



BW LNG STEAMSHIP UP FOR SALE AS CANDIDATES SET TO DOUBLE

A 21-year-old steam turbine-driven LNG carrier is being offered for sale, with the number of older-generation vessels entering the market in this sector expected to double by the year's end. Brokers said BW LNG's 138,059-cbm BW Boston (built 2003) is up for sale. BW LNG has been weeding out its older tonnage as it takes delivery of two-stroke LNG newbuildings. This month, the company announced that it was converting one of its steamships into a floating storage unit for use in Jordan. BW LNG has not named the vessel and TradeWinds understands the company could also opt to select the BW Boston for the project if it chooses to convert it rather than sell the ship. BW LNG has also sold off LNG steam tonnage. Brokers pointed to the sale of the vessel's sister ship, which was sold in May 2023 for \$46m as the BW Everett to Taiwan's Eddie Steamship. The ship was later sold by the Taiwanese party and has since resurfaced in Russia's shadow fleet, now trading as the 138,000-cbm Everest Energy (ex-Metagas Everett) and sanctioned by the US. Brokers said at least 15 steam turbine LNG carriers are now up for sale — from more than 200 that remain in the global trading fleet of around 710 ships. But one said he expects this number to double to nearer 30 by year-end when looking at the number of ships due to be redelivered from long-term charters. Others put the figure higher than 30. TradeWinds has been reporting on some of these vessels as they

have emerged throughout the year. They include Adnoc Logistics & Services' 137,500-cbm, Moss-type vessel Ghasha (built 1995) NYK circulated its 149,700-cbm steamer Grace Cosmos (built 2008) for sale mid-year. Sinokor's laid-up LNG tonnage is often quoted for sale. The company is sitting on several elderly vessels, which it has yet to trade. Capital Gas is also believed to be open to buyers on its remaining secondhand purchase, according to some brokers. In May, the company sold its 137,231-cbm steamship Trader IV (built 2002) for \$40m. The vessel is now trading as the Asya Energy under interests linked to Russia and has been sanctioned by the US. In the past few months, brokers have drawn attention to new or unknown buyers prepared to pay high prices for elderly LNG steamships. Other steam turbine LNG vessels are expected in the market. Among these are at least five steamships controlled by South Korean interests. They were ordered in the mid to late 1990s against long-term charters from domestic state-run gas buyer Kogas. They are anticipated to come up for sale early next year. The LNG steamship story is finally starting to play out after several years when the vessels were expected to exit the market but traded on. However, as emissions regulations tighten, the ships are being redelivered from long-term business and charterers said they will prove difficult, if not impossible, to fix for global trading. They also rank as small and inefficient when compared to modern two-stroke LNG carrier newbuildings that are set to deliver in record numbers over the next two years. There are opportunities to utilise some tonnage for conversions into floating LNG production, regasification or storage projects. Interest in these older vessels is said to have picked up among developers. But brokers said the number of steamers potentially looking for new homes could also put downward pressure on second-hand prices. source: www.tradewindnews.com

CONOCOPHILLIPS TIED TO NAKILAT NEWBUILD CHARTERS

ConocoPhillips is being named in the market as the charterer of two LNG carrier newbuildings contracted at the beginning of the year by Qatari shipowner Nakilat. Brokers said the US energy major has fixed the pair, ordered at HD Hyundai Samho Heavy Industries in South Korea, for periods of at least five years each. A ConocoPhillips spokesman said: "Unless formally announced by our company, ConocoPhillips does not comment on ongoing business development or commercial activities." Industry players said ConocoPhillips needs to secure tonnage to lift some of the 7.4m tonnes per annum of LNG it has snapped up. They point to its 5 mtpa of offtake from Sempra Infrastructure's Port Arthur project in Texas, where it has a 30% stake. ConocoPhillips has also bought 2.2 mtpa from Mexico Pacific's upcoming Saguaro Energia LNG and 0.2 mtpa from Sempra's Energia Costa Azul in Baja California, Mexico. Nakilat has been asked for confirmation and further details of the charters. The Doha-listed company announced on 9 January that it had ordered two 174,000-cbm LNG carriers, along with a quartet of very large LPG/ammonia carriers. The LNG carriers, priced at around \$260m each, are due for delivery between 2026 and 2027. Rumour mill, At the time there was surprise that Nakilat was going ahead with LNG carriers for its own account, as it was expected to be named for a swathe of vessels under Phase 2 of producing giant QatarEnergy's colossal newbuilding project. In the event, Nakilat went on to secure 34 more ships from QatarEnergy, which has boosted its LNG carrier fleet to 105 vessels. Chat continued to swirl on other LNG time charter business during the Gastech meeting in Houston, Texas last

week. Talk among market participants pointed to Gail (India) as fixing Japanese-controlled tonnage for its long-term requirement for modern tonnage. One LNG chartering specialist said Gail has earmarked a newbuilding supplied by Mitsui OSK Lines for the business. But others suggested K Line could be the preferred party. Gail tendered for an LNG carrier to take on charter for a minimum of seven years with the option to extend the hire to the end of 2038. It has floated the option of taking up to a 26% equity stake in the ship. Rates for modern two-stroke tonnage for multi-year business have been floundering in the \$80,000 to \$90,000 per day range in the past few months. This compares with levels of more than \$100,000 per day that owners say are required to cover the cost of newbuildings in today's high-priced market for vessels and finance costs. source:

www.tradewindsnews.com

GASUNIE, RWE PLAN TO LAUNCH GERMAN ONSHORE LNG TERMINAL IN 2027

Dutch gas grid operator Gasunie and German energy firm RWE aim to launch their onshore LNG import terminal in Brunsbüttel in 2027 after receiving planning approval from the local government. In 2022, Gasunie joined forces with the German government and RWE to build the LNG import terminal, which is worth about 1.3 billion euros (\$1.45 billion). Gasunie has a 40 percent operating stake in the facility, RWE has 10 percent, while the German government, through KfW, holds 50 percent. The terminal is expected to regasify and feed some 10 billion cubic meters of natural gas into the German grid. US energy giant ConocoPhillips, UK's Ineos, and RWE have previously agreed to book long-term capacity at the onshore LNG import facility, while a unit of French construction company Vinci and Spanish engineering firm Sener won the EPC contract. German LNG Terminal said on Thursday the Schleswig-Holstein Planning Approval Authority has now issued the plan approval decision for the construction of the land and water-side harbour infrastructure for the LNG terminal in Brunsbüttel. A spokesman for German LNG Terminal said, "this means that we now have a formal plan approval and as the planning and implementation organization, German LNG Terminal will do everything in its power to be able to go into regular operation as early as possible in 2027." "In addition, the best possible fossil-free subsequent use will be considered and planned in advance. It has been determined that from the end of 2043, continued operation will only be permitted for climate-neutral hydrogen and its derivatives," he said.

FID

Asked about the final investment decision, he said that one of the requirements for the formal FID was the issuing of the planning approval for the construction of the land and water-side harbor infrastructure. "So next steps will follow," the spokesman said. "However, regardless of this pending approval, all three shareholders have made very clear from the signing of the MoU in March 2022 onwards, that they jointly will give full support to the project," he said. "In terms of capacity the three initial clients have booked 90 percent on long-term, 10 percent are still available and open for short-term bookings," the spokesman added.

