

LNG Shipping News

AN LNG JOURNAL TITLE ON LNG CARRIERS

29 October 2020

Asian cargo enquiries boost forward prices

Asian spot LNG prices jumped to their highest in more than 20 months last week on increased buying ahead of a forecast colder winter.

The average December LNG price delivery into northeast Asia LNG-AS was estimated at about \$6.90 per MMBtu, up by \$1.10 from the previous week.

Prices were boosted by several requirements circulating in Japan, China and South Korea.

For example, China's Unipeac sought 10 cargoes for delivery this winter, while Shenzhen Energy needed a cargo for December delivery, traders told Reuters.

South Korea's KOGAS was believed to have awarded a tender to buy at least six cargoes for delivery between November to January at just below \$7 per MMBtu, while Japan's Tohoku Electric tendered for a cargo for delivery in late November to early December.

Taiwan's CPC Corp was thought to have bought several cargoes for delivery in December at close to \$7 per MMBtu, a trader said.

In addition, Cheniere Energy was said to have purchased a cargo for delivery in December at about \$7.10 per MMBtu, another trader told Reuters.

However, with no cancellations expected from US LNG exporters in December, a potential increase in cargo flows to Asia may cap any price gains, traders warned.

Australia Pacific LNG (APLNG) offered a cargo for November loading, while BHP offered a Northwest Shelf cargo for late November to early December loading, traders said.

Darwin LNG also offered a cargo for loading over late November to early December, while Ichthys LNG sold a November cargo at \$6.10 to \$6.30 on a



No damage was reported at Cameron's export terminal last weekend

free-on-board (FOB) basis.

Russia's Sakhalin Energy also offered a cargo for loading on 25th December, while Nigeria LNG offered a cargo for mid-November loading.

Gail (India) awarded a swap tender, selling a cargo for loading in January from the US and buying a cargo for delivery into India, the sources said.

No cancellations

The US' largest LNG exporter, Cheniere Energy, received no December loading cargo cancellations at its two export terminals.

At least 175 US cargoes, due to load between April and November, were thought to have been cancelled, S&P Global Platts figures showed.

US exporters are largely protected by fixed fees received when customers cancel, although cancellations force them to lower production, and if a counterparty were to claim *force majeure*, that could pose a challenge, Platts said.

Also last week, the first LNGC left Cameron LNG's export plant in Louisiana since Hurricane 'Delta' hit the area.

'Golar Seal' sailed on 21st October for Fos, according to MarineTraffic.

The previous vessel to arrive at Cameron was 'SK Audace' on 4th October, according to Refinitiv data.

The US Coast Guard said it had allowed vessels with drafts of less than 11 m to transit the Calcasieu Channel, as obstructions were cleared from the waterway following 'Delta'.

In another incident, vessels entering and leaving Sabine Pass had to contend with a grounded rig.

This limited vessels entering the waterway to a maximum draft of 11 m, the USCG said.

Late on 19th October, 'Palu LNG' left Sabine Pass with a draft just over 11 m, according to Refinitiv, while 'Stena Clear Sky' had arrived. Since then, the 'Flex Resolute' was reported to have berthed late last week.

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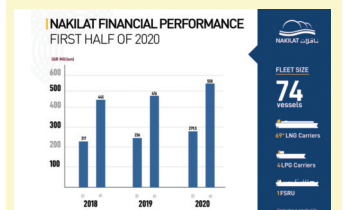
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LNGC attacked in Gulf of Guinea

The 2003-built LNGC 'Methane Princess' was reportedly boarded by pirates on 17th October.

At the time of attack, according to vessel tracking records, the Golar Management controlled vessel had loaded at Punta Europa LNG Terminal, Malabo, Bioko island,



'Methane Princess' was attacked by pirates in the Gulf of Guinea

Equatorial Guinea (EG).

Republic of the Marshall Islands has confirmed that one of its RMI-registered LNGCs was involved in an armed attack during loading operations at Punta Europa LNG Terminal, Malabo, Equatorial Guinea (EG).

The attackers were armed with automatic weapons and managed to board the vessel. The alarm was raised and the

crew on deck were able to successfully retreat to the citadel.

One crew member who was on the jetty during the attack was taken hostage. EG Port Security and the local navy responded promptly to the incident but were unable to intercept the attackers in time.

Efforts were underway to locate and arrange for the safe release of the abducted seafarer, the RMI said.

Masters and Company Security Officers (CSOs) were advised to maintain Security Level 2 and a heightened state of vigilance within

the Maritime Domain Awareness for Trade - Gulf of Guinea (MDAT-GoG) Voluntary Reporting Area.

As the dry season approaches and sea conditions abate, an increase in attacks is traditionally seen, so maritime security risks to vessels operating in the Gulf of Guinea require renewed attention.

Masters and crews need to be extra vigilant and ensure all security measures are taken.

MDAT-GOG will share information of vessels being attacked with the navies operating in the region, the RMI said. ■

OLT gets small scale LNG green light

OLT Offshore LNG Toscana has been authorised to discharge LNG into small scale LNGCs.

The Italian Ministry of Economic Development, in co-operation with the Ministry of Infrastructures and Transport and the Tuscany Region, has issued a decree to allow gas to be offloaded onto smaller LNGCs.

OLT is the first Italian regasification terminal to be capable of providing small scale services in the country, it claimed.

This decree adds an important element to the energy logistics by allowing the completion of the supply chain that allows the use of LNG as a sustainable fuel in heavy land and sea transport, as well as for industrial and civil use in areas not served by the national transport network.

OLT's small scale project will also allow the country to be competitive in a market with the highest potential growth rate, which has already been demonstrated in northern European countries, due

to the introduction of the SECA area in the North Sea, the English Channel and in the Baltic Sea, funded by Europe.

LNG propulsion is spreading particularly in the roll-on/roll-off ferry sector and in the cruise industry.

OLT joint Managing Director, Giovanni Giorgi said; "In recent years we have worked to maximise the use of the terminal. 'FSRU Toscana' has been working at 100% of its capacity for two years now, receiving LNG from almost all continents.

"The signing of the decree marks for us the beginning of a new challenge that we are ready to take up with enthusiasm, even in a difficult time like this. The detailed design was developed in parallel with the authorisation process during this emergency phase, the orders for the components and the necessary works can start by the



'FSRU Toscana' is to serve the small scale market

end of 2020. According to the planning we have foreseen, in 12 months we will be able to load small LNG carriers," he claimed.

"With almost 8,000 km of coastline, Italy is located exactly in the centre of the Mediterranean," added joint Managing Director and CEO, Maurizio Zangrandi, "and with the opportunity to play a key role in the spread of LNG in favour of the energy transition.

"Thanks to this project, our country will also be able to make

use of a more sustainable energy source than traditional fuels, in line with the best practices already widespread in Europe. In fact, in the short term, we will no longer have to depend on LNG supplies from France, Spain and Belgium, with significant industrial benefits for the Italian naval sector."

This new service is due to be unveiled to potential users on 29th October during a workshop organised by operator Snam and aimed at the gas market. ■

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Project delays put Australian LNG growth in doubt

Most Australian LNG project operators have opted to delay their final investment decisions (FIDs), deciding to wait for the medium-term market reaction and then act accordingly.

This has limited the scope for future LNG growth in the country, claimed analytics company, GlobalData.

According to GlobalData, delays in LNG projects, such as Woodside's Scarborough and Santos' Barossa field, have resulted in a reduced forecast for future LNG growth.

The FIDs delays for backfill projects also raises the prospect of greater spare capacity than previously anticipated, as production from the existing Pluto and North West Shelf developments decline. The North West Shelf participants recently agreed to process third party gas from the onshore Waitsia field but this will not make up from the two-year delay to Browse, now not expected until 2028 at the earliest.

