

LNG Shipping News

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5 September 2019

Qatar Petroleum to take Zeebrugge's terminal capacity

Affiliates of Qatar Petroleum and the Belgian natural gas transport company Fluxys have signed a long-term agreement for 'LNG unloading services' at the Zeebrugge LNG Terminal.

Under the agreement, Qatar Terminal Limited (QTL), a subsidiary of Qatar Petroleum, will take the full capacity at the terminal from the expiry of the existing long-term unloading contracts and up to 2044.

This transaction follows what was called a "competitive evaluation process", as well as the approval of the Belgian regulators.

QTL already has an agreement in place under which around 50% of the terminal's capacity is taken up by Qatari LNG under long-term LNG agreements.

Signing ceremony

The agreement was signed during a ceremony held in Brussels on Monday by HE the Minister of State for Energy Affairs Saad Sherida al-Kaabi, also the President & CEO of Qatar Petroleum, and Pascal De Buck, chairman, Executive Board and CEO of Fluxys Belgium in the presence of Marie Christine Marghem, Belgian Federal Minister of Energy, Environment & Sustainable Development.

Speaking at the ceremony, al-Kaabi said, "We are delighted to sign this landmark agreement today to extend and expand our existing long-term partnership with Fluxys Belgium for decades to come. We believe this arrangement will further support our customers in Belgium and Europe in general, by providing access to reliable LNG supplies from Qatar and allowing our customers to maximise the utilisation of such supplies."

Al-Kaabi added; "Qatar Petroleum has long invested in



Qatari Minister of State for Energy Affairs, Saad Sherida al-Kaabi, also the President & CEO of Qatar Petroleum, and Pascal De Buck, chairman, Executive Board and CEO of Fluxys Belgium sign the agreement in Brussels

and anchored LNG receiving terminal capacity in Europe, a key gas market, as part of our supply destination portfolio diversification strategy. We continue to be committed to supporting the EU's energy policies and providing reliable energy supplies into Europe.

"I would like to take this opportunity to thank the Belgian authorities for their support, and we thank Fluxys for their valuable partnership over the years. I am confident that the successful 'Open Season' process, this new capacity and the revised tariff arrangements will, in no doubt, enhance the position of Zeebrugge amongst the most commercially competitive terminals in Europe."

Minister Marghem said, "I am glad that our two countries have been able to develop a close and successful co-operation in this matter. Qatar is the only gas producing country with long-term contracts for imports of LNG into North West Europe. Approximately 15% of our gas consumption comes from Qatar.

"This also demonstrates the solidity of our partnership. I will

ensure that we will continue to enhance our mutual confidence and relationship for the successful co-operation between our two countries. "

De Buck said, "Today is a milestone for Fluxys Belgium. This agreement further extends our long-standing co-operation with our Qatari partners, secures long-term activity at the Zeebrugge terminal and further strengthens the facility's position as a versatile LNG gateway into Europe offering customers optimum destination flexibility. Ample 'pipe gas take away capacity' from the terminal is readily available for delivery throughout North-West Europe as well as a range of options for downstream small-scale LNG distribution."

The Zeebrugge LNG Terminal is operated by Fluxys LNG, a Fluxys subsidiary. The terminal currently has 380,000 cu m of LNG storage capacity spread over four tanks and an annual throughput capacity of 9 bill cu m. A fifth 180,000 cu m storage tank is currently under construction.

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Sovcomflot and NOVATEK sign joint venture agreement

On Wednesday, during the Fifth Eastern Economic Forum, PAO Sovcomflot (SCF) and PAO NOVATEK concluded an agreement to establish a joint venture - SMART LLC.

This agreement was signed by Sergey Frank, SCF President and CEO, and Leonid Mikhelson, Chairman of the Management Board of NOVATEK.

The aim the joint venture is to ensure safe year-round maritime LNG logistics from the Arctic LNG-2 and other current and prospective NOVATEK projects.

SMART LLC will provide the technical designs for future vessels, place shipbuilding orders and supervise the technical aspects of their construction. The JV will function as the shipowner and fleet operator and will also account for the financing requirements of the projects.

Around 17 new Arc7 LNGCs are planned to be built at the Zvezda shipbuilding complex, in co-operation with the Russian shipyard's technology partners. These vessels are expected to be delivered between 2023 - 2026.

The vessels' technical specifications will differ from the LNGCs of the 'Christophe de Margerie' series. Notably, the anticipated vessel design foresees a changed

hull shape and better icebreaking capabilities, to enable efficient commercial shipments from the Gulf of Ob eastwards along the Northern Sea Route (NSR) year-round.

All of the vessels will be operate under the Russian Federation flag and SMART LLC will be located in Vladivostok.

It is anticipated that the financing for the vessels' construction will be organised with the assistance of VEB.RF, on the basis of the project's structure taking into account Russian and international practice.

The agreement stipulates that both parties will take measures to form the JV by 31st December, 2019.

Frank stated: "Establishing a JV with NOVATEK is the optimal solution, considering the high capital intensity of the projects, as well as its long-term nature and the financial resources required. It also recognises the benefits of using the latest technologies and our experience of fleet management in severe ice and climatic condi-

tions. The company is potentially open for other professional investors and participants that may be considering the development of LNG-projects in the Arctic.

"For Arctic and sub-Arctic sea basin projects, Sovcomflot's vessels have transported over 250 mill tonnes of crude oil and over 50 mill cu m of LNG. We are pleased to bring this unique experience and expertise accumulated by the company during years of successful and safe operation of our technically unique fleet of specialised vessels.

"The implementation of the project envisages the great importance of training for seafarers of the vessels, and it is symbolic that the agreement was signed in the building of the legendary Maritime State University named after Admiral G I Nevelskoy, one of Russia's oldest universities and a pioneer in the formation of the traditions of Arctic navigation.

"For more than a hundred years, the university has been educating generations of highly qualified marine specialists to work in

the Eastern sector of the Arctic and the Northern water area of the Pacific Ocean."

Chinese consortium to build Cyprus terminal

A consortium led by China Petroleum Pipeline Engineering Corporation (CPPEC) has been chosen as the preferred bidder for the construction of an LNG terminal at Vassiliko Port in Cyprus.

The consortium, comprising Wilhelmsen Ship Management Limited, Aktor, Metron and Hudong-Zhonghua Shipbuilding, is to build the import terminal. It will include an FSRU, a jetty for the mooring of the unit, jetty and onshore pipelines, as well as additional facilities.

