

LNG Review March 2020 - Recent issues and events - Hiroshi Hashimoto*

Introduction

Assessed spot LNG prices in Northeast Asia was halved during the first quarter of 2020, from the middle of USD 5s per million Btu to USD 2.5, the lowest in the history, compared to the halved drop in the same period in 2019 from USD 9 to USD 4.5. The latest decline was largely due to significant increase in the global LNG supply capacity associated with slowing down of demand growth in Asia including China and India, as well as sluggish gas demand in Europe including Italy and Spain.

Japan imported 14.15 million tonnes of LNG during the first two months of 2020, decreasing by 5% or 0.74 million tonnes year-on-year, in a stark contrast with Korea's 17% or 1.31-million-tonne increase in the same period. Japan's import of 6.64 million tonnes in February represented five-straight-month year-on-year decreases, maintaining levels of smaller LNG import than those in 2012.

Meanwhile, the gap between the average price of LNG imports in Northeast Asia and the historically low spot LNG prices has been significant, causing persisting difficulties to buyers who procure volumes under long-term contracts. While contract LNG prices are expected to decline along with crude oil prices, the lower LNG prices could only come four months later due to a time lag between the immediate crude oil market and term-contract LNG prices.

The low natural gas and crude oil prices are expected to result in much slower development activities of pre-investment-decision LNG production projects. In addition to persistently low spot LNG prices since early 2019, which reached a historical low in February 2020, the latest collapse of crude oil prices is expected to slow down developers' investment plans and appetites from project-financing lenders.

[Asia Pacific]

Ohgishima City Gas Supply Co., Ltd. (OCGS), established through a partnership

* 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.

between JERA, JXTG, and Osaka Gas, began commercial operation of a city gas production and supply facility (calorific value adjustment system [CVAS] facility). JERA will use the city gas mainly as fuel for the Shinagawa Thermal Power Station, while JXTG and Osaka Gas will use it mainly for city gas retailing. JXTG and JERA will also use it as a raw material for hydrogen production.

Tomakomai Port and Vancouver Port Concluded a Memorandum of Understanding (MOU) to promote LNG bunkering.

Korea Lines' new 18,000 m³ LNG bunkering vessel will feature Wärtsilä's advanced cargo handling system. The ship is being built at Hyundai Mipo Dockyard in Korea.

Pavilion Energy and Singapore LNG (SLNG) signed a five-year agreement for LNG Storage and Reload Services at the SLNG Terminal on Jurong Island. Pavilion Energy is soliciting bids through a request for proposal for up to 2 million tonnes per year of LNG for delivery from 2023 for five years. It is asking suppliers to commit to jointly develop and implement a greenhouse gas quantification and reporting methodology, covering emissions from the well to the discharge terminal.

Mitsubishi Corporation (MC) and Chiyoda Corporation entered into an MoU on the joint development of a sustainable hydrogen economy in Singapore with five local partners: City Gas Pte Ltd; Jurong Port Pte Ltd; PSA Corporation Limited; Sembcorp Industries Ltd; and Singapore LNG Corporation Pte Ltd.

About 100 Keppel Shipyard personnel who had "direct contact" with a cluster of COVID-19 patients linked to the shipyard have been placed on a 14-day leave of absence. Employees working on the Liza Unity FPSO and the Coral South turret project are said to be among those diagnosed positive.

Vitol Marine Fuels acquired 100% of Singapore-based bunkering specialist Sinanju Tankers Holdings.

First Gen subsidiary FGEN LNG Corporation submitted an application to Philippines' Department of Energy to start work on the Batangas LNG terminal project by May 2020. Meanwhile, Udenna acquired Chevron Malampaya LLC, which holds a 45% non-operating interest in the Malampaya natural gas project.

According to data from China's Customs Statistics, the country imported a total of 17.802 million tonnes of natural gas (including LNG and pipeline gas) in the first two months of 2020, a 2.8% increase year-on-year. The country imported 11.13 million tonnes of LNG alone, a 1.8% increase from one year earlier. Monthly data for January and February has not been revealed. According to NDRC, the country's natural gas production and consumption during the first two months of 2020 were 30.9 bcm (+6.1% y-o-y) and 52.7 bcm (+1%), respectively.

The European Commission approved, under the EU Merger Regulation, the creation of a joint venture in China between Sinopec Gas, Novatek Asia, and Gazprombank Asset Management. The joint venture will be active in the import and export, as well as purchase and sale, of natural gas and investment in natural gas related projects in China.

