

## LNG Review March 2021 - Recent issues and events -

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### **Introduction**

The accidental grounding of a container ship in the Suez Canal in late March 2021 caused tentative delays of LNG deliveries from the Middle East to Europe, reminding the LNG industry of security issues of marine transportation.

LNG imports by the big four markets in Northeast Asia (Japan, Korea, China and Chinese Taipei) in the first two months of 2021 increased by 15% year-on-year to 42.55 million tonnes. Notably China's import grew 27%.

There were several LNG related deals involving Chinese players. As exemplified by Total's deals with Shenergy regarding LNG supply and an LNG marketing venture and Eni's MoU with Zhejiang Energy on cooperation in the gas and LNG value chain in China and internationally, activities involving Chinese companies other than the big three national companies attracted attention. On the other hand, Qatar Petroleum (QP) announced its first term contract with Sinopec.

Regarding developments in new and expansion LNG production projects, there were progresses in Qatar in LNG sales and engineering arrangements. In Australia, a final investment decision (FID) on the Barossa gas production venture in Northern Territory was announced. The gas production is intended to supply alternative feedgas to the existing Darwin LNG facility, extending the facility's operation for 20 years. The first gas is expected in the first half of 2025.

Following developments in February, several more announcements were made on carbon-neutral LNG deals around the world. Tokyo Gas announced its Carbon Neutral LNG Buyers Alliance with 14 end-user companies, aiming at further penetration of CNL. Additional deals and deliveries of carbon neutral LNG were announced in Asia and Europe.

In March Annova LNG in Texas in the United States announced its discontinuation of development. Further feasibility work for the Kitimat LNG project in Western Canada was ceased.

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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.

**[Asia Pacific]**

Tokyo Gas announced on 9 March 2021 that the company as the buyer and supplier of Carbon Neutral LNG (CNL) and 14 end-user companies had established the Carbon Neutral LNG Buyers Alliance, aiming at further penetration of CNL and enhancing its value.

Following an agreement in February 2021 for carbon neutral LNG between Mitsui & Co. and Hokkaido Gas, the gas company announced on 19 March that it had received the first carbon-neutral LNG cargo in Hokkaido at the Ishikari LNG terminal.

JERA announced on 16 March 2021 that it had submitted the Environmental Impact Assessment Scoping Document for the Chita Thermal Power Station Units 7 and 8 Construction Plan to the Minister of Economy, Trade, and Industry; the Governor of Aichi Prefecture; the Mayors of Chita and Tokai Cities. The Plan involves decommissioning existing units 1 through 5 (while retaining unit 6) and constructing new units 7 and 8.

Mitsui O.S.K. Lines (MOL) and Kyushu Electric Power announced on 29 March 2021 that the companies had concluded a basic agreement for the supply of LNG to two LNG-fueled ferries operated by MOL Group company Ferry Sunflower Limited - the Sunflower Kurenai and the Sunflower Murasaki. LNG fuel supply is slated to begin around the end of 2022 upon the delivery of the ferries. LNG fuel will be supplied to the tank trucks at the loading station of the Oita LNG terminal.

NYK Cruises and MEYER WERFT announced on 31 March 2021 that they had signed a contract for the construction of a new cruise ship. The newbuilding is scheduled for delivery in 2025. The ship will feature LNG propulsion to lower environmental footprint.

In its periodical review of the energy policies of Japan as a member country, the International Energy Agency (IEA) recommended necessary measures to promote and enhance the benefits of gas market liberalisation, such as removing barriers for effective third-party access and enhancing grid interconnection while considering the economic feasibility for enhancing grid interconnection. The agency noted that introduction of third-party-access to LNG terminals in 2017 is an important step in the right direction, although only one competitor was granted access to date.

The Tokyo Metropolitan Bureau of Port and Harbour announced on 25 March 2021 its plans of incentives for LNG- and hydrogen-fuelled vessels.