German FSRUs

Brunsbüttel already hosts the Elbehafen FSRU-based LNG import terminal. Once in operation, the new land-based LNG terminal will replace the current FSRU-based facility. The 170,000-cbm FSRU Hoegh Gannet, which serves the Elbehafen LNG import terminal Brunsbüttel, started supplying regasified LNG to the German grid on March 22, 2023, as part of the commissioning phase. RWE developed the project with Hoegh LNG, Brunsbüttel Ports, and also other partners on behalf of the German government. State-owned German LNG terminal operator DET operates this facility, as well as the first Wilhelmshaven terminal and the upcoming FSRU-based LNG import terminals in Stade and Wilhelmshaven. Private firm Deutsche ReGas recently launched commercial operations at its Mukran FSRU-based LNG terminal, which can handle up to 13.5 bcm per year. Germany is expected to have five operational FSRU-based facilities by the end of this year. Earlier this year, Germany's Hanseatic Energy Hub officially started building its Stade LNG onshore import terminal near Hamburg, which is worth about 1 billion euros. HEH says this is Germany's first onshore LNG terminal. In March, HEH's shareholders Partners Group, Enagas, Dow, and Buss Group took a positive final investment decision on the project. Source: www.lngprime.com

SOUTH AFRICA'S TNPA MOVES FORWARD WITH NGQURA LNG TERMINAL PLANS

South Africa's Transnet National Ports Authority is moving forward with its plans to develop an LNG import terminal in the Port of Ngqura. TNPA seeks to appoint a service provider to conduct an environmental impact assessment for the project. TNPA is part of South African rail, port, and pipeline company Transnet, which is owned by the South African government. The firm, in collaboration with Infrastructure South Africa (ISA) and the Industrial Development Corporation (IDC), has approached the market for the assessment. TNPA said in a statement the request for proposals (RFP) process will see the appointment of a service provider contracted to assess the environmental compliance and sustainability of the proposed LNG terminal. This involves conducting a detailed analysis of ecological and local regulations to determine critical environmental authorizations. These services also include a seismic survey, marine ecology, climate change impact assessment, and socio-economic assessment to support the project. TNPA said the EIA process is carried out in tandem with negotiations of the terminal operator agreement between TNPA and Strategic Fuel Fund (SFF) to build and operate an onshore LNG regasification facility at the Port of Ngqura for 30 years. The Ngqura LNG terminal is one of 12 priority infrastructure projects announced in March 2024 that hold a strategic integrated project (SIP) status. Moreover, TNPA said the triad strategic partnership is fast-tracking the conclusion of the EIA, with the RFP closing on October 30, 2024. This partnership will also see the issuing of the RFP for pre-feasibility studies by the end of September 2024, it said. Acting TNPA chief executive, Phyllis Difeto said this "milestone is a critical step" towards the development of the LNG terminal at the Port of Ngqura. "Through its commercial seaports, TNPA is at the forefront of enabling the gas-to-power project pipeline whilst ensuring the security of supply and unlocking global opportunities for sustainable impact," Difeto said.

Gas power

South Africa is the largest power market in Africa with a nominal installed generation capacity of about 55 GW, predominantly coal-based technology. The nominal installed capacity includes capacity from state power company Eskom, plus peaking plants, and independent power producers. South Africa aims to ensure energy security and reduce greenhouse gas (GHG) by using gas-to-power technologies. However, the country still has no LNG import facilities. In alignment with South Africa's energy diversification goals, TNPA has taken a strategic initiative to position the Port of Ngqura as a "key enabler" for the secure supply of LNG in the Eastern Cape. TNPA said this project will contribute to the procurement of up to 3,000 MW of gas-to-power generation by 2027, increasing the country's natural gas energy mix from 2.6 percent to 15.7 percent by 2030.

Two phases

The LNG terminal will be developed in two phases, with the provision to convert the terminal to supply LNG to an onshore regasification facility in the future, according to TNPA. "Although the project was initially anticipated to be developed in two phases (i.e. phase 1 - FSRU and phase 2 - LNGC), the terminal operator has indicated that it intends to develop phase 2 of the project as its primary objective," it said. TNPA seeks to obtain environmental authorization including for both the phase 1 and phase 2 solutions, in an event that the terminal operator experiences changes on its execution strategy. The FSRU will be permanently moored at the LNG berth at the port's breakwater and is planned to deliver 0.5 million tons per annum of LNG. The LNG breakwater berth will have the capability for future development to deliver up to 2.8 million tons of LNG per annum. Moreover, the second solution involves a land-based storage and regasification facility, and the same marine infrastructure would be used for this solution. A new pipeline with a length of 2.5km would be built to transfer LNG from the jetty to the new land-based storage and regasification terminal adjacent to the port boundary. For phase 2, the LNG terminal is planned to deliver a minimum of 0.5 million tons per annum of LNG and up to 2.8 million tons per annum of LNG, according to TNPA.

Richards Bay

Earlier this year, TNPA appointed Dutch terminal operator Vopak and its consortium partner Transnet Pipelines to build and operate an LNG import facility at the Port of Richards Bay. After that, Vopak Transnet Pipelines were testing the market's interest in regasification and storage capacity at their planned LNG terminal.. According to the two firms, the first phase of the LNG terminal includes a floating storage unit (FSU) of at least 135,000 cbm and an onshore regasification system with an indicative capacity of 2 mtpa, or about 300 mmscfd. The planning basis is targeting the commercial operations date (COD) in 2027.

Eskom and Sasol

As part of South Africa's LNG import plans, Eskom and petrochemicals firm Sasol recently joined forces to explore potential future LNG requirements in the country. Last week, the two firms, which are the largest coal users in South Africa, signed a

memorandum of understanding in Johannesburg on Friday with the support of South Africa's Minister of Electricity and Energy, Kgosientsho Ramokgopa. Aligned to the gas master plan, the MoU will explore sourcing gas within South Africa, the Southern African Development Community (SADC) region, and other parts of the African continent, in addition to evaluating long-term LNG contracting. This will support the gas requirements for Eskom's planned coal power station repowering and conversion to gas in the long term, they said. The partners said they will also engage other state entities to enable an LNG value chain in South Africa. Source: www.lngprime.com

CHINA WAS TOP DESTINATION FOR US LNG SHIPMENTS IN JULY

China, the world's largest LNG importer, was the top destination for US liquefied natural gas cargoes in July, according to the Department of Energy's LNG monthly report. The DOE report shows that US terminals shipped 33.4 Bcf of LNG to China in July, 28.3 Bcf to India, 26.8 Bcf to Japan, 24.3 Bcf to Egypt, and 24.1 Bcf to South Korea. These five countries took 42.3 percent of total US LNG exports in July. In June, South Korea was the top destination for US LNG cargoes, and India was the top destination in May when Asia overtook Europe as the main destination for US LNG supplies. Before that, Dutch and French LNG import terminals were the top destinations for US LNG supplies in March and April. According to DOE's data, the Netherlands was the top destination for US LNG supplies in January–July with 287.1 Bcf or 86 cargoes, down by 20 percent year-on-year, while France took 216.3 Bcf or 66 cargoes, down by 21 percent year-on-year. In 2023, the Netherlands was also the prime destination for US LNG cargoes with 588.6 Bcf, followed by France with 493.2 Bcf.

US LNG exports drop

The US exported 323.9 Bcf of LNG in July to 31 countries, down by 7.3 percent compared to the same month in 2023 and a drop of 9.1 percent from the prior month, the DOE report shows. Asia received 163.8 Bcf or 50.6 percent of these volumes, while Europe received 104.3 Bcf or 32.2 percent and Latin America/Caribbean received 31.5 Bcf or 9.7 percent. The DOE said that 83.7 percent of total July LNG exports went to non-free trade agreement countries, while the remaining 16.3 percent went to free trade agreement countries. Moreover, US terminals shipped 104 LNG cargoes in July, down from 119 LNG cargoes in June. Cheniere's Sabine Pass plant sent 38 cargoes, and its Corpus Christi terminal shipped 18 cargoes, while Sempra's Cameron LNG plant shipped 19 cargoes and Venture Global's Calcasieu plant sent 12 cargoes during the month under review. The Freeport LNG terminal sent only 8 cargoes, the Cove Point LNG terminal dispatched 6 shipments, and Elba Island LNG sent 3 cargoes. Freeport LNG resumed operations at all three liquefaction trains on July 29 after the terminal's fin fan air coolers were damaged during Hurricane Beryl.

Average price at 6.47/MMBtu

According to DOE's report, the average price by export terminal reached 6.47/MMBtu in July. This compares to 6.37/MMBtu in July 2023, while the average price was 6.32/MMBtu in June 5.41/MMBtu in May, 5.25/MMBtu in April, \$5.47/MMBtu in March, \$6.31/MMBtu in February, and 6.63/MMBtu in January this year. The most expensive average price in July came

from Venture Global's Calcasieu Pass terminal, and it reached \$9.40/MMBtu. Prices at other facilities ranged between \$5.66-\$6.75/MMBtu, the data shows.