The delays bring into question the necessity for expansions at the Burrup Hub, at least to the extent currently announced. By the time the Scarborough field comes on-line, there may be enough spare capacity at the existing LNG facilities to accommodate its production, presenting an alternative to

the \$6.1 bill expansion at Pluto, GlobalData said.

Canadian situation

In a look at Canada, GlobalData said significantly low gas prices and the global LNG supply glut caused by COVID-19 has led to a delay in upcoming LNG projects in the country.

Rising competition amid a supply overhang might make it challenging for Canadian LNG producers to remain cost competitive.

GlobalData's Haseeb Ahmed, commented: "One victim of the sharp fall in gas prices and surplus supply of LNG is the Pieridae Energy's Goldboro LNG export project, which saw delays to its financial investment decision (FID) in April - with its start year likely to be pushed to 2025. However, the company is upbeat about investing once the market conditions improve, which can allow it to analyse the situation better."

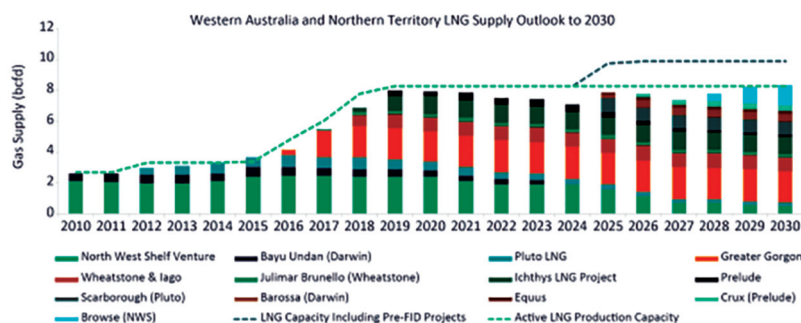
Participants in Canadian LNG projects, such as Shell, Chevron Corp, Petroliam Nasional Bhd, and Woodside Petroleum, have revised their capex guidance. In February, 2020, Woodside wrote down \$720 mill in the Kitimat LNG project in which the company owns a 50% stake.

Ahmed added: "Canada's LNG sector needs to come up with strategies to thwart competition from the US, which is expected to become more self-sufficient in terms of natural gas production. The kind of unconventional gas reserves in the country and the tech-

nological advancement in drilling can propel growth prospects of the Canadian LNG sector.

"Strategic initiatives focusing more on exports, achieving economies of scale by increasing operational efficiency, and investing in disruptive technologies, such as analytics and robotics, can help the LNG sector to tide-over the current scenario.

"Although the LNG market faces similar challenges across the globe, it depends on how Canada's LNG sector adapts to the current economic situation to sustain in the long-run," he said. ■



Source: GlobalData Oil & Gas Intelligence Center

GlobalData.

SCF orders three more Arc7s

On 28th October, 2020, SCF Group (SCF) and Arctic LNG 2 concluded 30-year time charter agreements for three new icebreaking LNGCs.

The 172,410 cu m, Ice Class Arc7s were ordered by SCF at Daewoo Shipbuilding & Marine Engineering (DSME) earlier this month, following a tender held by the project's operator.

All three vessels are scheduled for delivery in 2023. They will fly the Russian flag and have Russian crews.

Igor Tonkovidov, SCF President & CEO, commented:

"Strengthening SCF's position in LNG shipping segment is amongst the priorities of our current long-term development strategy, which is aimed at growing highly visible

long-term, cyclically resistant and higher-margin infrastructure cash flows.

"The total contract backlog relating to these new timecharter agreements, over the 30-year charter period, is estimated at \$4.2 bill. This will increase SCF's total contract backlog to approximately \$24 bill.

"I want to use this opportunity to thank our partners at NOVATEK, as well as its subsidiaries operating the Yamal LNG and the Arctic LNG 2 projects, for their support in implementing LNG projects in the Russian Arctic, which are of

significant importance for the Russian economy, and I am looking forward to the next stage of our close collaboration," he said.

The new Arc7s were designed using SCF's extensive experience of safely operating 'Christophe de Margerie', the world's first ice-breaking LNGC, which has been serving the Yamal LNG project since 2017.

They will each feature a propulsion system comprising three Azipods with a total capacity of 51 MW, which is comparable to that of '50 Let Pobedy', a nuclear-powered icebreaker (55 MW), and

is almost 60% higher than that of 'Lenin', the world's first nuclear-powered icebreaker (32.4 MW).

This propulsion system is expected to provide the new vessels with increased speed and manoeuvrability when sailing in ice conditions, compared with the previous generation of icebreaking LNGCs.

Their delivery should contribute towards opening year-round navigation along the eastern sector of the Northern Sea Route, SCF said.

At present, SCF has 15 gas carriers in operation and a further 19 under construction. ■

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Grain signs long-term agreement with Qatar

UK's National Grid Grain LNG and Qatar Petroleum's (QP) Qatar Terminal Limited (QTL) have signed a 25-year agreement to provide the Qataris with storage and redelivery capacity from mid-2025.

This agreement marked the conclusion of Grain LNG's competitive 'Open Season' process, kicked off in November, 2019, and secures the future of Europe's largest LNG import terminal, the company said.

Grain LNG, located on the Isle of Grain in Kent on the River Medway, is currently able to store and deliver enough gas to meet at least 25% of UK gas demand.

The UK has recently benefited from a rise in LNG imports, which have contributed to lower wholesale gas prices by increasing 'gas-on-gas' competition.

Jon Butterworth, Managing Director of National Grid Ventures, said: "Today is an important day for UK gas security, for Grain LNG, and for the community around the

Isle of Grain. LNG imports play a critical role in making sure the UK has the gas it needs, when it needs it.

"This agreement ensures that Grain will continue to offer the UK a flexible and reliable supply of gas to complement the growth of intermittent renewable generation. It also secures the future of a facility that is a significant contributor to the economy on the Isle of Grain. I look forward to working with QTL in the coming years and to continuing to operate a world-class asset that market participants and UK consumers can rely on," he said.

QP's HE Saad Sherida Al-Kaabi, said, "By entering into this agreement, we are reaffirming our com-

mitment to the United Kingdom's gas market. We believe this agreement will facilitate a greater role for LNG as a reliable and economic source of energy in the UK.

"Our agreement with National Grid Grain LNG will strengthen our position in support of advancing greater access to secure, flexible, and reliable gas supplies for all customers in the United Kingdom.

"I would like to commend National Grid Grain LNG for a very transparent and successful 'Open Season' process, and look forward to further co-operation to strengthen our relationship," he said.

Grain LNG is the largest terminal in Europe and eighth largest in the world by tank capacity with a site that spans over 600 acres. ■



Qatar takes Grain capacity

EXMAR settles YPF dispute

EXMAR has reached a settlement with YPF over the dispute under the 'Tango' FLNG agreements.

Under the terms of the agreement, YPF will pay \$150 mill to EXMAR in consideration of the early termination of the agreements and withdrawing the arbitration proceedings.

A first instalment of \$22 mill has already been paid, EXMAR said with the balance payable in 18 monthly instalments backed by

adequate financial security.

The loan agreement signed with Bank of China and Deutsche Bank on the 'Tango' FLNG stipulates a replenishment of the Debt Service Reserve Account of up to \$40 mill.

EXMAR said that the specifics were currently being discussed with the lenders.

The FLNG, with an LNG production capacity of about 0.5 mill tonnes per annum, is now available for other projects.

