JDA) with Porto Norte Fluminense S.A (PNF) and GEV's Brazil country associate, GAIA, to evaluate and promote the development of a CNG to Power project, including CNG import facilities, in Brazil. PNF is the owner and developer of an offshore port and gas hub in the north of Rio de Janeiro state, within 250 nautical miles from multiple gas supply targets in the Santos and Campos Basins of the Pre-salt.

Wärtsilä announced in late August that it would convert the Manauara power plant in Manaus, Brazil, to 100% natural gas operation, while at the same time increasing its output from 85 MW to 92 MW, based on a contract with Companhia Energética Manauara signed in July 2020.

Reference: Company announcements, Reuters, Cedigaz News Report.

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