

## LNG Review July 2019 - Recent issues and events -

Hiroshi Hashimoto, Yosuke Kunimatsu and Gen Hosokawa \*

### **Introduction**

The global LNG export capacity continues expanding. The fifth LNG export project in the mainland of the United States, Freeport LNG in Texas, was authorised to export the volumes of produced LNG during its commissioning activities at the beginning of August 2019.

Looking back the first half of the year, the LNG importing countries in the world received 170 million tonnes of LNG, according to preliminary statistics. Among the four major importers in the Northeast Asia, only China increased its LNG import year-on-year by 19.4%, or 4.64 million tonnes, compared to about 40% yearly increases in both calendar years 2017 and 2018. Japan's LNG import decreased by 8.2% during the first half of 2019, while Korea's decreased by 12.4%.

On the other hand, Europe imported significantly more LNG during the first half of 2019 than it did one year earlier. The region, not only the European Union countries (still including the United Kingdom) but also including Turkey, in fact imported nearly 42 million tonnes, more than Japan or China during the same period.

Australia exported 37 million tonnes of LNG, or 17.5% more than one year earlier, during the first half of 2019, after it shipped out 70 million tonnes in the twelve months of 2018, or 22% more than it did in 2017. The United States exported 13.15 million tonnes of LNG during the first five months of 2019, or 51% more than it did one year earlier, after exporting 22.52 million tonnes in 2018, or 53% more than it did in 2017.

### **[Asia Pacific]**

According to customs statistics of the respective authorities, during the first half of 2019, Japan's import decreased by 8.2% to 38.59 million tonnes with the average unit price of USD 10.34, Korea's decreased by 12.4% to 19.97 million tonnes, and Chinese Taipei's decreased by 6.9% to 8.03 million tonnes.

S&P Global Platts and Intercontinental Exchange (ICE) extend their technology

---

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

partnership to bring the Platts Editorial Window (eWindow)<sup>®</sup> communication tool to the LNG trading community.

The total number of LNG vessels that has been received at Chita LNG terminal reached 4,000 with the arrival of the *Senshu Maru* carrying LNG from Indonesia.

SGX (Singapore Exchange) said that the publication of the Sling indices will be discontinued.

Titan LNG completed the largest LNG bunkering in the world. HEEREMA's new LNG fuelled crane ship 'Sleipnir' that was just completed in Singapore, was supplied with over 3000 tonnes of LNG.

JXTG Nippon Oil & Energy signed a memorandum of understanding (MOU) with Vietnam National Petroleum Group (Petrolimex) to develop an LNG business in Vietnam. Korea Gas Corporation (KOGAS) and Energy Capital Vietnam (ECV) entered into a Memorandum of Understanding (MOU) that provides the framework for the development of a privately-funded LNG regasification terminal, storage, gas supply system and 3,200 MW gas-fired power project near Mui Ke Ga, Binh Thuan Province, Vietnam.

Eni announced that its exploration well, located in block 114, Song Hong Basin, offshore Vietnam, has proven the presence of gas and condensate in the Ken Bau prospect.

Tanglawan Philippine LNG, backed by Phoenix Petroleum Philippines and China National Offshore Oil Corporation (CNOOC), will reschedule the ground-breaking for its LNG receiving terminal project close to the end of 2019.

According to China's customs statistics, China imported 46.916 million tonnes of natural gas, an 11.6% year-on-year increase during the first six months of the year, including 28.50 million tonnes of LNG, an increase by 19.4% from one year earlier.

Tokyo Gas Engineering Solutions (TGES) was awarded by CPC to conduct the front-end engineering design (FEED) for an expansion project of its LNG receiving terminal at Yung An. TGES will carry out the FEED in 2019.

According to data from India's Petroleum and Natural Gas Ministry (PPAC) data, the country's LNG import in the first half of 2019 decreased by 1.5% from one year earlier and represented 52% of the total available natural gas supply in the market, almost the same as one year earlier.

Pakistan granted a 10-year licence to Trafigura for import of natural gas/re-gasified RLNG and its sale in the country, the first licence for a private company to import LNG.