The consortium will now finalise the process and sign the contracts with ETYFA (Natural Gas Infrastructure Company).

Symeon Kassianides, Chairman of Cyprus Natural Gas Public Company (DEFA), reportedly said that, if the project goes according to plan, contracts with the preferred bidder would be signed in mid-October, 2019.

The €300 mill project, scheduled for completion in 2021, is co-financed by a grant of 40%, or up to €101 mill, from the European Union's Connecting Europe Facility (CEF) financing instrument.



Sergey Frank Sovcomflot right, Leonid Mikhelson NOVATEK left

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NOVATEK signs MoU to develop LNG projects

During this week's Eastern Economic Forum in Vladivostok, PAO NOVATEK signed a Memorandum of Understanding (MoU) with H-Energy Global Ltd.

The MoU aims at co-operation in LNG supplies to India on a long-term basis, joint investment in future H-Energy LNG terminals and NOVATEK LNG projects, as well as establishing a joint venture to market LNG and natural gas from the Russian's portfolio to end-customers in India, Bangladesh and other markets.

"India is one of the largest and fastest growing LNG markets, and will be one of the main sources of future growth in global demand for natural gas," said NOVATEK's Chairman of the Management Board, Leonid Mikhelson. "The Memorandum of Understanding is an important step towards entering the end customer market in India, which is of great interest to NOVATEK taking into account our strategic plans to implement new LNG projects and significantly increase our

LNG production volumes."

Estonian imports

Earlier, Estonia's energy group Eesti Energia said that it is to import NOVATEK gas this month via Lithuania's LNG terminal based in Klaipeda, which is operated by KN.

The first Eesti Energia cargo is due to arrive at Klaipeda at the end of September.

"The contract signed with Eesti Energia confirms that the conditions for using our reliable terminal satisfy the users of the terminal and natural gas users in Lithuania and abroad. Gas was already imported to other Baltic countries through Klaipeda LNG Terminal before, but it is important that during the period of low LNG prices, several new terminal users found business

opportunities and tried the terminal services," said Arūnas Molis, head of Klaipeda LNG Service, KN.

He added: "The growing number of Klaipeda LNG Terminal users demonstrates confidence of business in the value chain created by our company, brings more competition and allows to supply gas at a more competitive price. The number of the terminal users has doubled over the summer, and the capacity booked for autumn and winter gives us an optimistic view - hopefully new users of the terminal will continue to use it in the future after trying out the services."

"We are committed to providing our customers with competitively priced energy and smart solutions. Now we have taken a step forward in co-operation with Klaipeda LNG Terminal, which en-

ables us in given market situation to purchase LNG at competitive price, to regasify and bring it to our clients in the Baltics," said Eero Sirendi, Eesti Energia's head of energy trading.

In first half of this year, Klaipeda LNG terminal handled 15 LNGCs, compared with five during 1H18, bringing 402,000 tonnes of LNG to Klaipeda.

During 1H19, the terminal signed up a third user, UAB Imli-tex. The terminal's capacity is now almost fully booked until October, which marks the end of the current gas year, with no additional cargo arrival windows available.

Thus far this year, Klaipeda has provided regasification services to UAB Lietuvos Energijos Tiekimas, AB Achema and UAB Imli-tex. ■

OMV charts Kaliningrad FSRU

An FSRU, which was until recently berthed near Kaliningrad, has been leased by Austrian energy company OMV.

'Marshal Vasilevskiy' was under the control of Gazprom and was used to offset potential disruptions to gas pipeline flows via Belarus to Kaliningrad, which is a Russian enclave located between Poland and Lithuania.

Late last week, Rainer Seele, OMV head, confirmed to Reuters that the company had hired the vessel, after three Gazprom sources said an agreement had been struck.

According to MarineTraffic, the vessel was anchored off Rotterdam on Monday. "(OMV) has loaded an

LNG cargo and is waiting for LNG prices to go up to re-sell it," a Gazprom source told Reuters.

Seele told Reuters on the sidelines of an economic event in Austria's Alpbach that the company planned to use the vessel as an offshore storage facility.

He declined to comment as to whether the ship was storing Gazprom's LNG, or for how long OMV had leased the vessel.

The Gazprom sources said OMV has chartered the vessel until November. The vessel was in ballast after its last LNG cargo was

offloaded in Kaliningrad, one of the three sources said.

It was claimed that the FSRU, which can double up as an LNGC, was idle due to a lack of demand in Kaliningrad. ■



OMV has chartered the FSRU/LNGC 'Marshal Kaliningrad'

First LNGC loads at Freeport

The first LNG cargo has left the Freeport LNG terminal on board an LNGC.

'LNG Jurojin' sailed from the terminal on Tuesday, according to the terminal operator, bound for Jebel Ali receiving terminal near Dubai.

"This first cargo loading is another significant step that gets us one step closer towards our start of commercial operations which is anticipated later this month," said Michael Smith, Founder, Chairman and CEO, Freeport LNG. "We are very pleased that it took less than 45 days to load our first cargo since gas was first introduced to our liquefaction facilities."

The main long-term offtake buyers from Freeport LNG Train 1 are Japanese utilities Osaka Gas and Chubu Electric, which each agreed 2.2 mill tonnes per year of LNG. Additional long-term

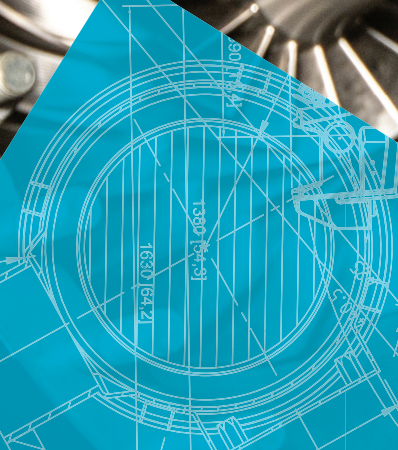
contracts were signed with BP for 4.4 mill mill tonnes for Train 2, and France's Total and South Korea's SK E&S, which are splitting another 4.4 mill mill tonnes per year from Train 3.

In total, long-term contracts cover about 13.2 mill of the proposed 15 mill tonnes per year three-train facility's output, with additional short-term contracts, including a three-year deal with commodity trader Trafigura, covering the remaining offtake.

