

LNG Shipping News

AN LNG JOURNAL TITLE ON LNG CARRIERS

14 October 2021

Climate change discussions hot up

Climate change policies will continue to be an ever-growing topic of discussion in the oil & gas (O&G) industry over the next five to 10 years.

For example, US companies have already taken positive steps towards achieving a net-zero emissions goal.

Rinaldo Pereira, Business Fundamentals Analyst at GlobalData, commented: "When looking at key themes being discussed by O&G executives, 'Environment', 'Climate Change', 'Energy Transition' and 'Carbon Emissions' are all high up on the agenda."

According to GlobalData's report, most US independent companies have either acknowledged, implemented, or set specific targets and strategies to combat their emissions output by communicating their plans and initiatives to the public.

Other smaller independents who lack detail of specific targets or strategies tended to keep plans in-house.

Justin Allen, Upstream Analyst at GlobalData, added: "If the US is going to meet its target of net-zero by 2050, it will be crucial for the O&G industry to improve its emissions output over the next 20 to 30 years.

"While most companies have committed to becoming net-zero by at least 2050, issues remain, including flaring of natural gas, equipment malfunctions resulting in large oil spills, or natural gas leaks, and transport accidents," he said.

Illustrating the problem, Poten & Partners has estimated that a 175,000 cu m LNGC will emit 250,000 tonnes of CO₂ throughout its lifecycle.

One element, which is being increasingly mentioned in the LNG space, is carbon neutral cargoes.

Here, Poten estimated that over 1 mill tonnes of LNG had been traded with a carbon offset attached thus far but this is just a fraction of the amount of gas traded annually.

Most are single cargoes linked to long term contracts, as the pricing of the carbon neutral cargo becomes key.

S&P procedure

Currently, much time is being devoted to developing a separate product with a sale & purchase procedure that would satisfy internal approvals, Poten said.

At present, the cost per MMBtu varies, with most of this being shared between buyers and sellers.

For example, cargo offset deals from upstream to tank varies from 6 cents per MMBtu for offsets from renewable power to 13 cents per nature-based offsets.

For carbon neutral deals from upstream to end user, the cost varies between 27 cents per MMBtu to 50 cents for nature-based offsets.

In one transaction recorded by Poten, different shareholders from upstream to mid-stream, offset costs were shared between the upstream, the liquefaction interests and the buyers.

Sellers are trying to cut costs by opting for different de-carbonisation solutions, such as carbon capture and storage (CCS) and/or electric drives using onsite renewables, to reduce their carbon footprint.

Both Qatar Energy's North Field project and New Fortress Energy (NFE) have CCS built into their op-



Qatar Energy's Saad Sherida Saad Al Kaabi will add carbon capture and storage to Qatar's North Field development

erations, among others, while some West African projects are looking at renewable driven electric drives to power plants.

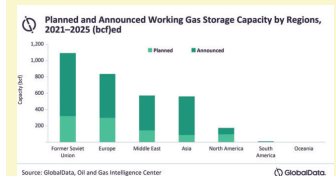
In Asia, buyers prefer supply tenders, while sellers would be competing on the best carbon offset solutions, as part of the future process, such as Pavilion Energy. Suppliers will have to bear the extra costs, especially in Asia/Pacific, Poten said.

One of the main questions is - how can the market evolve from one-off deals to mainstream transactions? At present there is very little transparency in pricing, as monitoring and verification prove difficult.

This could be long term problem, where there are 10-12 different offset solutions being looked at and there is no industry standard in place as yet, Poten warned.

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Russia steps on the gas

Russia plans to increase its LNG production to 140 mill tonnes annually by 2035.

This was revealed by President Putin who was speaking at a plenary session of the Russian-Kazakh transregional co-operation forum, which took place a couple of weeks ago.

Analytics research company GlobalData confirmed that the Former Soviet Union (FSU) is expected to lead the global planned and announced working gas capacity additions, contributing about 34% of the total capacity additions by 2025.

In a report, GlobalData said that the FSU is expected to see the highest capacity additions

globally from planned and announced projects during the review period 2021 to 2025 with 1.1 trill cu ft.

Bhargavi Gandham, GlobalData Oil and Gas Analyst, commented: "Russia and Uzbekistan primarily drive working gas capacity additions in the FSU by 2025. Both countries are building the underground gas storage sites to effectively meet domestic peak natural gas demand. The proposed projects also help them to increase gas exports, as well through pipelines."

Much of the increase will proba-

Planned and Announced Working Gas Storage Capacity by Regions, 2021–2025 (bcf)



Source: GlobalData, Oil and Gas Intelligence Center

GlobalData

bly be shipped via pipelines, which are due to expand with the recent completion of Nord Stream 2.

However, Russia is building a second series of Arc7s for the Arctic LNG 2 project and is to position two large FSU's at Murmansk and Kamchatka to tranship LNG to both European and the Asia/Pacific regions.

In the report, GlobalData also revealed that Europe was the second highest contributor to global working gas capacity additions, accounting for around 26% of the total by 2025.

The Middle East ranked third, contributing about 18% of global working gas capacity additions during the period.

More carbon neutral cargoes reported

PETRONAS LNG is to deliver three carbon neutral LNG cargoes to China's Shenergy Group

The cargoes will be loaded at PETRONAS LNG complex (PLC) at Bintulu, Sarawak and will be delivered to Shenergy's terminals in Shanghai between October, 2021 and March, 2022.

In August, PETRONAS shipped its first carbon neutral LNG cargo to Japan.

PETRONAS Vice President of LNG Marketing & Trading, Sham-sairi Ibrahim, commented; "PETRONAS is proud to elevate our 15-year partnership with Shenergy that now includes the supply of carbon neutral LNG, reflecting our commitment in offering de-carbonised LNG solutions to the market.

As an integrated energy player, PETRONAS actively seeks collaborations with buyers and end-users

to achieve common sustainability goals," he said.

Shenergy Vice President, Wang Zhehong, added, "As a long-term LNG partner and consumer, we are excited to receive PETRONAS' delivery of carbon neutral LNG to China that aligns with the country's ambition of hitting peak carbon dioxide emissions by 2030.

"This is a meaningful milestone for both our companies in our respective endeavours to be more environmentally conscious and reducing our carbon footprints," he said.

In addition, Russia's Sakhalin Energy said at the end of last month that it will deliver a carbon-neutral LNG cargo to Japan's Toho Gas this month.

They also announced plans

for a de-carbonisation strategic partnership.

This carbon neutral cargo will be delivered by Sovcomflot's LNGC 'Grand Aniva' to the Chita LNG terminal in Japan's Aichi prefecture.

Conventional cargoes

As for conventional cargoes, Bangladesh has reportedly bought two LNG cargoes for delivery this month at record high prices.