Woodside signed a gas sale and purchase agreement with Worsley Alumina Joint Venture for the supply of approximately 40 PJ (0.735 million tonnes) per year of pipeline gas. The gas will be supplied from Woodside's portfolio of domestic gas facilities, including North West Shelf, Pluto and Wheatstone. Chevron also signed a gas sale agreement with Worsley

Alumina for approximately 60 PJ (1.10 million tonnes) per year from Chevron's portfolio including Wheatstone, Gorgon and NWS facilities. Worsley Alumina is held by South32 (86%), Japan Alumina Associates (10%) and Sojitz (4%)

Boskalis was awarded the contract for the seabed intervention and shore crossing activities for Woodside's proposed Scarborough gas pipeline in Australia. The contract is subject to a final investment decision (FID) expected in 2020. The awarded works are scheduled to start in March 2021 with an expected completion the middle of 2022.

INPEX was awarded an exploration permit for Release Area AC/P66 as Operator in Australia's 2018 Offshore Petroleum Exploration Acreage Release. The Block is located in the Bonaparte Basin of the North West Shelf of Australia.

Beach Energy executed agreements with AWE (Beharra Springs), a related body corporate of Mitsui E&P Australia (MEPAU), to move to 50:50 ownership of production licences L11 and L22 (Beharra Springs), exploration permit EP 320 and pipeline licence PL 18 in the Perth Basin. The previous ownership structure for these permits was Beach 67% and MEPAU 33%. Beach will retain operatorship of the permits. Following completion of the transaction, MEPAU and Beach will each hold a 50% interest across all joint Perth Basin interests. MEPAU remains operator of licences L1 and L2, containing the Waitsia gas field.

Santos received approval for the first Environmental Management Plan (EMP) to be awarded for onshore shale gas exploration in the Northern Territory since the moratorium was lifted in early 2018. NT Environment and Natural Resources Ministry approved Santos' Drilling EMP for the Tanumbirini 2H and Inacumba 1/1H wells in Exploration Permit 161 in the McArthur Basin, east of Daly Waters. Santos is operator of, and has a 75% interest in, the permit.

INPEX received the official approval of Indonesian government authorities concerning the revised Plan of Development (POD) for the Abadi LNG Project. The authorities also approved the application for a seven-year additional time allocation and a 20-year extension to the Production Sharing Contract (PSC) for the Masela Block, extending the term of the PSC until 2055.

According to BP, Tangguh Train 3 has been delayed in the company's planning from the fourth quarter of 2020 to the third quarter of 2021. The offshore scope is nearing completion ahead of plan. Onshore has been impacted by a number of things including some very unpredictable environmental factors in the area. The 2018 tsunami events in Sulawesi and the Sunda Strait disrupted some of the local supply chains. One of the contractors is having some financial difficulties.

Papua New Guinea's petroleum minister said he has completed his review of the Papua LNG agreement with Total.

Timor-Leste and Australia are coming closer to ratify the maritime boundary treaty between them.

### **[North America]**

FERC (Federal Energy Regulatory Commission, United States) is creating a new division in its Office of Energy Projects "to accommodate the growing number and complexity of applications to site, build and operate liquefied natural gas export terminals." The new Division of LNG Facility Review & Inspection (DLNG) will consist of 20 existing LNG staff members in Washington, D.C., and eight additional full-time staffers recruited in the Houston area and based in a new Houston Regional Office.

McDermott International and Chiyoda agreed with Cameron LNG the opportunity for incentive bonus payments for achieving construction and commissioning milestones on specified dates for Trains 2 and 3. Cameron LNG expects initial production from Trains 2 and 3 in the first quarter of 2020 and the second quarter of 2020, respectively.

Cameron LNG has filed a letter with FERC requesting authorization to place Train 1 and related facilities in-service. FERC approved the request.

McDermott along with Chiyoda and Zachry, announced that Train 1 of the Freeport LNG Liquefaction project on Quintana Island in Freeport, Texas, has reached the final commissioning stage, including introduction of feed gas into Train 1. FERC authorized Freeport LNG to export the volumes of LNG related to commissioning activities. KBR said that during the second quarter of 2019 the company was selected as preferred bidder for the engineering, procurement, construction and commissioning contract for Train 4 at Freeport LNG's export facility.

Kinder Morgan said that Elba Liquefaction Company (ELC) is in advanced stages of the commissioning and start up process on the first of ten liquefaction units of the project.

Subsidiaries of Total entered into definitive agreements with Tellurian, agreeing to invest USD 500 million in Driftwood Holdings and purchase 1 million tonnes per year from Driftwood LNG. The parties also signed a sale and purchase agreement (SPA) for 1.5 million tonnes per year of LNG from Tellurian's offtake volumes from Driftwood LNG free on board (FOB) at a price based on the Platts JKM.