6453 cargoes

The report said that from February 2016 through July 2024, the US exported 6453 cargoes or 20,412.8 Bcf to 41 countries. The DOE data shows that South Korea remains the top destination for US LNG, with 628 cargoes, followed by Japan with 515 cargoes, France with 521 cargoes, the Netherlands with 475 cargoes, and the UK with 468 cargoes. France took more shipments than Japan but fewer volumes. In addition to these five countries, Spain, China, India, Turkiye, and Brazil are in the top ten. source: www.lngprime.com

DIXSTONE SCORES CONTRACT FOR PERENCO'S GABON LNG PROJECT

Dutch services company Dixstone, a unit of London-based oil and gas firm Perenco, has secured a construction, procurement, and integration contract for Perenco's floating LNG export project at Cap Lopez, Gabon. Dixstone announced the contract award last week, saying the project includes a near-shore liquefaction barge and LNG storage. According to Dixstone, this project will produce 0.7 mtpa of LNG and 25,000 tons of LPG per year in the first phase. The firm also said the project will have a storage capacity of 137,000 cbm in an ex-gas tanker converted to a floating storage and offloading unit. Dixstone will construct the liquefaction barge in Dubai, where a new office has been set up, based on its extensive experience in international FSO/FPSO conversions in the last 20 years. The company said it is providing a local content capacity to the project thanks to its "Les Chantiers du Gabon" yard situated in Port-Gentil. The yard will be used to support Perenco Oil & Gas Gabon's onshore works, which are necessary to gather gas from the country's operated fields and to support the works at the Cap Lopez terminal. Last year, Perenco announced a positive final investment decision on the liquefaction plant in Gabon worth more than \$1 billion. The project will see the transformation of Cap Lopez into both an oil and gas terminal. Perenco's unit in Gabon operates onshore and offshore licenses, as well as floating offshore storage and offloading (FPSO) units. The company then said it expected the LNG production facility to be completed in about three years. Perenco recently purchased a stake in floating LNG player Golar LNG. The company's investment affiliate Naria has taken a 9.9 percent stake in Golar. Golar and Perenco are partners in the FLNG project located offshore Cameroon's Kribi. Last year, Golar's FLNG Hilli, which serves the project, offloaded its 100th cargo of LNG since it started operations in 2018. Source: www.lngprime.com

GASTRADE'S ALEXANDROUPOLIS FSRU TO GET FIRST COMMERCIAL LNG CARGO NEXT WEEK



Gastrade's FSRU-based LNG import terminal off Greece's Alexandroupolis is set to receive its first commercial LNG shipment next week. The 174,000-cbm LNG carrier GasLog Hong Kong delivered the commissioning cargo from the US to the 153,600-cbm FSRU, Alexandroupolis, on February 18. The LNG carrier, chartered by France's TotalEnergies, brought the shipment from Sempra's Cameron LNG plant in Louisiana. After that, Gastrade

planned to launch commercial operations at the end of April and receive the next LNG cargo in mid-May. However, the company postponed the launch because of a problem that was identified during commissioning in the project's pipeline system. Last month, the FSRU-based LNG import terminal off Alexandroupolis completed final tests. A spokeswoman for Gastrade told LNG Prime on Wednesday that the first commercial LNG shipment is set for October 3/4. TotalEnergies will provide the cargo to Bulgaria's Bulgargaz which previously booked capacity at Gastrade's FSRU-based LNG import facility. The spokeswoman did not provide further information regarding the shipment. "The COD (commercial operation date) is still confirmed for October 1, 2024," she said. Bulgargaz recently awarded a tender to TotalEnergies Gas and Power, a unit of TotalEnergies, to supply one LNG cargo via the Alexandroupolis FSRU. The company sought one LNG cargo of about 150,000 cbm on a DES (delivery ex-ship) basis. The delivery window is October 4. In addition to this cargo, Bulgargaz is seeking two LNG cargoes, each of about 150,000 cbm, for delivery during November 23-31 and the other during December 23-30, 2024.

First Greek FSRU

Gastrade's shareholders include founder Copelouzou, DESFA, DEPA, Bulgartransgaz, and GasLog. This is Greece's first FSRU and the second LNG import facility, adding to DESFA's import terminal located on the island of Revithoussa. The Alexandroupolis LNG terminal will have a capacity of 5.5 bcm. The FSRU is located in the sea of Thrace at a distance of 17.6 km SW from the port of Alexandroupolis and 10 km from the nearest coast of Makri. It is connected to a high-pressure subsea and onshore gas transmission pipeline. It is worth mentioning here that US LNG exporter Venture Global LNG just booked long-term capacity at Gastrade's LNG import terminal. Under the binding terminal use agreement, Venture Global has secured about 1 mtpa of LNG regasification capacity at the terminal for five years, beginning in 2025. Venture Global's capacity will account for about 25 percent of the total terminal capacity or about 12 LNG cargoes annually, it said. The firm said the deal enables the regasification and sale of LNG from Venture Global's terminals in Louisiana to markets in Central and Eastern Europe.

Interconnection deal

In a related development, the operator of the gas interconnector between Greece and Bulgaria has signed an interconnection agreement with Greek grid operator DESFA for gas flows at the Komotini interconnection point. IGB said in a statement it had already tested the IP at Komotini with natural gas prior to the commissioning of the LNG terminal in Alexandroupolis. The IGB pipeline is connected with the Trans-Adriatic Pipeline (TAP) and also with the natural gas transmission system of Bulgartransgaz. The new interconnection agreement will allow interested parties with booked capacities from the FSRU to transport gas via the IGB pipeline, establishing a new route for natural gas deliveries to Southeast and Central Europe, it said. IGB's current capacity is 3 bcm/y with the potential to reach 5 bcm/y. source: www.lngprime.com

H-LINE, HYUNDAI GLOVIS TAKE DELIVERY OF NEW LNG-FUELED PCTC

China's Guangzhou Shipyard International (GSI) has delivered another LNG-powered pure car and truck carrier to South Korean owner H-Line Shipping and charterer Hyundai Glovis. According to a statement by GSI, the shipbuilder handed over the 7,000-ceu Glovis Selene on September 24, six months before the contract delivery date. The vessel is 200 meters long and 38 meters wide. Its design draft is 8.6 meters, its design speed is 19 knots, and it has 12 vehicle decks. GSI said this is the third 7,000-ceu PCTC it built for H-Line. H-Line placed orders for four LNG-powered PCTCs with a capacity of 7,000 ceu at GSI. GSI delivered H Line's first LNG-powered PCTC, Glovis Solar, in April this year, and the second vessel, Glovis Sunshine, in July. Both vessels serve charter deals with Hyundai Glovis. In January last year, H-Line placed an order with GSI for two LNG dual-fuel PCTS with a capacity of 8,600 units. GSI said at the time that it has three 8,600-ceu vessels on order from H-Line and all of the ships will go on charter to Hyundai Glovis.

Hyundai Glovis

In May 2024, GSI also secured a new order from Hyundai Glovis to build six more LNG dual-fuel PCTCs with a capacity of 10,800 ceu. Hyundai Glovis, the operator of a large PCTC fleet and the shipping unit of Hyundai Motor Group, said in April it will add six LNG dual-fuel vessels to its fleet, but it did not reveal the name of the yard which will build the vessels. The firm said the investment is worth \$750 million and it expects to take delivery of the six ships by the end of 2028. In December last year, South Korea's HMM and Hyundai Glovis joined forces to order six LNG-powered PCTCs at GSI, while Seaspan and Hyundai Glovis ordered six LNG-powered PCTCs at CSSC's Shanghai Waigaoqiao Shipbuilding (SWS). Moreover, Hyundai Glovis said in February this year that it has signed a deal with state-owned Korea Ocean Business Corporation (KOBIC) related to the construction of four LNG-powered PCTCs with a capacity of 10,800 ceu as part of its plans to have 28 LNG-powered PCTCs in its fleet. SWS and GSI will reportedly build two of these vessels, each. Source: www.lngprime.com