One cargo was purchased from trader Vitol for delivery in mid-October at \$35.89 per MMBtu and the other from Gunvor for late October delivery at \$36.95 per MMBtu, an official from state-run Petrobangla told newswires.

Shenzhen Gas has signed a 10-year LNG supply agreement with bp for 225,000 to 300,000 tonnes

per year.

The LNG will be purchased starting in January, 2023 and will run up to December, 2032.

The Chinese company reportedly said that it would pay the market prices, plus a service fee.

In another deal, Cheniere Marketing has signed an LNG sale and purchase agreement (SPA) with ENN LNG (Singapore).

Under the SPA, ENN LNG will buy around 0.9 mill tonnes per annum of LNG from Cheniere Marketing on a free-on-board (FOB) basis for about 13 years beginning in July, 2022.

The purchase price will be indexed to the Henry Hub price, plus a fixed liquefaction fee. Parent ENN Natural Gas is acting as guarantor for the SPA.

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China's future gas demand to increase

In the first half of this year, China's gas demand saw a 16% year-on-year increase.

This was led by strong power and industrial demand, Miaoru Huang, Wood Mackenzie's Research Director, APAC Gas & LNG, said.

Under performing hydropower in southwest China, tight coal supply coupled with high coal prices across the country, and high summer temperatures, all supported gas-fired power generation.

Export-led economic growth and domestic consumption recovery benefited overall energy demand, including natural gas.

So far, China's gas demand has exceeded expectations and it is now expected that its gas demand will increase by 13%, or 42 bill cu m, year-on-year in 2021.

Huang said that demand is expected to grow by 5.5% a year on average between 2020 and 2030. Post-2030, growth will decelerate but by 2050, China's gas demand could reach around 660 bill cu m.

To meet its rising demand, China has been boosting domestic production, de-bottlenecking infrastructure, diversifying import sources and introducing market-oriented reforms.

Gas storage facilities and flexible supply sources like LNG will be key for peak shaving. By 2050, RCH demand could account for 40% of total gas demand.

China has also been boosting its domestic production of natural gas to meet demand. In the long term, integrated renewables and storage projects will pose the ultimate

threat to gas power, Huang said.

The transport sector makes up the remaining segment, and its gas demand will mostly come from from LNG-fuelled heavy-duty trucks.

China's national oil companies (NOCs) have discovered 6.85 trillion cu m of natural gas resources in the past decade, some 45% of total incremental resources since the country was founded as it is today.

LNG imports

Growing gas demand will call on more imports to bridge the gap between demand and domestic production. The country is already the world's largest gas importer. In 2020, pipeline gas imports totalled 48 bill cu m, while LNG imports stood at 93 bill.

In the first half of this year, China overtook Japan as the world's largest LNG importer, and Huang expected China's full year LNG imports to also exceed that of Japan.

Despite higher flows of pipeline imports, LNG will be crucial to meeting China's gas ambitions. Until storage capacity develops sufficiently, LNG is more flexible than pipeline gas to counter demand and production uncertainty.

In southern China, which is far away from onshore gas-producing basins, LNG will serve both base and peak demand. In northern China, LNG will remain an impor-



Wood Mackenzie's Shanghai-based Miaoru Huang

tant peaking source. Huang forecast that LNG demand will increase from 67 mill tonnes in 2020 to 112 mill by 2030 in the base case.

China has pledged to reach carbon neutrality by 2060. To achieve that ambition requires a tectonic shift in its energy mix, technology and metals supply chains.

In the net zero scenario, all hydrocarbons would need to be reduced. Yet, Huang said that the consultancy saw gas demand being more resilient than coal and oil demand.

Before 2030, gas demand growth will be largely intact compared with the base case. Post-2030, gas demand is expected to plateau and a gradual decline begins.

Nevertheless, gas demand in 2050 will be higher than current levels, especially as gas can contribute to China's transition to net zero in hard-to-de-carbonise sectors and through the form of blue hydrogen, she concluded. ■

Sinopec to build third receiving terminal

China's Sinopec Corp has won state approval for a third major gas receiving terminal.

The company has also promised to boost winter LNG supplies, as power shortages cripples industrial activity in parts of the country.

Sinopec also said it planned to import 24.2 bill cu m of LNG this winter and operate its existing terminals at full capacity, according to newswires.

Chinese state approval was given to the planned 6 mill tonnes per year LNG terminal to be built in Longkou in eastern China's Shandong province.

This will add to Sinopec's two current terminals, in Qingdao and Tianjin, each capable of also receiving 6 mill tonnes of LNG per year.

Longkou's terminal will include a berth for handling vessels of up to Q-Max size and four storage tanks, each with a capacity of 220,000 cu m.

The company is also adding a Q-Max-sized berth at its Tianjin terminal, which should be completed next month.

With imports totalling 51.8 mill tonnes in the first eight months of this year, China has overtaken Japan as the world's largest LNG importer earlier than expected, Reuters said in a comment. ■

NEWS NUDGE

Qatar Energy replaces Qatar Petroleum

Earlier this week, it was announced that Qatar Petroleum had changed its name to Qatar Energy.

The company said that the change was made to better signal a new strategy that focuses on energy efficiency and environmentally-friendly technology, such as capturing

and storing CO₂.

"It's more of a reflection of what we're actually doing that wasn't reflected by the name that we had," said CEO, President and Qatar's Minister for Energy, Saad al-Kaabi.

He confirmed that natural gas would remain part of the energy mix and would be needed for the next few decades.

Kaabi also said that Qatar En-

ergy wanted to be more efficient in its own energy use.

Rostock LNG cancelled

Belgium's Fluxys and Russia's NOVATEK have cancelled plans to build a mid-scale LNG transhipment terminal at Rostock, Germany, citing current market conditions.

According to newswires, plans were announced in 2018 to de-

velop Rostock LNG, after signing a land-lease agreement with Rostock port.

The terminal was to have a capacity of around 300,000 tonnes per year. LNGCs would deliver the gas from NOVATEK's Cryogas-Vysotsk liquefaction facility at Vysotsk near St. Petersburg. An option was included for bunkering and the loading of bunker vessels. ■



Power Play AWARDS

Presented by ExxonMobil

Congratulations to the 2021 Power Play Award Winners!

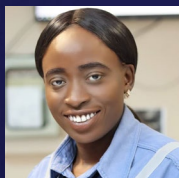
At ExxonMobil LNG, we salute the winners of the 2021 Power Play Awards. With the third annual Power Play Awards, we continued to celebrate the achievements of remarkable professionals in the LNG industry from around the globe.

This year, the Power Play Awards celebrated professionals in four categories: The Rising Star, The Ambassador, The Pioneer and the Conqueror. The four winners exemplified and exceeded all the characteristics sought after for their respective award categories.