As Freeport LNG operates on a tolling model, buyers of the LNG produced are responsible for the procurement and delivery of feedgas supply to the liquefaction facility, as well as arranging shipping and deciding where the cargoes are delivered, Platts said. ■



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Improving safety standards in the LNG transfer zone

While the LNG industry's overall prognosis looks promising, the diversity of ongoing and future projects and the inherent risks of handling natural gas, will necessitate an increased focus on safety when it comes to the transfer zone, Vincent Lagarrigue, Director, Trelleborg Oil & Marine, said.

The transfer of LNG is much more complex than that of heavy fuel oils, due to the extremely low temperatures involved, requiring highly specialised equipment. "If we are to ensure the highest safety standards across the industry the first players will need to rapidly innovate to develop the right technology," he said.

In a recent article, Platts' Ira Joseph made the case that "breaking taboos in the LNG indus-

try is a time-honoured tradition." Primarily, he addressed the way that the market operates. This sentiment is one that has underpinned Trelleborg's work in the infrastructure sector for many years. "We've long argued that LNG projects need to embrace fresh thinking when it comes to the transfer zone and by doing things differently from the fuels that have gone before it, the opportunities for success become more prevalent."

By adopting new approaches to infrastructure development, suppliers can play a vital role in reducing the cost of LNG transfer while speeding up how it can be deployed. With Trelleborg's Cryoline technology, for example, it's possible to not only conduct transfers that would otherwise be unfeasible, due to environmental concerns or remote locations, but also to adapt existing terminals to handle a wider range of vessels.

The dual-carass design consists of an inner cryogenic hose - which safely transfers the LNG or

cold vapour with minimal pressure drop - and an outer hose designed to provide protection from the external environment, as well as buoyancy in a floating application.

This is underpinned by an integrated monitoring system based on optical fibre technology, allowing detection of even the slightest of leaks in 'real-time' within the hose structure. If a leak occurs, the cryogenic fluid or vapour enters the annular space between the inner and outer hose. This leads to a local temperature drop, rapidly detected and located by monitoring system.

Alarm triggered

An alarm is triggered on the user interface, which allows the operator to manage and control the LNG transfer operation. The residual leak gas is guided to the end of the transfer line where it is re-routed or burned off, preventing any loss to the atmosphere.

The integrated monitoring system can also be used during the pre-cooling and hose purging oper-

ations, as illustrated during a field operation of Trelleborg's cryogenic hoses in Herøya, Norway, as part of the world's first jettyless ship-to-shore LNG transfer using a floating offloading system.

Validation

The project, which was accomplished with the support of Naturgy, and in partnership with Connect LNG, validated both of these functions in real-life conditions, allowing the operator to follow the pre-cooling status in real time and ensure that no liquid was left in the line at the end of the operation.

Cryogenic floating hoses use shows that LNG infrastructure doesn't need to be bound by the same thinking that underpins transfer solutions for oil or coal. By thinking laterally, the industry has proved that it has the tools and the expertise to overcome any potential obstacles holding back the growth of LNG as both a power source and a marine fuel, enabling it to reach its full potential, Lagarrigue concluded. ■



Trelleborg's Vincent Lagarrigue

Mitsubishi names second 177,000 cu m LNGC

Mitsubishi Shipbuilding held a christening ceremony on 30th August for a 177,000 cu m LNGC under construction for Mitsui & Co.

The ship, named 'Marvel Heron', is Mitsubishi's latest LNGC to achieve significant improvements in both LNG carrying capacity and fuel performance through adoption of a more efficient hull structure and an hybrid propulsion system, the Japanese builder said.

After her completion scheduled for this month, 'Marvel Heron' will enter service primarily transporting LNG for the Cameron LNG Project, in which Mitsui is a partner.

The contract was received through MI LNG Co, Limited, a joint venture established by MHI and Imabari Shipbuilding to design and market LNGCs. Construction was undertaken by Mitsubishi Heavy Industries Marine Structure

Co, a Nagasaki-based MHI Group company, and she was launched on 2nd February, 2019.

The first vessel in the series, 'Marvel Crane' was handed over to Mitsui on 28th March.

They are equipped with apple-shaped tanks refined from MOSS-type spherical tanks, which results in increased LNG carrying capacity while keeping the ship's beam within the parameters of the newly expanded Panama Canal.

Propulsion is achieved by 'STaGE,' a hybrid system combining a steam turbine and gas-fired engines. It consists of MHI's proprietary reheat Ultra Steam Turbine (UST) for ships, a dual-fuel diesel engine that accommodates both



Mitsubishi has named a second LNGC in the current series

gas and oil, and an electrically propelled engine.

Effective use of the waste heat from the engines to drive the UST

results in significantly enhanced plant efficiency, enabling efficient navigation at all speeds, high to low, Mitsubishi said. ■

Lower vessel revenues hit Golar

Golar LNG suffered an operating loss of \$23.4 mill in the second quarter of this year, compared to income of \$28.9 mill in the previous quarter.

Total operating revenues decreased from \$114.3 mill in 1Q19 to \$96.7 mill in the second quarter. The drop was driven by lower revenues from vessels and other operations, as a result of a seasonally weak shipping market and drydockings.

Revenues from vessel and other operations, including management fee income, was \$42.2 mill and, net of voyage, charterhire and commission expenses, decreased by \$15.7 mill to \$27.9 mill in 2Q19. Weaker Asian demand pushed US volumes into Europe and lowered tonne/miles, softer prices that capped the ability to pay for freight and elevated vessel deliveries combined to ensure that demand for spot tonnage was matched by sufficient vessel availability throughout the quarter.

Although fleet utilisation increased from 51% in 1Q19 to 66% in 2Q19, full fleet TCE earnings decreased from \$39,300 in the first quarter to \$24,400 in 2Q19.

Also negatively impacting revenue was the scheduled drydocking of four vessels that each spent part of the second quarter in a shipyard and the repositioning of these vessels.

In line with prior quarters, FLNG 'Hilli Episeyo' generated operating revenues of \$54.5 mill, including base tolling fees and amortisation of pre-acceptance amounts recognised.

Vessel operating expenses at \$30.8 mill in 2Q19 were \$0.4 mill lower than 1Q19. This decrease was predominantly attributable to the 'Golar Viking', which saw costs normalise during the quarter.

FLNG reported a 2Q19 loss of \$3 mill, representing unrecoverable receivables from Schlumberger following the dissolution of OneLNG.

On 23rd May, a major shareholder in OLT Offshore LNG Toscana sold its interest. Of the consideration paid by the buyer, €1 was allocated to equity with

the balance applied to the acquisition of the seller's shareholder loans. Golar's 2.7% equity interest in the project was therefore written down to zero resulting in a non-cash 2Q19 impairment charge of \$7.3 mill.

