

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

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### **Introduction**

Japan imported 21.36 million tonnes of LNG during the first three months of 2020, decreasing by 3.7% or 0.83 million tonnes year-on-year, in a stark contrast with Korea's 20% or 2.09-million-tonne increase in the same period. Japan's import of 7.21 million tonnes in March represented six-straight-month year-on-year decreases, maintaining levels of smaller LNG import than those in 2012 (immediately after the great earthquake in 2011). Japan's annual import in the fiscal year 2019 (from April 2019 to March 2020) amounted to 76.50 million tonnes, a 5% decline from the previous fiscal year.

The four major markets in Northeast Asia, as a region, imported 53.39 million tonnes in the first quarter of 2020, representing a 3.4% or 1.76 million-tonne increase from one year earlier, mostly driven by the above-mentioned Korea's larger import. However, Korea's latest quarterly figure was almost same as the one in the first quarter of 2018, as the figure in the first quarter of 2019 declined by 20% year-on-year. China's growth of LNG import during the latest quarter was only 2.2%, or 0.33 million tonnes year-on-year, considerably smaller than the high levels in the past couple of years. Therefore, the first quarter of 2020 figure of the Northeast Asia region was in fact 1% smaller than that of the first quarter of 2018, even the latest one was larger than that of one year ago.

According to the annual report of GIIGNL (International Group of LNG Importers) released in early April, while the world traded 355 million tonnes of LNG in 2019, an increase by 13% year-on-year, 120 million tonnes or 34% of the total was traded under contracts for four years or less (compared to 32% in 2018) and 95 million tonnes or 27% of the total was traded under deals where volumes were delivered within three months after transactions were agreed (compared to 25% in 2018). The GIIGNL figures indicate robust growth in the respective categories, although the developments were those before the Coronavirus outbreak and the collapse of oil prices.

As LNG deliveries into Europe increased significantly in 2019 with lower LNG prices in Asia, weighted average shipping distances of LNG in the year were

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\* The writer belongs 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.

slightly less than 7,400 km in the world, 1% less than 2018, and slightly over 12,000 km for cargoes from the United States, 5% shorter than that in 2018, respectively, according to the author's calculation.

In parallel with the collapse of crude oil prices, gas prices in different regions in the world have been declining. As of the end of April, prices of gas for next month delivery in the United States and Europe, as well as assessed spot prices of LNG for immediate delivery in Northeast Asia, were all below USD 2 per million Btu. It has become difficult for LNG from the United States to be delivered into Northwest Europe on cost basis.

With reduction of gas demand in different corners of the world, many LNG buyers are reportedly negotiating to defer and reduce cargo deliveries. If volumes are significantly cut, there could be real possibility of temporal shutdowns of liquefaction trains, especially in the United States.

Operating companies of existing LNG production projects have made great efforts to ensure stable operations by preventing spread of the virus. Slowing down in investment activities for future projects has been already apparent. It is essential for those projects that have been already reached investment decisions and under construction to proceed with maximum emphasis on safety and health of people involved. As restrictions in goods, equipment and service procurements are anticipated for those projects, the industry must keep vigilant eyes on project schedules and expected LNG supply capacity from the projects.

#### **[Asia Pacific]**

According to China's NDRC (National Development and Reform Commission), during the first quarter of 2020 the country's natural gas consumption increased year-on-year by only 1.6% to 78.5 bcm, while gas production grew by 7.9% to 47.8 bcm.

China's Sinopec started building the second phase of its Tianjin terminal to have five additional tanks with storage capacity of 220,000 m<sup>3</sup> each, and a new berth for LNG vessels. By the end of 2021, the LNG receiving capacity at the terminal will expand to 10.8 million tonnes per year from the current 6 million tonnes.

GCL Oil& Natural Gas signed a framework agreement with Shell to explore setting up a joint venture based in eastern China to market and trade LNG, according to the Chinese company. GCL plans three receiving terminals - Yantai in Shandong, Rudong in Jiangsu and Maoming in Guangdong.

China's Foran Energy Group reportedly signed an LNG purchase contract with BP

for 600,000 tonnes per year.

Wison Offshore & Marine announced that its 200,000 m<sup>3</sup> LNG Carrier (200K-LNGC) design received Approval in Principle (AiP) from DNV GL.