The 2021 Power Play Awards winners are:

THE RISING STAR

Presented to an outstanding female professional, age 35 or younger



Dr. Tolulope Ijirona

Instrumentation Engineer at Nigeria LNG Limited, Nigeria

THE AMBASSADOR

Given to a professional who displays positive energy and collaborative leadership while inspiring those around them

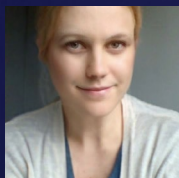


Candace Jimerson

Senior Director of Commercial LNG Operations at Golden Pass LNG, United States

THE PIONEER

Awarded to a professional who has delivered outstanding business results or innovation and technology leadership



Sandra Antonovic

Chief Operating Officer at Reflex Marine Ltd, United Kingdom

THE CONQUEROR

Recognized a female professional who has overcome challenges in the workplace, particularly in light of the 2020 pandemic



Hilary Ware

Senior Vice President, Chief Human Resources Officer at Cheniere, United States

Congratulations to these four deserving Power Play Award winners and to everyone nominated in this year's event! Each of your stories was impressive and inspiring.

Learn more about the Power Play Awards at [exxonmobilng.com/Power-Play/Power-Play-Awards](https://www.exxonmobilng.com/Power-Play/Power-Play-Awards)

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ExxonMobil | LNG

Teekay LNG succumbs to private investment giant

Teekay LNG is set to be taken over by a large US-based investment vehicle.

The partnership has signed an agreement and plan of merger with investment company Stonepeak

Under the agreement, investment vehicles managed by Stonepeak will acquire -

(a) All the issued and outstanding common units representing limited partner units in Teekay LNG, including around 36 mill common units owned by Teekay Corp.

(b) 100% of Teekay's ownership in Teekay LNG's general partner, Teekay GP, which includes an economic ownership interest equivalent to about 1.6 mill Teekay LNG common units, for \$17 per common unit or common unit equivalent

in cash, representing an enterprise value of \$6.2 bill, including consolidated and proportionate joint venture net debt, and \$1.5 bill in common unit equity value.

A \$17 per unit acquisition price represents a premium of 8.3% to the closing price of Teekay LNG's common units on 1st October, 2021 and premiums of 12.3% and 17.5% to the volume-weighted average price of Teekay LNG's common units over the last 60 and 180 days, respectively, the LNGC owner and operator claimed.

Review undertaken

This merger is the result of a review by Teekay GP's Board of strategic alternatives available to Teekay LNG.

In considering its recommendation to merge, Teekay's Conflicts Committee was advised by Houlihan Lokey Capital. Subsequently, the Board unanimously approved the transaction and recommended that all Teekay LNG's common unitholders vote in favour of the merger agreement on the terms presented.

"This is a transformative transaction for Teekay LNG that will enable

existing unitholders to realise an attractive valuation and immediate liquidity on closing," explained Mark Kremin, Teekay Gas Corp President and CEO.

"Under Stonepeak's ownership, we expect Teekay LNG to have improved access to competitively priced capital for both fleet renewal and potential future growth in the next phase of our development, which has not been available through the public equity capital markets for many years," he said.

"Stonepeak has long recognised the growing global demand for LNG and importance of natural gas as a bridge fuel, particularly as the world continues to shift toward cleaner sources of energy," added James Wyper, Stonepeak's Senior Managing Director.

"Through this transaction, we have an exciting opportunity to invest in a critical energy transition infrastructure business in the form of Teekay LNG's high-quality, modern fleet of vessels and stable long-term customer contracts.

"Since the initial public offering in 2005, Teekay has built Teekay LNG into the world's third largest independent LNG carrier owner and operator, with one of

the biggest and most diversified portfolios of long-term contracts with leading players in the LNG industry," commented Kenneth Hvid, Teekay's President and CEO. "We believe this transaction represents a unique opportunity to monetise our position in Teekay LNG while realising an attractive return on investment for Teekay and for Teekay LNG common unitholders."

The transaction is targeted to close by the end of this year.

As part of the deal, Teekay will transfer to Teekay LNG the ownership of the management services companies that currently deliver the operations for the gas carrier owner and certain of its joint ventures under existing management services contracts.

Morgan Stanley & Co is serving as financial advisor and Squire Patton Boggs (US) and Perkins Coie are serving as legal advisors to Teekay LNG. Houlihan Lokey Capital is serving as financial advisor and Potter Anderson & Corroon is acting as legal advisor to the Conflicts Committee.

As for Stonepeak, DNB Markets is serving as financial advisor and Simpson Thacher is serving as legal advisor. ■



Kremin is overseeing Teekay LNG's merger with Stonepeak

'Marshal Vasilevskiy' completes first Sabetta loading

On 23 September, the Sovcomflot (SCF) managed Arc4 LNGC/FSRU 'Marshal Vasilevskiy', loaded a cargo of Yamal LNG and transited the Northern Sea Route (NSR).

Cargo loading operations lasted for 13 hours 40 minutes, SCF said.

On her way to Sabetta, the ship successfully crossed the Eastern segment of the Arctic without ice-breaker support, from the Bering Strait to Sabetta in 10 days.

While navigating the NSR, the 174,000 cu m 'Marshal Vasilevskiy' slow steamed with an average speed of 10 knots. The NSR air temperature was between -3 and +5 deg C, with persistent fog and snow squalls seen at times.

The ship's Master, Sergey

Larchenko, said: "Our first passage along the Northern Sea Route passed safely under favourable weather conditions.

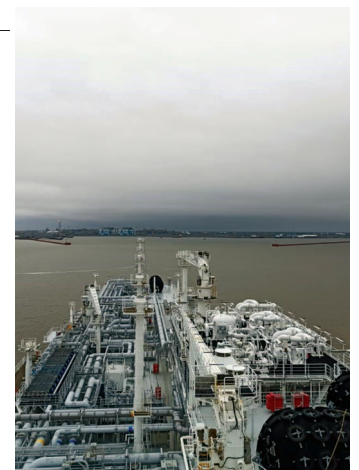
"Most of the time we navigated in clear water, in the East Siberian Sea there was small-sized one-year ice of 1-3 points, mainly 40-70 cm thick. There were separate ice floes up to 150 cm thick, which did not hinder navigation.

"The port call at Sabetta and cargo operations were undertaken in the normal way. Navigating in ice conditions, of course, would

have been more complicated. Having left Sabetta, we proceeded to India along the Northern Sea Route," he explained.

During the NSR transit, the watch was reinforced with Ice Advisor, Capt Stanislav Chichin, who has had many years of experience gained on board Arctic shuttle tankers serving the Varandey and Prirazlomnoye projects.

'Marshal Vasilevskiy' was built as an FSRU but is able to operate in unlimited navigational areas as an LNGC. ■



Marshal Vasilevskiy has loaded a cargo at Sabetta

Støhle to quit Höegh

On 9th October, 2021, Höegh LNG group President & CEO, Sveinung Støhle is to resign from the company in order to pursue an alternative career opportunity based outside Norway, believed to be with the Angelicoussis Group.