Iain Ross, CEO, Golar LNG, said: "Golar is bringing simplicity to its business, improving group liquidity, reducing earnings volatility and taking steps to bring forward shareholder returns. To maximise shareholder value, we intend to suspend the dividend for two quarters in order to buy back the three million shares underlying the total return swap, simplifying our capital structure and reducing the share count from 101 mill to 98 mill.

"Within the Group, we have fixed four LNGCs on floating rate contracts and two more on fixed rate charters. We have secured new financing facilities that will immediately release \$180 mill to Golar which, together with the \$700 mill underwritten funding for



Golar LNG's Iain Ross

the 'Gimi', de-risks the group's balance sheet and enhances liquidity. Finally, in Golar Power, we are securing customers and transport capacity to accelerate downstream LNG distribution projects capable of delivering swift returns.

"Operationally, Golar made steady progress. In shipping, we have taken advantage of seasonally low rates to drydock vessels ahead of the second half market upturn. In FLNG, 'Hilli Episeyo' maintained 100% commercial uptime, while the 'Gimi' conversion project continues on budget and schedule. In Golar Power, Sergipe has reached its commissioning phase," he said. ■

CSSC (Hong Kong) to sell and leaseback FSRU barge

CSSC (Hong Kong) Shipping Co has signed a sale and leaseback deal for an FSRU barge with a charterer incorporated in Hong Kong.

Fortune Antwerp, one of CSSC's special purpose vehicles, will purchase the vessel from the charterer and lease it back at a total estimated cost of around \$189.65 mill.

The charterer is ultimately

owned by a company incorporated in Belgium, believed to be Exmar.

CSSC said that the FSRU is valued at about \$155 mill.

The barge is expected to be delivered within one month from

the date of the signing of the contract.

The charter period will be 120 months commencing from the actual delivery date.

The company says the deal will strengthen the group's leasing

business and is consistent with the group's overall business development strategies.

CSSC (Hong Kong) Shipping is China State Shipbuilding Corp's leasing arm and is principally engaged in leasing services. ■

NEWS NUDGE

NYK to build heavy-lift ships

NYK Bulk & Projects Carriers (NBP) has signed a contract with China Merchants Group subsidiary, Nanjing Jinling Shipyard to build two heavy-lift vessels, which will be marketed to transport LNG plant equipment worldwide.

Each vessel will be equipped with 2 x 400 tonne capacity

cranes, which can be twinned to give a 800 tonne lifting capacity. The vessels will be fitted with one hatch and one open-hatch hold. The on-deck length will be about 110 m, and the in-hold length will be about a maximum of 95 m. To accommodate bulk cargo, the 'tween deck will be able to be used by a simple bulkhead fitted in the hold.

The vessels will not have hatch covers, which will allow for navigation with the hatch cover

open. The 'tween deck will be the adjustable/removable type that can be changed to two levels, depending on the cargo handled.

They are scheduled for delivery in August 2021 and January 2022.

The heavy cargo ship market has been sluggish since the col-

lapse of Lehman Brothers in 2008, but NBP said that demand for LNG plant cargo movements had increased. ■



NYK's new heavy lift ships will be able to lift LNG plant equipment

LNGC collision blamed for AWILCO's results drop

Awilco LNG reported net freight income of \$2.7 mill and EBITDA of \$0.2 mill for the second quarter of this year, compared to \$8.4 mill and \$5 mill for the previous quarter.

Vessel utilisation was down to 56%, from 90% reported in 1Q19, due to extensive off-hire on the 'WilForce' following her collision off Singapore.

Due to the prolonged off-hire period required to repair the vessel, the balance of the nine to 12 month timecharter contract was cancelled. Loss of hire insurance compensated for most of the lost time charter hire.

She is currently at a Singapore shipyard undergoing repairs, which are expected to be completed in mid-September.

'WilForce' had completed machinery repairs and certain upgrades at the end of May. A net loss of \$0.5 mill was recognised in 2Q19 related to a deductible and certain non-insurable costs, whereas a total of \$1.1 mill in loss of hire claim was recognised as other income in the quarter.

Total provisions for repair of machinery and collision damage to

the LNGC was \$5.6 mill in 2Q19, of which \$1.3 mill was earmarked towards machinery repairs completed in May and \$4.4 mill towards collision repairs. Corresponding insurance claims totalling \$6.1 mill was recognised as other income in 2Q19, of which \$1.1 mill was put towards machinery repairs, \$3.9 mill towards collision repairs and a loss of hire insurance claim of \$1.1 mill.

For the first half of 2019, freight income was \$13.2 mill, compared to \$20.2 mill in the same period last year, while EBITDA was \$4.8 mill, compared to \$11.5 mill in 1H18. Net loss for 1H19 was \$11.9 mill, compared to \$5.5 mill for the same period of 2018.

Timecharter

Subsequently, on 9th July, 'WilPride' was delivered on an eight month timecharter to an oil and gas major. The vessel is expected to contribute an annualised EBITDA

of about \$23 mill during the charter period.

With these earnings and the loss of hire insurance for the 'WilForce' until her repairs are completed, about 90% of 3Q19 days are booked at an expected TCE of about \$68,000 per day.

On 2nd August, 2019 a term sheet for the refinancing of the company's two vessels was agreed and signed with a major Asian leasing company, subject to final credit approval, documentation and customary closing conditions.

In spite of low gas prices due to ample LNG supply growth and muted demand thus far this year, spot shipping rates have gradually increased over the last few months and are currently averaging about \$70,000 per day, Awilco said.

European gas storage nearing full capacity, coupled with a consistent contango across the LNG price curves for contracts deliver-

ing over the rest of the year, supports sending US LNG to Asia, the company said. A handful of vessels have already been employed for storage over the next few months. Consolidation discussions with other shipowners are still ongoing, however due to the current capital market conditions the timing and outcome of these discussions was unclear.

Tonnage demand and supply appear balanced for the next few years. However, periods of volatility and seasonality should be expected.

The current low gas price is expected to trigger further growth in the share of gas in the global energy mix. Several new LNG production plants are expected to be sanctioned in the near future to meet the growing demand, estimated at double the growth rate of the total global energy demand, according to Shell Energy Outlook. ■

NEWS NUDGE

HHI wins another LNGC order

Hyundai Heavy Industries (HHI) has secured another order to build a LNGC.