FERC issued an order authorizing Gulf LNG Liquefaction Company, LLC and Gulf LNG Energy, LLC to site, construct, and operate new facilities for the export of LNG at Gulf Energy's existing LNG import terminal in Jackson County, Mississippi, near the city of Pascagoula. The project will enable liquefaction and export of up to 10.85 million tonnes per year of LNG. The Department of Energy's (DOE) Office of Fossil Energy issued an order to Gulf LNG approving exports of up to 1.53 billion cubic feet per day (Bcf/d) of natural gas as

LNG (11.62 million tonnes per year) from the proposed Gulf LNG Liquefaction Project to countries with which the United States does not have a free trade agreement (FTA).

Venture Global LNG announced that it has received over USD 10 billion in binding commitments for construction financing of its proposed USD 5.8 billion Calcasieu Pass LNG plant in Cameron Parish, Louisiana.

The Board of Directors of Australia's Liquefied Natural Gas Limited (LNGL) announced its decision to re-domicile the company to the United States of America.

FERC has issued a letter granting Delfin LNG LLC's (Delfin LNG) request for one-year extension of time, to complete construction of the authorized onshore facilities required to service its proposed offshore LNG terminal and make them available for service by 28 September 2020. Delfin LNG had requested a 3.5 year extension.

The Oregon Department of Justice submitted 500+ page comments on behalf of multiple State agencies regarding FERC's Draft Environmental Impact Statement (EIS) on the Jordan Cove project.

Osaka Gas entered into a definitive agreement with Sabine Oil & Gas Holdings to acquire 100% of the outstanding shares of its subsidiary, Sabine Oil & Gas Corporation (Sabine). Sabine holds acreage in East Texas which is producing shale gas in the amount of 210 million cfd (1.59 million tonnes per year) with a significant drilling inventory in the Haynesville and Cotton Valley formations.

The National Energy Board (NEB) determined that the Coastal GasLink Pipeline Project does not fall within its jurisdiction. The NEB found that the project is properly regulated by the province of British Columbia Oil and Gas Commission. The Project, currently under construction, is a 48-inch diameter pipeline 670 km long, which will transport natural gas from the Groundbirch area of British Columbia to LNG Canada's export plant currently under construction near Kitimat.

The Woodfibre LNG project received a facility permit from the BC Oil and Gas Commission. The project is located near Squamish, north of Vancouver.

In a letter of 8 July 2019 to the provincial environmental assessment office, the Kitimat LNG project is proposing to become an "all-electric plant" powered by hydroelectricity. The project expects to make a final investment decision in 2022 to 2023 with production starting by 2029.

FortisBC entered into its first term supply agreement to produce LNG for Top Speed Energy to export to China. This term supply agreement is made possible by the completion of the Tilbury LNG expansion project in Delta, British Columbia, earlier in 2019. 53,000 tonnes of LNG a year or about 60 ISO containers a week will be shipped from Tilbury to China by the summer of 2021.

Pieridae Energy negotiated extensions of the key deadlines under its 20-year agreement with Uniper. These include expected commercial deliveries of gas to Uniper to start between November 2024 and May 2025; and the extension to September 2020 of the deadline to make a positive financial investment decision (FID) for the Goldboro LNG facility. The 20-year agreement with Uniper is for half the LNG produced at Goldboro or 5 million tonnes per year.

Mexico's state power utility CFE is considering an FRSU instalment in the Yucatan Peninsula in the short to medium term, CF Energía said, as the plan to supply the Peninsula via gas swaps between Pemex and CF Energía was scrapped.

### **[Middle East]**

Pertamina and Abu Dhabi National Oil Company (ADNOC) signed an agreement for oil and gas collaboration in both countries and globally.

Qatargas delivered the 3,000th LNG cargo to Japan since the first Qatari shipment was delivered to Kawagoe LNG Receiving Terminal on 10 January 1997. The 3000th cargo was transported onboard 'Al Jasra', delivered to JERA's Kawagoe Terminal.

McDermott was awarded a contract by Qatar Petroleum (QP) to carry out front-end engineering and design (FEED) work for offshore wellhead platforms, pipelines and cables associated with the North Field Expansion (NFE) project. The scope includes the design of four offshore trunk lines with intra-field pipelines, eight wellhead platforms and power and fiber optic (PFO) subsea cable rings.