HAPAG-LLOYD TO ORDER LNG-POWERED CONTAINERSHIPS IN CHINA

Germany's Hapag-Lloyd has signed a letter of intent with a Chinese shipbuilder to order a new batch of LNG dual-fuel containerships, according to shipbuilding sources. Sources said on Wednesday that the LoI between Hapag-Lloyd and Yangzijiang Shipbuilding includes 20 LNG dual-fuel containerships. Under the deal, Yangzijiang will build 8 vessels with a capacity of 9,000 teu and 12 vessels with a capacity of 17,000 teu, the sources said. According to the sources, the vessels will feature ME-GI propulsion and type C LNG tanks. The larger 17,000-teu containerships are said to be worth less than \$200 million per vessel. Yangzijiang said in its H1 report that it secured orders for 18 LNG dual-fuel containerships, including 8 9,000-teu vessels and 10 17,000-teu vessels. The shipbuilder had 52 LNG dual-fuel containerships in its order book as of the end of June this year. LNG Prime reported in August that Hapag-Lloyd was looking to order more LNG dual-fuel containerships in South Korea and China. The shipping firm took delivery of its seventh of 12 ultra-large LNG-fueled containerships last month from South Korea's Hanwha Ocean. These giant vessels are about 400 meters long and 61 meters wide. Hapag-Lloyd first ordered six LNG dual-fuel containerships from Hanwha Ocean in 2020, and it added six more sister vessels in 2021. The orders are worth about \$2 billion. Hapag-Lloyd expects to take delivery of the remaining vessels in 2024 and 2025. In addition to newbuild vessels, Hapag-Lloyd operates the converted containership Brussels Express, the world's first ultra-large containership LNG retrofit. In April, this vessel completed what Hapag-Lloyd claims is the largest ship-to-ship bio-LNG bunkering operation in the Dutch port of Rotterdam. Hapag-Lloyd is also working on a synthetic methane project to further reduce emissions from its fleet of LNG-powered containerships. The company's LNG bunker consumption totaled 22,769 tonnes in 2023. This compares to 4,582 tonnes in 2022. Source: www.lngprime.com

TECHNIP ENERGIES, JGC SCORE FEED CONTRACT FOR EXXONMOBIL'S ROVUMA LNG

France's Technip Energies and Japan's JGC have been awarded the front-end engineering design (FEED) contract by US energy giant ExxonMobil for the Rovuma LNG project in Mozambique.

ExxonMobil awarded the contract on behalf of Mozambique Rovuma Venture (MRV), a joint venture that includes Eni and CNPC. Technip Energies said on Wednesday the Rovuma LNG project at Palma in the Afungi peninsula will consist of an LNG plant with a total production capacity of 18 Mtpa, comprising 12 fully modularized LNG trains of 1.5 Mtpa each. The plant design will also feature electric-driven LNG trains instead of gas turbines, reducing greenhouse gas emissions compared to conventional LNG projects. According to Technip Energies, it will also include prefabricated and standardized modules to be assembled at the project site in Mozambique, offering cost competitiveness and certainty in delivery schedule. Technip Energies did not provide the contract price tag. Technip Energies CEO Arnaud Pieton recently said that "there is a FEED competition ongoing in Mozambique and we are one of the two contenders."

FID expected in 2026

Frank Kretschmer, president of ExxonMobil Mozambique, recently confirmed that the company and its partners have launched the FEED phase, but he did not provide any info regarding the contractors. “This milestone represents a crucial step towards developing what will become the largest LNG project in Africa and one of the continent’s most substantial investments,” he said. The partners also stated that this FEED phase is expected to take around 16 months and is the last step before a final investment decision (FID). Last month, Mozambique’s President Filipe Nyusi announced that ExxonMobil plans to decide on its Rovuma LNG onshore terminal in Mozambique by 2026. Nyusi met with ExxonMobil’s upstream president Liam Mallon to discuss the onshore LNG project in Cabo Delgado. MRV is the operator of the deepwater Area 4 block in the Rovuma basin off Mozambique that would feed the planned LNG export plant on the Afungi peninsula from the Mamba reservoirs. The joint venture holds a 70 percent interest in the Area 4 exploration and production concession contract. In addition to MRV, Galp, Kogas, and Empresa Nacional de Hidrocarbonetos each hold a 10 percent interest in Area 4. ExxonMobil is leading the construction and operation of the liquefaction and related facilities on behalf of MRV, and Eni is leading the construction and operation of the upstream facilities. Source: www.lngprime.com

PETROVIETNAM GAS LAUNCHES TENDER FOR ONE SPOT LNG CARGO

PetroVietnam Gas, a unit of state-owned PetroVietnam, has released a tender inviting firms to submit bids for one spot LNG cargo for delivery to the Thi Vai LNG import terminal. According to a tender document posted on the company’s website, the delivery window for the spot LNG cargo is “as soon as possible but prior to October 25, 2024.” PV Gas LNG, a unit of PV Gas, is seeking one LNG cargo of 550,000 million British thermal units (MMBtu) of LNG on a delivered ex-ship (DES) basis. PV Gas said the tender closes on September 27 at 9:00 am Vietnam time. In June this year, PV Gas received a liquefied natural gas cargo from PetroChina International at its Thi Vai LNG import terminal. This was the second LNG cargo PetroVietnam Gas received from PetroChina and the fifth since the terminal’s launch last year. The company officially launched its Thi Vai LNG terminal on October 29, 2023, after nearly 4 years of construction and commissioning. This is Vietnam’s first LNG import terminal. In July 2023, LNG giant Shell delivered the commissioning LNG cargo to the terminal from Indonesia’s Bontang LNG plant. Besides Shell and PetroChina, PetroVietnam Gas received cargoes from a unit of France’s TotalEnergies and from QatarEnergy LNG, previously known as Qatargas. The Thi Vai LNG import facility consists of one 180,000-cbm LNG tank, a jetty, and regas area. The terminal has a capacity of 1 mtpa in its first phase, but PV Gas plans to boost the capacity to 3 mtpa in the next stage. It is worth mentioning here that PV Gas recently also completed its first LNG delivery by rail from southern to northern Vietnam. In March this year, PV Gas started supplying LNG via trucks from the truck loading facility at its Thi Vai LNG import terminal to PV Gas CNG’s LNG satellite station in Thuan Dao in the southern Vietnamese province of Long An. source: www.lngprime.com

GLOBAL LNG IMPORTS SLIGHTLY DOWN IN AUGUST

Global liquefied natural gas (LNG) imports decreased slightly in August, according to a new monthly report by the Gas Exporting Countries Forum. In August 2024, global LNG imports recorded a decline of 0.3 percent (0.11 Mt) to 33.49Mt, Doha-based GECF said in its gas market report. GECF said the decline was primarily driven by lower imports in Europe, although this was partially offset by increased imports in the Asia Pacific and MENA regions. The Asia Pacific region's spot LNG prices maintained a significant premium over those in Europe, attracting more cargoes, it said. Furthermore, a decrease in US LNG exports in July 2024, due to the impact of Hurricane Beryl on its LNG exports, contributed to the overall reduction in imports. Between January and August 2024, global LNG imports increased by 0.7 percent (1.89 Mt) year-on-year to 272.47 Mt, driven by strong growth in the Asia-Pacific region, offsetting a slump in Europe, GECF said. For the full year 2024, global LNG trade is forecasted to rise by 1-1.5 percent driven by stronger demand in the Asia Pacific region, particularly in China and South and Southeast Asia, it said.

European LNG imports continue to drop

In August 2024, Europe's LNG imports dropped by 22 percent (1.85 Mt) y-o-y to 6.76 Mt, marking the 14th consecutive month of decline, GECF said. This reduction was driven by lower gas consumption, strong pipeline gas imports, and high gas inventories across the region. Additionally, the significant price disparity between spot LNG in Asia Pacific and Europe limited LNG flows from the Atlantic basin into Europe, GECF said. The decline in imports was significant in Belgium, France, the Netherlands, Spain, and the UK, while Poland experienced an increase. From January to August 2024, Europe's LNG imports fell by 20 percent (17.14 Mt) y-o-y to 67.39 Mt. The decline in LNG imports in Belgium was due to reduced gas consumption, high gas storage levels, and increased pipeline gas imports from Norway and the UK, GECF said. Similarly, in the Netherlands, lower gas consumption, higher pipeline imports from Norway and the UK, and reduced pipeline gas exports to Germany contributed to the drop in LNG imports. In France, decreased gas consumption, increased pipeline imports from Norway, and extended maintenance at the Montoir regasification terminal led to lower LNG imports, GECF said. Spain's imports were curbed by stronger pipeline gas imports from Algeria and reduced gas consumption. In the UK, a rise in pipeline imports from Norway and weaker gas demand drove the decline in LNG imports. Conversely, Poland saw an increase in LNG imports due to higher gas consumption, GECF said.

