

LNG Shipping News

AN LNG JOURNAL TITLE ON LNG CARRIERS

13 October 2022

LNGC rates to soar

Daily spot charter rates for modern LNGCs could average \$365,000 per day in the fourth quarter of this year, according to Drewry Shipping Consultants.

In addition, 1Q23 rates could average \$145,000 per day much higher than recorded in the same period of 2021 and 2022. A recent fixture was reportedly concluded at \$400,000 per day.

The markets were described as “on fire” with several records looking set to be broken this winter.

Beyond 2023, market projections were still bullish with ME-GI and X-DF powered LNGCs’ demand surging to 2027, Drewry said, on the back of a tightness in new-building deliveries and regasification capacity worldwide.

As for steam powered vessels, as they come off their present charters, they will become FSU conversion candidates or consigned to the recycling yard, mainly down to the new EEXI and CII regulations, due to come into force next year.

Vessel supply is currently tight, due to European demand mainly driven by a large drop in Russian pipeline gas reaching Europe. There are virtually no newbuilding slots left until 2026 with discussions between owners, operators and shipyards now ongoing for 2027 deliveries.

Relets are dominating the charter market at present. However, charterers with long term contracts were not willing to sublet their vessels as rates rise. Floating storage is also rising, especially near Gibraltar and the Suez Canal.



Modern ME-GI and X-DF powered LNGCs are expected to cash in

LNG trades are forecast to reach 395 mill tonnes this year, up by 6% year-on-year, rising to 517 mill tonnes in 2027.

Supply improvement

Meanwhile, LNG supply improved by 11% in 3Q22 to an estimate of 97.5 mill tonnes but there is a challenging supply outlook for 4Q22 with exports forecast to hit 99.1 mill tonnes.

US exports are expected to grow on the back of new projects but both Algeria and Nigeria are struggling with technical and feedgas problems, while an improvement in Australian volumes will be seen, due to fewer outages.

More than 200 mill tonnes per annum of liquefaction capacity could be the subject of a final investment decision (FID) by 2024.

Drewry said. However, the large Mozambique and Russian projects look likely to be delayed.

Global liquefaction capacity will rise at a CAGR of 7.4% from 2022 to 2027 to reach 674 mill tonnes per annum.

This winter, Europe is expected to continue its importing spree, however, competition for LNG cargoes with Asia will occur sooner or later, Drewry said, which should help sustain the high rates.

In Europe there is currently some 185 mill tonnes per year of regasification capacity available with another 38.1 mill tonnes under construction. In addition, a further 68.6 mill tonnes is at the planning stage and another 21.1 mill tonnes is speculated.

As for Asia, looming gas shortages are forecast with some countries returning to coal and fuel oil, due to the high gas prices.

Stockpiling in Japan and South Korea has emerged, while the higher prices are impacting on future LNG-to-power projects in Vietnam and Indonesia, among other countries.

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“The markets were described as “on fire” with several records looking set to be broken this winter

- Drewry Shipping Consultants.

LNG markets tighter next year - IEA

Next year's LNG markets may be tighter than seen in 2022, due to Chinese, Indian and other Asian areas' demand rising, the International Energy Agency's (IEA) head said recently.

"We may well see that the LNG markets in 2023 will be rather tight, maybe tighter than this



IEA head Fatih Birol

year," Fatih Birol said at the LNG Producer/Consumer Conference held in Japan at the end of last month, reported Reuters.

Global gas prices have surged to record levels this year, as Russia's gas supply cuts have placed enormous strain on the European and global market.

High wholesale European gas prices has seen the EU import record amounts of LNG cargoes, diverting gas imports from the Asian region.

Birol also said that Europe had received a substantial amount of

LNG this year, with imports increasing "by a staggering 60%".

"One of the reasons why Europe can draw so much LNG is that China ... (saw) sluggish economic growth this year," he said. "If the Chinese economy recovers ... it will be difficult for Europe to attract so much LNG."

China's LNG imports are on track to record their first major decline this year, as high prices and weak manufacturing, due to COVID-19 lockdowns, slow demand for gas.

Last year, China became the

world's top LNG importer but Japan took over top spot in the first four months of this year.

Should Japan restart its nuclear power plants, it would free up about 10 bill cu m of LNG and "help the global LNG market," said Birol, Reuters reported.

Birol had made similar remarks earlier in the week, saying that Japan's restart of more nuclear power plants would help ease Europe's energy supply fears during the coming winter, as more LNG will become available on the global market. ■

EnBW increases Venture Global offtake

Venture Global LNG and German energy company, EnBW have increased their existing LNG partnership to 2 mill tonnes per annum.

Under the 20-year Sales and Purchase Agreements (SPAs) signed in June, 2022, EnBW has now increased the amount of its long-term LNG offtake by 0.5 mill tonnes from Plaquemines and CP2 LNG.

"Venture Global is delighted to be a growing strategic partner to Germany and EnBW, a foundation customer at both Plaquemines and CP2," said Venture Global CEO, Mike Sabel. "The German Government has taken swift action to address the energy crisis and we are honoured to support their efforts by providing security of US LNG supply."

"Our company has pioneered the next generation of LNG plants, with a safe and low-cost model, enabling us to bring much

needed supply to the global market years faster than ever done before.

"Our Gulf Coast facilities incorporate critical, world class European equipment, including liquefaction modules, gearboxes, steam turbines and more, supporting countless jobs across the continent," he said.

"To become less dependent on Russian natural gas and to strengthen diversification and security of supply, EnBW is supporting the German Government by increasing further access to LNG supplies. For this reason, we have stepped up our procurement volumes from Venture Global," explained Georg Stamatelopoulos, EnBW's COO Generation & Trading. "With the help of LNG, we can

secure Germany's gas supply to enable the energy transition, while

not losing sight of our climate neutrality targets." ■



Venture Global's Plaquemines export terminal will supply more LNG to Germany

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QatarEnergy to become largest LNG player

Qatar's state-owned oil and gas company, QatarEnergy aims to become the world's largest LNG player within five to 10 years.

In a speech at the London Energy Intelligence forum last week, Qatari Minister of State for Energy Affairs and QatarEnergy President and CEO, Saad bin Sherida Al Kaabi, outlined his country's plans.

According to the Qatar News Agency, Al Kaabi said that QatarEnergy is currently selling about five to 10 mill tonnes of LNG in total.

He added that large quantities of Qatar's gas production will be shipped to Europe in the coming period, explaining that QatarEnergy had adopted a successful partnership model to enable it to expand and undertake expansion alone.

QatarEnergy conducts business on a fully commercial basis and is no longer a governmental company, he claimed.

He further warned that in general, energy prices were expected to remain high in the foreseeable future, and would not peak any time soon.

Meanwhile, QatarEnergy's LNG projects were progressing and recently, French energy major TotalEnergies was chosen as the first international partner in the North Field South (NFS) LNG phase.

The French energy major will invest around \$1.5 bill to become a partner.

It was thought that Shell and

Exxon Mobil and another energy giant will also join the NFS expansion project as partners in the coming weeks.

The two-phase North Field expansion project will include six LNG trains to ramp up its liquefaction capacity from 77 mill tonnes per annum currently to 126 mill tonnes by 2027.

The first, North Field East (NFE), is expected to add 33 mill tonnes while NFS will add another 16 mill tonnes per annum.

Earlier this year, QatarEnergy signed overall NFE partnership deals with TotalEnergies, Shell, Exxon, ConocoPhillips and Italy's Eni. ■

Chevron's first offset-paired LNG cargo

The Singapore operation of Chevron USA has delivered its first shipment of an offset-paired LNG cargo.

Greenhouse gas emissions for the cargo, loaded from the Gorgon Project off the north-west coast of Western Australia, will be fully offset via the retirement of high-quality nature-based and energy efficiency offsets in Cambodia, Indonesia and Nepal.

"Chevron's first full lifecycle emissions offset cargo advances our net zero ambitions and represents a significant milestone in Chevron's relationship with CPC Corporation, Taiwan," said John Kuehn, President of Chevron Supply and Trading, a division of Chevron USA.

"We share the view that the future of energy is lower carbon and expect this offset-paired cargo to be the first of many as we leverage our capabilities, assets, and customer relationships to deliver energy solutions to a growing world," he said.

For this particular cargo, Chevron's Scope 1 and 2 emissions (emissions from upstream production, transportation, liquefaction and shipping) were calculated based on methodology jointly developed by Chevron, Pavilion Energy Trading & Supply and QatarEnergy in 2021, with Scope 3 emissions calculated based on PACE Global report for regas and distribution and IPCC 2006 emission factor for combustion.

The emissions will be fully offset via the surrender of Verra certified offsets, namely the Katingan Peatland Restoration and Conservation project in Indonesia, the Southern Cardamom REDD+ project in Cambodia and the Energy Efficient Cooking Solution in Nepal. ■

Malaysia LNG hit by *force majeure*

Malaysian energy major, PETRONAS has declared *force majeure* on the gas supply to the FLNG 'MLNG Dua', due to a pipeline leak caused by soil movement at the vicinity of KP201, Sabah-Sarawak Gas Pipeline (SSGP).

