

LNG Shipping News

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3 March 2022

Ukraine crisis - what next for LNG?

The outbreak of hostilities in the Ukraine last week has raised fears about the impact of further sanctions on global energy markets.

As far as the Shipping industry is concerned, last week, only one shipping company was directly sanctioned, PSB Leasing, said Vivek Srivastava, VesselsValue (VV) Senior Trade Analyst.

However, Russian state-owned shipping company Sovcomflot (SCF) has also been hit by US sanctions by way of debt and equity restrictions.

On 24th February, the US imposed economic costs that are expected to have both immediate and long-term effects on the Russian economy, financial system and access to new technology.

The US Department of Treasury's Office of Foreign Assets Control (OFAC), in partnership with allies and partners, imposed economic measures to target the core infrastructure of the Russian financial system, including all of the country's largest financial institutions and the ability of state-owned and private entities to raise capital.

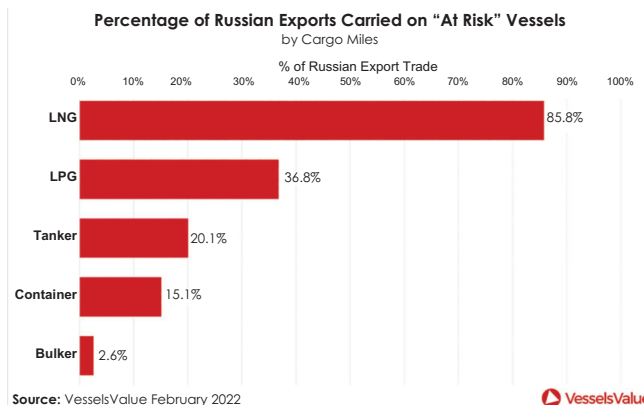
In effect, OFAC expanded Russia-related debt and equity restrictions on 13 of the most critical major Russian enterprises and entities.

Restrictions were imposed on all transactions in, provision of financing for, and other dealings in new debt of greater than 14 days maturity and new equity issued by 13 Russian state-owned enterprises and entities, including SCF, oil producer and refiner, Gazprom Neft, natural gas company Gazprom, plus others.

These entities will not be able to raise money through the US market - a key source of capital and revenue generation.

If Russia was restricted from sending energy exports to the West, it would stand to lose considerable export revenues, VV said.

Given the possible adverse price



impact of sanctions on oil and gas, the more interesting question then becomes - If more Russian companies are sanctioned, how much of the world's fleet is at risk?

For LNGCs, potentially, this would amount to 3.5% of the world's fleet, VV said.

Gas more pronounced

When looking at what this could mean for relative market share, the impact becomes far more pronounced for gas than oil.

For example, last year, the 'at risk' Russian controlled LNGCs contributed 7% of total cu m/miles, due to the vessels sailing longer distances.

'At risk' LNGCs also saw 85.8% of cu m/miles coming from Russia in 2021, nearing complete dominance of Russian exports, VV's Srivastava said.

Meanwhile, Veronika Kustkova, GlobalData's Senior Oil & Gas Analyst offered her view on the situation at the end of last week.

"With Nord Stream 2 coming to a halt, Germany will be losing the additional 150 mill cu m per day of gas coming from the envisaged pipeline. Gas transit through Ukraine currently holds a yearly capacity of over 100 bill cu m.

"As the crisis unfolds, the mas-

sive gas imports route via Ukrainian trunk pipelines may stop at any point. This brings an immediate threat to Europe while withdrawals from gas storages continue to rise, but it is doubtful they'll reach 2018 historical lows.

"European demand for gas has increased since 2020 and is expected to stay at the same level in the short term, placing Europe in an uncomfortable position, as Qatar has already declared they will not be able to fill the supply shortage.

"According to Eurostat and GlobalData analysis, Russian gas made up 45% of EU imports in the first 10 months of 2021. Similarly, Russian gas exports are reliant on Europe and Turkey, which made up around 78% in 2021, despite increasing volumes going to China.

"An alternative source of gas is US LNG, but volumes will be constrained by capacity. However, medium-term increases will depend on new projects, such as Rio Grande, which has already been delayed.

"However, in the past two months, we have seen the US LNG imports to Europe taking over from Russian pipeline gas for the first time. Another offset could be from wind and solar, but we will only see a substantial 7% increase in the European energy mix in 2025," she said. ■

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Ukraine Crisis - Sanctions explained

According to Poten & Partners' featured article in *LNG in World Markets*, published on Monday, sanctions pose a threat to projects under construction or in the planning stage.