RWE announced on 29 March 2021 that RWE had arranged a carbon offset LNG cargo for POSCO delivered to the Gwangyang terminal in Korea. The offset was achieved through the retirement of corresponding Verified Emissions Reductions (VER) certificates. RWE claimed that carbon credits were sourced and independently certified under the Gold Standard. The carbon emission intensity of the cargo delivery was estimated using the Wood Mackenzie LNG Emissions Tool.

Singapore's Energy Market Authority (EMA) announced on 25 March 2021 that it had appointed ExxonMobil and Sembcorp as new term LNG importers for the country.

Vitol announced on 1 March 2021 that it had launched a Green LNG product for its LNG customers. The emissions associated with the cargo, from wellhead to DES delivery, will be offset through the cancellation of Verified Emissions Reductions (VERs).

Shell announced on 24 March 2021 that the first ship-to-containership LNG bunkering operation in Asia was undertaken by CMA CGM and FueLNG, a joint venture between Keppel Offshore & Marine and Shell Eastern Petroleum (Pte) Ltd, and the Maritime and Port Authority of Singapore (MPA). A containership, CMA CGM SCANDOLA, was fuelled with 7,100 m<sup>3</sup> of LNG from FueLNG Bellina, Singapore's first LNG bunkering vessel.

Sojitz Corporation's and Osaka Gas' joint venture company Sojitz Osaka Gas Energy Company (SOGEC) announced on 11 March 2021 that it concluded a supply agreement on 4 March 2021 with Acecook Vietnam Joint Stock Company (ACV), to provide ACV's food plants with natural gas. By replacing the coal-fired steam boilers at two of ACV's plants with gas-fired steam boilers, SOGEC aims at improving the plants' work environment and reducing CO<sub>2</sub> emissions by approximately 76,300 tonnes over 10 years.

According to China's Bureau of Statistics, the country consumed 328.78 bcm of natural gas in 2020, 7.2% more than 2019. According to the country's customs statistics, the country imported 14.04 million tonnes of LNG during the first two months of 2021, an increase of 27% from a year earlier. In January, the country imported 8.49 million tonnes, compared to 8.06 million tonnes by Japan in the same month.

GTT announced on 3 March 2021 that GTT and Beijing Gas Group (BGG) had concluded an additional cooperation agreement related to the Tianjin Nangang LNG terminal, currently under construction in its first phase. The new agreement mainly covers the collaboration for the phase II and III of the terminal, which include the construction of six additional 220,000 m<sup>3</sup> latest generation LNG storage tanks.

China National Offshore Oil Corporation (CNOOC) announced on 15 March 2021 a Memorandum of Understanding (MoU) with Malaysia's Petronas to pursue cleaner energy solutions. CNOOC announced on 30 March that its Gas & Power Group would supply LNG fuel to 50 vessels that will be built by China National Shipbuilding Corporation.

Total announced on 23 March 2021 that the company and Shenergy Group in Shanghai had signed binding agreements for the supply of up to 1.4 million tonnes per year of LNG from Total, as well as the creation of a joint venture to expand LNG marketing.

Eni announced on 30 March 2021 that Eni and Zhejiang Energy signed a Memorandum of Understanding (MoU) on strategic cooperation in the energy sector aimed at facilitating joint initiatives across the gas and LNG value chain in China and internationally.

China's NDRC (National Development and Reform Commission) announced on 22 March 2021 a one-month public comment period for the "Administrative Measures for the Price of Natural Gas Pipeline Transportation" and "Measures for the Supervision and Examination of the Pricing Cost of Natural Gas Pipeline Transportation."

Sinopec said on Monday 29 March 2021 that it aimed to be carbon neutral by 2050 with hydrogen as one core area for a low-carbon push. Sinopec will focus on fossil fuel-based hydrogen production in next five years and meantime also start introducing "green" hydrogen using solar and wind power.

According to PPAC's Snapshot of India's Oil & Gas data, India's consumption of natural gas in February 2021 was 5.045 bcm, 12.7% lower year-on-year.