Its immediate availability, proven track record and operational experience are the right elements to rapidly unlock new markets for gas exports, the company said. ■

Total delivers carbon neutral cargo

Total has delivered its first carbon neutral LNG shipment to Chinese National Offshore Oil Corp (CNOOC).

The French energy major said that the loading operation was carried out at the Ichthys liquefaction plant in Australia, and the shipment was delivered on 29th September to CNOOC's Dapeng terminal.

"We are proud to have completed this first shipment of carbon neutral LNG with CNOOC, a long-standing partner of Total. This first LNG shipment, whose carbon emissions have been offset throughout the value chain, represents a new step as we seek to support our customers towards carbon neutrality," explained Laurent Vivier, President for Gas at Total. "The development of LNG is essential to meet the growth in global demand for energy while reducing the carbon intensity of the energy products consumed."

The LNG shipment's carbon footprint was offset with Verified Carbon Standards (VCS) emissions certificates financing two projects:

- Hebei Guyuan Wind Power Project, which aims to reduce emissions from coal-based power generation in northern China.
 - Kariba REDD+ Forest Protection Project, which aims to protect Zimbabwe's forests.
- 'Carbon neutral' indicates that Total and CNOOC have offset the amount of CO2 equivalent associated with the whole carbon footprint of the LNG cargo (including the production, liquefaction, shipping, regasification, and end-use) through VCS certified emission reduction projects, the company further explained. ■

Nakilat's net profit increases

Nakilat has revealed a net profit of QR900 mill for the third quarter of 2020, an increase of 23.6%, compared to QR728 mill recorded for the same period last year.

The key financial highlights from 3Q20 were:

- Net profit of QAR900 mill, increase by 23.6%.
- Revenue of QAR3,065 mill, increase by 12.2%.
- General and administrative expenses reduction of 18.7%.

The company's solid earnings results were primarily attributable to the implementation of its strategic initiatives across all levels, driven by growth strategy and cost optimisation.

Whilst the entire industry is challenged by the ongoing global pandemic, Nakilat's defensive business model has allowed the company to navigate smoothly with the required flexibility to continue to deliver clean energy worldwide reliably, ensuring no disruption to its business, the company said.

In addition, the company's shiprepair, offshore fabrication, towage and shipping agency businesses remained fully operational throughout this period.

Operational excellence was claimed in the management of its LNG and LPG vessels, as well as the acquisition of the remaining

49.9% of four Q-Flexes in October, 2019.

The successful commencement of Nakilat's second phase fleet management transition was also cited as among the main attributes to the positive financial results achieved, with six vessels transitioned to in-house management since May, 2020.

Nakilat also followed through its fleet expansion plans and took delivery of an LNGC newbuilding, which is being commercially and technically managed in-house and chartered by Qatargas.

The delivery of all four new-build LNGCs by the end of 2021 will bring Nakilat's fleet to 74 vessels, comprising of 69 LNGCs, which amounts to about 12% of current global LNG fleet in terms of carrying capacity, four LPG carriers and an FSRU.

Nakilat CEO, Eng Abdullah Al Sulaiti, said: "Amidst the ongoing global health concerns, Nakilat remains focused on its strategic goals and committed in delivering value for our shareholders."

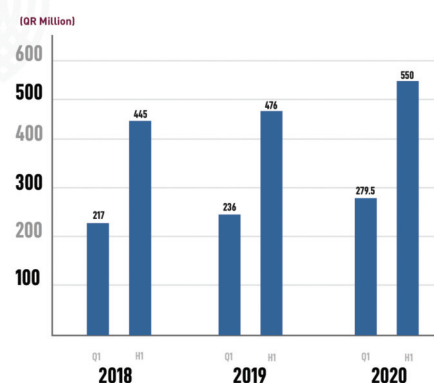
"The company's steady financial results highlight the significant efforts and contributions of

our employees, especially our dedicated seafarers, who have been showcasing exceptional performance in operating the vessels without compromising safety and quality across our integrated operations.

"Nakilat's superior operational excellence in energy transportation and maritime services greatly supports Qatar's vision in developing the LNG market, as well as contributes toward developing the country's shipping and maritime industry."

"With greater demand for clean energy globally, Nakilat is ambitious in expanding our international outreach and diversifying our portfolio to meet the growing energy transportation needs. We are continually assessing the market and our current investments to address any emerging risks, allowing us to tactfully navigate any unexpected challenges, as we steer forward to be global leader and provider of choice for energy transportation and maritime services," he concluded. ■

NAKILAT FINANCIAL PERFORMANCE FIRST HALF OF 2020



NAKILAT
ناكيلات

FLEET SIZE

74
vessels

69 LNG Carriers

4 LPG Carriers

1 FSRU

*Includes 4 newbuilds

Australians buy into NSW LNG project

Australian-based Squadron Energy has bought 50% of a planned LNG import terminal project in New South Wales (NSW) from Japan's JERA and Marubeni Corp.

Squadron said it had acquired 30.1% of Australian Industrial Energy (AIE) from trading house Marubeni and 19.9% from JERA, the world's biggest LNG buyer, for an undisclosed price.

This deal enables Squadron to take full control of the A\$250 mill Port Kembla Gas Terminal project being developed by AIE.

The company said that it was committed to the expedited development of the gas import terminal with the objective of having the capacity to supply

70% of NSW's gas needs by late 2022.

Squadron is owned by Tattarang, a private investment company controlled by Australian billionaire Andrew Forrest, the former CEO and current non-executive Chairman of Fortescue Metals Group.

The company's Chairman, Michael Masterman said JERA and Marubeni had indicated they would be open to working with AIE in the future, including the handling of LNG supplies and

building an associated gas-fired power station.

AIE had planned to reach a final investment decision (FID) on the Port Kembla project this year, in order to start importing LNG by 2022, with construction expected to take 14-16 months.

This project is one of five looking to import LNG into south-east Australia to fill a growing shortage expected from 2024, as gas supply from the Bass Strait fields off the coast of Victoria declines. ■

NEWS NUDGE

Corpus Christi files LNG export request

The US Department of Energy (DOE) has received an application from Cheniere Marketing and Corpus Christi Liquefaction for blanket authorisation to export domestically produced LNG.

The volume amounts to the equivalent to 767 bill cu ft on a cumulative basis over a two-year period commencing on 12th December, 2020.

Corpus Christi has asked to export the LNG from Corpus Christi.

Comments must be received by 16th November, the DoE said. ■

NextDecade hit by Engie pullout

French energy giant Engie has delayed its decision on a \$7 bill deal to import US LNG, following pressure from the government to seek cleaner fuel supplies.

Engie said it had postponed work on a contract to take LNG from NextDecade Corp's facility, which is fed by shale gas fields using fracking technology.

The contract was due to run through 2045 and it was seen as key to the construction of the US firm's Rio Grande LNG export terminal in Texas, according to the pressure group Les Amis de la Terre, reported Bloomberg.

Engie's board will now consider a potential contract with NextDecade at a later date, as it needs a 'deeper' examination, said a spokesperson for the utility, declining to elaborate on the postponement to Bloomberg.

Natural gas is increasingly being targeted by environmental pressure groups and governments for its contribution to climate-damaging greenhouse gases.

Earlier this month, environmental group Les Amis de la Terre France urged Engie not to sign the contract with NextDecade, blaming US shale gas for environmental and sanitary disasters.

The French Government owns a 23.6% stake in Engie and has asked the company not to sign the contract due to pollution concerns, Bloomberg said, quoting local sources.

France is one of the first countries to adopt a law that aims to make its economy carbon neutral by 2050 to fight climate change amid growing concerns among voters.