Asia Pacific LNG imports climb

GECF said that Asia Pacific's LNG imports continued to rise in August, increasing by 3.9 percent (0.88 Mt) yo-y, which was the smallest incremental increase since February 2024. China, Singapore, South Korea, and Taiwan drove the growth in the region's LNG imports, offsetting weaker imports in Bangladesh, Japan, and Thailand. From January to August 2024, Asia Pacific's LNG imports grew by 9.4 percent (16.13 Mt) y-o-y to 187.48 Mt, GECF said. The increase in Chinese LNG imports was driven by stronger gas demand, supported by robust economic activity, cooling demand induced by hotter weather, and higher LNG demand for trucks, according to GECF. In Singapore, higher demand for LNG bunkering boosted imports.

Meanwhile, rising gas demand for electricity generation in South Korea and Taiwan, due to reduced output from coal and nuclear power respectively, contributed to the uptick in LNG imports. In contrast, Bangladesh saw a decline in LNG imports as the Summit LNG FSRU remained offline due to damage to an underwater gas transmission pipeline. In Japan, reduced LNG imports from the US and weaker gas demand for electricity generation curbed overall imports. Finally, the surge in Asian spot LNG prices may have contributed to the drop in Thailand's LNG imports, GECF said.

Latin America and MENA

In August 2024, LNG imports in the Latin America & the Caribbean (LAC) region rose by 8.4 percent (0.10 Mt) y-o-y, reaching 1.29 Mt, GECF said. The increase was primarily driven by higher imports in Brazil, Colombia, Jamaica and Panama, which offset lower imports in the Dominican Republic. Between January and August 2024, LNG imports in the LAC region increased by 5.5 percent (0.48 Mt) y-o-y to 9.20 Mt, according to GECF. Drought conditions in Brazil reduced hydroelectric output, increasing the demand for gas in electricity generation and driving up LNG imports. Similarly, higher gas demand for electricity generation contributed to the rise in Colombia's LNG imports, GECF said. In contrast, the Dominican Republic saw a decline in LNG imports, likely due to higher storage levels following lower gas consumption in July after Hurricane Beryl's passage, it said. Moreover, LNG imports in the MENA region surged in August for the second consecutive month, rising by 66 percent (0.74 Mt) y-o-y to 1.86 Mt, driven by Egypt and Jordan, GECF said. Between January and August 2024, MENA region's LNG imports increased by 45 percent (2.29 Mt) y-o-y to 7.35 Mt. Egypt resumed LNG imports in June 2024 due to lower gas availability and has utilized LNG regasification terminals in the country as well as the Aqaba LNG import terminal in Jordan.

LNG exports up 3.6 percent

GECF said that global LNG exports grew by 3.6 percent (1.20 Mt) y-o-y in August, reaching 34.24 Mt, the highest level since March 2024 and a record for the month of August. The increase was driven by exports in both GECF and non-GECF countries, offsetting a decline in LNG re-exports. The GECF and non-GECF shares of global LNG exports rose from 45.9 percent and 52.7 percent respectively in August 2023 to 46.6 percent and 53.1 percent in August 2024, respectively. In contrast, the share of LNG re-exports dropped from 1.4 percent to 0.3 percent during the same period, GECF said. From January to August 2024, global LNG exports increased by 1.1 percent (2.99 Mt) y-o-y, totalling 272.82 Mt, GECF said. The US, Qatar, and Australia remained the top three LNG exporters globally in August 2024, it said. source: www.lngprime.com

EXCELERATE, PETROVIETNAM'S UNIT TO STUDY FSRU OPPORTUNITIES IN VIETNAM

US FSRU player Excelerate Energy and PetroVietnam Technical Services Corporation (PTSC), a unit of state-owned PetroVietnam, have signed a strategic partnership agreement to jointly study FSRU-based technical solutions for LNG imports into Vietnam. According to Excelerate, through this strategic alliance, Excelerate and PTSC will leverage their strengths and

combined resources to deliver “affordable and reliable” energy solutions that address Vietnam’s growing energy demands while supporting the country’s transition to carbon neutrality. Under the partnership agreement, the two companies will conduct joint feasibility studies to assess the viability of FSRU opportunities in Vietnam. Moreover, Exceleerate said the studies aim to optimize existing natural gas infrastructure and augment domestic supply with regasified LNG to help meet the growing demand for natural gas and stimulate the development of a regional gas market. “Signing this agreement marks a significant milestone in the collaboration between Exceleerate Energy and PetroVietnam Technical Services Corporation,” said Steven Kobos, president and CEO of Exceleerate. “We are committed to working together to address Vietnam’s energy challenges and contribute to the country’s sustainable development,” he said.

Exceleerate investing in Vietnamese LNG market

The strategic partnership with PTSC is an “important next step” in Exceleerate’s broader strategy to invest in the rapidly growing Vietnamese LNG market, the company said. In June 2024, Exceleerate signed a term sheet with ITECO, a Vietnamese-based private development company, to co-develop a greenfield LNG import terminal in Hai Phong, Vietnam. According to Exceleerate, the northern Vietnam LNG terminal (NVLT), which will be constructed in two phases, is anticipated to have a total import capacity of 1.2 million tonnes per annum. Phase one of the terminal is expected to have a capacity of 0.7 mtpa, while operations are expected to start in 2027. Also, Exceleerate would hold exclusive rights to supply LNG to the terminal and be considered for the O&M provider contract. The US firm said it is in talks with an anchor customer for the initial 0.7 mtpa. Exceleerate said the project’s development is subject to the execution of definitive agreements, regulatory approvals, and the satisfaction of other conditions. According to Exceleerate, this would be the first terminal in northern Vietnam. Vietnam has one of the fastest-growing economies in Asia. As domestic natural gas production declines, industrial complexes in the north provide a foundation of customers who need LNG to play a “pivotal role” in their energy mix, Exceleerate said. Vietnam currently imports LNG via the 3 mtpa Thi Vai LNG terminal, operated by PetroVietnam Gas, while the Cai Mep LNG terminal, located in Vung Tau district in South Vietnam, is expected to be launched later this year.

Large FSRU fleet

In addition to the facility in Vietnam, Exceleerate is in “advanced discussions” with local utilities in Southcentral Alaska to develop an integrated LNG import terminal in the lower Cook Inlet region. This would be an FSRU-based terminal, and Exceleerate is expected to own the facility, be responsible for LNG supplies, and sell gas to local utilities. It targets a commercial start date in 2028. Exceleerate operates ten FSRUs, one of the world’s largest fleets of such vessels, and these units are located worldwide. Some FSRUs are located in Finland, Brazil, Dubai, Pakistan, while one FSRU will also start serving the second FSRU-based LNG import terminal in Germany’s Wilhelmshaven later this year. In addition to these 10 FSRUs, Exceleerate also ordered one 174,000-cbm FSRU at South Korea’s Hyundai Heavy Industries in 2022. It will pay about \$332 million for the vessel. The FSRU is scheduled for delivery in June 2026.source: www.lngprime.com

CARTAGENA FSRU IN 100TH STS LNG OPERATION

Colombia's only FSRU-based LNG import facility in Cartagena has completed its 100th ship-to-ship transfer since 2016, according to SPEC LNG. SPEC LNG operates the FSRU-based terminal in which Colombian gas distributor Promigas has a 51 percent stake while Dutch Vopak holds the rest. The firm said in a social media post that it received the 100th LNG cargo on September 23. According to AIS data provided by VesselsValue, the 2020-built 173,400-cbm BW Magnolia was located at the 170,000-cbm FSRU, Hoegh Grace, on Tuesday. The LNG carrier, owned by BW LNG and chartered by BP, brought the cargo from Sempra Infrastructure's Cameron LNG terminal in Louisiana. Hoegh Evi's Hoegh Grace receives LNG supplies from the US and Trinidad and Tobago. SPEC LNG said that in its eight years of operations, the FSRU received more than 5,800,000 cbm of LNG. During 2024, LNG received and regasified at SPEC LNG's terminal has allowed the firm to support more than 70 percent of the country's thermal and gas generation, especially during the recent El Nino phenomenon, it said. The FSRU supplies regasified LNG to local power plants via a 9.2 km pipeline which is connected to the national network.