Hindustan Petroleum Corporation Limited (HPCL) announced on 30 March 2021 that it had acquired the balance 50% equity stake in 'HPCL Shapoorji Energy Private Limited (HSEPL)' from M/s S P Ports Pvt Ltd, making HSEPL a wholly owned subsidiary of HPCL. HSEPL is constructing a 5 million tonne per year LNG Terminal at Chhara, Gujarat which is likely to be completed by 2022.

Pakistan LNG revealed on 31 March 2021 that Eni, QP, PetroChina and Vitol offered the lowest prices in Pakistan LNG's tender, ranging USD 6.70 - 6.925/million Btu.

Australia's NERA (National Energy Resources Australia, a government affiliated agency) announced on 10 March 2021 that the Centre of Decommissioning Australia (CODA) had officially launched, heralding a collaborative effort to address the challenges of decommissioning aging oil and gas infrastructure.

Shell announced on 15 March 2021 that it had completed the sale of a 26.25% interest in the Queensland Curtis LNG (QCLNG) Common Facilities to Global Infrastructure Partners Australia. The Common Facilities include LNG storage tanks, jetties and operations infrastructure that service QCLNG's LNG trains. Shell remains 73.75% majority owner and operator of the Common Facilities.

The Australian Energy Market Operator (AEMO) announced on 29 March 2021 that it forecast an improved outlook for gas supply until at least 2026 across the eastern and south-eastern gas systems, if committed field developments and pipeline expansions proceeded as planned, with operation of the Port Kembla Gas Terminal (PKGT) commencing before the 2023 winter.

Australia's energy infrastructure company, Jemena, announced on 18 March 2021 that it had signed a project development agreement with Australian Industrial Energy (AIE) to connect Australia's first LNG import terminal to the Eastern Gas Pipeline (EGP).

On 29 March 2021, the Minister for Planning of Victoria completed his assessment concluding that the environmental effects of the project (Crib Point: AGL APA gas import

jetty and Crib Point - Pakenham gas pipeline) on the marine environment of the Western Port Ramsar site are unacceptable. AGL said that it was reviewing and considering its position in relation to the Minister's determination.

Blue Energy announced on 19 March 2021 that it had executed a non-binding Heads of Agreement (HOA) with Origin Energy for the supply of up to 300 PJ of gas at Wallumbilla over 10 years from the Northern Bowen Basin ATP814 coal seam gas tenure.

Beach Energy announced on 22 March 2021 a gas discovery at the Artisan 1 location in licence VIC/P43 (Beach 60% and operator, O.G. Energy 40% interest), offshore Victorian Otway Basin.

APA Group announced on 23 February 2021 a hydrogen pilot project to enable the proposed conversion of 43 km of Parmelia Gas Pipeline in Western Australia into Australia's first 100% hydrogen-ready transmission pipeline.

Chevron revealed on 9 March 2021 that the company had increased the capacity of the LNG plants with the Gorgon Trains 5% and the Wheatstone trains 9% above their original design capacity.

Woodside announced on 15 March 2021 that its Pluto LNG joint venture had delivered the first cargo of carbon offset condensate to Trafigura. The carbon dioxide equivalent emissions associated with extraction, storage and shipping of the 650,000-barrel cargo will be offset through a combination of efficiency measures and surrender of high-quality carbon offsets. High-quality carbon offsets have been sourced from nature-based projects located in the Asia-Pacific region, independently validated and verified by the Gold Standard or Verified Carbon Standard.

Santos, as operator of the Barossa joint venture, on 30 March 2021 announced that a final investment decision (FID) had been taken to proceed with the project located offshore the Northern Territory. The FID also initiates the investment in the Darwin LNG life extension and pipeline tie-in projects, which will extend the facility life for around 20 years. The Barossa development will comprise a Floating Production, Storage and Offloading (FPSO) vessel, subsea production wells, supporting subsea infrastructure and a gas export pipeline tied into the existing Bayu-Undan to Darwin LNG pipeline. First gas production is targeted for the first half of 2025. Prior to the FID announcement, the project's major contract for the construction, connection and operation of the FPSO awarded to BW Offshore.

Santos announced on 8 March that it had been advised by ENN Group that it had sold shares representing a 5.14% interest in Santos. ENN remains Santos' largest individual shareholder with a 9.97% stake.