The leak occurred on 21st September, 2022.

This has impacted the supply of gas to 'MLNG Dua's' production facility at PETRONAS LNG Complex (PLC) in Bintulu, Sarawak.

PETRONAS stressed that the *force majeure* only affected the supply of gas to 'MLNG Dua's' production facility, while the other LNG production plants within the PLC continue to operate as normal.

The state-owned energy major also said that this incident has impacted its delivery commitments to some of its contracted LNG buyers

and it is in discussions to identify suitable mitigation efforts.

A comprehensive evaluation of the pipeline is being carried out to ensure its integrity and safety.

Mitsubishi Corp, which owns a stake in Malaysia LNG, said. "We have already strongly requested that Malaysia LNG take all possible measures to examine and respond to the impact.

"We will closely monitor the situation and provide full support to Malaysia LNG in order to minimise the impact on the Japanese market," a company spokesman told Reuters.

With an LNG capacity of 25.7 mill tonnes per annum, the Malaysia LNG facility is one of the world's largest LNG plants built in a single location.

It exports LNG to Japan, South Korea, Taiwan and China, among others.

Malaysia was the second largest LNG supplier to Japan last year, exporting about 10 mill tonnes, according to Japanese trade data. The country delivered 50 cargoes to Japan from October through December last year, according to Refinitiv data, Reuters reported. ■

NEWS NUDGE

PLL fails to secure cargoes

Pakistan LNG Ltd (PLL) has confirmed that it did not receive one offer for its 72 cargoes for six years tender by the last date of submission.

In August, PLL - a wholly-

owned subsidiary of Pakistan's Government Holdings Private Limited (GHPL) - invited bids for 72 LNG cargoes from international suppliers to be delivered between 2023 and 2028.

Pakistan is currently importing nine LNG cargoes per month

under long-term contracts, of which eight come from Qatar and one from Italian energy major, Eni.

An analyst told Pakistan media that this highlights just how little spare LNG supply capacity there is until at least 2026. ■



Power Play AWARDS

Presented by **ExxonMobil**

Congratulations to the three winners of the 2022 Power Play Awards!

Once again, there was tremendous support from our Power Play community. Thank you to everyone involved for demonstrating how a mutually supportive environment can help support great business outcomes across all parts of the LNG value chain.

This year's winners by category are:

The Rising Star

Presented to an outstanding young female professional under 35 years old



Jing Ran

Head of LNG Spot Trading and Hedging, CNOOC Gas and Power Group

The Ambassador

Given to a professional who displays outstanding leadership



Ren Chunxia

General Manager, Shenzhen Sino-Benny LPG Co., Ltd.

The Pioneer

Awarded to an LNG champion demonstrating outstanding business, innovation and/or technology contribution



Taciana Peão Lopes

CEO MES-MozUP,
Executive Director MWE

Please join us in celebrating our 2022 winners!
We look forward to building off of this momentum in 2023.

ExxonMobil | LNG

PGNiG seals Klaipėdos Nafta deal

Polish energy company, PGNiG has secured regasification capacity at Lithuania's Klaipėdos Nafta's (KN) Klaipėda FSRU terminal.

This will provide PGNiG with over 6 TWh or 0.5 bill cu m of LNG imports per year through the terminal for 10 years.

The contract starts on 1st January, 2023 and lasts until 31st December, 2032.

"LNG plays a fundamental role in the supply diversification strategy of both Poland and Lithuania. Having secured the long-term reservation of regasification capacity at the terminal in Klaipėda, PGNiG will be able to use its expertise in LNG trading to strengthen the availability of gas for customers in both countries.

"I am convinced that the co-operation between Klaipėdos Nafta and PGNiG will not only contribute to the business plans of both companies, but will also enable further integration of gas

markets in this part of Europe," said Iwona Waksmundzka-Olejniczak, PGNiG CEO.

"We are glad that PGNiG has successfully started using LNG terminal in Klaipėda earlier this year and expressed their interest in the long-term commitment. Allocation of the long-term capacity extends our future co-operation and will further contribute to the enhanced energy security of the region and efficient utilisation of the infrastructure in Klaipėda," added Darius Šilenskis, KN CEO.

PGNiG started to use the Klaipėda LNG terminal earlier this year. The first LNG cargo ordered by the Polish concern was delivered to the Lithuanian FSRU on 6th May, 2022.

Since then, PGNiG has received six deliveries from the facility.



Poland is to take LNG from Klaipėda FSRU

After regasification, some of the gas was sold to Baltic States customers, while the rest was shipped to the Polish market via the Gas Interconnection Poland/Lithuania, which opened in May, 2022.

EIG buys into Australian LNG projects

MidOcean Energy, an LNG company formed and managed by institutional investor EIG, has signed a definitive agreement with Tokyo Gas to acquire its interests in four Australian integrated LNG projects.

Under the terms of the agreement, MidOcean will acquire Tokyo Gas' interests in Gorgon LNG, Ichthys LNG, Pluto LNG and Queensland Curtis LNG for \$2.15 bill cash.

The projects span Australia's western and eastern seabords and they are major suppliers of LNG to Asia, with a diverse set of long-dated take or pay contracts, plus to Australia's domestic gas markets.

They are expected to generate around 1 mill tonnes per annum of LNG net to MidOcean, production that is underpinned by long-life reserves and a globally competitive cost structure, the company claimed.

Operated by worldwide energy majors, including Chevron, INPEX, Woodside and Shell, they span the LNG value chain from upstream operations to midstream, liquefaction and sales.

This acquisition marks the launch of MidOcean's strategy to build a diversified, global 'pure play' integrated LNG company and leverages EIG's investing experience in the global LNG sector, underpinned by several billion dollars of commitments to multiple LNG projects over the past 20 years.

Among the most recent deals, was the acquisition of a controlling interest in GNL Quintero SA, the largest LNG regasification

terminal in Chile.

Blair Thomas, EIG's Chairman and CEO, said, "The launch of MidOcean reflects our deep belief in LNG as a critical enabler of the energy transition and the growing importance of LNG as a geopolitically strategic energy resource.

"We believe this transaction provides MidOcean with a foundational portfolio of cost-advantaged integrated LNG assets in a low-risk jurisdiction, ideally positioned to supply key customers in Japan, Asia and across the globe for decades to come," he said.

The transaction is expected to close in first half of 2023, subject to customary closing conditions, including Australian regulatory approvals.

Barrenjoey, Barclays and JP Morgan acted as EIG's financial advisors in connection with this transaction and White & Case acted as EIG's legal advisor.

Depa guarantees winter LNG supplies

Greece's largest gas utility, DEPA Commercial, has signed a contract with TotalEnergies for the supply of LNG over the winter months if needed, according to the Greek Energy Ministry.

TotalEnergies will supply Greece with two LNG cargoes per month to March, 2023, the Ministry said in a statement.

The total amount of LNG that could be delivered during the five month period would be 10 TWh, though Greece reserved the right not to purchase the gas but to pay a cancellation fee.

The price was not revealed, but the Ministry said that Greece would buy the gas at a benchmark price rather than the high TTF price.

"It's a deal of key importance for the country's energy supplies in the event gas flows from Russia are curbed or halted," the Ministry's statement added.

Greece has been receiving Russian gas via the TurkStream pipeline, which also delivers gas to Hungary via Serbia.

The launch of MidOcean reflects our deep belief in LNG as a critical enabler of the energy transition and the growing importance of LNG

- Blair Thomas, EIG's Chairman and CEO

NFE to continue to operate Brazilian FSRU

New Fortress Energy (NFE) has announced that it, together with its joint venture partner Ebrasil Energia (Ebrasil), has closed the sale of the Centrais Elétricas de Sergipe (CELSE) power plant to Brazilian power company, Eneva.

Energos Infrastructure (Energos), the joint venture established between Apollo and NFE, will continue to operate the FSRU 'Golar Nanook', which is chartered to CELSE for use at the power plant for over 20 years.

Eneva acquired 100% of the shares of Centrais Elétricas de Sergipe Participações (CELSEPAR), the NFE/Ebrasil joint venture that had held the equity interests in the power plant, and 100% of the shares of Centrais Elétricas Barra

dos Coqueiros (CEBARRA), which owns 1.7 GW of expansion rights adjacent to the plant.

"The closing of this transaction further deleverages and simplifies our capital structure and marks another significant step toward our goal of an investment grade credit rating," explained Wes Edens, NFE Chairman and CEO. "We are pleased to redeploy these proceeds toward the capital needs of our 'Fast LNG' programme and downstream LNG projects world-

wide, internally funding our strategic growth initiatives to serve our customers' needs amid a structurally short global LNG market."