New deal

Earlier this year, Hoegh and SPEC LNG signed a new agreement for Colombia's only FSRU-based LNG import facility. According to Hoegh, the initial term of the FSRU charter deal is 20 years from late 2016. However, each party has an unconditional option to cancel the charter after 10 and 15 years without any termination fee. Hoegh said in January that it has extended and also expanded its services to SPEC under the new deal. "As Colombia faces a significant shift in its power requirements and a decline in domestic gas supply, LNG is positioned to continue supporting electricity generation and offsetting the projected natural gas deficit for industrial/residential demand," it said. The agreement with SPEC enables continuity and increase of energy supply through at least 2031, Hoegh said. This means that the charter contract has been extended for five years. SPEC LNG said in a separate statement that under the new deal the FSRU-based terminal will regasify up to 533 MMscfd, an increase from a current limit of 400 MMscfd. This will allow the facility to meet up to 50 percent of Colombia's natural gas demand, it said. source: www.lngprime.com

HANWHA OCEAN STARTS WORK ON BW LNG'S VESSEL

South Korean shipbuilder Hanwha Ocean has officially kicked off construction on a new 174,000-cbm LNG carrier for BW LNG, a unit of Singapore-based gas shipping giant BW. BW LNG announced the steel-cutting ceremony for its fourth LNG newbuild in a social media post. The ceremony for the vessel with hull number 2545 took place on August 21 at the Hanwha Ocean yard in Geoje. In 2022, BW LNG confirmed orders for four 174,000-cbm LNG carriers at Hanwha Ocean, previously known as DSME. The fourth vessel in this batch and its sister vessels feature ME-GI propulsion, a full reliquefaction system, an air lubrication system, and shaft generators. Hanwha Ocean will deliver the four new LNG carriers to the owner in 2025. Including these newbuilds, BW LNG has 30 vessels in its fleet. This includes 10 steam carriers built between 2003 and 2008, 7 TFDE vessels, and the rest are ME-GI ships. In addition, BW LNG owns four floating storage and regasification units. The

FSRUs are BW Batangas, BW Integrity, BW Magna, and BW Tatiana. Last year, BW LNG sold its 2015-built FSRU BW Singapore to Italy's Snam for about \$400 million. [source: www.lngprime.com](http://www.lngprime.com)

CHEVRON TO RETROFIT LNG CARRIER FLEET ENGINES TO CURB METHANE SLIP

US oil major Chevron has signed a deal to convert one engine per vessel on a half dozen of Chevron Transport Corp's LNG carriers to spark gas operation. After collaborating for two years with Finnish manufacturer Wärtsilä, Chevron Shipping Co has agreed to convert the engines in an effort to reduce its greenhouse gas emissions and to lower methane slip, the small amounts of methane that do not fully combust and escape into the atmosphere. Wärtsilä said its dual fuel to spark gas conversion project is designed to modify the engines to operate using spark ignition rather than diesel pilot fuel to initiate combustion and improve the combustion process, reduce methane slip and improve engine efficiency. Methane persists in the atmosphere for a shorter time period than carbon dioxide (CO₂) but traps approximately 25-50 times more heat than CO₂. Addressing methane emissions is seen as a key component of lowering carbon intensity. "This innovative project represents a notable step forward on the road to advancing lower carbon fleets," Wärtsilä Marine president Roger Holm said. Earlier this year, partnership between three Japanese maritime companies reported a 93.8% reduction in methane slip from a marine gas engine operating at 100% load in onshore testing, clearing the way for trials at sea. Starting in Q4 2024, the methane slip reduction technology will be fitted aboard 2023-built, 95,792-dwt LNG dual-fuel coal carrier Reimei. The results are part of a six-year project backed by Japan's National Institute of New Energy and Industrial Technology Development, and conducted by Hitachi Zosen, Mitsui OSK Lines and Yanmar. The aim is to achieve a 70% reducing in methane slip in LNG-fuelled vessels.

Source: www.rivieramm.com

TOTALENERGIES PENS LNG HOA WITH KOREA'S HD HYUNDAI CHEMICAL

France's TotalEnergies announced on September 24 that it had signed a Heads of Agreement (HoA) with South Korea's HD Hyundai Chemical to supply 200,000 tonnes/year of LNG for seven years, starting in 2027. The pricing for the deal will be indexed to both Brent and Henry Hub, reinforcing TotalEnergies' long-term presence in South Korea, the world's third-largest LNG importer, the company said. "We are pleased with this agreement with HD Hyundai Chemical, which will supply natural gas to one of their industrial sites. This agreement allows us to continue securing long-term sales in Asia and reduce our exposure to spot market gas prices," said Gregory Joffroy, senior vice president, LNG at TotalEnergies. This deal follows other recent agreements by the French energy giant, including a supply contract with Turkish firm Botas and an extension of its LNG supply arrangement with China's CNOOC. [source: www.naturalgasworld.com](http://www.naturalgasworld.com)

CANADIAN NATURAL GAS PRICES FALL TO TWO-YEAR LOW AS STORAGE FILLS

Canadian natural gas prices slumped to their lowest level in more than two years on Monday and are expected to remain under pressure for weeks, as storage levels in Alberta reach full capacity due to weak demand across North America. Next-day gas prices at the AECO hub in Alberta fell to 5 Canadian cents per million British thermal units (mmBtu), their lowest level since August 2022, according to data from financial firm LSEG. The AECO benchmark has been trending lower throughout 2024 following a mild winter that left Canada, the world's sixth-largest natural gas producer, with a significant surplus of supply. Now summer air conditioning demand is winding down and storage levels in Alberta are very close to being full, said RBN Energy analyst Martin King, who warned prices would struggle to meaningfully recover until colder weather starts to bite in late October. "It seems pretty clear we are going to stay weak until we get a demand pickup because we are running out of places to put the gas," King said. Alberta has 504 billion cubic feet (bcf) of natural gas storage, according to RBN, which is essentially full. British Columbia and Saskatchewan have a further 80 bcf of capacity, of which 36 bcf is still available. Overall western Canadian storage levels are 30% higher than the three-year average for this time of year. Months of subdued AECO prices have already prompted a number of major producers, including ARC Resources and Canadian Natural Resources CNQ.TO, to shut in or delay completing natural gas wells. Field receipts showing how much gas producers are putting onto pipelines systems, a proxy for wellhead production, have come off in the last three weeks, suggesting even more companies are responding to low prices by shutting in production, RBN's King said. He estimated 700 million to 800 million cubic feet a day of gas is currently offline, taking production to around 17.3 billion cubic feet a day (bcf/d) this month. Canada's production year-to-date has averaged 18.1 bcf/d. Many producers and analysts are looking ahead to the start-up of the Shell-led LNG Canada project in northern British Columbia next year as a major new source of 2.1 bcf/d of demand that will help the AECO market recover. "We are expecting natural gas prices to be pulled higher over the winter and early 2025 with growing demand from LNG export capacity increasing," Eight Capital analysts said in a research note. source: www.naturalgasworld.com

MSC BOOKS MORE LNG-FUELED CONTAINERSHIPS IN CHINA

Switzerland-based shipping giant MSC has signed a deal to order LNG dual-fuel vessels from China's Hengli Heavy Industry, a part of Hengli Group, according to shipbuilding sources. LNG Prime reported on August 23, citing sources, that MSC was looking to order LNG dual-fuel containerships with a capacity of 21,000 teu. Hengli Heavy and Gianluigi Aponte-led MSC signed a strategic cooperation framework agreement in Geneva on August 23. The two firms agreed to collaborate in a wide range of areas, including shipbuilding, engine manufacturing, ship repair, and vessel retrofitting. Shipbuilding sources told LNG Prime on Monday that MSC and Hengli Heavy signed a shipbuilding agreement for ten LNG dual-fuel vessels with a capacity of 21,000 teu. The vessels will feature ME-GI propulsion and type C LNG tanks. The delivery dates or the price tag of the deal have not been revealed. MSC recently booked 12 LNG dual-fuel vessels at Zhoushan Changhong International Shipyard.