President Macron was among European Union leaders who this month had called for a faster emissions cut by 2030 than already planned.

US President Trump had per-

suaded countries, including Germany and Poland, to take more LNG cargoes from America to counter the larger volumes of gas arriving in Europe from Russia.

It was also alleged that Trump's administration put pressure on European companies to abandon the construction of the Nord Stream 2 gas pipeline from Russia, which is partly financed by Engie.

A NextDecade official said in a response to a request for comment from Bloomberg that the company is talking with a number of potential partners worldwide, without naming them.

NextDecade still needs to sign long-term contracts to underpin the final investment decision (FID) for Rio Grande LNG, Senior Vice President, James MacTaggart said late last month. ■

NEWS NUDGE

Glencore ships spot cargo to Zhoushan

Swiss-based trading house Glencore is to ship its first spot LNG cargo to Zhoushan in eastern China.

This shipment is part of the company's trading joint venture with Zhejiang Energy Group, a company trader told newswires.

Glencore's joint venture with Zhejiang, which is backed by the provincial government, was signed in 2018.

Alex Sanna, Glencore's global head of oil and gas, told an oil and gas seminar in Zhoushan recently that the shipment was set to arrive there "in two weeks."

The Zhoushan terminal is operated by private Chinese gas concern ENN Energy Holdings with an LNG annual capacity of up to 3 mill tonnes. ■

WE Tech firms up further LNGC orders

WE Tech Solutions has been awarded a contract for another six shipsets of its Solution One.

They will be fitted on six of Shell's 174,000 cu m LNGCs newbuildings.

This order is an option firmed up on an earlier eight systems contracted in March.

The LNGCs will be chartered to Shell LNG by Knutsen OAS Shipping, JP Morgan Asset Management and Korea Line Corp.

They are being built by Hyundai Heavy Industries in Ulsan and Hyundai Samho Heavy Industries in Mokpo, South Korea. WE Tech's equipment delivery will start in October, 2021.

The delivery package includes two sets of direct drive permanent magnet shaft generators - WE Drives and Dedicated Power Management System (DPMS).

This economical operations solution supplies the vessels' electrical power distribution from shaft

generators allowing for the auxiliary generators to be stopped at sea. Thus, a high energy efficiency with substantial fuel saving is achieved during sailing mode, the company claimed.

"Our state-of-the-art variable frequency drive technology together with permanent magnet generators, which have the markets highest efficiency over the full speed and power range can fully satisfy gas carriers' needs," said Peter Lindström, WE Tech Solutions Sales Manager. "With our solution, the energy efficiency of the machinery reaches unprecedented levels."

"Environmental sustainability has always been one of the fundamentals in our business development. We are glad to work together with WE Tech Solutions

to build the most advanced and eco-friendly LNG carriers," added Oliver Smith, Knutsen OAS Shipping's Project Manager. "The utilisation of WE Tech's energy efficient solutions keeps Knutsen the frontrunner in technical innovations as we always strive to be."

"This is the fourth major order from South Korean shipbuilders for delivering our economical operations solutions to gas carriers since WE Tech stepped into the Korea market," explained Mårten Storbäck, WE Tech Solutions' Managing Director. "The repeating orders are proof that our solutions have the best value for money, highest reliability and superior efficiency, strengthening WE Tech as the leader in variable speed shaft generator solution business." ■

NYK buys Gazocean

On 22nd October, NYK signed a Sales and Purchase Agreement with Total to acquire all the French company's shares in the shipmanagement company, Gazocean.

Based in Marseille, and responsible for the management of six LNGCs, Gazocean is now a wholly owned subsidiary of NYK.

NYK claimed that this move will strengthen its shipmanagement system and expand the company's LNG transportation business in France.

Before the purchase, NYK held 20% of Gazocean shares and Total held 80%.

The acquisition has been reviewed by Gazocean's employee representatives, as part of the regulatory information and consultation procedure. It also has the approval of the competent authorities. ■

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Burckhardt wins LNGC service deal

Burckhardt Compression has signed a 10-year service agreement covering nine BW LNGCs fitted with the patented Laby-GI Compressors.

Building on their existing long-term relationship, the two companies agreed to tailor make a fleet management solution, which provides a total care package supported by the latest monitoring diagnostics.

This partnership marks a significant milestone in Burckhardt Compression's strategy to offer lifecycle solutions tailored to customer needs, the company said.

The new long-term service agreement (LTSA) was developed together with the BW LNG management to provide services on board that add value to the vessels' operation, such as improved lifecycle costs, operational efficiency and accurate preventive maintenance.

"This LTSA is an important milestone for us. We are proud to provide not only strong compressor technology but also tailor made service solutions together with and for our partner BW LNG. We are confident that this arrangement will ensure safe and

smooth operations for the vessels and their crews on board." said Marcel Pawlicek, Burckhardt Compression CEO.

The LTSA covers compressor scheduled maintenance, dedicated supervision, as well as preventive maintenance via remote diagnostics, field services, and fleet management for 10 years.

Burckhardt Compression's fleet manager will, together with technical experts, monitor the performance of the units and continuously optimise their maintenance cycles in line with the operational requirements of the crew. Compressor maintenance will be carried out during vessel operations for maximum efficiency.

All nine LNGCs are ME-GI powered and equipped with a Laby-GI Compressors for boil-off gas (BOG) management.

Main machinery

Talking with LNG SN, the company said that the compressors, as part of the BOG handling system, are

also powering the main propulsion machinery, which steers the methane slip.

The company stressed that its primary goal was to satisfy the individual needs of the customer. "So, no matter if the compressor system is completely new or already several years in operation, we develop fleet management solutions in close co-ordination with the customer. This way, we ensure, that the agreement matches the individual requests of the customer exactly," Burckhardt said.

The company also said that it had already signed several service agreements with globally well-known LNG sector companies during the last 18 months.

Burckhardt Compression has its own offices and service centres, as well as partners worldwide. In addition, 'pit stop' stations are located along the main vessel routes.

More than 130 field service representatives are also available who cover all the major ports and vessel routes, the company explained. ■

ICU service for WinGD engines

CSSC Marine Service (CMS), the equipment service subsidiary of China State Shipbuilding Corp (CSSC), has introduced an injection control unit (ICU) overhaul and testing service.

The development marks the first time that OEM-authorised ICU overhaul and testing has been available in China and extends its range of services for WinGD and RT-Flex 2-stroke engines, some of which are used for LNGCs main propulsion units.

ICU overhauls are traditionally carried out in two key ports worldwide and often require the shipments of complete ICUs to and from the repair shop at great cost.

It is estimated that around 2,000 ICUs are overhauled globally each year, so the service represents a viable new business line for CMS in China, the company said. For CMS, this expansion to other key markets can be repli-

cated once this is proven to be popular with owners.

"ICU overhaul and testing are a core service that until now has not been available in one of the world's biggest shiprepair markets," said Andrew Stump President CMS. "As a sister company and authorised service partner of WinGD, customers can be assured that CMS's service is performed to the highest standards while offering even greater convenience and cost efficiency."

CMS performed its first ICU service more than six months ago and the company has a dedicated ICU overhaul and testing workshop in Qingdao where the units are sent for cleaning, inspection, reconditioning (including the replacement

of damaged parts) and most importantly - bench testing.

Once the reconditioned units are received at the ICU workshop the overhaul can be performed in as little as two to three days - meaning the service, when planned in advance, can be easily incorporated into a 12-15 day drydock without disrupting the schedule of the shipyard or ship operator.

CMS performs its services through service centres across Asia - including four in China - one each in South Korea and Singapore and in Europe, based in Hamburg and Switzerland.