Støhle will remain in his position until 1st November, 2021.

The Board has started the process to find his successor and has appointed Thor Jørgen Guttormsen as interim President & CEO from the beginning of November.

Meanwhile, Höegh LNG Partners has agreed with its lenders to defer the maturity date of the commercial tranche of its 'PGN FSRU Lampung' debt facility.

This will give it more time to conclude a refinancing package, the company explained.

The lenders have agreed to defer the maturity date to 14th January, 2022 from 29th September, 2021.

Subject to commitment letters and a term sheet for a refinancing of the commercial tranche being in place by 29th December, 2021, the maturity date will automatically be further deferred to 29th

March, 2022.

The commercial tranche will continue to be amortised at its current rate and there will be a gradual step-up in the interest margin with up to 235 basis points increase.

No dividends

As a condition for the deferred maturity date, no shareholder loans may be repaid and no dividends may be paid to the Partnership by the subsidiary borrowing under the Lampung Facility, PT Hoegh LNG Lampung.

And as a result, no cash flow from the 'PGN FSRU Lampung' will be available for the Partnership prior to the deferred maturity date. However, this limitation does not prohibit the Partnership from paying the current distributions to preferred and common unitholders, the company said.

The export credit tranche of the Lampung facility matures in 2026, but may be called if the commercial tranche is not refinanced at its maturity date and in accordance with its terms. This clause continues to apply for the deferred maturity date.

The Partnership said that it was considering various options and expects that the terms of any refinancing are likely to be less favourable than the terms of the existing facility and the refinancing that was originally agreed and may potentially be dilutive to unitholders, depending on the refinancing structure that will be adopted.

Despite the previously announced notice of arbitration served by the charterer on 2nd August, 2021, both parties have continued to perform their respective obligations under the lease and



Sveinung Støhle is off to pastures new

maintenance agreement for the FSRU.

In the event that the Partnership is unable to refinance the Lampung facility, or if the outcome of the dispute is unfavourable, it could have a material adverse impact on its business, results of operations, financial condition and ability to pay distributions to unitholders, Höegh warned. ■

Uniper supports LNG Gate terminal expansion

As part of a co-operation agreement with Uniper, Rotterdam's Gate terminal plans to invest in a further capacity expansion of 1 bill cu m per year.

Recently, the Maasvlakte-based LNG import terminal announced a capacity increase of 0.5 bill cu m per year.

This will bring the total capacity to an annual 13.5 bill cu m, with the additional exit capacity available from 1st October, 2024.

Andreas Gemballa, Uniper's Director LNG, commented: "At Uniper, we strive to be the globally trusted partner for reliable and flexible LNG solutions, leveraging on our experience, relationships and our strong asset base in the Atlantic Basin.

"LNG Trading activities have grown significantly from less than 30 cargoes in 2016 to more than 300 to date this year. 80% of our cargoes have been traded in the Pacific Basin. Our portfolio emphasises flexibility, which is diver-



Sovcomflot's 'SCF La Perouse' seen at Gate

sified across all dimensions, including pricing indices, incoterms and geography.

"Come October, 2024, Uniper will be the biggest capacity holder

at Gate terminal with a capacity of 4 bill cu m under a long-term contract," he said.

The expansion of its regas capacity at Gate mirrors the growth

of Uniper's LNG portfolio on the commodity side, as well as the expansions of the LNG shipping portfolio, the company said.

Currently Uniper has seven LNGCs either under long or mid-term charters. Gate is of growing importance to the company as a small scale LNG hub with 3 TWh/a expected to be loaded onto trucks and barges by the end of this year.

"Over the 10 years of operations, we have established a strong relationship with Uniper. We take it as a vote of confidence that Uniper has committed to additional capacity. We look very much forward to our continued co-operation, exploring together how we can continue to serve our customers best into the future," said Wim Groenendijk, Gate Terminal Managing Director. ■

Golar raises more money

Golar LNG Limited has placed \$300 mill in senior unsecured bonds in the Nordic bond market.

The bonds will mature in October, 2025 and bear interest at 7% per annum.

Net proceeds from the issue will be go towards the refinancing of the company's outstanding convertible bonds maturing in February, 2022 and general corporate purposes, Golar said.

An application will be made for the bonds to be listed on the Oslo Stock Exchange.

DNB Markets and Pareto Securities acted as Global Co-ordinators and Danske Bank and Nordea Bank as Joint Lead Managers for the bond issue.

Golar LNG also announced agreed term sheets for two new bank finance facilities:

(1) A three-year revolving credit facility (RCF) of up to \$200 mill secured against the com-

pany's shareholding in New Fortress Energy (NFE) at an interest rate of L+300 bps. The RCF will replace the existing \$100 mill bilateral facility maturing in December carrying a current interest rate of L+450 bps.

(2) A five-year refinancing facility for the FSRU 'Golar Tundra' of up to \$182 mill at an interest rate of L+300 bps. The new agreement will replace the current \$104.4 mill facility that matures in June, 2022 and carries interest at L+385 bps.

Both of the bank facilities are with existing relationship banks and subject to final documentation.

Golar has also agreed hedge swap arrangements for part of its TTF price exposure for the FLNG 'Hilli Episeyo's' incremental 0.2 mill tonnes per annum Train 3 pro-

duction for 1Q22 at a TTF price of \$28 per MMBtu.

With TTF gas prices averaging \$28 per MMBtu during 1Q22, the additional capacity utilisation is expected to realise \$21.2 mill net income for the quarter.

The company is also benefiting from increased net income from

the Brent link component of Trains 1 and 2 production. Golar's realised share increases by \$2.7 mill for every \$1 per barrel that Brent is above \$60.

Golar has also recently secured a 12-month fixed timecharter for one of its LNGCs, which will generate around \$36.5 mill of revenue. ■

GasLog refinances senior notes

GasLog Ltd has entered into a note purchase agreement with The Carlyle Group and EIG for a total of up to \$325 mill of 7.75% notes, due 2029.

Carlyle's Global Credit platform made the investment with capital primarily from its Infrastructure Credit fund, while EIG made the investment through Global Project Fund V, plus other funds and accounts in EIG's di-

rect lending platform.

GasLog said that it anticipated drawing down the facility in March, 2022 with the proceeds being used to refinance the company's 8.875% senior notes, due that month.

Any remaining proceeds may be used to pay transaction costs and expenses incurred in connection with the private placement and/or general corporate purposes, the company said. ■

NEWS NUDGE

Malaysian FLNG milestone

PETRONAS has claimed another milestone in its FLNG operations with the delivery of its 50th LNG cargo from the 'PFLNG Satu'.

This cargo was loaded on 25th September, 2021 onto MISC's LNGC 'Seri Cemara' for shipment to Taiwan.