The world's first LNG Carrier featuring an IMO type A LNG containment system, based on LNT Marine's patented LNT A-BOX design, Saga Dawn (45,000 m<sup>3</sup>) loaded its first full cargo at Singapore LNG. Saga LNG Shipping is currently in the final stages of development for an 80,000 m<sup>3</sup> LNGC design with a nine-meter fully laden draft, aimed at imports into Chinese terminals. Saga has further developed and obtained Approvals in Principle (AiP) for its shallow draft 28,500 m<sup>3</sup> "Wuhan Max" and 12,000 m<sup>3</sup> "Yichang Max" designs aimed at opening up trade along China's Yangtze River.

According to January, February, and March 2020 issues of MONTHLY REPORT ON Natural Gas Production, Availability and Consumption by Petroleum Planning & Analysis Cell (Ministry of Petroleum & Natural Gas) of India, the country's natural gas production decreased by 10.5% year-on-year during the first quarter of 2020, while its consumption and LNG import increased by 3.5% and 37%, respectively, driven by a significant increase of LNG use in the fertilizer sector.

Australia's NSW (New South Wales) Government approved AIE's request to increase the capacity of the Port Kembla Gas Terminal for more gas during the cooler winter months, without modifying the Terminal design.

Australia's Venice Energy expects to take a final investment decision (FID) on its Outer Harbor floating LNG import terminal project in Adelaide, South Australia (SA) by February 2021, to start up the terminal by the end of the year. Venice Energy is targeting throughput of around 80 PJ (1.47 million tonnes) of gas in the first year, which it expects could increase to 140 - 150 PJ (2.57 - 2.76 million tonnes) in subsequent years. The project will involve a floating storage regasification unit (FSRU), as well as the construction of a 500 MW gas-fired power plant in two stages. Venice Energy intends to secure government approvals for the power plant once it finalises its investment decision on the terminal and expects a start-up of the plant by 2024, at the latest. The company intends to operate the terminal under a tolling model.

Shell Australia took a final investment decision (FID) to develop the first phase of Arrow Energy's Surat Gas Project in Queensland, Australia. The phase will produce up to 90 billion cubic feet (1.87 million tonnes) per year of gas at peak production, which will flow to Shell-operated QGC to be sold locally and exported through its plant on Curtis Island. First gas is expected in 2021.

The Pilbara Port Authority (PPA) issued non-exclusive licences to provide ship-to-ship LNG bunkering services at the ports of Port Hedland and Dampier to Woodside.

Woodside signed an agreement with JERA, Marubeni and IHI to undertake a joint study examining the large-scale export of hydrogen as ammonia for use decarbonising coal-fired power generation in Japan. The consortium has received approval from Japan's New Energy and Industrial Technology Development Organization (NEDO) for a feasibility study covering the entire hydrogen-as-ammonia value chain. The study will examine the construction and operation of world-scale ammonia facilities and the optimisation of supply chain costs. Woodside will be investigating the transition from blue to green hydrogen for export. Blue hydrogen is produced from gas using steam methane reforming, with related carbon emissions offset. Green hydrogen is produced from renewable energy using electrolysis. In both production processes hydrogen is combined with nitrogen to form ammonia to enable it to be shipped as a liquid.

Shell decided to delay a final investment decision (FID) on the Crux gas project in offshore Australia initially planned for 2020.

Santos announced it had signed a Letter of Intent (LOI) to sell a 12.5% interest in Barossa to JERA. JERA already has a 6.1% interest in Darwin LNG. Santos' signing of the LOI with JERA advances partner alignment between the Darwin LNG and Barossa joint ventures for the development of Barossa as backfill for Darwin LNG. The LOI follows the recent agreement to sell a 25% interest in Darwin LNG to SK E&S.

### **[North America]**

According to multiple sources, around 25 - 30 LNG cargoes for June 2020 loading from the United States have been cancelled by Asian and European buyers.

ConocoPhillips announced that it will defer production where it has a compelling economic reason. The company reported a first-quarter 2020 loss of USD 1.7 billion, compared with first-quarter 2019 earnings of USD 1.8 billion. Voluntary curtailments for May are estimated to be 0.265 million barrels of oil per day. The company estimates voluntary curtailments for June will be 0.460 million barrels per day.