Malaysia's PETRONAS announced on 25 March 2021 that the company made the first cargo delivery by PETRONAS Floating LNG DUA (PFLNG DUA), its second floating

LNG production facility, on 24 March, to an LNG buyer in Thailand. PFLNG DUA is located at Block H Rotan gas field located 140 kilometres offshore Sabah.

Japan Oil, Gas and Metals National Corporation (JOGMEC), Mitsubishi Corporation (MC) announced on 19 March 2021 that they had signed a Memorandum of Understanding (MOU) to conduct a joint study on carbon capture and storage (CCS) and carbon dioxide utilization for clean fuel ammonia production in Central Sulawesi with Indonesia's Bandung Institute of Technology (ITB) and PT Panca Amara Utama (PAU). The four parties will conduct a CCS feasibility study near PAU's ammonia plant in Luwuk, Central Sulawesi, and the Donggi-Senoro LNG plant in the same province which is being led by MC as the largest shareholder.

### **[North America]**

Intercontinental Exchange (ICE) announced on 23 March 2021 that the LNG freight futures contracts based on Spark Commodities' price assessments launched on 22 March.

Cheniere Energy expects the sixth train at the Sabine Pass LNG export facility in Louisiana to start up by the end of 2021. Construction on Train 6 is about a year ahead of schedule. While Cheniere is focused on those nine trains, the company said that it had achieved another 5 million tonnes of LNG capacity through debottlenecking efforts. The company also said that it had been able to reduce carbon intensity at its facilities through debottlenecking and optimizing the maintenance schedule.

Cheniere Energy's plan to begin commercial operations of its Train 3 of CCL (Corpus Christi Liquefaction) plant in Texas was authorized by the Federal Energy Regulatory Commission (FERC) on 25 March 2021.

ExxonMobil on 3 March 2021 outlined its plans through 2025 to increase earnings and cash flow to sustain and grow its dividend, reduce debt and fund advantaged projects, while working to commercialize lower emission technologies in support of the goals of the Paris Agreement. The company plans to reduce emissions and develop solutions, such as carbon capture and low-carbon hydrogen, the company said.

Chevron announced on 9 March 2021 plans to increase return on capital employed and lower carbon intensity. The company said it exceeded its 2023 upstream carbon intensity reduction targets three years ahead of schedule and announced lower 2028 targets and zero routine flaring by 2030. The new targets include: 24 kg CO<sub>2</sub>e / boe for GHG intensity, a combined 35% reduction from 2016; 3 kg CO<sub>2</sub>e / boe for overall flaring intensity, 65% lower than 2016; and 2 kg CO<sub>2</sub>e / boe for methane intensity, 50% lower than 2016. In addition, the company updated plans to increase renewable energy and carbon offsets and to invest in low-carbon technologies such as hydrogen and carbon capture, utilization and storage (CCUS).

NextDecade Corporation announced on 8 March 2021 that the company and Bechtel Oil, Gas, and Chemicals, Inc. (Bechtel) had completed a pricing refresh on the lump-sum turnkey (LSTK) engineering, procurement, and construction (EPC) agreements for the first three trains at NextDecade's Rio Grande LNG project with no impact to the overall cost of the project. The pricing is valid until December. The companies also agreed to extend the validity of the EPC Agreements until July 2022.

NextDecade announced on 18 March the formation of NEXT Carbon Solutions, LLC. The wholly owned subsidiary is expected to develop one of the largest carbon capture and storage (CCS) projects in North America at the Rio Grande LNG project. The company claimed that the CCS project was expected to enable the capture and permanent geologic storage of more than five million tonnes of CO<sub>2</sub> per year. NextDecade also said that it was working with sustainable Permian and Eagle Ford producers seeking to supply responsibly sourced natural gas (RSG).