Part of the proceeds was used to pay off the entire outstanding balance of - and fully retire - the standby guarantee and credit facility agreement with GE Capital EFS Financing, while Eneva will assume the outstanding debt obligations of CELSE, itself a 100% owned subsidiary of CELSEPAR. ■



NFE will continue to manage the FSRU 'Golar Nanook'

ABS awards AIP for LNGC hybrid power system

ABS has awarded an Approval in Principle (AIP) to Daewoo Shipbuilding & Marine Engineering (DSME) for its hybrid power system for large LNGCs.

This configuration was previously limited to smaller vessels.

The hybrid power system includes a battery energy storage system (ESS) and shaft generator within an existing power source that will allow the LNGCs to access hybrid power when needed, such as spinning reserve or peak shaving.

At DSME's test facility for ship

research and development, the hybrid system, already in use in the industry to support smaller vessels, such as ferries, was successfully applied to large LNGCs.

With the ABS' AIP, it is now possible to reduce dependence on the generator and improve fuel efficiency by including a solution that can improve the performance of the DSME shaft generator. The ap-

proval process included review of the ship's internal arrangement, function, risk analysis, and operation scenarios, reflecting actual electrical loads.

"Hybrid electric power systems offer the opportunity to improve safety, reliability, operational efficiency, and reduce the fuel consumption, environmental footprint, and equipment maintenance when

DSME finishes carbon capture trials

South Korean shipbuilder, Daewoo Shipbuilding & Marine Engineering (DSME) has finished testing an on board carbon dioxide (CO2) capture and storage (OCCS) unit.

The new system was trialed on an LNGC and is expected to help reduce greenhouse gas emissions, as the OCCS will allow the capture and storage of CO2 on board ship before releasing it safely after making a port call.

DSME has been working with Hi Air Korea, a local ships' equipment manufacturer, to develop an OCCS unit since 2020.

In June, DSME agreed with Greek LNGC owner GasLog and American Bureau of Shipping (ABS) to conduct a joint study on how to install OCCS units on DSME-built LNGCs.

ABS was tasked with coming up with the overall class rules related with the development of an OCCS unit and overseeing the process for obtaining an Approval in Principle (AIP) from the relevant authorities.

Last year, DSME, signed a contract with GasLog to build four LNGCs, which will be equipped with an OCCS unit. ■

compared to traditional electrical power systems.

"We are delighted to work together with DSME on these innovative projects. Being able to apply hybrid power systems to large vessels like LNG carriers is another step forward in the drive to meet IMO sustainability goals," said Gareth Burton, ABS Vice President, Technology. ■

Brunsbüttel LNG terminal's EPC contract signed

A consortium, involving Vinci Group subsidiary, Cobra plus Sener, has signed an engineering, procurement and construction (EPC) contract with German LNG Terminal GmbH to build an LNG regasification terminal.

Cobra, with a 62% stake and Sener with the remaining 38%, will build the receiving terminal at Brunsbüttel.

Located at the mouth of the River Elbe, the regasification plant will have two 165,000 cu m storage tanks and the capacity to produce up to 8 bill cu m per annum of natural gas per year, which can be expanded to at least 10 bill cu m.

The project will consist of two jetties, unloading arms, storage tanks, regasification and gas emissions systems, a boil-off gas (BOG) recovery system, a flare stack, auxiliary systems, and the buildings designed for the terminal's operation.

It will provide various services,

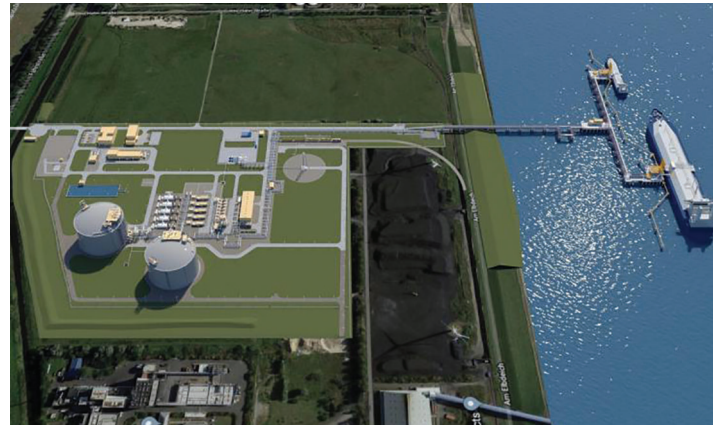
including LNGC loading and unloading, LNG storage, regasification, injection into the German natural gas grid and LNG distribution via vessels and railway wagons.

German LNG Terminal has said that this terminal "will make a significant contribution to the security of energy supply in Germany and Europe."

This EPC contract is a continuation of the engineering work being carried out by the consortium, which had already been involved in the design and construction of LNG terminals at Sagunto and Bahía Bizkaia Gas (Spain), Gate terminal (Netherlands), Dunkerque (France) and Zeebrugge (Belgium).

The first phase of the preliminary work will last for around nine to 15 months, with some construction work taking place in parallel over a period of around 42 months.

Given current conditions, completion is expected in 2026. However, all the parties involved are working to accelerate the project in compliance with all licensing and state aid requirements. ■



Brunsbüttel developers have awarded an EPC contract

Baker Hughes to service 'Coral Sul'

Baker Hughes has won a service contract for the maintenance and monitoring of turbo-machinery equipment operations on board 'Coral Sul' FLNG.

She is the first deepwater FLNG operating off the coast of Mozambique within the Eni-led Coral South project.

Under the agreement, Baker Hughes will guarantee the performance of the rotating equipment on board 'Coral Sul' FLNG under pre-determined metrics, such as reliability of compressors and efficiency and low gas turbine emissions.

The contract also includes providing resident engineers, supervisors, the repairs and the provision of spare parts to support the maintenance activities. Baker Hughes said that it had agreed to utilise local resources in Mozambique to help further grow local talent to support the energy sector.

Baker Hughes will also provide remote monitoring and diagnostics services, leveraging its iCenter capabilities, including Carbon Optimiser, as well as a suite of other digital services based on Bentley

Nevada's System technology, which includes health and maintenance monitoring, data services and cyber-asset management.

This new service agreement adds to an existing 'Coral Sul' FLNG's contract awarded to Baker Hughes in 2017 for the unit's power and gas refrigeration process, including four turbo-compression trains with aeroderivative gas turbine and centrifugal compressor technology, as well as four turbo-generation units.

"This agreement shows how we embed our decades of LNG experience and constant collaboration with our customers to develop solutions to meet their specific needs and outcomes," said Rod Christie, Baker Hughes' Executive Vice President of Turbomachinery & Process Solutions.

"Demand for LNG is on the rise, illustrating how natural gas is playing a foundational role in supporting the many types of transitions along the paths to net-zero

emissions. This deal also represents the expertise and portfolio of comprehensive solutions that the recently announced Industrial & Energy Technology business segment of Baker Hughes will provide to customers," he said.

First FLNG

'Coral Sul' FLNG is the first deepwater FLNG facility operating on the Eni-led Coral South Project on behalf of Area 4 Partners (Exxon-Mobil CNPC, GALP, KOGAS and Eni).

With a liquefaction capacity of 3.4 mill tonnes per year, the FLNG will produce 450 bill cu m of gas from the giant Coral reservoir, located in the Rovuma Basin Area 4 offshore Mozambique, at a water depth of around 2,000 m.

It is expected to begin operations later this year, becoming the first LNG export project in Mozambique to come online.

The service contract was agreed for eight years, and will commence at the end of 2022. ■

NEWS NUDGE

Qatargas delivers cargo to new Chinese terminal

Qatargas has delivered a commissioning LNG cargo to China's latest LNG terminal - Jiangsu-Binhai LNG terminal - owned and operated by China National Offshore Oil Corp (CNOOC).

The cargo was loaded at Ras Laffan on 10th September, 2022, on the 216,000 cu m Q-Flex type, 'Al Ghashamiya', and arrived at the Jiangsu-Binhai terminal on 26th September.

Jiangsu-Binhai is located on the Chinese east coast and has a nominal capacity of 3 mill tonnes of LNG per annum. It can receive vessels of up to 266,000 cu m (Q-Max).

The terminal is fitted with four storage tanks with an overall capacity of 880,000 cu m, with further expansions planned. ■

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Wärtsilä to help Capital Gas de-carbonise

Wärtsilä and Capital Gas Ship Management are to partner in the development of a new fleet de-carbonisation programme aimed at achieving defined targets.

Under the programme, Wärtsilä will help Capital Gas with advanced planning, and with support in assessing and assuring the performance of investments designed to meet the company's greenhouse gas reduction ambitions.

The agreement, which is a tailored version of Wärtsilä's de-carbonisation service initiative, was signed in June, 2022 and will be applied to six 174,000 cu m LNGCs within the Capital Gas management fleet.

"Environmental leadership is a top priority for Capital Gas Ship Management Corporation. By engaging with Wärtsilä in this fleet de-carbonisation programme, we are looking to continue delivering the highest value to our customers.

"This includes optimising the efficiency of our fleet, and identifying the most relevant solutions for reaching the highest possible environmental standards," said Miltos Zisis, Capital Gas Managing Director.