This also includes current LNG exporters' ongoing operations.

The latest round of sanctions has left Russian LNG sector companies and the domestic and foreign companies that provide their finance and services struggling to assess their liabilities and exposure to counterparties.

Concern over sanctions - after they were imposed against some Russian entities when it annexed the Crimean Peninsula in 2014 - was in part behind the move to construct more of the equipment needed for the Arctic LNG 2 project in Russia, which is currently under construction.

The modules for the LNG trains rest on gravity-based structures (GBS), which are being built in Murmansk and the Arc7 LNGCs to serve the project will be built in Russia.

It is understood that there are sanctions clauses in the loan documents for both Arctic LNG 2 and Yamal LNG that may provide for early repayment. There are no suggestions that those clauses will be triggered, but if the situation deteriorates it remains a possibility, Poten said.

Looking at exposure

The project's foreign sponsors will also be looking at their exposure to any entities subject to sanctions. The \$21.3 bill project secured €9.5 bill of finance in November last year with €4.5 bill coming from Russia's Sberbank, Gazprombank and its subsidiary, Bank GPB International, Russian state development bank VEB and Bank Otkritie Financial Corp.

Sberbank is subject to US sanctions and Otkritie is subject to US and EU sanctions and VEB is sanctioned by the US, EU, and UK. Gazprombank is subject to limited debt and equity raising restrictions in the US.

Some €5 bill of the financing, together with insurance cover and guarantees, is coming from other world banks.

Providers of the about \$20 bill debt package for Yamal LNG include China Exim, CDB, Sberbank, Gazprombank, Russia's National Wealth Fund (NWF), Russia's ECA, Exiar, with smaller amounts coming from Germany's Euler Hermes, Sweden's EKN, Austria's Raiffeisen, JBIC and Intesa San Paolo.

State development bank VEB also provided a \$3 bill guarantee to the project.

As the Yamal LNG project continues to service its loans, with a core group of lenders in Yamal LNG subject to sanctions, it will complicate arrangements. Parties who have contracts with the project such as shippers, suppliers, and contractors are also potentially exposed to sanctions.

When NOVATEK and its partners were looking to raise funding for Yamal LNG, Russia's annexation of Crimea forced them to change their financing plan. It focused on using euros, Russian roubles and Chinese renminbi rather



SCF's prototype LNGC has switched her destination from the UK to France

than US dollars to reduce the sanctions risks.

SCF operating normally

Russian shipping company Sovcomflot (SCF) has said that it continues to operate as usual despite being subject to US sanctions. However, Scotland sought to block SCF's Aframax 'NS Challenger' from loading at Flotta in the Orkney Islands.

SCF is only subject to US sanctions, but the move to turn away the tanker had the support of the UK transport secretary Grant Shapps who told UK ports to reject all Russian ships.

SCF also operates the prototype Arc7 LNGC, 'Christophe de Margerie', which is chartered to Yamal Trade. She left the Yamal LNG terminal at Sabetta on 26th February indicating the Isle of Grain in Kent as the destination and due to arrive on 4th March, but the reported destination changed to Montoir in France scheduled to arrive a day later.

Sanctioned bank VEB is providing funding via sale and leasebacks for the expansion of SCF's Arc7 LNGC fleet. VEB agreed to provide leases to Smart LNG, a 50/50 joint venture between SCF and NOVATEK, in 2020 for 14 Arc7s. They will be built at Russia's Zvezda shipyard. In December, 2019, VEB agreed in to provide funding for the first of the second generation Arc7s, which would be solely owned by SCF and chartered to Arctic LNG 2.

In October last year, SCF partnered with NYK to order up to six conventional LNGCs from Samsung Heavy Industries. They will be chartered to NOVATEK Gas & Power Asia.