NextDecade and Oxy Low Carbon Ventures (OLCV), a subsidiary of Occidental, on 25 March announced that they had executed a term sheet for the offtake and permanent geologic storage of CO<sub>2</sub> captured from NextDecade's planned Rio Grande LNG project in the Port of Brownsville, Texas. OLCV will offtake and transport CO<sub>2</sub> from the LNG project and permanently sequester it in an underground geologic formation in the Rio Grande Valley.

NextDecade announced on 29 March that it had agreed to sell USD 10 million of Series C Convertible Preferred Stock in a private placement to OGCI Climate Investments (OGCI CI). OGCI CI claims that the project demonstrates the economic viability of CCS to deliver carbon reduction, on a facility that aims to deliver the lowest end-to-end emission LNG possible from the Permian and Eagle Ford basins.

Annova LNG announced on 22 March 2021 the immediate discontinuation of its LNG export facility under development in Brownsville, Texas. The project had proposed building a 6.5 million tonnes per year LNG export facility. The project was being developed by Exelon, Black & Veatch, Kiewit Energy Group and Enbridge.

Kinder Morgan, Inc. (KMI) announced on 12 March 2021 that it had formed a new Energy Transition Ventures group to pursue commercial opportunities emerging from the low-carbon energy transition. Those new ventures may include services like carbon capture and sequestration, renewable natural gas capture, hydrogen production, renewable power generation and renewable diesel production.

New Fortress Energy Inc. said on 15 March 2021 that it was finalizing a framework agreement for a terminal in Southeast Asia to begin operations in 2H 2021. NFE announced that it had made a final investment decision (FID) on a "Fast LNG" 1.4 million tonnes per year capacity modular liquefaction facility. The "Fast LNG" design pairs modular, midsize

liquefaction technology with jack up rigs or similar floating infrastructure. A permanently moored FSU will serve as an LNG storage facility alongside the floating liquefaction infrastructure. NFE claimed that the liquefaction facility could produce LNG between an expected USD 3 - 4 million Btu. NFE has issued a limited notice to proceed to Fluor, Chart Industries and Baker Hughes for the construction of the first "Fast LNG" project, which is anticipated to become operational in estimated 20 months.

Port Authority of Canaveral, Florida, announced on 1 March 2021 that the Q-LNG 4000, a ship-to-ship articulated tug and bunker barge (ATB) had arrived at the port. The barge loads LNG from a distribution facility on Elba Island, Georgia. Sovcomflot announced on 19 March that the first Aframax tanker fuelling with LNG in the United States was conducted on 15 March. Sovcomflot's Gagarin Prospect, on long-term charter to Shell, was enroute from Corpus Christi to Europe. The ship received 1,075 m<sup>3</sup> of marine LNG from the Shell NA LNG LLC chartered Q-LNG 4000 outside the Port of Canaveral.

Chevron announced on 17 March 2021 that the company intended to cease further feasibility work for the Kitimat LNG project in British Columbia. In December 2019, Chevron announced its plan to divest its 50% interest in the project. Chevron engaged in a process to divest while continuing to work with its partner Woodside on agreed project activities.

New Fortress Energy (NFE) announced on 29 March 2021 that it had signed a gas supply agreement with CF Energia SA de CV, a subsidiary of Mexico's CFE. NFE will provide the equivalent of an estimated 250,000 - 500,000 gallons of LNG per day (300,000 tonnes per year) to CFE's CTG La Paz and CTG Baja California Sur power plants in Baja California Sur, Mexico.

### **[Middle East]**

Australia's engineering company Worley has secured a contract from a unit of UAE's Abu Dhabi National Oil Company (ADNOC) for FEED (front-end engineering design) work on rejuvenation of two liquefaction trains at the Das Island LNG export plant. The project looks to extend the lives of the trains but also boost efficiency.

PETRONAS announced on 10 March 2021 that it had inked two Memoranda of Understanding (MoU) with United Arab Emirates-based Abu Dhabi National Oil Company (ADNOC) and Masdar to pursue collaborations across the energy value chain. The PETRONAS-ADNOC MoU spans R&D and applied technology cooperation in enhanced hydrocarbon recovery, carbon capture, utilisation and storage, gas sustainability, specialty chemicals, unconventional resources and hydrogen technologies. Another potential is in the area of fuel bunkering and in supporting LNG bunkering vessels.