Placed by an undisclosed shipowner from Oceania, the order is valued at KRW228.9 bill (\$188.8 mill), HHI said in a stock exchange filing on 2nd September.

The 174,000 cu m LNGC is scheduled to be delivered by the end of January, 2022.

LNGC to FSRU to power plant?

Brokers have reported that KARMOL, a joint venture between Karadeniz Holdings and MOL, to build floating power plants (power ships), has bought the 1991-built 125,660 cu m LNGC 'Northwest Shearwater'.

She is probably earmarked for conversion to an FSRU for a Mozambique powership project awarded to KARMOL.

NYK charts fourth LNGC to Total

NYK has signed another new long-term contract with Total Gas & Power Chartering Limited (TGPCL), a subsidiary of Total, to charter a 174,000 cu m newbuilding LNGC to be built by Samsung Heavy Industries for delivery in 2021.

The LNGC will be equipped with a WinGD X-DF dual-fuel slow-speed diesel engine that is claimed to have superior fuel-consumption efficiency and can operate on marine gas oil or boil-off gas.

She will also feature a re-liquefaction system that can use surplus boil-off gas effectively and a GTT Mark III Flex mem-

brane containment system.

Last year, NYK concluded timecharter contracts with Total for three LNGCs.

FERC positive on Sabine Pass expansion plans

Cheniere's Sabine Pass LNG has received a positive environmental assessment from the US Federal Energy Regulatory Commission (FERC) for to expand the marine berths at its LNG export terminal in Louisiana.

If the project goes ahead, it should allow the addition of 180 LNG cargoes annually, increasing the total up to 580 cargoes per year.

In the 23rd August environmental assessment, FERC determined that the commission's approval of the third berth expansion project would not have major environmental impacts, as long as the developer complies

with recommended construction and mitigation measures.

The new berth will be at the existing Sabine Pass LNG terminal in Cameron Parish, Louisiana. The project would also include an LNG loading system.

The terminal currently has a single marine basin with two vessel berths, each capable of handling LNGCs of up to 266,000 cu m both for import and export operations.

Sabine Pass LNG said in a presentation that the reason for needing a new berth is to accommodate an increasing number of LNGCs arriving at the terminal. The expansion would help minimise delays caused by adverse weather or shipping traffic in the area and would also allow for LNG production optimisation by removing bottlenecks associated with LNG loading and marine constraints. ■

Silverstream signs MoU with Hudong-Zhonghua

Air lubrication manufacturer, Silverstream Technologies, has signed a Memorandum of Understanding (MoU) with shipbuilder, Hudong-Zhonghua, part of the CSSC Group.

The MoU will see Silverstream's air lubrication technology - the patented Silverstream system - integrated into Hudong-Zhonghua's newbuilding designs for future LNGCs.

The system is claimed to deliver increased operational and fuel efficiencies, reducing fuel costs and emissions by between 6% and 8% in laden and ballast conditions.

Hudong-Zhonghua is China's leading manufacturer of LNGCs, with a capacity for six to eight vessels in its yard.

This MoU marks Silverstream's first LNG vessel newbuild project.

Noah Silberschmidt, CEO, Silverstream Technologies, said: "We are delighted and honoured to have signed this landmark agreement with Hudong-Zhonghua, one of the world's largest and most respected shipyards. It is a significant step for Silverstream as we expand

into a new vessel class, and further grow our customer base in the important Asian market."

The signing of the MoU marks 12 months of collaboration between the two organisations, which culminated in the approval of Silverstream's technology onto Hudong-Zhonghua's LNGC newbuild designs. Both Silverstream and Hudong-Zhonghua will continue to collaborate to drive the sales process with prospective shipowners.

Danping Lou, Hudong-Zhonghua Shipbuilding CTO, said: "We are committed to bringing to market the most operational and energy efficient newbuild vessels for the LNG sector. In working closely with Silverstream over the past 12 months, we have seen the real attributes of air lubrication technology and the Silverstream system, and it was clear that incorporating it into the designs for



The signing ceremony

our newbuild LNG vessels, in conjunction with other measures, would deliver optimum performance. We are confident that these new vessels will set the benchmarks for vessel design and performance in the LNG sector."

The UK Government's Department for International Trade played an important role in developing the strong relationship between the UK and Asia, both in terms of maritime innovation, and bringing the two companies together.

Lei Cullinan, Head of Marine

China, Department for International Trade, said: "Asia is the world's largest shipbuilding market, and combined with the UK's pedigree for maritime innovation creates the foundation to create new technologies and ship designs that meet the sustainability challenges that the shipping industry faces. This agreement between Hudong-Zhonghua and Silverstream is evidence of this, and highlights the opportunity to continue to drive progressive and positive change." ■

TMC compressors for FLNG 'Gimi'

Compressor supplier TMC Compressors of the Seas (TMC) has been awarded a contract to supply systems to Golar LNG's 'Gimi' FLNG, which will operate offshore Mauritania and Senegal.

'Gimi' is currently undergoing a conversion from a MOSS type LNGC to an FLNG production unit at Singapore's Keppel Offshore & Marine's Shipyard.

TMC's scope of work includes the manufacture and delivery of seven large Smart Air compressors to be installed on board the FLN. The company did not disclose the contract's value.

"Our Smart Air compressor technology offers precise control of the compressor speed, which means that they can run more efficiently than traditional compressors. As a result, Smart Air compressors offer up to 50% reduction in energy consumption, with similar reduction in CO2 emissions and operational costs," said Hans Petter Tanum, TMC's director of sales and business development.

When completed, the 'Gimi' FLNG will be stationed at a near

shore hub located on the Mauritania and Senegal maritime border, as part of the first phase of the Greater Tortue/Ahmeyim project. She has been designed to produce an average of around 2.5 mill tonnes of LNG per annum.

"Golar LNG is dedicated to reducing both the environmental footprint and operating expenditure of the 'Gimi' FLNG. Our Smart Air compressors are specially designed for marine application and lowest possible energy

consumption, so I believe they are a good match for the vessel's strict requirements," said Tanum.

In 2017, TMC won a contract to deliver Smart Air compressed air systems to Golar LNG's FLNG 'Hilli Episeyo'. ■

NEWS NUDGE

Höegh LNG's last FSRU delivered and financed

Höegh LNG's 10th and last FSRU in the current newbuilding programme, 'Hoegh Galleon' was delivered by Samsung on 27th August.