These vessels will have a capacity of 19,000 teu. VesselsValue data shows that these containerships are each worth about \$210 million. This means that the order at Hengli Heavy could be worth more than \$2.1 billion. Zhoushan Changhong is already building a fleet of LNG-powered vessels for MSC. Last year, MSC ordered ten LNG dual-fuel 11,500-teu vessels from the shipbuilder and then added ten LNG dual-fuel 11,300-teu vessels. The shipbuilder will deliver the first batch of the vessels in 2025 and 2026 and the other ten ships during the second half of 2026 and 2027. According to Alphaliner, MSC is the world's largest liner with 6,107,433 teu and a 20 percent share. Denmark's Maersk is second, and France's CMA CGM is third. Maersk recently confirmed its switch to LNG fuel, while CMA CGM is one of the world's largest backers of LNG as fuel. Source: www.lngprime.com

SOUTH KOREA'S HANWHA OCEAN UNVEILS NEW LNG CARRIER

South Korean shipbuilder Hanwha Ocean has unveiled what it says is a next-generation zero-emission liquefied natural gas (LNG) carrier. Hanwha Ocean held an LNGC user forum at Gastech 2024 in Houston during the last week and unveiled the



“Ocean 1” LNG carrier. This marks the first unveiling of the specific technologies behind “the first fossil-free ship on the water,” Hanwha’s blueprint for developing a carbon-free vessel powered by alternative fuels, which was announced at the World Economic Forum Annual Meeting in Davos, Switzerland, this past January, it said. The forum was organized to highlight Hanwha Ocean’s LNG carrier

technology to major LNG shipping companies and global classification societies. The LNG carrier showcased at the forum is designed with an ammonia gas turbine-based electric propulsion system, enabling zero-emission operation without fossil fuels, Hanwha Ocean claims. It can also operate on a dual-fuel system using LNG, which is widely used in ships, with the flexibility to incorporate fuel cells and batteries in the future. At the forum, Hanwha Ocean also introduced a plan to utilize the high manganese steel cargo tank independent type B (MCTIB)—which has already been applied to its VLCCs and container ships—as a cargo tank for the LNG carrier. Using MCTIB as a cargo tank is expected to “significantly” reduce boil-off gas, thereby improving transportation efficiency, Hanwha Ocean said.

Autonomous ships

Hanwha Ocean also shared its vision for the commercialization of autonomous ships. Fully autonomous vessels, which operate without a crew, require unmanned operation and automated cargo loading and unloading technologies. To support these advancements, the control systems, navigation systems, smart ship solutions, and digital twin technologies were showcased

at the forum. Hanwha Ocean also introduced collaboration plans to create synergies with Hanwha Group affiliates, Hanwha Engine and Hanwha Power Systems. Hanwha Engine presented a main engine monitoring solution with features that detect abnormalities and provide information on maintenance cycles for major parts. When integrated with Hanwha Ocean's smart ship solution, Hanwha SmartShip Solution & Service (HS4), it will offer real-time onshore monitoring. In addition, Hanwha Power Systems introduced an eco-friendly solution to replace fossil fuel engines on existing ships with ammonia gas turbines. The company is working on a project with Greek LNG shipper GasLog. Source: www.lngprime.com

VENTURE GLOBAL'S LNG NEWBUILD DUO TO DELIVER FIRST CARGOES TO GERMANY

Venture Global LNG's two newbuild LNG carriers, Venture Gator and Venture Bayou, will deliver their first cargoes of liquefied natural gas to Germany. These are the first two of nine LNG carriers Venture Global has on order in South Korea. In June this year, Venture Global announced the launch of its 174,000-cbm vessel, Venture Gator, at a ceremony that took place at the Samsung Heavy Industries yard in Geoje, South Korea. This vessel and the 174,000-cbm, Venture Bayou, which left South Korea in August, arrived at Venture Global's Calcasieu plant in Louisiana last week. "The first two brand new ships of Venture Global's fleet have been loaded with LNG for the first time and are heading to Germany," Venture Global said in a social media post during the weekend. "To date, Venture Global has sent almost 50 cargoes to Germany and looks forward to many more through our long-term partnerships with EnBW and SEFE for supply from the future CP2 LNG," the firm said. Venture Global did not provide further information. AIS data provided by VesselsValue shows that Venture Gator was located offshore the Bahamas on Monday, while Venture Bayou was in the Gulf of Mexico. They should arrive in Germany in October. State-owned German LNG terminal operator DET currently operates the first Wilhelmshaven LNG terminal and the LNG terminal in Brunsbüttel. DET still expects to launch its next two FSRU-based LNG import terminals in Stade and Wilhelmshaven by the end of this year. Besides these FSRU-based facilities, private firm Deutsche ReGas recently launched commercial operations at its Murkan LNG terminal, which features two FSRUs. Venture Global is boosting its business in Europe, and it recently booked long-term capacity at Gastrade's FSRU-based LNG import terminal off Alexandroupolis, Greece. Under the binding terminal use agreement, Venture Global has secured about 1 million tonnes per annum (mtpa) of LNG regasification capacity at the terminal for five years, beginning in 2025. Venture Global said this capacity booking at the Alexandroupolis terminal "further integrates our business by growing our assets across the LNG supply chain, including LNG production, shipping, and regasification." Earlier this year, Venture Global booked long-term capacity at National Grid's Grain LNG import terminal in the United Kingdom. Under this deal, Venture Global will have the ability to access 3 mtpa of LNG storage and regasification capacity at the Isle of Grain LNG receiving terminal for sixteen years beginning in 2029.

LNG export plants

Venture Global currently only produces LNG at its 10 mtpa Calcasieu Pass LNG export terminal in Louisiana, but the firm is also working to start production at its Plaquemines LNG export plant in Louisiana. Calcasieu Pass produced its first LNG on January 19, 2022, and the first commissioning cargo left the facility on March 1. However, Venture Global has not yet declared the start of commercial operations. Long-term customers of the Calcasieu pass facility include Shell, BP, Edison, Repsol, Galp, and PGNiG, now part of Orlen. Energy giants Shell and BP and other firms are in a dispute with Venture Global over the launch of commercial operations at the facility. Besides Calcasieu Pass, Venture Global is building its Plaquemines LNG export plant. Venture Global recently received approval from the US FERC to start reverse cooldown activities at its Plaquemines LNG export plant in Louisiana, as part of the terminal's commissioning phase. The company took a final investment decision in May 2022 on the first phase of the Plaquemines project with a capacity of 13.3 mtpa and the related pipeline. It also secured \$13.2 billion in project financing. In March last year, the company sanctioned the second phase of the Plaquemines LNG export plant in Louisiana and also secured \$7.8 billion in project financing. The full project, including the second stage, will have a capacity of 20 mtpa coming from 36 modular units, configured in 18 blocks. In addition to Calcasieu Pass and Plaquemines, in June, the US FERC gave the green light to Venture Global's proposed CP2 LNG project in Louisiana. The CP2 LNG plant will be located next to Venture Global's existing Calcasieu Pass liquefaction plant in Louisiana, which is still in the commissioning phase. It will have 18 liquefaction blocks, each with a capacity of about 1.1 mtpa of LNG, and also four 200,000-cbm full containment LNG storage tanks. Besides the FERC approval, CP2 LNG also needs non-FTA export authorization from the US Department of Energy. Source: www.lngprime.com

NIGERIA'S NNPC IN TALKS TO REVIVE TWO LNG PROJECTS

State-run Nigerian National Petroleum Corp is in talks with investors to revive two LNG export projects, Brass and Olokola. NNPC CFO Umar Ajiya revealed this during the Gastech conference in Houston on Thursday. According to NNPC, Brass LNG and OK LNG are two LNG projects with the potential to provide Nigeria with "manifold" economic benefits. The multi-billion dollar projects were, however, stalled due to "unfavourable market dynamics and slow decision-making by the political class in the past." "In the past, gas prices went down, the economics of the projects meant a high capital expenditure (CAPEX) and this was a disincentive for investors and partners," Ajiya said. "Also, there was slow decision-making by the political class," he said. The CFO said there are abundant gas resources in many parts of the world and therefore, the earlier Nigeria makes smart decisions to bring partners to the table, the better. Ajiya commended President Bola Ahmed Tinubu for his support in driving new projects in the industry through the executive orders on oil and gas reforms. "We are also happy to have the Petroleum Industry Act (PIA) has provided fiscal incentives for investors and is creating the enabling environment that has rekindled hope in the energy sector," he said.