China National Offshore Oil Corporation (CNOOC) signed an agreement with newly launched PipeChina on transferring management rights for oil and gas infrastructure assets.

CPC Corporation, Taiwan (CPC) said it has received the country's first delivery of "carbon-neutral" LNG at the Yung-An LNG receiving terminal. CPC said that the cargo was delivered from the Sakhalin 2 LNG facility, under a contract with Shell Eastern Trading.

Tata Motors completed delivery of the country's first LNG-powered bus order. INOX India signed a Memorandum of Understanding (MOU) with Shell Energy for partnering and developing the market for LNG supply by road from Shell's LNG Terminal in Hazira, Gujarat. Shell Energy is building a truck loading facility at the terminal. Meanwhile, India's LNG importers issued force majeure notices to suppliers after a nationwide lockdown, according to sources.

McDermott announced that early first gas was achieved on India's Oil and Natural Gas Corporation's (ONGC) 98/2 Block in the Krishna Godavari Basin, offshore India.

According to Department of Industry, innovation and Science, the country's LNG export volumes are forecast to rise from 75 million tonnes in 2018-19 to 81 million tonnes in 2020-21, before edging back down to 80 million tonnes by 2024-25.

The Australian Energy Market Operator's (AEMO) latest analysis finds that supply from existing and committed gas developments on Australia's east and southeast coast will meet gas demand until the end of 2023. AEMO's 2020 Gas Statement of Opportunities (GSOO) and 2020 Victorian Gas Planning Report Update (VGPR Update) identified a projected shortfall of gas supply on peak winter days in the southern states from 2024, unless more southern supply sources are developed, or pipeline capacity limitations are addressed.

Two bills were introduced to Parliament of Victoria. One will enshrine the fracking ban into the state constitution. The other will allow for an orderly restart of the onshore conventional gas industry in Victoria. It will also introduce measures aimed at ensuring newly sourced gas within Victoria and state waters will be prioritised for domestic use.

Santos announced that it entered a non-binding agreement with BP that could lead to BP investing AUD 20 million in support of Santos' Moomba carbon capture and storage (CCS) project in South Australia.

Woodside is taking a prudent approach to cash flow management. Key features of Woodside's response include deferral of targeted final investment decisions (FID) for Scarborough, Pluto Train 2 and Browse. The National Offshore Petroleum Safety and

Environmental Management Authority (NOPSEMA) accepted an offshore project proposal (OPP) from Woodside Energy to develop the Scarborough gas fields off northern Western Australia.

A contract for the Barossa Development, covering the Transport and Installation of all the SURF infrastructure as well as the supply of the infield flowlines, has been awarded to Subsea 7. Two other EPC contracts have been awarded: to Aker Solutions for supply of the umbilicals and to National Oilwell Varco Denmark I/S for supply of the flexible risers.

Santos agreed to sell a 25% interest in Darwin LNG and Bayu-Undan to SK E&S with effect from 1 October 2019. The sale is conditional on completion by Santos of the acquisition of ConocoPhillips' northern Australia and Timor-Leste portfolio as announced on 14 October 2019, third-party consents, regulatory approvals and a final investment decision (FID) on Barossa. SK E&S already has a 37.5% interest in the Barossa project to backfill Darwin LNG. Santos' sale of interests in Darwin LNG and Bayu-Undan to SK E&S advances partner alignment for the development of Barossa. Santos in discussions to sell-down equity in Barossa to a target ownership of around 40% to achieve increased partner alignment. Santos expects to take an FID for the development of Barossa following completion of the ConocoPhillips acquisition and once all necessary technical, engineering and commercial contracts are in place, including the processing agreement with Darwin LNG.

At its annual general meeting, however, Santos revealed that a final investment decision on the Barossa project will be postponed beyond 2020. The acquisition of assets in Northern Australia including a controlling interest in Darwin LNG and Bayu-Undan from ConocoPhillips is expected to complete in the first half of 2020.

The Malaysia's regulator Suruhanjaya Tenaga granted an Import Into Regasification Terminal Licence to Gas Malaysia Energy and Services, pursuant to the Third-Party Access system.

[North America]

LNG export from the United States in January 2020 was the highest in the history at 5.19 million tonnes. The largest destinations included Korea, Turkey, Japan, the United Kingdom, and Spain. However, the impact of coronavirus restrictions could threaten schedules of LNG projects either under construction or nearing completion.

Cheniere tendered to buy (instead of sell) multiple cargoes for delivery to Europe later in 2020.