The 170,000 cu m capacity unit was due to start an interim 18-month charter with Cheniere Marketing International before she commences a long term project as an FSRU for AIE at Port Kembla, at the end of 2020.

She has a regas capacity of 750 mill cu ft per day and is fitted with a GTT Mark III membrane containment system and a TFDE propulsion system.

Watson Farley & Williams (WfW) advised Höegh LNG on its first sale and leaseback deal with China Construction Bank Financial Leasing (CCBFL) involving the 'Hoegh Galleon', which was taken back on charter by Höegh for 12 years.

Following the completion of this transaction, Höegh LNG is now fully funded with both

equity and debt for its current newbuilding programme, the company said.

Höegh LNG, the only FSRU operator with operations in China through its contract with energy giant CNOOC, has also to set up a representative office in Shanghai, as part of its expansion plans in that country.

The WfW London team advising Höegh LNG was led by Partner and Global Maritime Sector Head, Lindsey Keeble, supported by Senior Associate, Kate Silverstein and Associate, Parit Patani. ■

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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	Triputra	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	Norgas Carriers
2010	Coral Fraseri	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Akebono Maru	3,556	LNG	Japan	Yes	Chuo Kaiun
2011	Coral Furcata	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Coral Fungia	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
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 Anthelia	6,500	LNG/Ethylene			Anthony Veder
2014	LNG-Oil combi**	2,000	LNG	Germany	Yes	Veka
2014	Short Sea LNG Tanker **	4,000	LNG	Germany	Yes	Veka
2015	LNG Inland bunker**	800	LNG	Germany	Yes	Veka
2015	LNG bunker barge 1†	2,250	LNG	China	Yes	Anhui Huaqiang Natural Gas
2015	LNG bunker barge 2†	2,250	LNG	China	Yes	Anhui Huaqiang Natural Gas
2015	LNG bunker barge 3†	2,250	LNG	China	Yes	Anhui Huaqiang Natural Gas
2015	LNG Barge TBN	3,000	LNG	US Coast	Yes	LNG America
2015	10 small carriers TBN**	5,000	LNG			Bimantara Group
2015	Jahre TBN**	6,200	LNG	Norway	Yes	Donsotank/Jahre Marine
2015	Norgas TBN**	17,000	LNG/LPG/Ethylene	Worldwide		Norgas Carriers
2015	Norgas TBN**	17,000	LNG/LPG/Ethylene	Worldwide		Norgas Carriers
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	TBN 1	27,500	LNG	China?		Danyang?
2015	TBN 2	27,500	LNG	China?		Danyang?
2015	TBN 3	27,500	LNG	China?		Danyang?
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 Innovation	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)
2016	Navigator Aurora	35,000	Ethane/Ethylene	Markus Hood - Stenungsund	Ethane, for Borealis	Navigator
2016	Gaschem Beluga	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
2016	Gaschem Orca	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services

For more information please visit <http://small-lng.com>

*Includes multi-gas, ethylene and LNG bunker ships with 40,000 cubic metres LNG cargo capacity or less

TBN = To Be Nominated indicates ships are still at construction/planning stage

** = project shelved † = Data to be verified Data last updated = 5th September 2019

Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
2016	Ocean Yield TBN**	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
2017	Oizmendi	600	LNG	Bilbao	Yes	Itsas Gas
2017	CME TBN†	2,200	LNG	US Coast	Yes	CME
2017	CME TBN†	2,200	LNG	US Coast	Yes	CME
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
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	Yuan He 1	30,000	LNG	China	Yes	CSR
2017	Navigator Eclipse	35,000	Ethane/Ethylene	US	Ethane	Navigator
2017	Navigator Nova	35,000	Ethane/Ethylene	US	Ethane	Navigator
2017	Navigator Prominence	35,000	Ethane/Ethylene	US	Ethane	Navigator
2018	HUA XIANG 8	13,720	LNG	China	Yes	Zhejiang Huaxiang
2018	CME TBN†	2,200	LNG	US Coast	Yes	CME
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	Qi Yuan	28,000	LNG	China	Yes	Dalian Inteh Group
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Bunker Breeze	1,200	LNG	Barcelona	Yes	Suardiaz Energy Shipping
2019	KLine TBN	7,500	LNG	Korea	Yes	Korea Line
2019	KLine TBN	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
2020	Shell Bunker Barge	4,000	LNG	US Coast	Yes	Q-LNG Transport/Harvey Gulf
2020	Stolt TBN (option) **	7,500	LNG		Yes	Stolt-Nielsen Gas
2020	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2020	Total TBN	18,600	LNG	NWE	Yes	MOL
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
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
2022	Stolt TBN	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2022	Stolt TBN	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2022	PNE TBN	5,400	LNG	USG	Yes	PNE
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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*Includes multi-gas, ethylene and LNG bunker ships with 40,000 cubic metres LNG cargo capacity or less