Qatar Petroleum (QP) announced on 1 March 2021 the award of a major engineering,

procurement, and construction (EPC) contract to Samsung C&T Corporation for the expansion of the LNG storage and loading facilities as part of the North Field East (NFE) Project. The contract, valued at more than USD 2 billion (including options), was awarded on a lump sum basis and is the second major onshore EPC contract award for the NFE project. The contract includes the expansion of systems that target the elimination of flaring during the loading of LNG ships. In addition, recovery of 'jetty boil-off gas' will help reduce greenhouse gas emissions (GHG).

QP announced on 10 March that the company, along with several LNG players, had signed a multi-party agreement with LNT Marine, the American Bureau of Shipping (ABS), and Shanghai Waigaoqiao Shipbuilding (SWS) to collaborate on the development of new medium and large LNG carrier designs.

QP announced on 22 March that it entered into a 10-year LNG Sale and Purchase Agreement (SPA) with China Petroleum & Chemical Corporation (Sinopec) for 2 million tonnes per year of LNG. LNG deliveries will commence in January 2022.

QP announced on 19 March that it had issued an 'Invitation to Tender' (ITT) for the chartering of LNG carriers for its future LNG shipping requirements, including its ongoing expansion projects in the North Field and the Golden Pass LNG export project in the United States, as well as options to replace time charters for Qatar's LNG carriers that will expire in the next few years.

QP announced on 17 March that it had joined the World Bank-led Global Gas Flaring Reduction Partnership (GGFR) Multi-Donor Trust Fund, as part of its commitment to stronger collaborations in the global effort to reduce flaring or burning of natural gas associated with oil/gas exploration, production and processing operations.

QP announced on 30 March that it would not be renewing the Qatargas Liquefied Natural Gas Company Limited (QG1) joint venture upon the expiry of the relevant agreements on 31 December. QP will become the sole owner of 100% of the QG1 assets and facilities on 1 January 2022.

## **[Africa]**

Templars Law Firm announced on 10 February 2021 that its client UTM Offshore Limited had secured a License to Establish (LTE) Nigeria's first Floating LNG (FLNG) Production Plant with 1.2 million tonne per year capacity, issued by the Department of Petroleum Resources (DPR). The plant would process natural gas and condensate from Oil Mining Lease 104.

An Italian court in Milan cleared Shell and Eni of corruption charges related to Nigerian allegations of fraud regarding OPL-245 oil block in 2011.

KARMOL's first Floating Storage Regasification Unit (FSRU) was delivered on 15 March 2021 at Sembcorp Marine in Singapore ahead of its deployment to Senegal. The FSRU "KARMOL LNGT POWERSHIP AFRICA" will enable KARMOL (a Joint Venture between Karpowership and Mitsui OSK Lines) to offer LNG-powered electricity to the West African country for the first time using its floating Powership, Karadeniz Powership Ayşegül Sultan, before the end of June.

Total announced on 16 March 2021 that the company and Forêt Ressources Management had signed a partnership agreement with the Republic of the Congo to plant a 40,000-hectare forest on the Batéké Plateaux. The company said the new forest would create a carbon sink that will sequester more than 10 million tonnes of CO<sub>2</sub> over 20 years, to be certified in accordance with the Verified Carbon Standard (VCS) and Climate, Community & Biodiversity (CCB) standards.

The Mozambique LNG project and the Government of Mozambique announced on 24 March 2021 that the project would resume construction activities, following the implementation of additional site security measures. Later in March 2021 Total postponed the restart of works, after deadly attacks on a nearby coastal town of Palma.

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

The European Commission launched on 26 March 2021 an open public consultation on revising the Gas Directive and Gas Regulation in the context of the European Green Deal ambition to achieve climate neutrality by 2050.

Florence School of Regulation, European University Institute, noted on 23 March 2021 that UN Environmental Programme (UNEP) on 2 March officially announced the creation of the International Methane Emissions Observatory (IMEO). UNEP, in collaboration with the European Commission, launched IMEO to engage with governments and companies around the world to accelerate reductions of methane emissions globally.