The first FLNG cargo was produced from the Kanowit gas field, offshore Sarawak, in 2017.

'PFLNG Satu' was the first of PETRONAS' two FLNGs and is also the world's first unit to produce LNG from two remote gas fields when she was relocated from Kanowit to its current location at the Kebabangan gas field, offshore Sabah, in 2019.

'PFLNG Satu' is designed to operate at water depths of up to 200 m with a production capacity of 1.2 mill tonnes of LNG per annum.

LNG Croatia undergoing maintenance

The LNG Croatia facility is currently undergoing its annual maintenance period.

Work started on 1st October, 2021 and was scheduled to last for 14 days.

During this period, the jetty and regasification services from the FSRU, will be closed.

According to the plan, the terminal's maintenance work should be finished and regular operations restarted on 15th October, 2021 at 6:00 am local time, the company said.

Tellurian ties down senior execs

On 1st October, 2021, Tellurian agreed with Executive Chairman, Charif Souki, that his initial three-year term will automatically renew for an additional 12 months.

He will receive an annual base salary of \$1.2 mill, which is consistent with the level of Souki's cash compensation for fiscal year 2021, Tellurian said in a stock exchange filing.

In addition, a discretionary annual cash bonus target of 150% of his annual base salary, subject to a cap of 300%, was agreed.

In addition, Tellurian signed another employment agreement with President and CEO, Octávio

Simões.

This agreement has an initial term through 5th June, 2024 and will automatically renew for an additional 12-month term at the end of the initial CEO term and each subsequent one-year anniversary thereafter.

He will receive an annual base salary of \$725,000 and a discretionary annual cash bonus target of 125%, subject to a cap of 218.75%.

Ust-Luga plans third production train

A number of contracts for the gas processing complex (GPC) construction project, near Ust-Luga, were signed at the St. Petersburg International Gas Forum 2021.

A license agreement was signed, ensuring the provision of rights to use Gazprom's and Linde's natural gas liquefaction technology, to the GPC operator - RusKhimAlyans (a joint venture of Gazprom and RusGazDobycha).

The technology is patented in Russia, with Gazprom and Linde being the patent holders.

Gazprom, Linde, and RusKhimAlyans also signed a Memorandum

of Intent to assess the building a third production train at the LNG production plant, as part of the GPC.

GTT wins more orders

GTT has announced that it had won another five orders for its tank containment systems designs.

In the third quarter of this year, GTT received an order from Samsung Heavy Industries (SHI) to design the tanks of four new 174,000 cu m LNGCs ordered by an Asian shipowner.

Each of the LNGC's tanks will be fitted with a GTT Mark III Flex membrane containment system.

Deliveries of the vessels are scheduled for the first quarter of 2024.

GTT received another order from Daewoo Shipbuilding & Marine Engineering (DSME) for the tank design and associated engineering services for a 174,000 cu m vessel being built for Hyundai LNG Shipping.

She is also to be delivered in the first half of 2024.

The tanks will comprise a GTT NO96 GW membrane containment system. ■



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Stena moves towards LNG storage and logistics

Stena AB subsidiary, Stena Power and LNG Solutions, has partnered with Global Energy Storage (GES), a developer and operator of energy storage terminals.

This partnership was formed to identify and develop LNG logistics and storage solutions, Stena said.

Together, the two companies can offer the full range of LNG terminal and logistics from FSRUs to onshore terminals and fixed jetty solutions.

In addition, Stena owns three LNGCs which it can deploy as FSRUs or floating storage units, possibly together with jettyless and/or offshore power solutions that do not require onshore facilities.

GES said that LNG is seen as a vital tool in enabling developing economies and emerging markets

to switch from traditional sources of energy to lower carbon sources. These economies, such as those in Southeast Asia and Latin America, continue to have a strong demand for gas and power.

Peter Vucins, GES CEO, said: "This is an exciting and important partnership for GES. We regard LNG as an important transition fuel, especially in emerging markets where there is a strong demand for gas and power and a structural need to switch from coal to lower carbon solutions such as LNG.

"We are also interested in exploring opportunities with regard

to blue hydrogen production where LNG is combined with carbon capture to make low carbon hydrogen. The possibility to deploy existing LNG carriers with onshore terminal solutions means that we can move quickly to provide our customers with a full range of solutions," he said.

Göran Hermansson, Stena Power and LNG Solutions Chairman, added: "At Stena we offer wide-ranging, integrated LNG solutions that provide operational and commercial advantage with increased safety. Our work is underpinned by our values of care, performance and innovation.

"By working with Global Energy Storage, we can share our wide-ranging, industry-specific knowledge to better achieve our mutual objective of delivering more sustainable energy infrastructure solutions to communities across the world," he said.

Model testing

In addition, the Stena company has announced that it has completed model testing of the LNG receiving terminal technology for

Vietnam's Delta Offshore Energy (DOE) project.

Scale model testing of the Jettyless Floating Terminal (JFT), the Self-installing Regas Platform (SRP), the Floating Storage Unit (FSU) and an LNGC, was undertaken at the Maritime Research Institute Netherlands (MARIN).

Tests were carried out to verify and calibrate Stena's computer simulations and research, ahead of their construction and deployment off Bac Lieu Province.

Large scale models, of up to 10 m in length, were modelled to a scale of 1:30 to obtain the highest possible accuracy test results.

A number of different tests were performed by both Stena and MARIN engineers to simulate critical wave, wind and current conditions specific to the local Vietnamese area, including 100-year cyclonic and monsoon events.

Bureau Veritas (BV) recently issued an Approval in Principle (AiP) for the complete LNG receiving facilities developed by Stena for the DOE project. A similar AiP was issued by DNV for the Jettyless Floating Terminal. ■



Stena's three LNGCs can be used as FSRUs

High-pressure compressor reaches operational milestone

A Burckhardt Compression Laby®-GI compressor type LP250, fitted on board a 174,000 cu m LNGC, has reached 10,000 hours of uninterrupted operation.

With this technology, the company claimed to be the only manufacturer able to compress gas to 300 bar in a large, ring-sealed compressor system, without cylinder lubrication.

It was also claimed to be the world's first oil-free reciprocating high-pressure fuel gas compressor in service.

Laby®-GI fuel gas compressor systems play an important role on LNGCs, the company said. As the LNG warms up during storage and transportation, the evaporated boil-off gas (BOG) must be economically managed by either using it as fuel or re-liquefying it.

Both, dual fuel engines, as well as re-liquefaction plants, require a certain operating pressure, ranging up to 300 bar. As a result, Burckhardt Compression's LNG solutions have been specifically designed to handle gases at low temperatures and high pressures, while meeting the requirements for operation at sea.

The 5-stage fuel gas compressor system is designed to manage the vessel's BOG having a flow of up to 4,700 kg/h. In addition, dry-running sealing technology saves significant expenditure for cylinder lubrication and filter maintenance.