It also offers worldwide coverage via partner service stations across the globe. ■

NEWS NUDGE

Woodfibre LNG granted deadline extension

The Woodfibre LNG project has had its environmental assessment certificate extended for another five years.

The certificate was set to expire by 26th October this year, but has been extended by the Canadian British Columbia Provincial Environmental Assessment Office (EAO) to 26th October, 2025.

By 2025, the project must have 'significantly started,' according to the terms of the renewal certificate, which now cannot be renewed again.

Nakilat transitions another Q-Max

Nakilat has assumed full ship-management and operations of the 2009-built Q-Max LNGC 'Lijmiliya' from Shell on 27th October, 2020, as part of the second phase of its planned fleet management transition programme.

'Lijmiliya' is wholly-owned by Nakilat and chartered by Qatargas.

She is the seventh vessel to come under the management of Nakilat Shipping Qatar (NSQL) this year, bringing the total number of vessels managed to 26, comprising of 22 LNG and 4 LPG carriers. ■



■ CMS' head Andrew Stump

GTT to design tanks for 10 Arc7s

GTT has received a second order from the Russian shipyard Zvezda Shipbuilding Complex (Zvezda) for the tank design of 10 ARC7s.

Each vessel will have a capacity of 172,600 cu m.

GTT will design the tanks, which will be fitted with the Mark III membrane containment system.

The company's technology has been adapted for heavy environmental conditions, allowing LNCGs to operate and navigate safely in ice-covered waters.

The ARC7s will operate for NOVATEK and will be delivered between the second half of 2024 and the end of 2025.

In addition, the Russian Mar-

itime Register of Shipping (RS) has undertaken a General Approval for Ship Application (GASA) of GTT's Mark III technology.

Under the GASA procedure, RS, in close co-operation with GTT, reviewed over 70 documents covering membrane tanks design, construction, and service aspects against applicable RS Rules and the IGC Code requirements.

RS reviewed the basic methodology for Mark III cargo containment system strength calculations and sloshing loads estimations, with due

attention to testing and repair procedures for structural elements.

The introduction of GASA is a new step in LNG expertise expansion process. It ensures a smooth transition from conceptual LNG ship design to detailed design and class approval, RS claimed.

"The insightful co-operation and result-oriented approach taken by GTT and RS experts provided for the fruitful activity of joint team laying thus another foundation stone of safe and efficient LNG transportation by the

new generation of gas carriers in ice conditions," said Philippe Bertrotière, GTT Chairman and CEO.

"The RS approval of the technology developed by our strategic partner GTT opens the door to offer the full scope of services related to the classification of new marine LNG transportation and storage facilities. The successful completion of this project confirms the RS capabilities to work in close cooperation with industry leaders," said RS Director General, Konstantin Palnikov. ■

NEWS NUDGE

Ship deliveries

Norwegian shipowner, Flex LNG recently took delivery of its fourth newbuilding LNGC this year.

The 174,000 cu m 'Flex Amber' was delivered from Hyundai Samho Heavy Industries.

'Flex Amber' has been fixed on a term charter with an undisclosed interest starting this quarter.

Flex LNG has three more LNGCs to come, scheduled for delivery in November, February and May, 2021.

GasLog's LNGC newbuilding, 'GasLog Georgetown', has completed sea trials and has returned to Samsung Heavy Industries.

In its brief social media release, GasLog said it had completed all the tests.

She is of 174,000 cu m capacity, fitted with X-DF propulsion and a MK III Flex + cargo containment system, which gives the ship a low boil-off rate of 0.07%, combined with a sub-cooler.

TMS Cardiff's sixth scheduled 2020 newbuild LNGC has left Hyundai Heavy Industries' shipyard.

The 174,000 cu m 'Vivit

Americas LNG' is on a term charter with Swiss trader Vitol.

TMS Cardiff has five LNGCs remaining on its orderbook, at least three of which are chartered to Shell.

On 20th October, Mitsui OSK Lines (MOL) named the last of four 174,000 cu m LNGC newbuildings 'LNG Megrez' at Hudong-Zhonghua Shipbuilding.

All four were built on the back of charters for the Yamal LNG project.

'LNG Megrez' is the 15th LNGC built at Hudong to join MOL's fleet.

In the small scale sector, Avenir LNG has announced the delivery of its first 7,500 cu m dual purpose LNG bunkering and supply vessel (LBV) 'Avenir Advantage' from Keppel Offshore & Marine, at the Nantong Shipyard, China.

She has a cargo capacity of 7,500 cu m in two Type C tanks and has been chartered to Malaysia's Petronas LNG for three years, becoming the first dedicated LBV in Southeast Asia.

She will supply LNG to fuel ships operating in the region and deliver LNG directly to Petronas small-scale customers.

Avenir LNG is building a fleet of six LBVs of 7,500 cu m and 20,000 cu m capacity, as well as the HIGAS LNG import facility (10,800 cu m) in Sardinia. ■

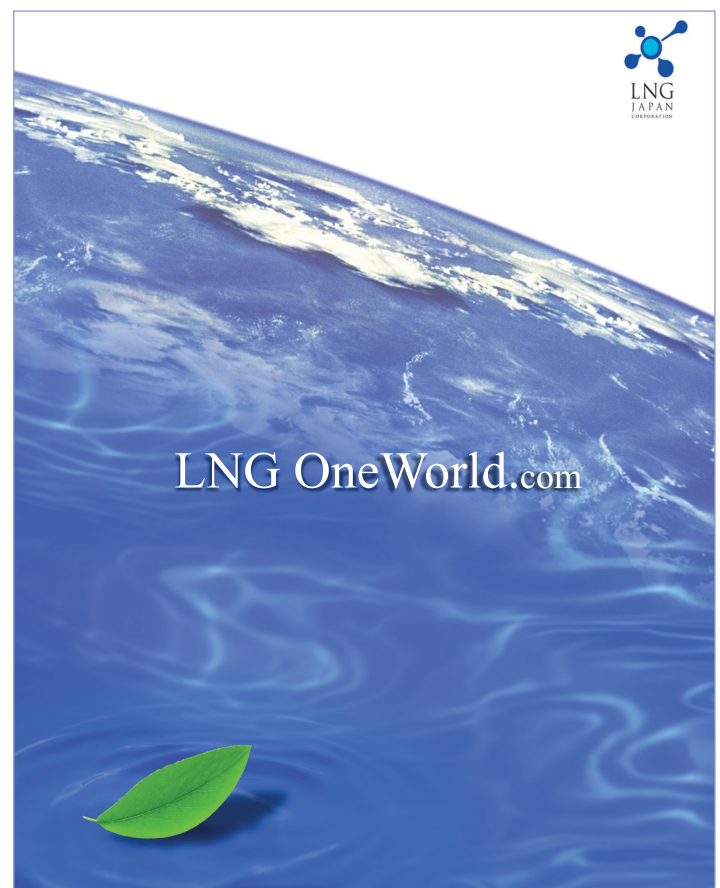
LNG rate assessments

Spot market (155,000-165,000 cu m)

Region	This week	Change*
East of Suez	\$120,000	+\$46,000
West of Suez	\$120,000	+\$50,000
12 mos T/C	\$48,000	-

*Since last report (15/10/20)

Source: Fearnleys (28/10/20)



ABS issues two LNG AiPs

ABS has issued Approval in Principle (AiP) for the design of a near-shore LNG FPSO hull fitted with a jetty-moored system developed by Daewoo Shipbuilding & Marine Engineering (DSME).

The AiP is the completion of a joint development project (JDP) between DSME and ABS using the class society's rules to advance LNG FPSO safety standards.