Cheniere reported net income of USD 375 million in the first quarter of 2020. 128 LNG cargoes were exported from the company's liquefaction projects. During the three months, the company recognized revenue of approximately USD 53 million associated with cancelled LNG cargoes.

The Federal Energy Regulatory Commission (FERC) said in an order that it allows Cameron LNG to commission the Train 3. Cameron LNG launched commercial operations at the first and second liquefaction trains in August 2019 and in February 2020, respectively.

FERC released the environmental review schedule for the Port Arthur LNG Phase II, LLC expansion project that would add a total of approximately 13.5 million tonnes per annum

of liquefaction capacity for export overseas at the proposed Port Arthur LNG Liquefaction Terminal in Port Arthur, Texas. FERC expects to issue its Environmental Assessment of the project on 15 January 2021. Other federal agencies having jurisdiction over the project will have until 15 April 2021 to complete their review. Sempra Energy said that a final investment decision for the Port Arthur LNG project is expected in 2021.

Chiyoda, McDermott, and Zachry announced the beginning of commercial operation of Train 3 of the Freeport LNG project.

FERC granted Elba Island LNG approval to introduce feed gas into Modular Unit No. 8. Six units are in service with two additional units starting commissioning activities, out of 10 units at the facility.

Tellurian announced it has executed an agreement to sell USD 56 million of zero coupon, unsecured notes for gross proceeds of USD 50 million and provide the lender with warrants to purchase up to 20 million shares of Tellurian common stock, subject to customary closing conditions. Tellurian has also entered into an agreement to amend its 2019 Term Loan, including a reduction of the principal amount by USD 17.1 million. The agreement provides for a paydown of USD 2.1 million in cash, converts USD 15 million of principal value into equity through the issuance of approximately 9.3 million shares to the lender, and provides the lender with warrants to purchase up to approximately 4.7 million shares of Tellurian common stock, subject to customary closing conditions.

NextDecade extended the engineering, procurement and construction (EPC) contract with Bechtel for the Rio Grande LNG project in Texas.

Venture Global LNG announced the raising of the first LNG storage tank roof at its Calcasieu Pass LNG export facility in Cameron Parish, Louisiana. CB&I Storage Tank Solutions, a division of McDermott International, is constructing the project's dual 200,000 m<sup>3</sup> tanks. The facility's marine perimeter wall (including access road gates) and levee are also complete, three months ahead of schedule. The first piperack modules arrived at the site and were installed in April, and equipment for the project's 720 MW combined cycle gas turbine power plant is scheduled to begin arriving in May.

Liquefied Natural Gas Limited (LNGL) revealed that LNG-9 PTE LTD (LNG9) had notified LNGL that it was withdrawing its takeover bid. LNGL will continue to work with LNG9 to find a mutually acceptable transaction structure. LNGL is working with other parties on strategic alternatives that supplement existing cash on hand to improve LNGL's working capital position and sustain its operations. LNGL's directors submitted their resignations and voluntary administrators were appointed from PricewaterhouseCoopers Australia.

Pembina Pipeline, developer of the Jordan Cove LNG project, asked FERC to make several amendments to its March 2020 order approving the construction of the liquefaction

plant and gas pipeline. Pembina has called for pipeline capacity to be contracted more than a year in advance, and challenged FERC's assertion that a parcel of land encompassing part of the project site can be subjected to special historical protections.

Shell reached an agreement with National Fuel Gas Company (NFG) to sell its Appalachia shale gas position. The transaction has an effective date of 1 January 2020 and is expected to close by end of July 2020. The current net production is ~250 million standard cubic feet per day. The transaction also includes the transfer of the Shell owned and operated midstream infrastructure.

EQT Corporation, the largest natural gas producer in the United States, reported a net loss of USD 167 million for the first quarter 2020, compared to a USD 191 million profit in the same period in 2019. However, the company said it had experienced limited operational impacts as a result of the COVID-19 work from home restrictions or COVID-19 directly. Similarly, the company expects to have limited direct operational impacts from the oil price war.