High-pressure reliquefaction

system performance is improved, due to the absence of fouling caused by small traces of residual oil carried within the gas. The oil-free gas compression completely removes the need for oil separation and gas filtration technology and guarantees the cleanliness of the heat exchanger in the high-pressure reliquefaction system, the company said.

In addition, maintenance intervals for the oil-free high-pressure sealing technology has been confirmed as high as 8,000 operating hours.

The compressor combines cryogenic, low-pressure labyrinth pis-

ton design and ring-sealed high-pressure technology on a single compressor frame. This allows simultaneous fuel gas supply to low-pressure 4-stroke auxiliary engines and high-pressure gas supply to the 2-stroke main engines, plus a dedicated high-pressure re-liquefaction system.

All of the compressors are of gas-tight design and no gas emissions are discharged to the atmosphere. The sealed design of the compressor helps to prevent significant greenhouse gas emissions by recycling all internal leakages without the need for any further purge gas utilisation. ■

Barge type FSRU receives AiPs

Approval in Principles (AiP) have been awarded for a 40,000 cu m barge type FSRU designed in South Korea.

Hyundai Mipo Dockyard (HMD) and Korea Shipbuilding & Marine Engineering (KSOE) have received AiPs from class society DNV and the Liberian International Ship & Corporate Registry (LISCR) for the FSRU design.

The AiP is the result of a joint research project by HMD, KSOE, LISCR and DNV to develop a barge-type LNG FSRU.

Operated in tandem with a large-size FSU and a shuttle LNGC, the newly designed 40,000 cu m unit would be suitable to serve mid-to-small-sized LNG projects as an economical alternative to

large-size FSRUs.

The concept features an IMO type-C cargo containment system, while its cargo handling equipment would enable simultaneous loading and unloading of LNG cargoes with the FSU and LNGC.

"This solution optimises the efficiency of FSRU operations in mid-and-small-sized LNG projects, such as import terminals. The development of the 40K platform expands our portfolio and thus strengthens HMD's position in the growing LNG market," said Young Jun Nam, HMD's CTO.

"The Liberian Registry is proud

to contribute with the Approval in Principle for this 40K LNG FSRU design that supports our joint pursuit to reduce GHG emissions both at sea and ashore," added Thomas Klenum, Senior Vice President of Maritime Operations for the Liberian Registry. "It was a great pleasure to work on this project in close collaboration with other high quality and innovative stakeholders, such as HMD, KSOE and DNV."

"DNV is delighted to support HMD and KSOE in providing innovative solutions to the market, to enable greater de-carbonisation and help propel the world towards

lower carbon energy sources," Vidar Dolonen, DNV Maritime's Regional Manager Korea & Japan, commented. "An AiP can be an essential part of building market confidence in new designs, by demonstrating that it is grounded on the solid fundamentals of classification rules. We look forward to continuing to help this project develop by utilising our expertise in maritime LNG."

An AiP demonstrates there are no major technical hitches to realise a vessel's design. It is carried out at an early stage of a concept development to confirm its feasibility. ■

NEWS NUDGE

Ships - order, deliveries and charters

There have been a couple of series LNGC orders reported in recent weeks.

For example, Sovcomflot (SCF), through a joint venture with NYK, has signed long-term timecharter contracts with NOVATEK Gas and Power Asia for four 174,000 cu m LNGCs.

The new gas carriers will load cargoes produced by NOVATEK's Arctic projects at the two FSU's to be located near Murmansk in the west and Kamchatka at the eastern end of the Northern Sea Route, to provide LNG shipments to European and Asian buyers, as well as for regular trade operations in the global market.

SCF and NYK, through a 50:50 joint venture, were selected to order the vessels from Samsung Heavy Industries (SHI), plus two options, following a tender pro-

cess launched earlier this year.

Deliveries are expected in 2023/2024.

Each vessel will be built to Ice Class 1A and fitted with a low-speed WinGD designed X-DF dual-fuel diesel engine, able to operate on boil-off gas (BOG) stored in the cargo tank.

They will also be equipped with a membrane-type tank with GTT's Mark III Flex design cargo containment system, which has insulating materials to suppress the boil-off rate up to 0.085% per day and minimise cargo losses during transportation.

A re-liquefaction unit installed on board each ship will return the gas to the cargo tank and a shaft generator system will also be fitted.

Meanwhile, the long awaited Qatar Petroleum (QP), recently renamed Qatar Energy, ordering spree has started.

The company has confirmed that it has signed a contract with Hudong-Zhonghua for four LNGCs

for a total cost of around \$770 mill.

This represents the first orders in a large newbuilding programme announced last year to load gas from the giant North Field project. They will also act as fleet replacements, QP said.

It also represents the first orders that QP has placed with Hudong, following a slot reservation agreement signed in April, 2020.

Elsewhere, Celsius Shipping was thought to have ordered another 170,520 cu m LNGC at Samsung for the equivalent of \$192.3 mill.

She will be delivered in 2024.

As for deliveries, Capital Gas Ship Management Corp has received the newbuilding LNGC 'Asklipios' from Hyundai Heavy Industries.

With cargo capacity of 174,000 cu m, the vessel is propelled by XDF engines and equipped with an air lubrication system and increased filling limits (excess 99%).

She is the sixth of nine vessels ordered by Capital to be delivered between 2020 and 2023.

'Asklipios' has been chartered to

Cheniere for up to six years.

In addition, the 174,000 cu m 'LNG Enterprise' has been handed over to France LNG Shipping, jointly owned by NYK and Geogas LNG, by Samsung Heavy Industries.

She will operate under a long-term charter contract with Total-Energies Gas & Power.

This LNGC is also fitted with a WinGD X-DF diesel engine that can operate on fuel oil or boil-off gas (BOG) stored in its cargo tank.

CSSC Shipping is about to take delivery of the second LNGC in a series being built at Hudong-Zhonghua.

The 'Gui Ying' will join the first in the series, 'Mu Lan', which was delivered in August.

Singapore registered 'Gui Ying' has been chartered by Gunvor, according to local Chinese newswires.

Brokers have reported that the 2003-built 138,000 cu m 'Merchant', ex 'British Merchant', has been chartered to New Fortress Energy for 12 months for \$50,000 per day.