The 64 m wide barge-shaped hull features a GTT NO96 single row containment system with a storage capacity of 209,000 cu m. It is fitted with a jetty-moored system and about 40,000 tonnes of topside modules, which may produce between 3-3.5 mill tonnes per annum of LNG.

Due to a wider beam and different hull configuration compared to existing standard LNGCs, various sloshing model tests were carried out with a 6-DOF sloshing rig, driven by electric servomotors, at DSME's sloshing research centre.

Through these extensive tests, DSME has verified that the new

hull design and the membrane cargo containment system (CCS) can withstand the sloshing impact loads under actual operating conditions.

"ABS has been a part of the FPSO industry since its earliest days and has played a key role in the development of the industry. The benefit from that involvement is that we've been able to both witness and participate in the evolution of FPSOs in size, complexity and technology. This project is the next step in that evolution, and we are proud to be able to support it," said Matt Tremblay, ABS Senior Vice President, Global Offshore.

Odin (Oh Yig) Kwon, Executive Vice President and DSME's CTO, said: "As today's offshore oil and gas market demands more cost efficient and fast track projects,

this single row CCS tank configuration will become a desirable model for our clients and this new line-up together with the two row CCS configuration will provide greater flexibility to fulfil various needs."

Cargo system

ABS has also granted Approval in Principle (AiP) to DSME for a floating storage power plant LNG cargo handling system.

This system is designed as an all-in-one energy supply facility that can receive, store and regasify LNG, then generate and supply electricity and natural gas simultaneously.

A new concept, DSME's 200 MW design has capacity to produce and supply electricity from floating structures with a length of 161 m, width of 60 m and

height of 33 m, and directly supply natural gas of about 200 mill cu ft per day to an on land facility after storage and regasification.

The facility is expected to be used in countries lacking energy supply infrastructure and to support operations where energy supplies are concentrated at certain times, such as the Olympic Games, international fairs and natural disasters, where demand peaks.

Young-Taek Jee, Vice President, DSME's Head of Offshore Marketing Division, said: "We expect it to be an example of a complex energy supply facility using eco-friendly fuel. The company will continue to create new demands and meet the needs of various customers through continuous research and development." ■

NEWS NUDGE

Fires hit export terminals

Equinor's Hammerfest LNG plant could be offline for up to a year, following a fire.

The fire was reportedly discovered in one of the plant's urbins on 28th September.

Equinor reported that its initial survey found that in addition to damage caused by the fire on the air intake on one of the plant's five power turbines, large amounts of seawater used to extinguish the fire damaged other auxiliary systems, such as electrical equipment and cables in the plant.

"Although a lot of inspection work remains, and there is still significant uncertainty, our best estimate now is that it may take up until 1st October, 2021 to get Hammerfest LNG back into production," said plant director,

Andreas Sandvik.

In another incident, Freeport LNG's Train 1 remained shut on 26th October, as damage from a recent fire was being assessed.

This disruption has sharply reduced utilisation at the terminal, since the fire was discovered on 21st October.

Feedgas deliveries to the facility topped 2 bill cu ft per day that day, then fell to 1.5 bill the following day and then went down to 1.4 bill cu ft on 26th October.

'Prelude' offline until early next year

Royal Dutch Shell confirmed last week that its 'Prelude' FLNG, offline since early February, would not resume full production this year.

'Prelude' FLNG was shut down following an electrical trip and Shell has faced a number of issues over the past few months in trying to restart full production and now does not

expect to ship any LNG before next year.

"Full production is not expected to resume before year end. 'Prelude' is a multi-decade project, and our focus is on delivering sustained performance over the long term," Shell said in a statement.

Guangzhou to come online in 2022

China's Guangzhou Gas Group has confirmed that the LNG berth and storage area under construction is expected to become operational by second-half of 2022.

The Guangzhou terminal will have an initial annual throughput of 1 mill tonnes.

In a presentation at a gas conference in Shanghai, the company said it would begin issuing tenders to buy over 1 mill tonnes per annum of LNG for the medium and long term in 2021.

Phase 1 of the project includes the building of two

160,000 cu m LNG storage tanks, while Phase 2 will comprise two 200,000 cu m LNG storage tanks, according to the presentation.

Trelleborg relocates to new premises

Trelleborg's marine and infrastructure operation has relocated its oil and gas transfer and ship performance systems business to a new site in Hawarden, Wales.

The 19,400 sq ft facility will design, manufacture and provide after sales support for a variety of technologies for both the LNG and ship performance sectors worldwide.

Along with increased office and production space, the facility features two factory acceptance test (FAT) rooms, fitted with video conference technology that allows customers to attend testing even when travel is restricted.

It will house 55 employees across various disciplines, with room for further expansion. ■

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WORLD LNG CARRIER ORDERBOOK

Name	Containment system	Yard	Propulsion	Capacity	Delivery date	Primary Owner
Flex Artemis	GT NO 96	DSME	MEGI	173400	01/07/2020	Flex LNG
Lng Pheceda	GT NO 96	Hudong-Zhonghua	MEGI	174000	01/07/2020	MOL
Cool Discoverer	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2020	Thenamaris
Energy Pacific	GT NO 96	DSME	MEGI	173400	01/08/2020	Alpha Gas
Flex Aurora	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2020	Flex LNG
Pearl Lng	GTT Mark III Flex	Samsung	XDF	174000	01/08/2020	TMS Cardiff Gas
Vivit Americas Lng	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2020	TMS Cardiff Gas
Scf Barents	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2020	Sovcomflot
Flex Resolute	GT NO 96	DSME	MEGI	173400	01/09/2020	Flex LNG
Gaslog Galveston	GTT Mark III Flex	Samsung	XDF	174000	01/10/2020	GasLog
Gaslog Georgetown	GTT Mark III Flex	Samsung	XDF	174000	01/10/2020	GasLog
Aristos I	GTT Mark III Flex	Hyundai	XDF	174000	01/10/2020	Capital Gas
Yiannis	GT NO 96	DSME	MEGI	173400	01/10/2020	Maran Gas Maritime
Dorado LNG	GTT Mark III Flex	Samsung	XDF	174000	01/10/2020	TMS Cardiff Gas
Lng Megrez	GT NO 96	Hudong-Zhonghua	MEGI	174000	01/10/2020	MOL
Cobia Lng	GTT Mark III Flex	Hyundai	XDF	174000	31/10/2020	TMS Cardiff Gas
Celsius Copenhagen	GTT Mark III Flex	Samsung	XDF	180000	31/10/2020	Celcius Shipping
Aristidis I	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2020	Capital Gas
Diamond Gas Metropolis	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2020	NYK
Flex Freedom	GT NO 96	DSME	MEGI	173400	01/11/2020	Flex LNG
Flex Amber	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2020	Flex LNG
Celsius Canberra	GTT Mark III Flex	Samsung	XDF	180000	01/12/2020	Celcius Shipping
Global Star	GT NO 96	DSME	MEGI	173400	01/12/2020	Nakilat
Energy Endeavour	GT NO 96	DSME	MEGI	173400	01/12/2020	Alpha Gas
Lng Rosenrot	GT NO 96	DSME	MEGI	180000	01/01/2021	MOL
Samsung 2304	GTT Mark III Flex	Samsung	XDF	174000	01/01/2021	Minerva Marine
Daewoo 2481	GT NO 96	DSME	MEGI	173400	01/01/2021	Minerva Marine
Samsung 2313	GTT Mark III Flex	Samsung	XDF	180000	01/02/2021	Celcius Shipping
Bw Lesmes	GT NO 96	DSME	MEGI	174000	01/02/2021	BWGas
Gail Bhuwan	GT NO 96	DSME	MEGI	180000	01/02/2021	MOL
Cool Racer	GTT Mark III Flex	Hyundai	XDF	174000	01/02/2021	Thenamaris
Scf Timmerman	GTT Mark III Flex	Hyundai	XDF	174000	01/02/2021	Sovcomflot
Flex Volunteer	GTT Mark III Flex	Hyundai	XDF	174000	01/02/2021	Flex LNG
Minerva Limnos	GT NO 96	DSME	MEGI	173400	01/02/2021	Minerva Marine
Marvel Swan	GTT Mark III Flex	Samsung	XDF	173400	01/03/2021	Navigare
Bw Helios	GT NO 96	DSME	MEGI	174000	01/03/2021	BWGas
LNG Ships Express	GTT Mark III Flex	Samsung	XDF	174000	01/03/2021	TMS Cardiff Gas
Hellas Diana	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2021	Latsco Shipping
Lngships Athena	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2021	TMS Cardiff Gas
Lngship Manhattan	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2021	TMS Cardiff Gas
Aristarchos	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2021	Capital Gas
Samsung 2302	GTT Mark III Flex	Samsung	XDF	174000	01/04/2021	NYK