National Grid announced on 18 March 2021 that it had agreed to acquire Western Power Distribution (WPD), the United Kingdom's largest electricity distribution business. National Grid also announced that it would commence a process later in 2021 for the sale of a majority stake in National Grid Gas, the owner of the national gas transmission system (NGG). The company said the proportion of the Group's assets in electricity would increase from c.60% to c.70%. Completion of the WPD Acquisition is expected to occur within the next four months. National Grid expects to launch the sale process for NGG in the second half of 2021 and complete the sale approximately a year later. National Grid also announced that it was exploring the development of a United Kingdom hydrogen 'backbone', potentially creating a 2000 km hydrogen network by around 2030.

Eni announced on 17 March 2021 that the HyNet North West integrated project, aimed at decarbonising the industrial district in the Northwest of England, had received £33 million in funding from UK Research and Innovation (UKRI), the United Kingdom Government's body, through its Industrial Decarbonisation Challenge (IDC) fund. The funding covers around 50% of the investment necessary to finalise ongoing planning studies with the aim of the site becoming operational by 2025. The site intends to capture, transport and store carbon dioxide (CO<sub>2</sub>) emissions from existing industries and from future production sites for blue hydrogen, as an alternative fuel for heating, electricity generation and transport.

bp announced on 18 March 2021 that it was developing plans for the United Kingdom's largest blue hydrogen production facility H<sub>2</sub>Teesside, targeting 1 GW of hydrogen production by 2030. The project would capture and send for storage up to two million tonnes of carbon dioxide (CO<sub>2</sub>) per year. bp announced on 22 March that it had removed proved reserves replacement ratio from the company's KPIs (key performance indicators), as it no longer serves as a useful measure of its strategic performance.

New Fortress Energy Inc. (NFE) said on 16 March 2021 that the company expected to make a final investment decision on an LNG receiving terminal in Shannon, Ireland, by July or August 2021.

France's Elengy, a GRTgaz subsidiary part of the ENGIE, announced on 4 March 2021 that it unloaded its 10,000th cargo of LNG on the preceding day. Elengy announced on 24 March that its subsidiary Fosmax LNG had launched a call for capacity subscriptions at its Fos Cavaou LNG terminal ("Open Season Fos Cavaou 2021"). Elengy announced on 2 April that for the first time in France an ISO-container loaded with LNG at Elengy's the Fos Cavaou terminal had been transported by rail from Southern France and delivered to a service station near Milan in Italy.

The Nordic energy company Gasum announced on 9 March 2021 that it obtained a distribution license for LNG as shipping fuel on the French market on 17 February.

Total announced on 25 March 2021 that the company and MSC Cruises officialised a supply agreement for approximately 45,000 tonnes per year of LNG to MSC Cruises' upcoming LNG-powered cruise ships to make calls in the port of Marseille, France.

Fluxys announced on 3 March 2021 that the company and shareholders of Hanseatic Energy Hub, developer of the LNG terminal project in Stade near Hamburg, had agreed on Fluxys joining the project, following recent investment into Hanseatic Energy Hub by Partners Group, the leading global private markets firm, on behalf of its clients.

Germany's shipbuilding company Ferus Smit announced on 1 March 2021 that new oil/chemical tanker 'Thun Equality' was launched at the Leer yard. The tanker will be fuelled

with LNG.

Höegh LNG announced on 8 March 2021 a recommended offer by Leif Höegh & Co. (LHC) and Funds managed by Morgan Stanley Infrastructure Partners (MSIP) to acquire the remaining issued and outstanding shares of Höegh LNG not currently owned by LHC, representing approximately 50.4% of the shares outstanding. The common shares of Höegh LNG will be delisted from the Oslo Stock Exchange.

Baker Hughes announced on 23 March 2021 that the company and Horisont Energi had signed a memorandum of understanding (MoU) for the Polaris carbon storage project off the northern coast of Norway.