TBN = To Be Nominated indicates ships are still at construction/planning stage

** = project shelved † = Data to be verified Data last updated = 5th September 2019

WORLD LNG CARRIER ORDERBOOK

Name	Delivery	Capacity	Propulsion	Containment	Primary Owner	Yard	Ordered
Energy Universe	01/08/2019	165000	TFDE	SPB	MOL	Japan Marine United	01/02/2014
Georgiy Ushakov	11/09/2019	172000	TFDE - Azipod	GT NO 96	Teekay LNG	DSME	01/07/2014
Nikolay Urvantsev	15/07/2019	172410	TFDE - Azipod	GT NO 96	MOL	DSME	01/07/2014
Yakov Gakkel	25/10/2019	172000	TFDE - Azipod	GT NO 96	Teekay LNG	DSME	01/07/2014
Marvel Pelican	15/12/2019	155000	TFDE	Moss	MOL	Kawasaki	01/09/2014
Marvel Heron	20/09/2019	177000	STaGE	Moss	MOL	Mitsubishi H.I.	01/01/2015
Marvel Swan	15/10/2021	178000	MEGI		K-Line	Imabari	15/05/2015
BW Pavilion Aranda	10/09/2019	173400	MEGI	GT NO 96	BWGas	DSME	01/09/2015
Daewoo 2466	15/10/2019	173400	MEGI	GT NO 96	Maran Gas Maritime	DSME	01/06/2016
Daewoo 2467	15/10/2019	173400	MEGI	GT NO 96	Maran Gas Maritime	DSME	01/06/2016
Gaslog Windsor	15/04/2020	180000	XDF	GTT Mark III Flex	GasLog	Samsung	01/09/2016
Daewoo 2469	01/04/2020	173400	MEGI	GT NO 96	Maran Gas Maritime	DSME	16/12/2016
Rias Baixas Knutsen	15/07/2019	180000	MEGI	GTT Mark III Flex	Knutsen	Hyundai	01/03/2017
Flex Courageous	15/08/2019	173400	MEGI	GT NO 96	Flex LNG	DSME	02/03/2017
MOL Hudong-Zhonghua 1/4	15/12/2019	174000	MEGI	GT NO 96	MOL	Hudong-Zhonghua	01/07/2017
MOL Hudong-Zhonghua 2/4	01/03/2020	174000	MEGI	GT NO 96	MOL	Hudong-Zhonghua	01/07/2017
MOL Hudong-Zhonghua 3/4	15/07/2020	174000	MEGI	GT NO 96	MOL	Hudong-Zhonghua	01/07/2017
MOL Hudong-Zhonghua 4/4	01/10/2020	174000	MEGI	GT NO 96	MOL	Hudong-Zhonghua	01/07/2017
Gaslog Warsaw	15/07/2019	180000	XDF	GTT Mark III Flex	GasLog	Samsung	01/12/2017
Daewoo 2478	15/05/2020	173400	MEGI	GT NO 96	Maran Gas Maritime	DSME	06/12/2017
Elisa Larus	30/03/2020	174000	XDF	GTT Mark III Flex	NYK	Hyundai	01/01/2018
SHI #1	15/07/2020	174000	XDF	GTT Mark III Flex	Cardiff Marine	Samsung	01/01/2018
SHI #17	15/10/2020	174000	XDF	GTT Mark III Flex	Cardiff Marine	Samsung	01/01/2018
HHI / Total	15/01/2020	174000	XDF	GTT Mark III Flex	Cardiff Marine	Hyundai	04/01/2018
HHI / Total / Sovc	28/02/2020	174000	XDF	GTT Mark III Flex	Sovcomflot	Hyundai	04/01/2018
BW Magnolia	15/12/2019	173400	MEGI	GT NO 96	BWGas	DSME	01/02/2018
BW Pavilion Aramhera	15/06/2020	173400	MEGI	GT NO 96	BWGas	DSME	01/02/2018
HHI / Cardiff #1	15/02/2020	174000	XDF	GTT Mark III Flex	Cardiff Marine	Hyundai	01/02/2018
HHI / Cardiff #2	15/04/2020	174000	XDF	GTT Mark III Flex	Cardiff Marine	Hyundai	01/02/2018
Flex Reliance	15/07/2020	173400	MEGI	GT NO 96	Flex LNG	DSME	28/02/2018
Flex Resolute	15/08/2020	173400	MEGI	GT NO 96	Flex LNG	DSME	28/02/2018
Flex Amber	15/07/2020	174000	XDF	GTT Mark III Flex	Flex LNG	Hyundai	01/03/2018
Flex Aurora	15/05/2020	174000	XDF	GTT Mark III Flex	Flex LNG	Hyundai	01/03/2018
SHI Gaslog #1	15/04/2020	180000	XDF	GTT Mark III Flex	GasLog	Samsung	01/03/2018
Samsung 2271	15/04/2020	174000	XDF	GTT Mark III Flex	Cardiff Marine	Samsung	09/03/2018
DSME Minerva #1	15/01/2021	173400	MEGI	GT NO 96	Minerva Marine	DSME	15/03/2018
DSME Minerva #2	15/04/2021	173400	MEGI	GT NO 96	Minerva Marine	DSME	15/03/2018
Traiano Knutsen	15/06/2020	180000	MEGI	GTT Mark III Flex	Knutsen	Hyundai	23/03/2018
DSME 2483	15/08/2020	173400	MEGI	GT NO 96	Alpha Gas	DSME	28/03/2018
DSME 2484	01/12/2020	173400	MEGI	GT NO 96	Alpha Gas	DSME	28/03/2018
SHI Gaslog #2	15/07/2020	180000	XDF	GTT Mark III Flex	GasLog	Samsung	30/05/2018
DSME 2487	15/01/2021	173400	MEGI	GT NO 96	Maran Gas Maritime	DSME	05/06/2018
Maran Gas DSME	15/09/2020	173400	MEGI	GT NO 96	Maran Gas Maritime	DSME	05/06/2018
DSME 2485	15/04/2021	173400	MEGI	GT NO 96	Alpha Gas	DSME	07/06/2018