"The fleet de-carbonisation programme represents one of the most advanced capabilities that Wärtsilä brings to the market. It delivers a seamless combination of the company's technology leadership in the marine industry, and

the very latest digital tools.

"We are now able to leverage on the huge volume of data from our long-standing presence in the market, with the most advanced data analysis capabilities available," added Giulio Tirelli, Wärtsilä Marine Power's Director, Business Development.

Detailed analysis

The programme includes a detailed carbon intensity indicator (CII) compliancy analysis of the vessels to predict the fleet's status in reference to the 2030 targets.

This analysis will be based on advanced machine learning algorithms utilising extensive data, on among other things, vessel movements and locations, and the technical characteristics of each ship.

The algorithms are powered by Wärtsilä's CII Insight - a new analysis tool that enable owners to forecast

a vessel's compliance with CII, and to understand the impact of alternative solutions.

Furthermore, the programme will support the selection of the most effective means for de-carbonising the selected fleet from the vast array of solutions and technologies currently available.

It will also take into consideration technical, operational, and commercial aspects affecting dry-dock planning and the recommended timing for implementing modifications and conversions.

In order to comply with the IMO's forthcoming Energy Efficiency for Existing Ships Index (EEXI) and CII protocols, fleet operators are faced with the complex task of selecting the optimal solution.

Wärtsilä's fleet de-carbonisation service tackles this challenge by combining data-driven assessments with expert insight, thereby enabling operators to achieve full compliance with cost-effective investments, the company claimed.



Wärtsilä has signed up Capital Gas' LNGC fleet

NEWS NUDGE

FSRU News

Finnish Minister of Economic Affairs, Mika Lintilä, and the Estonian Minister of Economy and Infrastructure, Riina Sikkut, have agreed to locate Gasgrid's planned FSRU LNG terminal at Inkoo, Finland, at the end of this year.

Gasgrid Finland is currently constructing the port structures for the FSRU 'Exemplar' and is developing the terminal for the Finnish government.

The gas supplier said that the terminal will operate according to fair market principles with respect to all operators.

"The construction of the port structures begun in Inkoo in August, 2022, so that the LNG contained in the terminal can be used this winter. The floating LNG terminal will be anchored in the port area of Inkoo in December, 2022, after which the FSRU will be integrated into our gas transmission system. Thus, the actual production use of gas can be started in January," said Gasgrid CEO, Olli Sipilä.

The total cost of the FSRU is

estimated to be €460 mill with a 10-year lease attached.

Elsewhere, Klaipėdos Nafta (KN) is to exercise its option to acquire the FSRU 'Independence' from Höegh LNG.

The transfer of ownership is expected in December, 2024. Until then, the existing FSRU contract between a subsidiary of Höegh LNG and KN will continue unchanged.

In addition, Excelsior Energy has signed a binding contract (SBC) with Hyundai Heavy Industries to build an FSRU to be delivered in June, 2026.

The price was estimated to be

around \$337 mill. The FSRU will have a storage capacity of 170,000 cu m and a maximum regasification capacity of 1 bill cu ft per day.

She will be equipped with HHI's proprietary LNG regasification system, dual fuel engines, a selective catalytic reduction (SCR) system, boil-off gas (BOG) management, and other technologies, which will drive improved performance and efficiency while lowering emissions, Excelsior said.

With this new order, the company will have 11 FSRUs in operation or under construction.

Fuel cell to be fitted to LNGC

As part of a consortium, US-based fuel cell and hydrogen solutions provider, HyAxiom signed an agreement with Shell and other partners to install a solid oxide fuel cell in a large LNGC.

Under the agreement, Shell International Trading and Shipping Co, Korea Shipbuilding & Offshore Engineering (KSOE), DNV and Doosan Fuel Cell (DFCC), will be responsible for the delivery of an LNGC powered by a HyAxiom-developed solid oxide fuel cell (SOFC) in 2025.

"Fuel cells are a critical technology to cut carbon emissions and help us combat climate change at scale," said Jeff Hyungrak Chung, HyAxiom President & CEO. "HyAxiom is proud to partner with Shell to demonstrate the viability of solid oxide fuel cells as a low to zero carbon way to power the shipping industry."

Following feasibility studies, HyAxiom will design and develop the SOFC auxiliary power unit (APU) incorporating the 2 x 300 kW sub-systems for long-range mar-

itime demonstration; DFCC will manufacture, carry out factory tests and deliver the product; Shell will charter the demonstration vessel; KSOE will assist with system integration and technological deployment; and DNV will provide technical and safety expertise.

Data collection

Once delivered, the vessel will operate for a year, during which the parties will collect data on how to further integrate SOFC technology into current vessels.

Karrie Trauth, Shell's Senior Vice President Shipping & Maritime, said: "This consortium and the cutting-edge technology we're pioneering could help deliver less carbon-intensive operations in the near term, while unlocking a pathway to net-zero through the

blending of conventional and alternative fuels until zero-carbon options are available at scale."

Sam-Hyun Ka, KSOE Vice Chair & CEO, added: "SOFC is expected to be the more prominent and major power sources for the vessels, due to its excellent efficiency. HHI Group will continue to play a leading role with Shell, HyAxiom, DFCC and DNV for the development of future de-carbonising technology. I believe that we can create unrivalled synergies and we can lead the future tech-

nologies in shipping and shipbuilding sectors."

Vidar Dolonen, DNV's Regional Manager Korea & Japan, Maritime, commented: "The fuel and technology mix of the future will have to be broad for the maritime sector to reach its net zero goal. Solid oxide fuel cells are a promising solution to progress on the de-carbonisation pathway, and we at DNV are happy to contribute our expertise to such an important demonstration project with leading industry players." ■



Fuel cells are a critical technology to cut carbon emissions and help us combat climate change at scale



- Jeff Hyungrak Chung, HyAxiom President & CEO

NEWS NUDGE

JERA gets funds to buy LNG

State-owned Japan Bank for International Co-operation (JBIC) has reportedly offered Yen130 billion in loans to JERA, the country's largest power generator.

The loans are believed to have been granted to help JERA, a joint venture between Chubu Electric Power and Tokyo Electric Power, secure LNG imports at a time of surging spot prices.

JBIC will syndicate the loans with private sector financial institutions.

Japanese utilities buy most of the LNG through long-term contracts, but about 20% comes from the spot market, local sources reported.

Ships - Orders and charters

MISC Berhad (MISC) subsidiaries Polaris LNG Three and Polaris

LNG Four have signed long-term timecharter contracts with SeaRiver Maritime (SRM), an ExxonMobil subsidiary, for two more LNGCs.

This latest agreement brings the total number of SRM contracts to four LNGCs, MISC said.

At the same time, the Petronas subsidiary signed contracts for the construction of the LNGCs at Samsung.

The 174,000 cu m LNGCs will be chartered by SRM for 10 years. They will be equipped with eco-efficient technologies, such as X-DF 2.1 engines with Intelligent Control by Exhaust Recycling (iCER) systems and air lubrication systems (ALS).

Eaglestar Shipmanagement Gas is to be appointed to undertake project management services during the shipbuilding phase, and will also be responsible for the vessels' operations and shipmanagement when they are delivered in 2026.

In 2019, MISC signed 15-year timecharters with SRM for two

LNGCs, which are under construction in South Korea and due for delivery in the first quarter of 2023.

Brokers reported that Hyundai LNG Shipping has three, plus three optional LNGCs on order at Hyundai for 2024 delivery.

The price was said to be \$189.4 per ship and they will be timechartered to MISC.

Celsius was believed to have firmed up another LNGC at Samsung for delivery in 2025 at \$208.9 mill.

Daewoo Shipbuilding & Marine Engineering (DSME) has confirmed that it has won another four LNGC orders, which were worth Won1.85 trillion.

In a stock exchange filing, DSME said it received orders for two LNGCs each from clients in Asia and Europe. They are thought to be related with the Qatar LNG development project.

The price per ship translates to the equivalent of \$215 mill.

Brokers also said that the

DSIC orders reported in the last issue of *LNG Shipping News* included LOIs from Dynagas for two, option two 180,000 cu m LNGCs.

On 4th October, Mitsui OSK Lines (MOL) signed a charter contract with Sakhalin Energy, the new operator of Sakhalin 2, for the LNGC 'Grand Mereya' through a subsidiary company, which is 60% owned by the Japanese major.

She has been shipping LNG from the project under a long-term charter contract with Sakhalin Energy Investment Co, the former operator of the project, but the contract has now been changed to Sakhalin Energy and the vessel will continue to operate as before.

Brokers have also reported that the LNGC 'Golar Bear' has been chartered to undisclosed Japanese interests for 12 months for \$140,000 per day, while the 'Golar Ice' was fixed to BP, also for 12 months, at \$190,000 per day. ■

GTT signs license deal - wins large orders

GTT has signed a technical assistance and license agreement with China Merchants Heavy Industries-Jiangsu (CMHI-Jiangsu) a leading Chinese shipbuilding group.