Repsol announced on 12 March 2021 that it had carried out a new supply of LNG to a ship for use as fuel in the port of Cartagena in Spain. The operation is the first instance where Repsol, as a supplier of LNG, has guaranteed the compensation of the total CO<sub>2</sub> emissions associated with the consumption of the LNG. The bunkering has been carried out for the Swedish-flagged chemical vessel Fure Vinga. This chemical tanker arrived from China and is continuing with its route to Rotterdam after her call in Cartagena.

Eni announced on 15 March 2021 that the company and Politecnico di Milano had signed a framework agreement. The strategic element of the new framework agreement for 5 years, extendable to 7, is the development of the first Joint Centre for the acceleration and application of technologies for energy transition and Carbon Neutrality.

Excelerate Energy announced on 12 March 2021 that the company, ExxonMobil, and Albania's Ministry of Infrastructure and Energy signed a Memorandum of Understanding (MOU) on 12 March 2021, to conduct a feasibility study for the potential development of an LNG receiving terminal in the Port of Vlora in Southern Albania. The pre-feasibility report is expected to be delivered in Q3 2021, while the targeted start-up for the LNG Import Project could be as early as 2023.

Gazprom announced on 26 March 2021 that RusKhimAlyans and Linde Engineering had signed an "agreement of intent" outlining the main terms and conditions of an engineering, procurement, and site services (EPSS) contract for Linde to carry out work on Gazprom's planned Gas Processing Complex (GPC) - part of the proposed 45 Bcm per year capacity Ust-Luga facility, on the Baltic coast.

Shell announced on 8 March 2021 that Shell Global LNG Limited recently had received the first ever carbon neutral LNG cargo in Europe from Gazprom, unloaded at the Dragon LNG terminal in Wales. Shell said that an average LNG cargo of about 70,000 tonnes emits approximately 240,000 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e) across the value chain. High quality nature-based carbon credits have been used to offset full lifecycle emissions (including methane) generated - from exploring for and producing the natural gas,

to use by the final consumer (all scopes2).

Russia's NOVATEK announced on 24 March 2021 that Arctic LNG 1 had won the auction for geological survey, exploration and production license for the North-Gydanskiy subsoil license area located in the Yamal-Nenets Autonomous Region on the Gydan Peninsula and partly in the shallow waters of Gydan Bay of the Kara Sea. The new license area borders NOVATEK's existing assets on the Gydan Peninsula and the company claims that the license expands the company's resource base for implementing new LNG projects.

Russia's Gazprom announced on 16 March 2021 that the company and Shell signed an Agreement of Strategic Cooperation for a five-year period.

Gazprom announced on 24 March that the company reduced the emissions by 16 million tonnes of CO<sub>2</sub> equivalent (14%) in 2020, employing advanced gas conservation technologies in repair operations. This was achieved by using mobile compressor stations, optimizing energy resource utilization, and performing renovations and upgrades at compressor stations. The company also noted that reduction of methane emissions across the entire production chain had been a key focus. To that end, the company says that it carries out regular in-line inspections of gas pipelines, examines their technical condition, and monitors methane emissions by means of helicopters and drones with laser scanners.

Gazprom announced on 15 March 2021 that the company, RusGazDobycha and NIPIGAZ had decided to terminate the EPC contract for the creation of the Gas Processing Complex as part of the Complex for processing ethane-containing gas (GPC of CPECG) near Ust-Luga, to optimize the project costs. Gazprom said that a new contractor would be appointed in the near future.

### **[South America]**

Argentina's state-owned IEASA received offers from 14 companies to supply 24 LNG cargoes, according to the energy secretariat.

Avenir LNG announced on 10 March 2021 the delivery of The Avenir Accolade, the second 7,500 m<sup>3</sup> dual-purpose, LNG supply and bunkering vessel (LBV) from Keppel Offshore and Marine, Nantong. The Avenir Accolade will enter a 3-year bareboat charter to LNG Power Limited, a subsidiary of Hygo Energy Transition Ltd to support Hygo's developments in Brazil.

Reference: Company announcements, Cedigaz News Report.

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