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 = 6th August 2019

Name	Delivery	Capacity	Propulsion	Containment	Primary Owner	Yard	Ordered
Cool Discoverer	15/08/2020	174000	XDF	GTT Mark III Flex	Thenamaris	Hyundai	19/06/2018
Flex Vigilant	15/03/2021	174000	XDF	GTT Mark III Flex	Flex LNG	Hyundai	30/06/2018
Flex Volunteer	15/11/2020	174000	XDF	GTT Mark III Flex	Flex LNG	Hyundai	30/06/2018
Aristarchos	15/03/2021	174000	XDF	GTT Mark III Flex	Capital Gas	Hyundai	01/07/2018
Aristidis I	15/11/2020	174000	XDF	GTT Mark III Flex	Capital Gas	Hyundai	01/07/2018
Aristos I	15/10/2020	174000	XDF	GTT Mark III Flex	Capital Gas	Hyundai	01/07/2018
Attalos	15/06/2021	174000	XDF	GTT Mark III Flex	Capital Gas	Hyundai	01/07/2018
Flex Freedom	15/10/2020	173400	MEGI	GT NO 96	Flex LNG	DSME	05/07/2018
Celcius #1	15/10/2020	180000	XDF	GTT Mark III Flex	Celcius Shipping	Samsung	01/08/2018
Celcius #2	15/12/2020	180000	XDF	GTT Mark III Flex	Celcius Shipping	Samsung	01/08/2018
HHI 3037	15/09/2020	174000	XDF	GTT Mark III Flex	Cardiff Marine	Hyundai	15/08/2018
SHI 2300	15/10/2020	174000	XDF	GTT Mark III Flex	GasLog	Samsung	15/08/2018
SHI 2301	15/12/2020	174000	XDF	GTT Mark III Flex	GasLog	Samsung	15/08/2018
HHI 3038	15/11/2020	174000	XDF	GTT Mark III Flex	Cardiff Marine	Hyundai	15/09/2018
Cool Racer	15/01/2021	174000	XDF	GTT Mark III Flex	Thenamaris	Hyundai	27/09/2018
SHI NYK	15/04/2021	174000	XDF	GTT Mark III Flex	NYK	Samsung	28/09/2018
SHI Minerva #1	15/01/2021	174000	XDF	GTT Mark III Flex	Minerva Marine	Samsung	15/10/2018
HHI 3039	15/03/2021	174000	XDF	GTT Mark III Flex	Cardiff Marine	Hyundai	15/11/2018
HHI 3112	15/01/2021	174000	XDF	GTT Mark III Flex	Cardiff Marine	Hyundai	15/11/2018
HHI Latsco #1	15/02/2021	174000	XDF	GTT Mark III Flex	Latsco Shipping	Hyundai	25/11/2018
HHI Latsco #2	15/08/2021	174000	XDF	GTT Mark III Flex	Latsco Shipping	Hyundai	25/11/2018
SHI 2306	15/09/2021	174000	XDF	GTT Mark III Flex	NYK	Samsung	03/12/2018
SHI 2307	15/11/2021	174000	XDF	GTT Mark III Flex	NYK	Samsung	03/12/2018
DSME 2496	15/02/2021	174000	MEGI	GT NO 96	BWGas	DSME	05/12/2018
DSME 2497	15/06/2021	174000	MEGI	GT NO 96	BWGas	DSME	05/12/2018
DSME 2495	15/05/2021	173400	MEGI	GT NO 96	Nakilat	DSME	10/12/2018
HHI NYK DG #1	15/09/2020	174000	XDF	GTT Mark III Flex	NYK	Hyundai	11/12/2018
HHI NYK DG #2	15/05/2021	174000	XDF	GTT Mark III Flex	NYK	Hyundai	11/12/2018
HHI NYK DG #3	15/06/2021	174000	XDF	GTT Mark III Flex	NYK	Hyundai	11/12/2018
DSME Dec #1	15/12/2020	180000	MEGI	GT NO 96	MOL	DSME	15/12/2018
DSME Dec #2	15/02/2021	180000	MEGI	GT NO 96	MOL	DSME	15/12/2018
SHI Navigare	15/03/2021	173400	XDF	GTT Mark III Flex	Navigare	Samsung	15/12/2018
HHI Sovcom #1	30/08/2020	174000	XDF	GTT Mark III Flex	Sovcomflot	Hyundai	19/12/2018
HHI Sovcom #2	15/12/2020	174000	XDF	GTT Mark III Flex	Sovcomflot	Hyundai	19/12/2018
Alpha Gas	15/06/2021	174000	MEGI	GT NO 96	Alpha Gas	DSME	27/12/2018
SHI Gaslog CE #1	15/06/2021	180000	XDF	GTT Mark III Flex	GasLog	Samsung	27/12/2018
SHI Gaslog CE #2	15/08/2021	180000	XDF	GTT Mark III Flex	GasLog	Samsung	27/12/2018
SHI #18	15/03/2021	174000	XDF	GTT Mark III Flex	Cardiff Marine	Samsung	31/12/2018
Celcius #3	15/02/2021	180000	XDF	GTT Mark III Flex	Celcius Shipping	Samsung	15/01/2019
Celcius #4	15/04/2021	180000	XDF	GTT Mark III Flex	Celcius Shipping	Samsung	15/01/2019
SHI Minerva #2	15/09/2021	174000	XDF	GTT Mark III Flex	Minerva Marine	Samsung	15/01/2019
CSSC #1	15/09/2021	178000	XDF	GT NO 96	CSSC	Hudong-Zhonghua	30/01/2019
CSSC #2	15/02/2022	178000	XDF	GT NO 96	CSSC	Hudong-Zhonghua	30/01/2019
DSME Maran	15/05/2021	174000	MEGI	GTT Mark III Flex	Nakilat	DSME	15/02/2019
Samsung Feb #1	15/03/2022	174000	XDF	GTT Mark III Flex		Samsung	15/02/2019

Name	Delivery	Capacity	Propulsion	Containment	Primary Owner	Yard	Ordered
Samsung Feb #2	15/03/2022	174000	XDF	GTT Mark III Flex		Samsung	15/02/2019
Samsung Feb #3	15/03/2022	174000	XDF	GTT Mark III Flex		Samsung	15/02/2019
Capital Gas #5	15/07/2021	174000	XDF	GTT Mark III Flex	Capital Gas	Hyundai	25/02/2019
DSME Maran #2	15/08/2021	173400	XDF	GTT Mark III Flex	Nakilat	DSME	25/02/2019
DSME Maran #3	15/10/2021	173400	XDF	GTT Mark III Flex	Nakilat	DSME	25/02/2019
SHI Mar19	15/03/2022	174000	XDF	GTT Mark III Flex	Nisshin Shipping	Samsung	20/03/2019
DSME Maran 2504	15/01/2022	174000	MEGI	GT NO 96	Maran Gas Maritime	DSME	01/04/2019
H Samho NYK	15/03/2022	174000	XDF	GTT Mark III Flex	NYK	Hyundai	01/04/2019
HHI Samho Edison	15/01/2022	174000	XDF	GTT Mark III Flex	NYK	Hyundai	10/04/2019
Capital Gas #6	15/09/2021	174000	XDF	GTT Mark III Flex	Capital Gas	Hyundai	15/04/2019
Samsung N/A	15/01/2022	174000	XDF	GTT Mark III Flex	Minerva Marine	Samsung	01/05/2019
DSME May19	15/05/2022	174000	MEGI	GT NO 96	Maran Gas Maritime	DSME	14/05/2019
DSME MOL #3	15/07/2021	173400	MEGI	GT NO 96	MOL	DSME	15/05/2019
Hyundai European #1	15/03/2022	180000	XDF	GTT Mark III Flex	Dynagas	Hyundai	22/05/2019
Hyundai European #2	15/06/2022	180000	XDF	GTT Mark III Flex	Dynagas	Hyundai	22/05/2019
Samsung 2019 #10	15/06/2022	174000	XDF	GTT Mark III Flex	Morgan Stanley	Samsung	08/06/2019
Samsung 2019 #9	15/01/2022	174000	XDF	GTT Mark III Flex	Morgan Stanley	Samsung	08/06/2019
HHI SK E&S	15/09/2021	180000	XDF	GTT Mark III Flex	SK Shipping	Hyundai	10/07/2019

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 = 6th August 2019



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