Dominion Energy acquired Pivotal LNG from Southern Company. Dominion Energy assumes 100% ownership of Pivotal's LNG facility in Trussville, Alabama and a 50% ownership of the JAX LNG facility in Jacksonville, Florida.

Sempra LNG announced that Cameron LNG's second train of the liquefaction-export infrastructure project in Hackberry, Louisiana, had begun commercial operations under Cameron LNG's tolling agreements. According to the press release, Train 3 remains on track to start initial LNG production in the second quarter and to commence commercial operations in the third quarter of 2020.

Port Arthur LNG and Bechtel Oil, Gas, and Chemicals signed a fixed-price engineering, procurement and construction (EPC) contract for the Port Arthur LNG liquefaction project. However, Sempra will no longer commit to a third quarter decision on its Port Arthur LNG project.

FERC (Federal Energy Regulatory Commission) issued an order authorizing Freeport LNG to commission Train 3 and associated utility systems on Quintana Island, Texas. McDermott, Chiyoda and Zachry announced that Train 3 reached the final commissioning stage.

FERC issued a letter order authorizing commencement of service of the No. 5 Unit at Kinder Morgan's Elba Island project near Savannah, Georgia.

Tellurian announced it intends to reduce corporate spending and reorganize financing for its 2019 term loan as it prepares for uncertain market conditions. Tellurian is laying off 70 workers, about 40% of its 176 employees, and shuffling executives.

Energy Transfer LP announced that it will take over development of the Lake Charles LNG export project following Shell's announcement that it has decided not to proceed with an equity investment in the project. Energy Transfer will evaluate alternatives to advance the project, including the possibility of bringing in one or more equity partners and reducing the size of the project from three trains (16.45 million tonnes per year of LNG capacity) to two trains (11.0 mtpa).

LNG9 informed LNGL that the bidder's statement is to be lodged with the Australian Securities and Investment Commission by the middle of April 2020.

FERC voted 2-1 to authorize the Jordan Cove LNG project and the associated Pacific Connector gas pipeline project.

ExxonMobil released a model framework for industry-wide methane regulations and urged stakeholders, policymakers and governments to develop comprehensive, enhanced rules to reduce emissions in all phases of production. ExxonMobil is looking to significantly reduce spending as a result of market conditions caused by the COVID-19 pandemic and commodity price decreases, the company said. In early April, Moody's Investors Service downgraded ExxonMobil ratings to Aa1 from Aaa.

FERC released the final environmental impact statement (EIS) for the Alaska LNG Project (Project) proposed by the Alaska Gasline Development Corporation (AGDC). FERC

staff concluded that approval of the Project would result in a number of significant environmental impacts the majority of which "would be less than significant based on the impact avoidance, minimization, and mitigation measures proposed by AGDC; AGDC's commitments to additional measures; and measures recommended by staff in the final EIS".

LNG Canada, JGC Fluor and subcontractors will be reducing staffing levels, implementing a mandatory work from home policy for non-business critical positions, and deferring many non-essential work activities at the Kitimat site for the time being. LNG Canada confirmed a case of COVID-19 in an employee who works at the site.

Construction on the Woodfibre LNG project southwest of Squamish, B.C., on the West Coast is delayed by a year. A project spokesperson said substantial construction expected to start in summer 2020 won't take place until after the middle of 2021, after a fabrication yard in Asia that was making components for the project was shut down.

Cryopeak LNG Solutions Corporation, based in Richmond BC, has completed the largest ever North American delivery of LNG by truck, with the shipment going to power the Silvertip mine on the Yukon/BC border owned by Coeur Silvertip, a subsidiary of Coeur Mining.

Phase 1 of Sempra Energy's Energía Costa Azul (ECA) LNG liquefaction-export project, under development in Baja California, Mexico, signed a fixed-price, lump-sum, turn-key engineering, procurement and construction (EPC) contract with Technip FMC.

Mexico Pacific Limited (MPL) announced that it has awarded a Front End Engineering Design (FEED) contract to Technip. MPL plans to take an FID in early 2021 and bringing the facility into service in 2024.

[Middle East]

Mechanical construction of the LNG import terminal in Bahrain was completed, according to Bahrain LNG (BLNG).

At least 30 Turkish soldiers were killed when a Kurdistan Workers' Party (PKK) fighter launched a suicide attack on a pipeline in Ağrı province near the Iran-Turkey border, the group claimed in a statement. The Turkish troops were guarding a gas pipeline, which was damaged in the attack, disrupting Iranian gas exports to Turkey. National Iranian Gas Company confirmed the damage to the pipeline and said exports would resume following repairs.