Denver-based Ovintiv (formerly Canada's EnCana) said that it had net earnings of USD 421 million in the first quarter of 2020, reversing a USD 245 million loss in the same quarter of 2019.

LR (Lloyd's Register) signed a 55-month contract to support LNG Canada with the safe construction and delivery of a new LNG plant at a site in Kitimat, BC, Canada.

Pieridae Energy revealed that it will not make a final investment decision (FID) on the Goldboro LNG Facility in 2020. The company announced that it had negotiated extensions of the key deadlines under its 20-year agreement with Germany's Uniper. These include expected commercial deliveries of gas to Uniper to start between 31 August 2025 and 28 February 2026; and the extension to 30 June 2021 of the deadline to make a positive FID for the Goldboro LNG facility. The 20-year agreement with Uniper is for the LNG produced at Goldboro Train 1 or 4.8 million tonnes per year.

Tourmaline Oil Corporation, Canada's largest natural gas producer, released financial and operating results for the first quarter of 2020. The company had a net loss of CAD 35.8 million (USD 25.3 million) for the quarter compared with net earnings of CAD 87.7 million in the same period one year ago, and attributed much of the swing to a reduced valuation of its only oil-weighted asset.

Mexico Pacific Limited (MPL) LNG export project based on the West Coast of Mexico announced that it had engaged Mitsubishi UFJ Financial Group (MUFG) as financial advisor.

### **[Middle East]**

Petrofac received notice of termination from Abu Dhabi National Oil Company

(ADNOC) of two contracts for the Dalma Gas Development Project. Petrofac is still working with ADNOC to explore alternative options to deliver the project.

Qatar Petroleum (QP) announced the start of the development drilling campaign for the North Field East Project (NFE) (previously known as the North Field Expansion Project). This phase will increase Qatar's LNG production capacity from 77 to 110 million tonnes per year. The second phase North Field South Project (NFS) will further increase capacity from 110 to 126 million tonnes per year. QP announced that it had entered into an agreement to reserve LNG ship construction capacity in China to be utilized for QP's future LNG carrier fleet requirements, including those of its NFE/NFS projects. The agreement was entered into with Hudong-Zhonghua Shipbuilding Group, a wholly owned subsidiary of China State Shipbuilding Corporation Limited (CSSC). Qatargas initiated a programme to utilise LNG boil-off gas to power its chartered conventional LNG vessels during unloading operations at Japanese LNG terminals.

### **[Africa]**

A deal between Spain's Naturgy, Italy's Eni and the Egyptian government to resolve disputes over an LNG plant in Egypt has fallen through, Naturgy said.

Golar LNG received notification of a force majeure claim from BP relating to the Greater Tortue Ahmeyim project. The Notice claims that due to the recent outbreak of the novel coronavirus (COVID-19) around the globe, BP is not able to be ready to receive the floating LNG facility "GIMI" on the target connection date in 2022. Golar is engaging in clarification and an active dialogue with BP to establish the duration of the delay and the extent to which this has been caused by the claimed force majeure event.

ExxonMobil said it is reducing its 2020 capital spending by 30%. Capital investments are now expected to be about USD 23 billion, down from the previously announced USD 33 billion. The largest share of the capital spending reduction will be in the Permian Basin. A final investment decision for the Rovuma LNG project in Mozambique has been delayed. The Coral LNG development continues as planned.

Mozambique's Health Ministry revealed COVID-19 cases at the LNG project site.

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

The Oil and Gas Authority (OGA) signalled its intention to refresh its core aim, including a requirement for industry to help the government achieve the target of Net Zero greenhouse gas emissions by 2050. The OGA believes that maximising economic recovery of oil and gas need not be in conflict with the transition to Net Zero and that the industry has the skills, technology and capital to help unlock solutions required to help the United

Kingdom achieve the Net Zero target. However, the OGA takes the view that industry should go considerably faster and farther in reducing its own carbon footprint, or risk losing its social licence to operate.

Shell updated investors on plans to become a net-zero emissions energy business by 2050 or sooner. The steps included: An ambition to be net zero on all the emissions from the manufacture of all our products (scope one and two) by 2050 at the latest; Reducing the Net Carbon Footprint of the energy products Shell sells to its customers by around 65% by 2050 (increased from around 50%), and by around 30% by 2035 (increased from around 20%); and a pivot towards serving businesses and sectors that by 2050 are also net-zero emissions.