JGC and McDermott, separately, announced each a contract with Total and Oman Oil Company to provide front-end engineering design (FEED) services for the Sohar LNG Bunkering Project in Oman.

BP and Eni signed an exploration and production sharing agreement (EPSA) for Block 77 in central Oman with the Ministry of Oil and Gas of the Sultanate of Oman. BP and Eni will each hold a 50% interest in the EPSA, with Eni acting as operator during the exploration phase. Block 77 is located 30 kilometres east of the BP-operated Block 61, which contains the already-producing Khazzan gas project as well as the Ghazeer project, currently under development.

Delek Drilling said that the partners - include Delek and Noble Energy - in the Leviathan field off Israel's Mediterranean coast are considering building a floating liquefied natural gas (FLNG) facility. The partners signed agreements with Golar LNG and Exmar to receive engineering plans.

Commercial flow to Egypt through the EMG Pipeline (Eastern Mediterranean Gas Company) is expected upon commencement of commercial gas production from the

Leviathan reservoir by the end of 2019.

### **[Africa]**

Egypt and Israel are considering construction of a liquefaction facility on the shores of the Red Sea in Sinai, sources inform "Globes." The idea is to construct the facility on the Egyptian side of the border.

Total, the Republic of Benin and the Société Béninoise d'Energie Electrique (SBEE) signed the Gas Supply Agreement and the Host Government Agreement for the development of an LNG import floating terminal and the supply of up to 0.5 million tonnes per year of regasified LNG from Total's global portfolio to Benin for 15 years, starting in 2021. Total will develop and operate the regasification infrastructure that will comprise a floating storage and re-gasification unit (FSRU) located offshore Benin and an offshore pipeline connexion to the existing and planned power plants in Maria Gléta.

The agreement is subject to customary regulatory approvals by the government of Kenya. Following such approval, the partners comprising the consortium will consist of Eni (the operator) with a 41.25% participating interest, Total with a 33.75% participating interest, and Qatar Petroleum (QP) with a 25% participating interest.

Transnet entered into a cost-sharing agreement with IFC, a member of the World Bank Group, to conclude a feasibility study for the development of an LNG terminal at the Port of Richards Bay and the re-purposing of Transnet pipelines for natural gas transmission to inland markets. The facilities are expected to be operational by 2024.

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

Ancala Partners, an independent infrastructure investment manager, acquired a 50% interest in the Dragon LNG regasification terminal located at Milford Haven, Wales from PETRONAS. PETRONAS will continue to be a customer of Dragon LNG.

InfraStrata entered into an Exclusivity Agreement with Meridian Holdings to facilitate the development and an acquisition of the latter's Floating Storage Regasification and Reloading Unit (FSRU) Project in the United Kingdom.

Centrica is selling its 69% share in Spirit Energy.

The Dutch government must explain why gas extraction from the Groningen field cannot be phased out quicker, the Council of State said.

Belgian regulator CREG approved the tariff and LNG Services Agreement proposals for unloading slots and additional storage services at the Zeebrugge LNG terminal. The approval clears the way for Fluxys LNG to finalise new long-term contracts for the facility up to 2044. The subscription window in 2019 revealed binding interest from the market for the

entire unloading capacity at the facility up to 2044.

Between January and May 2019, 37 tankers docked at the Dunkerque LNG terminal, compared with the 17 unloading and reloading operations of 2018. Dunkirk offers access to both the French and Belgian markets and it offers a competitive and environmental advantage thanks to the use of warm water from the Gravelines nuclear power plant to reheat LNG, the terminal operator said.

The Natural Gas Public Company of Cyprus (DEFA) selected three international consortia in the first stage of a tender to provide a floating storage and regasification unit (FSRU) to import LNG. The first joint venture is led by China Petroleum Pipeline Engineering. The second comprises Samsung C&T, Posco E&C, Mitsui OSK Lines (MOL) and Osaka Gas. The third consortium includes Gaslog, Enagás and SNAM. DEFA aims to have the FSRU in place by 2021.

Turkey's first FSRU, which entered service in 2016 and is run by Etki Liman İşletmeleri, will be replaced by the new larger-capacity FSRU in the Aliğa district of İzmir. The new FSRU, built by Hyundai Heavy Industries (HHI), left Korea on 11 June 2019.