This will enable the shipyard to construct vessels using GTT membrane technologies.

Both Groups have been co-operating for a decade, with a first technical service agreement signed in 2013 for LNG maintenance and repair.

A co-operation agreement was also initiated in 2016 for the CMHI's evaluation to implement GTT technologies.

These latest agreements marks a new stage in the partnership between the two companies as the shipyard is now licensed for the construction of large capacity LNGCs.

CMHI-Jiangsu began the licensing process earlier this year and successfully obtained it at the mock-up completion ceremony held on 10th October.

Philippe Berterottière, GTT Chairman and CEO, said: "We are honoured to carry on our collaboration with China Merchants Heavy Industries, one of the largest shipyards in China. We expect the new stage of this partnership to be a real success both in the LNG carrier construction and in the LNG fuelled market, as the shipyard is renowned for its variety of vessels constructions."

Simple Hu, CMI General Manager, added: "We are delighted with the collaboration and the trust that the GTT Group has placed in us. We are already acquainted with GTT's technologies and we are determined to consolidate our shipbuilding experience with these technologies for large LNG carriers, FSUs, FSRUs, FLNGs, VLECs, as well as LNG fuelled mer-

chant vessels. We aim to further deepen our collaboration with GTT with our other shipyards as well."

Ordering spree

In addition, GTT has received large tranches of orders on the back of the increasing number of newbuilding contracts awarded recently.

For example, Daewoo (DSME) contracted GTT to undertake the tank design of 10 new 174,000 cu m LNGCs.

These include eight vessels on behalf of two Asian shipowners and two vessels for a European shipowner.

The tanks will be fitted with the NO96 L03+ and NO96 GW membrane containment systems.

Their delivery is scheduled for between the first quarter of 2025

and the third quarter of 2026.

Hyundai Heavy Industries also asked GTT to design the tanks of seven new LNGCs of the same size, on behalf of an Asian shipowner.

Each vessel will be fitted with the Mark III Flex membrane containment system.

Delivery of these vessels is scheduled for between 3Q25 and 4Q26.

Finally, Samsung Heavy Industries ordered four tank designs, which included two newbuildings for an Asian shipowner and two for a US shipowner.

Each vessel will also be fitted with the Mark III Flex membrane containment system and the delivery of these vessels is scheduled for between the first and the third quarters of 2025. ■

Monthly Large LNGC Values*

Newbuildings (174,000 cu m)	\$237.83 mill
Five years old (174,000 cu m)	\$188.24 mill
Total Fleet (554 ships)	\$75.98 bill
Orderbook (271 ships)	\$66.78 bill

*Source: VesselsValue (27/09/22)

*The above is updated each month courtesy of VesselsValue

LNG rate assessments

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

Region	This week	Change*
East of Suez	\$275,000	+\$75,000
West of Suez	\$275,000	+\$75,000
12 mos T/C	\$182,500	+\$15,500

*Since last report (29/09/22)

Source: Fearnleys (12/10/22)



LNG Solutions for the Marine Industry



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- FSRUs
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- Bunkering stations
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WORLD LNG CARRIER ORDERBOOK

Name	Owners	Yard	Capacity	Propulsion	Delivered	Delivery
Minerva Amorgos	Minerva Marine	Samsung	174000	XDF	01/11/2022	Q4, 2022
Clean Copano	Dynagas	Hyundai Heavy	200000	XDF	01/07/2022	Q3, 2022
Asterix I	Capital Gas	Hyundai Heavy	174000	XDF	01/11/2022	Q4, 2022
Hudong-zhonghua H1829a	CSSC	Hudong-Zhonghua	174000	XDF	01/01/2024	Q1, 2024
Hudong-zhonghua H1830a	CSSC	Hudong-Zhonghua	174000	XDF	01/04/2024	Q2, 2024
Alexey Kosygin	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/03/2023	Q1, 2023
Pyotr Stolypin	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/09/2023	Q3, 2023
Sergei Witte	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/10/2023	Q4, 2023
Zvezda 044	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/11/2023	Q4, 2023
Zvezda 045	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/12/2023	Q4, 2023
Bw Cassia	BWGas	DSME	174000	MEGI	01/09/2022	Q3, 2022
Bw Enn Snow Lotus	BWGas	DSME	174000	MEGI	01/07/2022	Q3, 2022
Samsung 2364	MISC	Samsung	174000	XDF	01/01/2023	Q1, 2023
Samsung 2365	MISC	Samsung	174000	XDF	01/03/2023	Q1, 2023
Alicante Knutsen	Knutsen	Hyundai Samho	174000	XDF	01/09/2022	Q3, 2022
Huelva Knutsen	Knutsen	Hyundai Samho	174000	XDF	01/11/2022	Q4, 2022
Malaga Knutsen	Knutsen	Hyundai Samho	174000	XDF	01/08/2022	Q3, 2022
Sm Albatross	Korea Line	Hyundai Heavy	174000	XDF	01/08/2022	Q3, 2022
Sm Bluebird	Korea Line	Hyundai Heavy	174000	XDF	01/09/2022	Q3, 2022
Lng Prosperity	JP Morgan	Hyundai Heavy	174000	XDF	01/12/2022	Q4, 2022
Orion Song	JP Morgan	Hyundai Heavy	174000	XDF	01/11/2022	Q4, 2022
Kun Lun	ULT	Hudong-Zhonghua	174000	XDF	01/04/2023	Q2, 2023
Shaolin	ULT	Hudong-Zhonghua	174000	XDF	01/08/2022	Q3, 2022
Wu Dang	ULT	Hudong-Zhonghua	174000	XDF	01/01/2023	Q1, 2023
Lng Harmony	JP Morgan	Hyundai Heavy	174000	XDF	01/08/2023	Q3, 2023
Orion Sage	JP Morgan	Hyundai Heavy	174000	XDF	01/07/2023	Q3, 2023
El Ferrol Knutsen	Knutsen	Hyundai Samho	174000	XDF	01/05/2023	Q2, 2023
Extremadura Knutsen	Knutsen	Hyundai Samho	174000	XDF	01/06/2023	Q2, 2023
Daewoo 2514	Sovcomflot	DSME	172500	TFDE - Azipod	01/02/2023	Q1, 2023
Daewoo 2515	Sovcomflot	DSME	172500	TFDE - Azipod	01/04/2023	Q2, 2023
Daewoo 2516	Sovcomflot	DSME	172500	TFDE - Azipod	01/07/2023	Q3, 2023
Daewoo 2517	MOL, COSCO	DSME	172500	TFDE - Azipod	01/09/2023	Q3, 2023
Daewoo 2518	MOL, COSCO	DSME	172500	TFDE - Azipod	01/10/2023	Q4, 2023
Daewoo 2519	MOL, COSCO	DSME	172500	TFDE - Azipod	01/12/2023	Q4, 2023
Zvezda 046	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/08/2024	Q3, 2024
Zvezda 047	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/09/2024	Q3, 2024
Zvezda 048	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/10/2024	Q4, 2024
Zvezda 049	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/11/2024	Q4, 2024
Zvezda 050	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/12/2024	Q4, 2024
Zvezda 051	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/08/2025	Q3, 2025
Zvezda 052	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/09/2025	Q3, 2025
Zvezda 053	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/10/2025	Q4, 2025
Zvezda 054	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/11/2025	Q4, 2025
Zvezda 055	Smart LNG	Zvezda SSK	172600	TFDE - Azipod	01/12/2025	Q4, 2025
Sm Golden Eagle	Korea Line	Hyundai Heavy	174000	XDF	01/09/2025	Q3, 2025
Sm Kestrel	Korea Line	Hyundai Heavy	174000	XDF	01/12/2023	Q4, 2023
Grazyna Gesicka	Knutsen	Hyundai Heavy	174000	XDF	01/06/2023	Q2, 2023