Brass and Olokola LNG projects

The two LNG projects, which were announced about 20 years ago, are reportedly worth about \$30 billion. According to Eni's website, the Brass LNG JV was incorporated in 2003 by NNPC, ConocoPhillips, TotalEnergies, and Eni. ConocoPhillips divested from Nigeria in 2014. The plans included building two LNG trains each with a capacity of 5 mtpa . Also, the Brass LNG project in Nigeria's Bayelsa State included two LNG storage tanks and LPG and condensate storage facilities. The Olokola LNG project in Ogun State originally started in 2005. BG, now part of Shell, and Chevron withdrew from the project, leaving only NNPC. The plans for this project included a facility with about 12.5 mtpa capacity.

NNPC's LNG business

NNPC has a 49 percent stake in Nigeria LNG, the operator of the six-train 22 mtpa facility on Bonny Island. Besides NNPC, other partners are Shell (25.6 percent), TotalEnergies (15 percent), and Eni (10.4 percent). Nigeria LNG is also adding the seventh production unit at the Bonny Island plant. The NLNG Train 7 project consists of the construction of one complete LNG train and one additional liquefaction unit. The project also includes other associated utilities and infrastructures. The new unit will add around 8 mtpa of capacity to the Bonny Island facility for a total of about 30 mtpa. In addition to onshore projects, NNPC is also working on FLNG projects. NNPC and Golar LNG are working on a floating LNG project offshore Nigeria's Niger Delta, while NNPC also has a 20 percent stake in UTM Offshore, which is developing Nigeria's first FLNG project. In addition, NNPC recently started delivering LNG cargoes to Japan and China on a delivered ex-ship basis. The company's unit, NNPC Shipping, intends to build a shipping portfolio, including owned vessels. NNPC is also working on LNG fueling stations for vehicles in Nigeria. Source: www.lngprime.com

GASLOG PLANS TO FUEL LNG CARRIERS WITH AMMONIA

Greek LNG shipping firm GasLog is working with South Korea's Hanwha Power Systems to convert the propulsion systems of its LNG carriers to an ammonia gas turbine. Hanwha Power Systems, a marine solutions company of Hanwha Group, and GasLog signed a memorandum of understanding at the Gastech conference in Houston on September 19. "Through this agreement, the two companies will discuss in more detail the demonstration plan to replace the existing fossil fuel-powered vessels with eco-friendly ammonia gas turbines," Hanwha Power Systems said in a statement. In August, Hanwha Power Systems and Hanwha Ocean with the support of GasLog completed preliminary engineering and economic feasibility reviews for LNG carrier retrofitting. Following the signing of this MOU, Hanwha Power Systems and GasLog, will continue their collaboration focusing on performance, economic, and compliance assessments from a comprehensive perspective to promote the application of ammonia gas turbines in vessel retrofits, the statement said. Meanwhile, in recent years, the shipping and shipbuilding industry has faced serious challenges in the face of carbon emission reduction regulations led by international organizations such as the International Maritime Organization (IMO) and the European Union (EU). In anticipation of this new reality, Hanwha Power Systems, through its affiliate, Power Systems (PSM), located in the United States, has been actively

developing an ammonia (NH₃) combustion system to meet the anticipated requirements of the IMO and EU “Fit for 55”. These development activities include a successful full-scale, high-pressure test campaign. The PSM ammonia combustion system is planned to be implemented with a gas turbine intended for this power propulsion application, Hanwha Power Systems said.

Talks with other owners

Hanwha Power Systems' move is attracting a “lot of attention” from shipowners who currently lack suitable alternatives for carbon reduction, the firm said. According to the firm, ongoing discussions are also taking place with some major shipowners. In particular, shipowners point out that ammonia gas turbines do not require pilot oil during normal operation, whereas engines typically use pilot oil at all operating points. “For a gas turbine using ammonia fuel it is possible to operate completely carbon-free, or operators can freely mix ammonia and natural gas so that they can respond flexibly and economically to future regulations,” the company said. The gas turbine will generate a “negligible amount” of methane slip, even if natural gas is used as fuel. Hanwha Power Systems added feasibility studies are ongoing for other potential fuels that could be used.

GasLog fleet

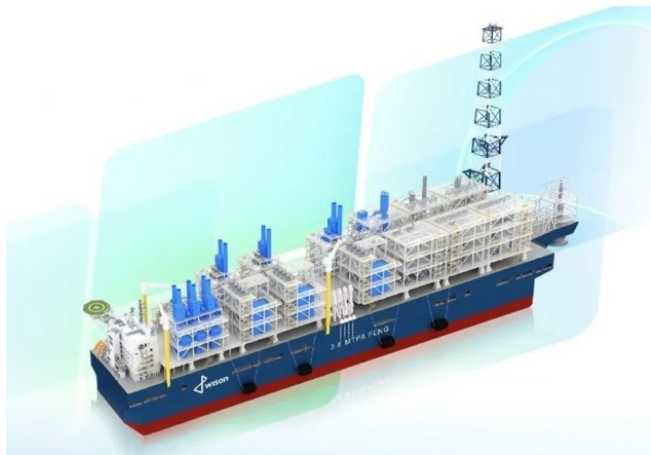
The fleet of both GasLog and GasLog Partners consists of 38 LNG carriers with four vessels under construction, according to GasLog's website. Hanwha Ocean is building the four LNG carriers Peter Livanos-led GasLog ordered these vessels and two other 174,000-cbm LNG carriers at Hanwha Ocean in December 2021. In July this year, GasLog named the 174,000-cbm GasLog Italy. All of the LNG carriers have ME-GI propulsion. ME-GI is short for M-type, electronically controlled, gas-injection propulsion. In addition, the vessels also feature a carbon capture and storage system. Moreover, China Development Bank Financial Leasing (CDB Leasing) recently signed a sale and leaseback deal for another GasLog liquefied natural gas (LNG) carrier. The vessel in question is the 2013-built 155,000-cbm, GasLog Santiago. Last year, CDB Leasing has entered into deals to purchase two LNG carriers from GasLog and GasLog Partners for \$248 million. These vessels are the 2013-built 155,000-cbm, GasLog Sydney, and the 2014-built, GasLog Saratoga. In March 2022, GasLog and a unit of CDB Leasing also completed the sale and lease-back of the 2013-built 155,000-cbm, GasLog Skagen. Source: www.lngprime.com

WISON GETS ABS NOD FOR NEW FLNG DESIGN

China's Wison New Energies has won approval from ABS for a new 1.2 mtpa FLNG design. ABS granted the approval in principle to Wison on September 19 during the Gastech conference in Houston. The classification society completed design reviews based on class and statutory requirements. The 268-meter FLNG unit is designed to perform offshore and at-shore with an expected production capacity of 1.2 mtpa, the two firms said. “Wison is continuously optimizing the performance of our FLNG product design, significantly improving production efficiency while effectively reducing carbon emissions during the production process,” Wison's general manager, FLNG product centre, Hao Jiang, said. “In the field of FLNG, Wison has been accumulating technical experience and integrating internal and external resources, dedicated to providing global clients with reliable, low-cost, and short delivery time FLNG solutions,” Jiang said.

Three FLNGs

Wison recently announced it will build a new yard for offshore facilities in Qidong. The company and the Qidong municipal



government of the Jiangsu province signed an investment agreement on August 1 for WNE’s new yard in Qidong Lusi Port Economic Development Zone. This new move followed Wison’s cooperation deal with Zhoushan CIMC Changhong Shipyard and its announcement saying that it would discontinue all ongoing Russian projects and that it would stop taking any new Russian business. At the same time, Wison said it had decided to sell its entire equity interest in Zhoushan Wison Offshore & Marine. Wison’s announcement regarding the Russian business came one day after

the firm secured a contract from a unit of Genting to build a floating LNG unit worth about \$1 billion. Following completion in 2026, the 1.2 mtpa FLNG will work in Indonesia. This is Wison’s third FLNG contract, after contracts with Exmar and Eni. Also, this will be the first FLNG facility in Indonesia and the ninth FLNG in the world, according to Wison. Wison won a contract from Italy’s Eni in December 2022 to build a 380-meter-long 2.4 mtpa FLNG and officially started work on the project in January last year. In May, the company completed the installation of all SPB tanks on the FLNG, which will serve the Marine XII offshore FLNG project in Congo. Source: www.lngprime.com

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