Fosmax LNG is launching a call for capacity subscriptions at Fos Cavaou LNG terminal (OSP Fos Cavaou 2020). The OSP Fos Cavaou 2020 provides additional capacity by technical debottlenecking. It gives an opportunity to gain access to up to 1 Bcm per year, from January 2021 until March 2030, which comprises 10 TWh per year of already available primary capacity plus an additional new capacity of 3 TWh per year. This will bring the total regasification capacity of Fos Cavaou LNG terminal to 8.5 Bcm/year or 100 TWh/year. The OSP Fos Cavaou 2020 will consist of the two following phases: A non-binding call for interest, which is expected to last for two months; A binding Open Subscription Period, which is expected to last for two weeks.

During the first quarter 2019, the Total's cash flow decreased by 31% to USD 4.5 billion. Adjusted net income decreased by 35% to USD 1.8 billion. The Integrated Gas, Renewables & Power (iGRP) segment generated USD 0.9 billion of cash flow, an increase of 40% year-on-year thanks to a growth in LNG sales of nearly 30% and to the resilient sales price of its LNG production. The group continues entering into renewable projects with gross installed capacity of more than 6 GW, particularly in India, Qatar and Spain.

Total announced its ambition to get to net-zero emissions by 2050. Total takes 3 major steps towards achieving this ambition: 1. Net Zero across Total's worldwide operations by 2050 or sooner (scope 1+2) 2. Net Zero across all its production and energy products used by its customers in Europe by 2050 or sooner (scope 1+2+3) 3. 60% or more reduction in the average carbon intensity of energy products used worldwide by Total customers by 2050 (less than 27.5 gCO<sub>2</sub>/MJ) - with intermediate steps of 15% by 2030 and 35% by 2040 (scope 1 + 2 + 3). This ambition is supported by the strategy to develop Total as a broad-energy company, with oil and gas, low-carbon electricity and carbon-neutrality solutions as integrated parts of its business. The company sets the highest ambition amongst the majors for its scope 3 average carbon intensity with less than 27.5 gCO<sub>2</sub>/MJ by 2050.

Total signed an agreement to charter its first two LNG-powered VLCCs (Very Large Crude Carrier). The vessels will be delivered in 2022 and will be chartered from Malaysian



shipowner AET. The supply of LNG will be provided by Total Marine Fuels Global Solutions.

Uniper delivered a strong operating performance in the first quarter of 2020, recording adjusted EBIT of €651 million and net income of €499 million. The increase is mainly attributable to the company's gas business, including diversified and flexible gas storage and gas optimization portfolios. Higher power prices and output enabled Uniper's hydro and nuclear power plants to earn more. Another positive contribution came from the reinstatement of the United Kingdom capacity market.

A new Liqvis LNG filling station for trucks was opened in the central German city of Kassel. This is Liqvis's second permanent LNG filling station and it will replace the mobile one. In addition to the two permanent LNG filling stations in Kassel and Grünheide near Berlin, Liqvis is planning further projects in the coming months: An LNG filling station in Calais, northern France, is under construction, and further stations in Rosengarten near Hamburg and Langenhagen near Hanover are currently in the process of being approved.

Hamburg based LNG supplier Nauticor, a subsidiary of Finland's Gasum, conducted the first ship-to-ship LNG bunkering operation for a product tanker in the port of Brunsbüttel at the river Elbe.

Tallink Grupp announced that the construction of Tallink Grupp's newest eco-friendly LNG-powered shuttle ferry, MyStar will begin at the Rauma Marine Constructions (RMC) shipyard in Rauma, Finland. The delivery of the vessel is planned in January 2022. The new vessel will operate on the company's Tallinn-Helsinki route.

Gasum plans to open a new filling station serving heavy-duty vehicles in summer 2020. Located in the Avanti business and industrial area of Lieto, the station will provide LNG and liquefied biogas (LBG). The new station together with the existing station in Turku will serve logistics customers and companies in Southwest Finland.

Spain's competition regulator CNMC approved a new system to allocate capacity in LNG regasification terminals, the transmission grid and underground gas storage. The process will be done through auctions between the different operators interested in contracting capacity in the gas system and will be implemented from October 2020.