Name	Owners	Yard	Capacity	Propulsion	Delivered	Delivery
Lech Kaczynski	Knutsen	Hyundai Heavy	174000	XDF	01/12/2022	Q4, 2022
Samsung 2425	Maran Gas Maritime	Samsung	174000	XDF	01/07/2023	Q3, 2023
Hyundai Samho 8100	Knutsen	Hyundai Samho	174000	XDF	01/11/2024	Q4, 2024
Orion Sky	JP Morgan	Hyundai Heavy	174000	XDF	01/11/2024	Q4, 2024
Hyundai Ulsan 3221	Pan Ocean	Hyundai Heavy	174000	XDF	01/09/2024	Q3, 2024
Hyundai Ulsan 3222	Pan Ocean	Hyundai Heavy	174000	XDF	01/10/2024	Q4, 2024
Samsung 2426	Pan Ocean	Samsung	174000	XDF	01/04/2023	Q2, 2023
Jules Verne	Alpha Gas	Hyundai Samho	174000	XDF	01/04/2023	Q2, 2023
Dapeng Princess	Shenzhen Gas	Hudong-Zhonghua	79960	XDF	01/01/2023	Q1, 2023
Hyundai Ulsan 3294	Hyundai LNG Shipping	Hyundai Heavy	174000	XDF	01/02/2024	Q1, 2024
Hyundai Ulsan 3295	Hyundai LNG Shipping	Hyundai Heavy	174000	XDF	01/06/2024	Q2, 2024
Hyundai Ulsan 3296	Hyundai LNG Shipping	Hyundai Heavy	174000	XDF	01/07/2024	Q3, 2024
Hyundai Samho 8139	Knutsen	Hyundai Samho	174000	XDF	01/10/2023	Q4, 2023
Jiangnan H2637	Jovo Energy	Jiangnan	79800	XDF	01/12/2023	Q4, 2023
Samsung 2473	Maran Gas Maritime	Samsung	174000	XDF	01/09/2024	Q3, 2024
Samsung 2474	Maran Gas Maritime	Samsung	174000	XDF	01/09/2024	Q3, 2024
Daewoo 2521	Hyundai LNG Shipping	DSME	174000	MEGI	01/09/2023	Q3, 2023
Hyundai Ulsan 3290	Dynagas	Hyundai Heavy	200000	ME-GA	01/09/2023	Q3, 2023
Hyundai Ulsan 3291	Dynagas	Hyundai Heavy	200000	ME-GA	01/11/2023	Q4, 2023
Hyundai Ulsan 3292	Dynagas	Hyundai Heavy	200000	ME-GA	01/02/2024	Q1, 2024
Hyundai Ulsan 3293	Dynagas	Hyundai Heavy	200000	ME-GA	01/03/2024	Q1, 2024
Daewoo 2520	MOL	DSME	174000	ME-GA	01/10/2023	Q4, 2023
Amore Mio I	Capital Gas	Hyundai Heavy	174000	ME-GA	01/10/2023	Q4, 2023
Axios II	Capital Gas	Hyundai Heavy	174000	ME-GA	01/12/2023	Q4, 2023
Alexandre Dumas	Alpha Gas	Hyundai Samho	170520	XDF	01/07/2024	Q3, 2024
Hyundai Samho 8147	H-Line	Hyundai Samho	174000	XDF	01/11/2023	Q4, 2023
Samsung 2459	Celsius Shipping	Samsung	180000	ME-GA	01/06/2023	Q2, 2023
Samsung 2460	Celsius Shipping	Samsung	180000	ME-GA	01/09/2023	Q3, 2023
Samsung 2461	Celsius Shipping	Samsung	180000	ME-GA	01/12/2023	Q4, 2023
Victor Hugo	Alpha Gas	Hyundai Samho	170520	XDF	01/08/2024	Q3, 2024
Hyundai Samho 8101	Knutsen	Hyundai Samho	174000	XDF	01/10/2023	Q4, 2023
Hyundai Samho 8102	Knutsen	Hyundai Samho	174000	ME-GA	01/09/2025	Q3, 2025
Hyundai Ulsan 3320	JP Morgan	Hyundai Heavy	174000	ME-GA	01/07/2025	Q3, 2025
Hyundai Ulsan 3321	JP Morgan	Hyundai Heavy	174000	ME-GA	01/09/2025	Q3, 2025
Hyundai Ulsan 3224	Pan Ocean	Hyundai Heavy	174000	ME-GA	01/10/2024	Q4, 2024
Hyundai Ulsan 3225	Pan Ocean	Hyundai Heavy	174000	ME-GA	01/12/2024	Q4, 2024
Daewoo 2522	Hyundai LNG Shipping	DSME	174000	MEGI	01/05/2024	Q2, 2024
Hyundai Samho 8148	Knutsen	Hyundai Samho	174000	XDF	01/02/2024	Q1, 2024
Hyundai Samho 8149	Knutsen	Hyundai Samho	174000	ME-GA	01/03/2024	Q1, 2024
Hyundai Ulsan 3297	Hyundai LNG Shipping	Hyundai Heavy	174000	XDF	01/05/2024	Q2, 2024
Hyundai Ulsan 3298	Hyundai LNG Shipping	Hyundai Heavy	174000	XDF	01/11/2024	Q4, 2024
Hyundai Ulsan 3299	Hyundai LNG Shipping	Hyundai Heavy	174000	XDF	01/01/2025	Q1, 2025
Samsung 2579	Celsius Shipping	Samsung	180000	ME-GA	01/03/2024	Q1, 2024
Samsung 2584	Celsius Shipping	Samsung	180000	ME-GA	01/07/2024	Q3, 2024
Samsung 2585	Celsius Shipping	Samsung	180000	ME-GA	01/09/2024	Q3, 2024
Hudong-zhonghua H1838a	K-Line	Hudong-Zhonghua	79960	XDF	01/09/2023	Q3, 2023
Hyundai Samho 8140	Capital Gas	Hyundai Samho	174000	ME-GA	01/07/2024	Q3, 2024

Name	Owners	Yard	Capacity	Propulsion	Delivered	Delivery
Daewoo 2523	MOL	DSME	174000	ME-GA	01/02/2024	Q1, 2024
Daewoo 2524	MOL	DSME	174000	ME-GA	01/04/2024	Q2, 2024
Daewoo 2525	MOL	DSME	174000	ME-GA	01/08/2024	Q3, 2024
Daewoo 2526	MOL	DSME	174000	ME-GA	01/10/2024	Q4, 2024
Daewoo 2527	MOL	DSME	174000	ME-GA	01/07/2024	Q3, 2024
Hudong-zhonghua H1790a	MOL	Hudong-Zhonghua	175000	XDF	01/09/2024	Q3, 2024
Hudong-zhonghua H1791a	MOL	Hudong-Zhonghua	175000	XDF	01/12/2024	Q4, 2024
Hudong-zhonghua H1792a	MOL	Hudong-Zhonghua	175000	XDF	01/03/2025	Q1, 2025
Hudong-zhonghua H1793a	MOL	Hudong-Zhonghua	175000	XDF	01/05/2025	Q2, 2025
Samsung 2580	NYK	Samsung	174000	XDF	01/09/2023	Q3, 2023
Samsung 2581	NYK	Samsung	174000	XDF	01/11/2023	Q4, 2023
Samsung 2582	NYK	Samsung	174000	XDF	01/12/2023	Q4, 2023
Samsung 2583	NYK	Samsung	174000	XDF	01/02/2024	Q1, 2024
Samsung 2592	JP Morgan	Samsung	174000		01/04/2024	Q2, 2024
Samsung 2593	JP Morgan	Samsung	174000		01/07/2024	Q3, 2024
Samsung 2594	JP Morgan	Samsung	174000		01/10/2024	Q4, 2024
Samsung 2595	JP Morgan	Samsung	174000		01/01/2025	Q1, 2025
Apostolos	Capital Gas	Hyundai Heavy	174000	ME-GA	01/06/2024	Q2, 2024
Assos	Capital Gas	Hyundai Heavy	174000	ME-GA	01/05/2024	Q2, 2024
Daewoo 2528	Maran Gas Maritime	DSME	174000	MEGI	01/08/2024	Q3, 2024
Daewoo 2529	Maran Gas Maritime	DSME	174000	MEGI	01/11/2024	Q4, 2024
Daewoo 2530	BWGas	DSME	174000	MEGI	01/03/2025	Q1, 2025
Daewoo 2531	BWGas	DSME	174000	MEGI	01/05/2025	Q2, 2025
Samsung 2600	JP Morgan	Samsung	174000		01/07/2024	Q3, 2024
Samsung 2601	JP Morgan	Samsung	174000		01/01/2025	Q1, 2025
Samsung 2598	Celsius Shipping	Samsung	180000	ME-GA	01/01/2025	Q1, 2025
Samsung 2599	Celsius Shipping	Samsung	180000	ME-GA	01/05/2025	Q2, 2025
Hudong-zhonghua H1834a	ULT	Hudong-Zhonghua	174000	XDF	01/09/2024	Q3, 2024
Hudong-zhonghua H1835a	ULT	Hudong-Zhonghua	174000	XDF	01/12/2024	Q4, 2024
Hudong-zhonghua H1836a	ULT	Hudong-Zhonghua	174000	XDF	01/03/2025	Q1, 2025
Samsung 2604	NYK	Samsung	174000	XDF	01/12/2024	Q4, 2024
Daewoo 2532	GasLog	DSME	174000	MEGI	01/05/2024	Q2, 2024
Daewoo 2533	GasLog	DSME	174000	MEGI	01/08/2024	Q3, 2024
Daewoo 2534	GasLog	DSME	174000	MEGI	01/06/2025	Q2, 2025
Daewoo 2535	GasLog	DSME	174000	MEGI	01/08/2025	Q3, 2025
Samsung 2602	Celsius Shipping	Samsung	174000	ME-GA	01/12/2024	Q4, 2024
Samsung 2603	Celsius Shipping	Samsung	174000	ME-GA	01/12/2024	Q4, 2024
Hyundai Samho 8173	SK Shipping	Hyundai Samho	174000	ME-GA	01/09/2024	Q3, 2024
Daewoo 2537	Maran Gas Maritime	DSME	174000	MEGI	01/09/2025	Q3, 2025
Daewoo 2538	Maran Gas Maritime	DSME	174000	MEGI	01/11/2025	Q4, 2025
Hudong-zhonghua H1880a	MOL	Hudong-Zhonghua	174000	XDF	01/10/2024	Q4, 2024
Hudong-zhonghua H1881a	MOL	Hudong-Zhonghua	174000	XDF	01/08/2025	Q3, 2025
Hudong-zhonghua H1882a	MOL	Hudong-Zhonghua	174000	XDF	01/10/2025	Q4, 2025
Hudong-zhonghua H1883a	MOL	Hudong-Zhonghua	174000	XDF	01/03/2026	Q1, 2026
Hudong-zhonghua H1884a	MOL	Hudong-Zhonghua	174000	XDF	01/06/2026	Q2, 2026
Hudong-zhonghua H1885a	MOL	Hudong-Zhonghua	174000	XDF	01/09/2026	Q3, 2026
Daewoo 2536	MOL	DSME	174000	ME-GA	01/09/2024	Q3, 2024