Monthly Large LNGC Values*

Newbuildings (174,000 cu m)	\$192.53 mill
Five years old (160,000 cu m)	\$146.76 mill
Total Fleet (529 ships)	\$61.04 bill
Orderbook (144 ships)	\$29.12 bill

Source: VesselsValue (23/09/21)

*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	\$130,000	+\$68,000
West of Suez	\$130,000	+\$50,000
12 mos T/C	\$93,000	-

*Since last report (30/09/21)

Source: Fearnleys (13/10/21)

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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 Innvation	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Inspiration	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	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

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 = 1st September 2021

Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
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	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	ENN TBN	8,500	LNG	China	Yes	ENN
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	Avenir Ascension	7,500	LNG		Yes	Avenir LNG
2021	Avenir Allegiance	20,000	LNG	Worldwide	Yes	Avenir LNG
2021	Bergen LNG	850	LNG	Norway	Yes	Bergen Tankers
2021	Dmitry Mendeleev	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	PE TBN	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	Veder TBN	30,000	LNG	Worldwide	Yes	Anthony Veder
2022	Avenir Achievement	20,000	LNG	Worldwide	Yes	Avenir LNG
2022	Knutsen TBN	5,000	LNG	Spain	Yes	Knutsen OAS
2022	Clean Cañaveral	5,400	LNG	USG	Yes	PNE
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	K Line TBN	18,000	LNG	Korea	Yes	K Line
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 ?
2026	Avenir TBN (option)	20,000	LNG	Worldwide	Yes	Avenir LNG
2026	Avenir TBN (option)	20,000	LNG	Worldwide	Yes	Avenir LNG

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

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** = project shelved † = Data to be verified Data last updated = 1st September 2021

WORLD LNG CARRIER ORDERBOOK

Name	Containment system	Propulsion	Yard	Delivery date	Capacity	Primary Owner
Energy Intelligence	GTT 96 GW	MEGI	DSME	01/06/2021	174000	Alpha Gas
Minerva Limnos	GTT 96 GW	MEGI	DSME	01/06/2021	173400	Minerva Marine
Mu Lan	GTT 96 L03+	XDF	Hudong-Zhonghua	01/06/2021	174000	CSSC
Yiannis	GTT 96 GW	MEGI	DSME	01/06/2021	174000	Maran Gas Maritime
Maran Gas Isabella	GTT 96 GW	XDF	DSME	01/07/2021	174000	Maran Gas Maritime
Minerva Chios	GTT MK III Flex+	XDF	Samsung	01/07/2021	174000	Minerva Marine
Mol Hestia	Unknown	MEGI	DSME	01/07/2021	174000	MOL
Adamastos	GTT MK III Flex	XDF	Hyundai	01/08/2021	174000	Capital Gas
Attalos	GTT MK III Flex	XDF	Hyundai	01/08/2021	174000	Capital Gas
Celsius Carolina	Unknown	XDF	Samsung	01/08/2021	180000	Celsius Shipping
Gaslog Winchester	GTT MK III Flex+	XDF	Samsung	01/08/2021	180000	GasLog
Asklipios	GTT MK III Flex	XDF	Hyundai	01/09/2021	174000	Capital Gas
Diamond Gas Victoria	GTT MK III Flex	XDF	Hyundai	01/09/2021	174000	NYK
Global Sea Spirit	GTT 96 GW	XDF	DSME	01/09/2021	173400	Nakilat
Hellas Athina	GTT MK III Flex	XDF	Hyundai	01/09/2021	174000	Latsco Shipping
Lng Enterprise	GTT MK III Flex	XDF	Samsung	01/09/2021	174000	NYK
Maran Gas Kalymnos	GTT 96	XDF	DSME	01/09/2021	174000	Maran Gas Maritime
Hyundai Ulsan 2939	GTT MK III Flex	XDF	Hyundai	01/10/2021	180000	SK Shipping
Lng Endeavour	GTT MK III Flex	XDF	Samsung	01/10/2021	174000	NYK
Maran Gas Ithaca	GTT 96 GW	XDF	DSME	01/10/2021	174000	Maran Gas Maritime
Daewoo 2506	GTT 96	MEGI	DSME	01/11/2021	174000	Maran Gas Maritime
Global Sealine	GTT 96 GW	XDF	DSME	01/12/2021	173400	Nakilat
Lng Endurance	GTT MK III Flex	XDF	Samsung	01/12/2021	174000	NYK
Samsung 2336	GTT MK III Flex	XDF	Samsung	01/12/2021	174000	JP Morgan
Tenergy	GTT MK III Flex	XDF	Hyundai	01/12/2021	174000	Tsakos Energy Navigation
Vivit City Lng	GTT MK III Flex	XDF	Hyundai	01/12/2021	174000	H-Line
Grace Emilia	GTT MK III Flex	XDF	Hyundai	01/01/2022	174000	NYK
Gui Ying	GTT 96 L03+	XDF	Hudong-Zhonghua	01/01/2022	174000	CSSC
Elisa Aquila	GTT MK III Flex	XDF	Hyundai	01/03/2022	174000	NYK
Hudong-zhonghua H1829a	GTT 96 L03+	XDF	Hudong-Zhonghua	01/03/2022	170520	CSSC
Maran Gas Kythira	Unknown	XDF	DSME	01/03/2022	174000	Maran Gas Maritime
Samsung 2319	GTT MK III Flex	XDF	Samsung	01/03/2022	174000	JP Morgan
Clean Cajun	Unknown	XDF	Hyundai	01/04/2022	200000	Dynagas
Hudong-zhonghua H1788a	GTT 96	XDF	Hudong-Zhonghua	01/04/2022	79960	K-Line
Hudong-zhonghua H1789a	GTT 96	XDF	Hudong-Zhonghua	01/05/2022	79960	K-Line
Grace Freesia	GTT MK III Flex	XDF	Hyundai	01/06/2022	173000	NYK
Hudong-zhonghua H1830a	GTT 96 L03+	XDF	Hudong-Zhonghua	01/06/2022	170520	CSSC
Vivit Arabia Lng	GTT MK III Flex	XDF	Hyundai	01/06/2022	174000	H-Line
Clean Copano	Unknown	XDF	Hyundai	01/07/2022	200000	Dynagas
Samsung 2337	GTT MK III Flex	XDF	Samsung	01/07/2022	174000	JP Morgan
Bw Iris	GTT 96 GW	MEGI	DSME	01/08/2022	174000	BWGas