[Africa]

Sound Energy, the Moroccan focused upstream gas company, provided the following Eastern Morocco update, confirming receipt of a further Environmental Impact Assessment

(EIA) approval and land corridor rights in respect of the Tendrara Gas Export Pipeline (TGEP). In February 2020 the company announced its plan of the first phase of TE-5 Horst development at the Tendrara Production Concession via a micro LNG production plan.

Air Products signed an agreement to provide its proprietary LNG technology, equipment and related process license and advisory services to the Mozambique LNG Project. Air Products will provide two of its proprietary coil wound main cryogenic heat exchangers (MCHE) for the project. Air Products will build the MCHEs at its Port Manatee, Florida manufacturing facility. Air Products is also involved with the Coral South floating LNG (FLNG) project, the first offshore FLNG project in Mozambique, which is expected to begin production in 2022.

[Europe / Russia]

The European Commission presented a proposal to enshrine in legislation the EU's political commitment to be climate neutral by 2050. The European Climate Law sets the 2050 target and the direction of travel for all EU policy, and gives predictability for public authorities, businesses and citizens. At the same time, the Commission is launching a public consultation on the future European Climate Pact.

National Grid Grain LNG received the 500th ship at its LNG terminal on the Isle of Grain. The cargo was delivered from Zeebrugge.

Total and its partners made an encouraging discovery with the Isabella 30/12d-11 well on the license P1820, located in the Central North Sea offshore United Kingdom, about 40 kilometers south of the Elgin-Franklin Field and 170 kilometers east of Aberdeen.

Caledonian Maritime Assets Limited (CMAL) awarded a contract to KC LNG, Kosan Crisplant's division under MAKEEN Energy, to design and install Scotland's first LNG bunkering facilities at Uig and Ardrossan. The facilities will provide LNG fuelling for two dual fuel ferries which are currently under construction. Each installation will be a fully automated and remote-monitored facility with a 150 m³ LNG holding tank capability.

The Netherlands' Economic Affairs and Climate Minister approved construction of a natural gas mixing station in Zuidbroek. Nitrogen will be extracted from the air and mixed with high-calorific gas to create low-calorific gas for Dutch consumers and businesses. This is one of the measures that will ensure that the Groningen field can close as early as 2022.

Heerema's Sleipnir, the world's most powerful semi-submersible crane vessel, received the largest LNG bunkering ever completed. Titan LNG performed the bunkering, using the Coral Fraseri, Anthony Veder's LNG carrier in the Port of Rotterdam.

Mitsubishi Corporation (MC) and Chubu Electric Power officially acquired all shares of Eneco through a joint venture in the Netherlands, Diamond Chubu Europe B.V. after MC

and Chubu were selected as the preferred buyers in November 2019.

During first quarter of 2020, a record 72 ship operation took place at the Zeebrugge terminal. Both February and March broke the record number of ships per month with 27 and 30, respectively. 55 out of 72 were part of a transshipment operation. A record number of almost 1,000 LNG truck loading operations took place in the period, too.

Uniper announced at its annual results press conference for the 2019 financial year that it intends to make its power generation portfolio in Europe climate-neutral by 2035. Uniper will continue to help secure Europe's energy supply with gas and LNG. Uniper is engaged in both pipeline gas (as with the Nord Stream 2 project) and the expansion of LNG infrastructure (as in Wilhelmshaven). Uniper plans to gradually replace conventional gas with green gas or green hydrogen in both energy generation and energy trading. Uniper is a pacesetter in the use of power-to-gas technology to produce green hydrogen and initiated such projects early. The company installed its first power-to-gas unit in Falkenhagen back in 2013, followed by another in 2015 in Hamburg. The company supplemented Falkenhagen with methanization equipment in 2018.

German LNG Terminal GmbH revealed that it had garnered significant interest, and is ready to sign heads of agreement (HoAs).

Equinor presented updated outlook for 2020 and an around USD 3 billion action plan to strengthen the financial resilience in a market impacted by the COVID-19 and low commodity prices.

OxGas, a company owned by the Port of Oxelösund in Sweden has commissioned MAN Energy Solutions to act as "owners engineer" in the development and construction of a multi-functional terminal for liquefied methane-based fuels in the port of Oxelösund.

Bahía de Bizkaia Gas (BBG) said loading and unloading activities increased by 95% at the Bilbao LNG terminal in 2019.