Name	Owners	Yard	Capacity	Propulsion	Delivered	Delivery
Samsung 2607	H-Line	Samsung	174000	ME-GA	01/03/2025	Q1, 2025
Samsung 2608	H-Line	Samsung	174000	ME-GA	01/05/2025	Q2, 2025
Samsung 2609	H-Line	Samsung	174000	ME-GA	01/06/2025	Q2, 2025
Samsung 2610	H-Line	Samsung	174000	ME-GA	01/09/2025	Q3, 2025
Daewoo 2539	Maran Gas Maritime	DSME	174000	MEGI	01/11/2025	Q4, 2025
Daewoo 2540	Maran Gas Maritime	DSME	174000	MEGI	01/12/2025	Q4, 2025
Hyundai Samho 8170	Hyundai Glovis	Hyundai Samho	174000	ME-GA	01/08/2024	Q3, 2024
Daewoo 2541	Venture Global LNG	DSME	200000		01/07/2025	Q3, 2025
Daewoo 2542	Venture Global LNG	DSME	200000		01/10/2025	Q4, 2025
Daewoo 2543	Venture Global LNG	DSME	200000		01/12/2025	Q4, 2025
Jiangnan H2700	ADNOC	Jiangnan	175000	XDF	01/01/2025	Q1, 2025
Jiangnan H2701	ADNOC	Jiangnan	175000	XDF	01/05/2025	Q2, 2025
Samsung 2619	Celsius Shipping	Samsung	180000	ME-GA	01/10/2025	Q4, 2025
Hyundai Ulsan 3356	Dynagas	Hyundai Heavy	200000	ME-GA	01/03/2025	Q1, 2025
Hyundai Ulsan 3357	Dynagas	Hyundai Heavy	200000	ME-GA	01/04/2025	Q2, 2025
Hyundai Ulsan 3358	Dynagas	Hyundai Heavy	200000	ME-GA	01/12/2025	Q4, 2025
Hyundai Samho 8179	Knutsen	Hyundai Samho	174000	ME-GA	01/03/2025	Q1, 2025
Hyundai Samho 8180	Knutsen	Hyundai Samho	174000	ME-GA	01/06/2025	Q2, 2025
Daewoo 2544	BWGas	DSME	174000	MEGI	01/11/2025	Q4, 2025
Daewoo 2545	BWGas	DSME	174000	MEGI	01/12/2025	Q4, 2025
Samsung 2635	TMS Cardiff Gas	Samsung	174000	ME-GA	01/09/2024	Q3, 2024
Samsung 2636	TMS Cardiff Gas	Samsung	174000	ME-GA	01/03/2026	Q1, 2026
Cosco 1	COSCO	Hudong-Zhonghua	174000		01/01/2026	Q1, 2026
Cosco 2	COSCO	Hudong-Zhonghua	174000		01/03/2026	Q1, 2026
Cosco 3	COSCO	Hudong-Zhonghua	174000		01/05/2026	Q2, 2026
Cosco 4	COSCO	Hudong-Zhonghua	174000		01/07/2026	Q3, 2026
Cosco 5	COSCO	Hudong-Zhonghua	174000		01/09/2026	Q3, 2026
Cosco 6	COSCO	Hudong-Zhonghua	174000		01/11/2026	Q4, 2026
MOL DSME 1	MOL	DSME	174000	ME-GA	01/11/2026	Q4, 2026
MOL DSME 2	MOL	DSME	174000	ME-GA	01/08/2026	Q3, 2026
Dalian No 1 G175k-1	China Merchant	Dalian Shipbuilding	175000	XDF	01/09/2025	Q3, 2025
Dalian No 1 G175k-2	China Merchant	Dalian Shipbuilding	175000	XDF	01/12/2025	Q4, 2025
Hyundai Samho 8181	Knutsen	Hyundai Samho	174000	ME-GA	01/12/2025	Q4, 2025
NYK Samho	NYK	Hyundai Samho	174000	XDF	30/11/2025	Q4, 2025
NYK CNOOC 1	NYK	Hudong-Zhonghua	174000		01/04/2027	Q2, 2027
NYK CNOOC 2	NYK	Hudong-Zhonghua	174000		01/03/2027	Q1, 2027
NYK CNOOC 3	NYK	Hudong-Zhonghua	174000		01/01/2027	Q1, 2027
NYK CNOOC 4	NYK	Hudong-Zhonghua	174000		01/02/2026	Q1, 2026
NYK CNOOC 5	NYK	Hudong-Zhonghua	174000		01/04/2026	Q2, 2026
NYK CNOOC 6	NYK	Hudong-Zhonghua	174000		01/06/2026	Q2, 2026
Jiangnan H2702	ADNOC	Jiangnan	175000	XDF	01/09/2025	Q3, 2025
Jiangnan H2703	ADNOC	Jiangnan	175000	XDF	01/01/2026	Q1, 2026
Jiangnan H2704	ADNOC	Jiangnan	175000	XDF	01/06/2026	Q2, 2026
Jiangnan H2705	ADNOC	Jiangnan	175000	XDF	01/09/2026	Q3, 2026
Samsung 2631	H-Line	Samsung	174000	ME-GA	01/07/2025	Q3, 2025
Samsung 2632	H-Line	Samsung	174000	ME-GA	01/12/2025	Q4, 2025
Samsung 2633	H-Line	Samsung	174000	ME-GA	01/01/2026	Q1, 2026