DFDE = dual fuel diesel engines, STRH = steam turbine reheat / ultra steam turbine, MEGI = marine electric gas injection, DRL = slow speed diesel, FSRU = vessel with regas capacity, FLNG = floating LNG production unit
Data last updated = 28th July 2020

Name	Containment system	Yard	Propulsion	Capacity	Delivery date	Primary Owner
Celcius #4	GTT Mark III Flex	Samsung	XDF	180000	15/04/2021	Celcius Shipping
DSME 2485	GT NO 96	DSME	MEGI	173400	15/04/2021	Alpha Gas
Diamond Gas Crystal	GTT Mark III Flex	Hyundai	XDF	174000	01/05/2021	NYK
Flex Vigilant	GTT Mark III Flex	Hyundai	XDF	174000	01/05/2021	Flex LNG
Daewoo 2501	GTT Mark III Flex	DSME	MEGI	174000	01/06/2021	Maran Gas Maritime
Hudong-zhonghua H1827a	GT NO 96	Hudong-Zhonghua	XDF	174000	01/06/2021	CSSC
Daewoo 2495	GT NO 96	DSME	XDF	174000	01/06/2021	Maran Gas Maritime
Daewoo 2500	GT NO 96	DSME	MEGI	174000	01/06/2021	Alpha Gas
Attalos	GTT Mark III Flex	Hyundai	XDF	174000	01/06/2021	Capital Gas
SHI Gaslog CE #1	GTT Mark III Flex	Samsung	XDF	180000	15/06/2021	GasLog
Daewoo 2505	GT NO 96	DSME	MEGI	173400	01/07/2021	MOL
Asterix 1	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2021	Capital Gas
Adamastos	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2021	Capital Gas
SHI Gaslog CE #2	GTT Mark III Flex	Samsung	XDF	180000	15/08/2021	GasLog
Daewoo 2504	GT NO 96	DSME	XDF	174000	01/09/2021	Maran Gas Maritime
Daewoo 2502	GTT Mark III Flex	DSME	XDF	173400	01/09/2021	Nakilat
Samsung 2305	GTT Mark III Flex	Samsung	XDF	174000	01/09/2021	Minerva Marine
Diamond Gas Victoria	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2021	NYK
Hellas Athina	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2021	Latsco Shipping
Asklipios	GTT Mark III Flex	Hyundai	XDF	174000	15/09/2021	Capital Gas
Samsung 2355	GTT Mark III Flex	Samsung	XDF	174000	01/10/2021	NYK
Daewoo 2507	GT NO 96	DSME	XDF	174000	01/10/2021	Maran Gas Maritime
Hyundai Ulsan 2939	GTT Mark III Flex	Hyundai	XDF	180000	01/10/2021	SK Shipping
Samsung 2306	GTT Mark III Flex	Samsung	XDF	174000	01/10/2021	NYK
Hyundai Samho 8025	GTT Mark III Flex	Hyundai	XDF	174000	01/12/2021	H-Line
Hyundai Ulsan 3157	GTT Mark III Flex	Hyundai	XDF	174000	01/12/2021	Tsakos Energy Navigation
Samsung 2336	GTT Mark III Flex	Samsung	XDF	174000	01/12/2021	JP Morgan
Daewoo 2503	GTT Mark III Flex	DSME	XDF	173400	01/12/2021	Nakilat
Samsung 2307	GTT Mark III Flex	Samsung	XDF	174000	01/12/2021	NYK
Daewoo 2508	GT NO 96	DSME	XDF	174000	01/01/2022	Maran Gas Maritime
Hyundai Samho 8032	GTT Mark III Flex	Hyundai	XDF	174000	01/01/2022	NYK
Hudong-zhonghua H1828a	GT NO 96	Hudong-Zhonghua	XDF	174000	01/01/2022	CSSC
Samsung 2315	GTT Mark III Flex	Samsung	XDF	173400	01/03/2022	SinoKor
Samsung 2319	GTT Mark III Flex	Samsung	XDF	174000	01/03/2022	JP Morgan
Elisa Aquila	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2022	NYK
Samsung 2332	GTT Mark III Flex	Samsung	XDF	174000	01/03/2022	Minerva Marine
Hudong-zhonghua H1788a	GT NO 96	Hudong-Zhonghua	XDF	80000	01/04/2022	K-Line
Hyundai Ulsan 3137	GTT Mark III Flex	Hyundai	XDF	178000	01/04/2022	Dynagas
Hudong-zhonghua H1789a	GT NO 96	Hudong-Zhonghua	XDF	80000	01/05/2022	K-Line
Samsung 2316	GTT Mark III Flex	Samsung	XDF	173400	01/05/2022	SinoKor
DSME May19	GT NO 96	DSME	MEGI	174000	15/05/2022	Maran Gas Maritime
Hyundai Samho 8033		Hyundai	XDF	173000	01/06/2022	NYK
Hyundai Samho 8026	GTT Mark III Flex	Hyundai	XDF	174000	01/06/2022	H-Line

Name	Containment system	Yard	Propulsion	Capacity	Delivery date	Primary Owner
Samsung 2337	GTT Mark III Flex	Samsung	XDF	174000	01/07/2022	JP Morgan
Hyundai Ulsan 3138	GTT Mark III Flex	Hyundai	XDF	178000	01/07/2022	Dynagas
Hyundai Samho 8091	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2022	Knutsen
Hyundai Ulsan 3185	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2022	Korea Line
Samsung 2317	GTT Mark III Flex	Samsung	XDF	173400	01/08/2022	SinoKor
Daewoo 2509	GT NO 96	DSME	MEGI	174000	01/08/2022	BWGas
Samsung 2318	GTT Mark III Flex	Samsung	XDF	173400	01/09/2022	SinoKor
Daewoo 2510	GT NO 96	DSME	MEGI	174000	01/09/2022	BWGas
Hyundai Ulsan 3145	GTT Mark III Flex	Hyundai	XDF	180000	01/09/2022	SK Shipping
Hyundai Samho 8092	GTT Mark III Flex	Hyundai	XDF	174000	01/10/2022	Knutsen
Hyundai Ulsan 3186	GTT Mark III Flex	Hyundai	XDF	174000	01/10/2022	Korea Line
Hyundai Ulsan 3187	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2022	JP Morgan
Hyundai Samho 8093	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2022	Knutsen
Cosco PCI #1	GT NO 96	Hudong-Zhonghua	XDF	174000	15/11/2022	China LNG Shipping
Hyundai Ulsan 3188	GTT Mark III Flex	Hyundai	XDF	174000	01/12/2022	JP Morgan
Hyundai Samho 8094	GTT Mark III Flex	Hyundai	XDF	174000	01/12/2022	Knutsen
Samsung 2364	GTT Mark III Flex	Samsung	XDF	174000	01/01/2023	MISC
Cosco PCI #2	GT NO 96	Hudong-Zhonghua	XDF	174000	15/01/2023	China LNG Shipping
Samsung 2365	GTT Mark III Flex	Samsung	XDF	174000	01/02/2023	MISC
Zvezda 041	GTT Mark III Flex	Zvezda SSK	TFDE-Azipod	172600	01/03/2023	Novatek
Cosco PCI #3	GT NO 96	Hudong-Zhonghua	XDF	174000	15/03/2023	China LNG Shipping
Zvezda 042	GTT Mark III Flex	Zvezda SSK	TFDE-Azipod	172600	01/09/2023	Novatek
Zvezda 043	GTT Mark III Flex	Zvezda SSK	TFDE-Azipod	172600	01/10/2023	Novatek
Zvezda 044	GTT Mark III Flex	Zvezda SSK	TFDE-Azipod	172600	01/11/2023	Novatek
Zvezda 045	GTT Mark III Flex	Zvezda SSK	TFDE-Azipod	172600	01/12/2023	Novatek