MIBGAS launched the trading of LNG spot products in a single point or virtual tank where all the transactions, that until now were carried out individually in each of the six Spanish regasification plants, will be grouped. This measure greatly benefits traders by increasing their trading possibilities (in fact, the first transaction was performed in the opening session), providing a balancing platform for LNG as well. From now on, the LNG storage tanks of each of the Spanish regasification plants join in a single virtual tank, so that the LNG owners do not know the physical location of their LNG. The implementation of the TVB (Tanque Virtual de Balance in Spanish) is one of the changes included in the new regulation of the Spanish gas system that has been approved in 2020 by the National Commission on Markets and Competition (CNMC). MIBGAS currently has a total of 115 registered market participants.

Eni will reduce Capex in 2020 by around €2 billion, equal to 25% of the total Capex planned, and opex by around €400 million. In 2021, Eni expects a Capex reduction of around €2.5-3 billion, equal to 30-35% of the capex scheduled for the same year in the business Plan.

The binding phase of the market test for reservation of capacity at the floating LNG terminal in Alexandroupolis was completed on 24 March 2020. The project is developed by the Greek company Gastrade with aggregate long-term binding offers for up to 15 years, reaching 2.6 billion cubic meters per year from Greek and international natural gas companies, as well as end consumers.

Höegh LNG applied for an LNG infrastructure ownership, operations and development license in Cyprus. The plan consists of using one of Höegh LNG's FSRUs as a fast track solution for the fuel switching. Höegh LNG expects to be able to start LNG import operations during H1 2021.

An LNG powered vessel was bunkered for the first time in the port of Klaipėda. The cement carrier MV Greenland was filled with gas at the Malkos Bay Terminal. KN (Klaipėdos Nafta), Cryo Shipping, Ignitis and Baltkonta contributed to the operation. Cryo Shipping brought to Klaipėda the LNG filled ISO container. The bunkering operation from the container to the cement carrier was carried out by Cryo Shipping.

Poland's PGNiG (Polskie Górnictwo Naftowe i Gazownictwo) commenced commercial operations at the Klaipėda LNG reloading station.

According to PGNiG, the Arbitral Tribunal in Stockholm ruled in favour of Poland's PGNiG, ending a five-year long dispute between PGNiG and Russia's Gazprom concerning the price of gas. The new price formula is directly tied to the market price level in Western Europe. The new price formula is to be applied from November 2014 and PGNiG indicatively estimates that Gazprom will be required to refund approximately USD 1.5 billion.

Russia's LNG production plan has been upgraded to 80 - 140 million tonnes per year by 2035, according to the Energy Strategy. Under the previous plan, Russia was expected to produce 70 - 82 million tonnes of LNG per year by 2035. The LNG production plan until 2024 remains unchanged, standing at 46 - 65 million tonnes per year.

Gazprom produced 500.1 billion cubic meters of gas and exported 199.3 billion cubic meters in 2019, slightly lower than a record 201.8 billion cubic meters in 2018. Gazprom preserved its share in the European market at 35.6%.

Glavgosexpertiza (Russia's Main Department of State Expertise) approved the design documentation and findings of the engineering survey on construction of Obsky LNG terminal at the port of Sabetta in the Yamal-Nenets Autonomous Region. The Obsky terminal is intended for transshipment of NOVATEK's LNG onto seaborne transport. The Obsky terminal is to transship about 5 million tonnes per year of LNG.

Gazprom plans to proceed to pre-investment phase and the design-and-survey works in Power of Siberia 2 project, to transport up to 50 billion cubic meters per year of gas to Western China across Mongolia.

In late March 2020 at the Port of Prigorodnoye, the 1,800th LNG cargo produced at the Sakhalin-2 LNG plant operated since 2009, was loaded.

[South America]

Golar Power signed a Protocol of Intentions with the State Government of Pernambuco to develop an LNG import terminal in the Port of Suape (Suape), located in the northeast of Brazil. With operations scheduled to start in the second half of 2020, the project includes infrastructure for the supply of natural gas and LNG to generate electricity. Golar Power will work in partnership with the local gas distribution company, Companhia Pernambucana de Gás Natural (Copergás). The project is expected to use the existing port infrastructure owned by the State Government. The Golar Power terminal intends to use an existing LNG carrier, permanently docked at the Suape Port. The vessel will act as a supplier to truck mounted LNG ISO-Containers. These vehicles will then distribute LNG to cities within a radius of up to one thousand kilometers. Initial trucked volumes are estimated at 800 m³ of LNG / day. LNG will also be distributed from Suape to other states in Brazil, through cabotage using small-scale LNG carriers that will be supplied by transshipment.

Reference: Company announcements, Reuters, Channel News Asia, Cedigaz News Report.

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