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 = 29th July 2022

Name	Owners	Yard	Capacity	Propulsion	Delivered	Delivery
Hyundai Ulsan 3370	SK Shipping	Hyundai Heavy	174000	ME-GA	01/02/2025	Q1, 2025
Hyundai Ulsan 3371	SK Shipping	Hyundai Heavy	174000	ME-GA	01/03/2025	Q1, 2025
Petronas SK Samho 1	SK Shipping	Hyundai Samho	174000	ME-GA	01/07/2025	Q3, 2025
Petronas SK Samho 2	SK Shipping	Hyundai Samho	174000	ME-GA	01/08/2025	Q3, 2025
Petronas K-line 1	K-Line	Hudong-Zhonghua	174000		01/10/2025	Q4, 2025
Petronas K-line 2	K-Line	Hudong-Zhonghua	174000		01/12/2025	Q4, 2025
Petronas K-line 3	K-Line	Hudong-Zhonghua	174000		01/02/2026	Q1, 2026
Petronas K-line 4	K-Line	Hudong-Zhonghua	174000		01/04/2026	Q2, 2026
Qatar HHI 3	Knutsen	Hyundai Heavy	174000	XDF	01/05/2025	Q2, 2025
Qatar HHI 4	Knutsen	Hyundai Heavy	174000	XDF	01/07/2025	Q3, 2025
Qatar HHI 5	Knutsen	Hyundai Heavy	174000	XDF	01/08/2025	Q3, 2025
Qatar HHI 6	Knutsen	Hyundai Heavy	174000	XDF	01/12/2025	Q4, 2025
Hyundai Samho 8196	Cool Co	Hyundai Samho	174000	ME-GA	01/02/2025	Q1, 2025
Hyundai Samho 8197	Cool Co	Hyundai Samho	174000	ME-GA	01/01/2025	Q1, 2025
Hyundai Ulsan 3380	Knutsen	Hyundai Heavy	174000	XDF	01/05/2025	Q2, 2025
Hyundai Ulsan 3381	Knutsen	Hyundai Heavy	174000	XDF	01/06/2025	Q2, 2025
Daewoo 2546	Pan Ocean, SK Shipping, DSME H-Line		174000	ME-GA	01/12/2024	Q4, 2024
Daewoo 2547	Pan Ocean, SK Shipping, DSME H-Line		174000	ME-GA	01/12/2024	Q4, 2024
Daewoo 2548	Pan Ocean, SK Shipping, DSME H-Line		174000	ME-GA	01/01/2025	Q1, 2025
Daewoo 2549	Pan Ocean, SK Shipping, DSME H-Line		174000	ME-GA	01/02/2025	Q1, 2025
Daewoo 2552	Maran Gas Maritime	DSME	174000	MEGI	01/03/2026	Q1, 2026
Daewoo 2553	Maran Gas Maritime	DSME	174000	MEGI	01/06/2026	Q2, 2026
Hyundai Samho 8198	Capital Gas	Hyundai Samho	174000	ME-GA	01/01/2026	Q1, 2026
Hyundai Samho 8199	Capital Gas	Hyundai Samho	174000	ME-GA	01/03/2026	Q1, 2026
Samsung 2634	JP Morgan	Samsung	174000	ME-GA	01/05/2025	Q2, 2025
Samsung 2637	JP Morgan	Samsung	174000	ME-GA	01/07/2025	Q3, 2025
Samsung 2638	JP Morgan	Samsung	174000	ME-GA	01/08/2025	Q3, 2025
Samsung 2641	JP Morgan	Samsung	174000	ME-GA	01/11/2025	Q4, 2025
Samsung 2642	JP Morgan	Samsung	174000	ME-GA	01/01/2026	Q1, 2026
Samsung 2643	JP Morgan	Samsung	174000	ME-GA	01/02/2026	Q1, 2026
Samsung 2644	JP Morgan	Samsung	174000	ME-GA	01/05/2026	Q2, 2026
Samsung 2645	JP Morgan	Samsung	174000	ME-GA	01/06/2026	Q2, 2026
Samsung 2646	JP Morgan	Samsung	174000	ME-GA	01/07/2026	Q3, 2026
Samsung 2647	JP Morgan	Samsung	174000	ME-GA	01/08/2026	Q3, 2026
K3 SHI 1	Pan Ocean, SK Shipping, Samsung H-Line		174000		01/03/2026	Q1, 2026
K3 SHI 2	Pan Ocean, SK Shipping, Samsung H-Line		174000		01/06/2026	Q2, 2026
Qatar SHI 11	JP Morgan	Samsung	174000	ME-GA	01/11/2024	Q4, 2024
Qatar SHI 12	JP Morgan	Samsung	174000	ME-GA	01/12/2024	Q4, 2024
Qatar Knutsen 10	Knutsen	Hyundai Heavy	174000	XDF	01/08/2026	Q3, 2026
Qatar Knutsen 7	Knutsen	Hyundai Heavy	174000	XDF	01/02/2026	Q1, 2026
Qatar Knutsen 8	Knutsen	Hyundai Heavy	174000	XDF	01/04/2026	Q2, 2026
Qatar Knutsen 9	Knutsen	Hyundai Heavy	174000	XDF	01/06/2026	Q2, 2026

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
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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	Anthony Veder
2010	Coral Fraseri	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
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	Akebono Maru	3,556	LNG	Japan	Yes	Chuo Kaiun
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	Coral Anthelia	6,500	LNG/Ethylene			Anthony Veder
2013	JX Energy TBN	2,500	LNG	Japan	Yes	JX Energy
2013	Kakuyu Maru	2,500	LNG	Japan	Yes	Tsurumi Sunmarine
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	LNG Barge TBN	3,000	LNG	US Coast	Yes	LNG America
2015	PetroChina TBN	30,000	LNG	China		PetroChina
2016	Hai Yang Shi You 301	30,000	LNG	Bali FSU	Yes	CETS (CNOOC)
2016	Clean Jacksonville	2,200	LNG	US Coast	Yes	CME
2016	JS Ineos Indepence	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Innvovation	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	LNG Prime	2,250	LNG	Northwest Europe	Yes	Veka Deen LNG
2017	Coralius	5,800	LNG	Northwest Europe/Baltics	Yes, for Skangas	Anthony Veder
2017	Coral EnergICE	18,000	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2017	Coral Encanto	30,000	LNG	China	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	Oizmendi	600	LNG	Spain	Yes	Itsas Gas
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	Green Zeebrugge	5,000	LNG	Northwest Europe	Yes	NYK
2017	New Frontier 1	6,500	LNG	Northwest Europe	Yes	Shell
2018	Kairos	7,500	LNG	Baltic	Yes	Bernhard Schulte
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

Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
2018	Bunker Breeze	1,200	LNG	Barcelona	Yes	Suardiaz Energy Shipping
2018	HUA XIANG 8	13,720	LNG	China	Yes	Zhejiang Huaxiang
2019	SM Jeju LNG1	7,500	LNG	Korea	Yes	Korea Line
2019	Gas Agility	18,600	LNG	NWE	Yes	MOL
2019	Flexfueller 001	1,480	LNG	Amsterdam	Yes	Titan LNG
2020	Avenir Advantage	7,500	LNG	Mediterranean	Yes	Avenir LNG
2020	Avenir Accolade	7,500	LNG	Mediterranean	Yes	Avenir LNG
2020	Avenir Aspiration	7,500	LNG		Yes	Avenir LNG
2020	Kaguya	3,500	LNG	Japan	Yes	CLS
2020	CNTIC VPOWER Global	28,000	LNG	Myanmar	Yes	Dalian Inteh Group
2020	Ecobunker Tokyo Bay	2,500	LMG	Japan	Yes	Ecobunkers
2020	Optimus	6,000	LNG	NWE	Yes	Elenger
2020	FueLNG Bellina	7,500	LNG	Singapore	Yes	FueLNG
2020	SM Jeju LNG2	7,500	LNG	Korea	Yes	Korea Line
2020	Q-LNG 4000	4,000	LNG	US Coast	Yes	Q-LNG Transport/Harvey Gulf
2020	Flexfueller 002	1,480	LNG	Antwerp	Yes	Titan LNG
2021	Xin Ao Pu Tuo Hao	8,500	LNG	China	Yes	ENN
2021	Avenir Ascension	7,500	LNG		Yes	Avenir LNG
2021	Hai Gang Wei Lai	20,000	LNG	China	Yes	SSES
2021	Bergen LNG	850	LNG	Norway	Yes	Bergen Tankers
2021	Dmitry Mendelev	5,800	LNG	Russia	Yes	Gazprom Neft
2021	JMU TBN	2,500	LNG	Japan	Yes	JMU
2021	Ravenna Knutsen	30,000	LNG	Mediterranean	Yes	Knutsen OAS
2021	Brassavola	12,000	LNG	Singapore	Yes	MOL
2021	Gas Vitality	18,600	LNG	Mediterranean	Yes	MOL
2021	TG TBN	500	LNG	Korea	Yes	Trans Gas
2021	Titan Hyperion	8,000	LNG	Benelux	Yes	Titan LNG
2022	Coral Nordic	30,000	LNG	Worldwide	Yes	Anthony Veder
2022	Avenir Achievement	20,000	LNG	Worldwide	Yes	Avenir LNG
2022	Haugesund Knutsen	5,000	LNG	Spain	Yes	Knutsen OAS
2022	Clean Cañaveral	5,400	LNG	USG	Yes	PNE
2022	K.Lotus	18,000	LNG	Korea	Yes	K Line
2023	Cryopeak TBA	4,000	LNG	West Canada	Yes	Cryopeak
2023	Knutsen TBN	12,500	LNG	Spain	Yes	Knutsen OAS
2023	SM Jeju LNG3	7,500	LNG	Korea	Yes	Korea Line
2023	Pan Ocean TBN	18,000	LNG	USG	Yes	Pan Ocean Co
2023	Krios	4,200	LNG	Benelux	Yes	Titan LNG
2023	Fratelli Cosulich TBN	8,000	LNG	Mediterranean	Yes	Fratelli Cosulich
2023	Kanfer TBN	6,000	LNG	Worldwide	Yes	Kanfer Shipping
2023	Kanfer TBN	6,000	LNG	Worldwide	Yes	Kanfer Shipping
2023	PNE TBN	5,500	LNG	USG	Yes	PNE
2024	Avenir TBN (option)	20,000	LNG	Worldwide	Yes	Avenir LNG
2024	Avenir TBN (option)	20,000	LNG	Worldwide	Yes	Avenir LNG
2024	TBN	30,000	LNG	Australia	Yes	Anthony Veder ?
2024	Crowley TBN	12,000	LNG	US Coast	Yes	Crowley Maritime
2024	CNOOC TBN	12,000	LNG	China	Yes	CNOOC
2024	TBN	12,500	LNG	Worldwide	Yes	???
2024	Keys TBN	3,500	LNG	Japan	Yes	Keys Bunkering West Japan Co
2024	Seaspan TBN 1	7,600	LNG	Canada	Yes	Seaspan ULC
2024	Fratelli Cosulich TBN	8,000	LNG	Mediterranean	Yes	Fratelli Cosulich
2025	Seaspan TBN 2	7,600	LNG	Canada	Yes	Seaspan ULC
2026	Avenir TBN (option)	20,000	LNG	Worldwide	Yes	Avenir LNG
2026	Avenir TBN (option)	20,000	LNG	Worldwide	Yes	Avenir LNG