DFDE = dual fuel diesel engines, STRH = steam turbine reheat / ultra steam turbine, MEGI = marine electric gas injection, DRL = slow speed diesel, FSRU = vessel with regas capacity, FLNG = floating LNG production unit
Data last updated = Data last updated = 28th July 2020



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WORLD SMALL SCALE LNG FLEET*

Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
1974	Seagas	187	LNG	Sweden	Yes	AGA
1988	Kayoh Maru	1,517	LNG	Japan	Yes	Daiichi
1993	Aman Bintulu	18,928	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
1996	Surya Aki	19,475	LNG	Indonesia - Japan	Yes	MCGC
1997	Aman Sendai	18,928	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
1998	Pelita Energy	18,800	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
2000	Tripura	23,096	LNG	Indonesia - Japan	Yes	MCGC
2003	Pioneer Knutsen	1,100	LNG	Norway	Yes	Knutsen
2003	Shinju Maru No.1	2,540	LNG	Japan	Yes	Shinwa
2005	North Pioneer	2,500	LNG	Japan	Yes	Japan Liquid Gas
2007	Sun Arrows	19,531	LNG	Malaysia - Russia - Japan	Yes	Mitsui
2008	Kakurei Maru	2,536	LNG	Japan	Yes	Hogaki Zosen
2008	Shinju Maru No.2	2,540	LNG	Japan	Yes	Shinwa
2009	Coral Methane	7,551	LNG/LPG/Ethylene	Northwest Europe/Baltics	Yes, sometimes	Anthony Veder
2010	Coral Favia	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
2010	Coral Fraseri	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
2011	Akebono Maru	3,556	LNG	Japan	Yes	Chuo Kaiun
2011	Coral Furcata	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
2011	Coral Fungia	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
2011	Vision Spirit	12,000	LNG/LPG/Ethylene	Worldwide	No	Teekay
2011	Unikum Spirit	12,000	LNG/LPG/Ethylene	Worldwide	No	Teekay
2012	Coral Energy	15,600	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2013	JX Energy TBN	2,500	LNG	Japan	Yes	JX Energy
2013	Kakuyu Maru	2,500	LNG	Japan	Yes	Tsurumi Sunmarine
2013	Coral Antheia	6,500	LNG/Ethylene			Anthony Veder
2015	LNG Barge TBN	3,000	LNG	US Coast	Yes	LNG America
2015	JS Ineos Ingenuity	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	JS Ineos Insight	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	JS Ineos Intrepid	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	PetroChina TBN	30,000	LNG	China		PetroChina
2016	Clean Jacksonville	2,200	LNG	US Coast	Yes	CME
2016	LNG Prime	2,250	LNG	Northwest Europe	Yes	Veka Deen LNG
2016	JS Ineos Indepence	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Innvation	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Inspiration	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	Hai Yang Shi You 301	30,000	LNG	Bali FSU	Yes	CETS (CNOOC)
2017	Oizmendi	600	LNG	Bilbao	Yes	Itsas Gas
2017	ENGIE Zeebrugge	5,000	LNG	Northwest Europe	Yes	NYK
2017	Coralius	5,800	LNG	Northwest Europe/Baltics	Yes, for Skangas	Anthony Veder
2017	Cardissa	6,500	LNG	Northwest Europe	Yes	Shell
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya

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Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	Coral EnergiCE	18,000	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2017	JS Ineos Invention	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2017	JS Ineos Intuition	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2017	Coral Encanto	30,000	LNG	China	Yes	Anthony Veder
2018	HUA XIANG 8	13,720	LNG	China	Yes	Zhejiang Huaxiang
2018	LNG London	3,000	LNG	Northwest Europe	Yes	Shell
2018	Shell Bunker Barge TBN 2	6,500	LNG	Northwest Europe	Yes	Shell
2018	Shell Bunker Barge TBN 3	6,500	LNG	Northwest Europe	Yes	Shell
2018	Kairos	7,500	LNG	Baltic	Yes	Bernhard Schulte
2018	Bunker Breeze	0	LNG	Barcelona	Yes	Suardiaz Energy Shipping
2019	SM Jeju LNG1	7,500	LNG	Korea	Yes	Korea Line
2019	Stolt TBN	7,500	LNG	Mediterranean	Yes	Stolt-Nielsen Gas
2019	Stolt TBN	7,500	LNG	Mediterranean	Yes	Stolt-Nielsen Gas
2019	Gas Agility	18,600	LNG	NWE	Yes	MOL
2019	Flexfueller 001	1,480	LNG	Amsterdam	Yes	Titan LNG
2020	SM Jeju LNG2	7,500	LNG	Korea	Yes	Korea Line
2020	CNTIC VPOWER Global	28,000	LNG	Myanmar	Yes	Dalian Inteh Group
2020	Q-LNG 4000	4,000	LNG	US Coast	Yes	Q-LNG Transport/Harvey Gulf
2020	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2020	FuelLNG TBN	7,500	LNG	Singapore	Yes	FuelLNG
2020	CLS TBN	3,500	LNG	Japan	Yes	CLS
2020	Elenger TBN	6,000	LNG	NWE	Yes	Elenger
2020	ENN TBN	8,500	LNG	China	Yes	ENN
2020	Flexfueller 002	1,480	LNG	Antwerp	Yes	Titan LNG
2020	Ecobunker Tokyo Bay	2,500	LMG	Japan	Yes	Ecobunkers
2021	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2021	Knutsen TBN	30,000	LNG	Mediterranean	Yes	Knutsen OAS
2021	Gazprom Neft TBN	5,800	LNG	Russia	Yes	Gazprom Neft
2021	PE TBN	12,000	LNG	Singapore	Yes	MOL
2021	JMU TBN	2,500	LNG	Japan	Yes	JMU
2021	TBN	18,600	LNG	Mediterranean	Yes	MOL
2021	TG TBN	500	LNG	Korea	Yes	Trans Gas
2022	Stolt TBN	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2022	Stolt TBN	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2022	Clean Cañaveral	5,400	LNG	USG	Yes	PNE
2023	Cryopeak TBA	4,000	LNG	West Canada	Yes	Cryopeak
2024	Stolt TBN (option)	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2024	Stolt TBN (option)	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2026	Stolt TBN (option)	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2026	Stolt TBN (option)	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas

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