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 = 23rd June 2021

Name	Containment system	Propulsion	Yard	Delivery date	Capacity	Primary Owner
Santander Knutsen	Unknown	XDF	Hyundai	01/08/2022	174000	Knutsen
Sm Albatross		XDF	Hyundai	01/08/2022	174000	Korea Line
Bw Cassia	GTT 96 GW	MEGI	DSME	01/09/2022	174000	BWGas
Prism Diversity	Unknown	XDF	Hyundai	01/09/2022	180000	SK Shipping
Malaga Knutsen	Unknown	XDF	Hyundai	01/10/2022	174000	Knutsen
Sm Bluebird		XDF	Hyundai	01/10/2022	174000	Korea Line
United Prosperity	Not Applicable	XDF	Hudong-Zhonghua	01/10/2022	174000	China LNG Shipping
Alicante Knutsen	Unknown	XDF	Hyundai	01/11/2022	174000	Knutsen
Minerva Amorgos	GTT MK III Flex+	XDF	Samsung	01/11/2022	174000	Minerva Marine
Orion Song		XDF	Hyundai	01/11/2022	174000	JP Morgan
Daewoo 2514	Unknown	TFDE - Azipod	DSME	01/12/2022	172500	Sovcomflot
Huelva Knutsen	Unknown	XDF	Hyundai	01/12/2022	174000	Knutsen
Hyundai Ulsan 3243	Unknown	XDF	Hyundai	01/12/2022	174000	Knutsen
Orion Sage		XDF	Hyundai	01/12/2022	174000	JP Morgan
Asterix I	GTT MK III Flex	XDF	Hyundai	01/01/2023	174000	Capital Gas
Hudong-zhonghua H1837a	GTT 96 L03+	XDF	Hudong-Zhonghua	01/01/2023	79960	Shenzhen Gas
Samsung 2364	GTT MK III Flex+	XDF	Samsung	01/01/2023	174000	MISC
United Glory	Unknown	XDF	Hudong-Zhonghua	01/01/2023	174000	China LNG Shipping
Hyundai Repsol	GTT MK III Flex	XDF	Hyundai	15/01/2023	174000	Hyundai LNG Shipping
Samsung 2365	GTT MK III Flex+	XDF	Samsung	01/02/2023	174000	MISC
Samsung 2426	Unknown	XDF	Samsung	01/03/2023	174000	Pan Ocean
Zvezda 041	GTT MK III	TFDE - Azipod	Zvezda SSK	01/03/2023	172600	Smart LNG
Daewoo 2515	Unknown	TFDE - Azipod	DSME	01/04/2023	172500	MOL
Hudong-zhonghua H1833a	Unknown	XDF	Hudong-Zhonghua	01/04/2023	174000	China LNG Shipping
El Ferrol Knutsen	Unknown	XDF	Hyundai	01/05/2023	174000	Knutsen
Extremadura Knutsen	Unknown	XDF	Hyundai	01/06/2023	174000	Knutsen
Hyundai Ulsan 3244	Unknown	XDF	Hyundai	01/06/2023	174000	Knutsen
FSRU now LNGC	GTT NO 96	MEGI	DSME	15/06/2023	174000	MOL
Daewoo 2516	Unknown	TFDE - Azipod	DSME	01/07/2023	172500	Sovcomflot
Hyundai Ulsan 3189	Unknown	XDF	Hyundai	01/07/2023	174000	JP Morgan
Samsung 2425	Unknown	XDF	Samsung	01/07/2023	174000	Maran Gas Maritime
Hyundai Samho 8105	GTT MK III Flex	XDF	Hyundai	01/08/2023	174000	Sovcomflot
Hyundai Ulsan 3190	Unknown	XDF	Hyundai	01/08/2023	174000	JP Morgan
Daewoo 2517	Unknown	TFDE - Azipod	DSME	01/09/2023	172500	Sovcomflot
Sm Golden Eagle	Unknown	XDF	Hyundai	01/09/2023	174000	Korea Line
Zvezda 042	GTT MK III	TFDE - Azipod	Zvezda SSK	01/09/2023	172600	Smart LNG
Daewoo 2518	Unknown	TFDE - Azipod	DSME	01/10/2023	172500	MOL
Sm Kestrel	Unknown	XDF	Hyundai	01/10/2023	174000	Korea Line
Zvezda 043	GTT MK III	TFDE - Azipod	Zvezda SSK	01/10/2023	172600	Smart LNG
Greek owner 1/4		ME-GA	Hyundai	15/10/2023	200000	Dynagas
HLS	GTT NO 96	MEGI	DSME	15/10/2023	174000	Hyundai LNG Shipping

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Hyundai European Owner	GTT MK III Flex	XDF	Hyundai	15/10/2023	174000	
Zvezda 044	GTT MK III	TFDE - Azipod	Zvezda SSK	01/11/2023	172600	Smart LNG
Daewoo 2519	Unknown	TFDE - Azipod	DSME	01/12/2023	172500	MOL
Jiangnan H2637	GTT MK III Flex	XDF	Jiangnan	01/12/2023	79800	Jovo Energy
Zvezda 045	Unknown	TFDE - Azipod	Zvezda SSK	01/12/2023	172600	Smart LNG
Greek owner 2/4		ME-GA	Hyundai	15/12/2023	200000	Dynagas
Hyundai Ulsan 3294	Unknown	XDF	Hyundai Inds - Ulsan	01/01/2024	174000	Hyundai LNG Shipping
Greek owner 3/4		ME-GA	Hyundai	15/03/2024	200000	Dynagas
Hyundai Ulsan 3295	Unknown	XDF	Hyundai Inds - Ulsan	01/04/2024	174000	Hyundai LNG Shipping
Hyundai Ulsan 3296	Unknown	XDF	Hyundai Inds - Ulsan	01/06/2024	174000	Hyundai LNG Shipping
Greek owner 4/4		ME-GA	Hyundai	15/06/2024	200000	Dynagas
Zvezda 046	Unknown	TFDE - Azipod	Zvezda SSK	01/08/2024	172600	Smart LNG
Hyundai Ulsan 3221	Unknown	XDF	Hyundai	01/09/2024	174000	Pan Ocean
Maran 1	GTT MK III Flex	XDF	Samsung	01/09/2024	174000	Maran Gas Maritime
Maran 2	GTT MK III Flex	XDF	Samsung	01/09/2024	174000	Maran Gas Maritime
Zvezda 047	Unknown	TFDE - Azipod	Zvezda SSK	01/09/2024	172600	Smart LNG
Hyundai Ulsan 3222	Unknown	XDF	Hyundai	01/10/2024	174000	Pan Ocean
Zvezda 048	Unknown	TFDE - Azipod	Zvezda SSK	01/10/2024	172600	Smart LNG
Hyundai Samho 8100	Unknown	XDF	Hyundai	01/11/2024	174000	Knutsen
Hyundai Ulsan 3223	Unknown	XDF	Hyundai	01/11/2024	174000	JP Morgan
Zvezda 049	Unknown	TFDE - Azipod	Zvezda SSK	01/11/2024	172600	Smart LNG
Zvezda 050	Unknown	TFDE - Azipod	Zvezda SSK	01/12/2024	172600	Smart LNG
Zvezda 051	Unknown	TFDE - Azipod	Zvezda SSK	01/08/2025	172600	Smart LNG
Zvezda 052	Unknown	TFDE - Azipod	Zvezda SSK	01/09/2025	172600	Smart LNG
Zvezda 053	Unknown	TFDE - Azipod	Zvezda SSK	01/10/2025	172600	Smart LNG
Zvezda 054	Unknown	TFDE - Azipod	Zvezda SSK	01/11/2025	172600	Smart LNG
Zvezda 055	Unknown	TFDE - Azipod	Zvezda SSK	01/12/2025	172600	Smart LNG

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