Enagás reported its net profit of €119.1 million for the first quarter of 2020, +14.7% higher than that in the same period of 2019. Enagás increased its indirect stake in Tallgrass Energy of the United States to 30.2%. The transported natural gas decreased by -2.4% compared to the same period of the previous year. Enagás has defined an emission reduction path to reach carbon neutrality by 2050.

According to its latest quarterly presentation, Spain's Naturgy intends to renegotiate its gas supply contracts to adjust to a "new reality" on a "one on one" basis and does not rule out arbitration if necessary.

Italy's Eni reported a net loss of €2.93 billion for the first quarter of 2020, compared to a net profit of €1.1 billion in the first quarter of 2019, mainly due to the alignment of the book value of inventories to market prices. Special charges also included impairment losses from oil and gas assets and negative fair-valued derivatives.

Italy's gas system operator Snam said that it had achieved a 5.3% year-on-year growth in net profits in the first quarter of 2020 to €298 million. Snam gained from tariff adjustments that led to a growth in its regulated revenues, but non-regulated revenues were also higher thanks to increased contributions from the company's international business and its energy transition activities.

Russia's NOVATEK reported preliminary operating data for the first quarter 2020. The company's hydrocarbon production totalled 150.2 million barrels of oil equivalent (boe), including 19.08 billion cubic meters (bcm) of natural gas and 3,048 thousand tonnes of liquids (gas condensate and crude oil), resulting in an increase in total by 2.1% as compared with the first quarter 2019. Preliminary natural gas sales volumes, including volumes of LNG sold, aggregated 20.69 bcm, decreasing by 6.8% from the prior year period. The decrease in sales volumes on international markets was due to the decrease of Yamal LNG shareholders' share, including NOVATEK's share, of LNG sales on the spot market, and a corresponding increase of Yamal LNG direct sales under long-term contracts. The company said it had delayed the final investment decision on its Obsky LNG plant. The plant is expected to produce 4.8 million tonnes per year of LNG from 2022 - 2024.

NOVATEK said that operations at its Murmansk facility continue as usual. Novatek-Murmansk is building a plant for the construction of gravity-based structures designed for its Arctic LNG-2 project.

NOVATEK announced that Arctic LNG 1, a wholly owned subsidiary, registered license number SLH 16637 NR for geological survey, exploration and production at the Bukharinskiy subsoil license area on the Gydan Peninsula. The license area partially located in the shallow waters of the Ob and Taz bays in the Yamal-Nenets Autonomous Region (YNAO), and is obtained for a period up to 2050. The license terms stipulate that the resource base should be used for LNG production at gas liquefaction facilities located in the YNAO and the adjacent water area. The license area is located in close proximity to the Geofizicheskiy and Trekhbugorniy license areas and the Soletsko-Khanaveyskoye field. Arctic LNG 1, NOVATEK's next large-scale LNG project, holds these license areas.

Workers at the Chayanda field reportedly staged a mass rally to demand better working conditions and more transparency amid a reported coronavirus outbreak at the field.

Russia's A-Property hired TechnipFMC to design an LNG operation in Yakutia that it hopes to complete by 2025 and sell LNG to Asia.

**[Global issues]**

Shell announced an interim dividend in the first quarter of 2020 of USD 0.16 per share, reduced from the USD 0.47 dividend for the same quarter of 2019. This is the first cut of its dividend since the 1940s. BP said that it to a net loss of USD 4.365 billion for the first quarter of 2020 from a profit of USD 2.934 billion for the year-earlier period. Upstream production fell 2.9% to 2.58 million barrels of oil equivalent a day.

ExxonMobil announced an estimated first quarter 2020 loss of USD 610 million compared with earnings of USD 2.4 billion a year earlier. Chevron reported earnings of USD 3.6 billion for first quarter 2020, compared with earnings of USD 2.6 billion in the first quarter 2019. However, the company cautioned that results in future periods are expected to be depressed as long as current market conditions persist.

Reference: Company announcements, , Reuters, 中国石化新闻网, Gulf Times, AllAfrica, Moscow Times, «Новая газета», «Коммерсанте», Cedigaz News Report.

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