The construction of the Trans-Anatolian gas pipeline (TANAP), part of the Southern Gas Corridor, has been completed, ready for transportation of Azerbaijani gas to Europe from July 2019, Azerbaijan's SOCAR said.

Gazprom said it produced 258.7 bcm of gas in the first six months of 2019, the largest amount produced in the January-June periods of the past eight years (since 2011) and a 2.3% increase (+5.7 bcm) from one year earlier. Gazprom's gas deliveries to Europe amounted to 95.3 bcm, down by 5.9% compared to the first six months of 2018.

Gazprom signed a five-year contract to purchase natural gas from Turkmen gas (for the period through June 2024) for 5.5 bcm per year.

Yamal LNG produced 9 million tonnes of LNG and 0.6 million tonnes of gas condensate in the first half 2019. 126 LNG tanker shipments were dispatched during the period. Most of the LNG was transhipped from the ice-class LNG carriers to conventional vessels in Norway and delivered to the markets.

NOVATEK announced that the Arc7 ice-class LNG tanker "Vladimir Rusanov" completed the Northern Sea Route (NSR) passage and delivered a cargo of LNG produced by the Yamal LNG project from the port of Sabetta to Tianjin in China. The net voyage time from Sabetta to the destination port was completed in a record 16 days, which is less than half the time required to transport a cargo of LNG along the traditional westbound route via the Suez Canal and Strait of Malacca, it said.

NOVATEK and Atomenergomash, a division of Rosatom, signed a Memorandum on/Strategic Partnership and Localizing the Fabrication of Critical Equipment for LNG

## Production.

Russia's Prime Minister approved plans to build NOVATEK's marine LNG trans-shipment complex in the Murmansk Region. Gas will be delivered to the terminal by ice-class tankers then it will be trans-shipped onto regular gas carriers.

NOVATEK announced the closing of the sale of participation interests in Arctic LNG 2 Project to subsidiaries of CNPC and CNOOC, and the consortium of Mitsui & Co and Japan Oil, Gas and Metals National Corporation (Japan Arctic LNG). Mitsubishi Corporation has decided not to invest in Russia's Arctic LNG 2 project.

TechnipFMC was awarded an Engineering, Procurement and Construction (EPC) contract by Novatek and its partners for the Arctic LNG 2 project. TechnipFMC will execute this project under a lump sum and reimbursable basis. Saipem reached an agreement with Technip and NIPIGaspererabotka to participate in the Joint Venture for the realization of the Arctic LNG2 project. Saipem is currently designing and building the GBS (Concrete Gravity Based Structures) in the framework of the contract already announced on 19 December 2018.

The Russian government handed Russian citizenship to NOVATEK's finance chief, a move that could potentially help him bypass some sanctions restrictions.

According to КОММЕРСАНТЪ, Russian Prime Minister reportedly signed a resolution allocating RUB 103.6 billion (USD 1.6 billion) in state support for the construction of the Utrenny port on the Gydan Peninsula.

## **[South America]**

Qatar Petroleum (QP) entered into an agreement with Total for a share of exploration and production rights in two blocks offshore Guyana. QP will hold 40% of Total's existing 25% participating interest in the Orinduik block. The other partners are Tullow Oil (the Operator) with a 60% participating interest and EcoAtlantic with a 15% interest. QP will hold 40% of Total's existing 25% participating interest in the neighboring Kanuku block. The other partners in the block are Repsol (the Operator) with a 37.5% participating interest and Tullow Oil with a 37.5% interest.

McDermott International was awarded a contract by Argentina's YPF to provide pre-front-end engineering design (Pre-FEED) services for a 5 million tonnes per year LNG liquefaction facility, with a potential expansion to 10 MTPA, at the Vaca Muerta Shale field in Argentina.

## **[Global issues]**

The International Energy Agency (IEA) launched a new online tool that tracks oil and gas-related sources of methane. The new "methane tracker" offers the most comprehensive

global picture of methane emissions, covering eight industry areas across more than seventy countries. IEA analysis has highlighted that global methane emissions from the oil and gas sectors could be reduced by nearly half at no net cost.

Reference: Company announcements, Reuters, Bloomberg, Manila Bulletin, The News International Pakistan, Globe and Mail, El Financiero, DAILY SABAH, AZERNEWS, TASS, Коммерсантъ, Cedigaz News Report.

Contact: [report@tky.ieej.or.jp](mailto:report@tky.ieej.or.jp)