Yamal, with one Arc7 currently out of service for more than three weeks, does not have enough shipping capacity to deliver any more cargoes along the NSR at present and has restarted shipments off Murmansk to maximise exports from Sabetta, Poten reported. ■

LNG Shipping News

2 Prospect Road
St Albans AL1 2AX
United Kingdom
www.lngjournal.com
Tel: +44 (0)20 7253 2700

Publisher

Stuart Fryer

Editor

Ian Cochran
+44 (0)7748 144265
lancochran74@gmail.com

Ad sales enquiries

Narges Jodeyri
+44 (0)20 7017 3406
narges@lngjournal.com

Subscriptions

Stephan Venter
Tel: +44 (0) 20 7253 2700
venter@lngjournal.com

Production

Vivian Chee
Tel: +44 (0) 20 8995 5540
chee@btconnect.com

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Ukraine crisis - US LNG Group asks Biden to ramp up investments

The US LNG Association, under the banner of LNG Allies, has urged President Biden to take action to boost US and European energy security in the light of the Russian invasion of Ukraine.

In a letter to the President, the Association said; "It is now more apparent than ever that US natural gas helps our allies in Europe—and elsewhere—increase their energy security and reduce their greenhouse gas emissions. Prior Republican and Democratic Administrations alike have made it clear that natural gas is a critical part of national security and an important climate solution.

"Working collaboratively, the US government and industry can do more to help our allies while shoring up our own energy security," the letter said.

"Policies, such as pausing leasing on federal lands, preventing new pipeline infrastructure and discouraging investments across the hydrocarbon value chain, hamper US production, thereby driving up prices and making the world more reliant on energy from nations, such as Russia.

"In addition, as energy prices are set by the global commodity market, just the perception that

production will be constrained often leads to higher prices," the Association said.

LNG Allies asked the US Administration to work with the EU leadership to form a joint EU-US Emergency Energy Infrastructure Council—perhaps under the auspices of the EU-US Energy Council—to work with US and European business interests to expand the long-term commercial relationships needed to 'green-light' additional US LNG export capacity, European LNG receiving terminals and associated pipelines on both sides of the Atlantic.

"The goal should be to have new 'virtual transatlantic gas pipelines' in place, as soon as possible, but no later than the Winter 2022/2023 heating season," the Association said.

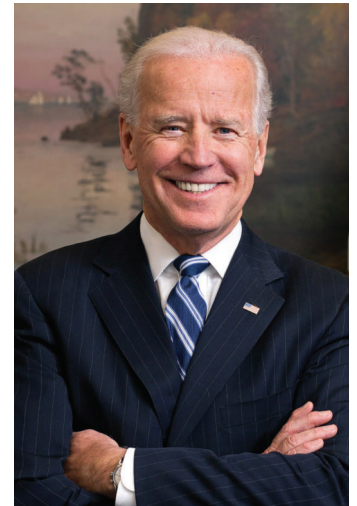
Export applications

The Administration was also urged to instruct the US Department of Energy to immediately approve the US LNG export applications

pending to export gas from the US with an urgent focus on the applications that have already been approved by the Federal Energy Regulatory Commission (FERC) or those that do not require FERC authorisation.

Accepting that FERC is an independent agency, LNG Allies also urged the Administration to join the alliance in asking the commissioners to act within the next six months on all pending US LNG export facility and gas pipeline applications in order to help move more natural gas to domestic customers and LNG export facilities.

Finally, the letter said that the President's office - acting with and through the US International Finance Development Corp - should immediately release the \$300 mill in funding that the US promised in 2020 to the Three Seas Initiative Investment Fund to build critical natural gas and other energy infrastructure along the North/South corridor in Central and Eastern Europe.



President Biden is being urged to fast track LNG projects

This will help the EU invest more in its own gas networks to ensure there is adequate supply for their citizens into the future.

"Russia's energy exports have funded their illegal invasion of Ukraine and their actions are now driving up energy prices in the US, while creating energy insecurity throughout Europe.

"Given the fact that about 70% of all Russian gas exports go to Europe, the equivalent of a Berlin Airlift or Marshall Plan is urgently needed to reduce and eventually end Europe's dependence on Russian gas. US LNG can immediately facilitate that goal," LNG Allies concluded. ■

Teekay LNG officially becomes Seapeak

Teekay LNG Partners (TGP) changed its status from a limited partnership formed under the laws of the Republic of the Marshall Islands into a limited liability company under the same country's laws on 25th February.

Under Marshall Islands law, the conversion is deemed to be a continuation of the existence of TGP (in its previous partnership form), but now in its new form.

Accordingly, all of the rights and liabilities of TGP (in its previous partnership form) are automatically vested in Seapeak, the company explained.

Simultaneously with the company's conversion, TGP changed its name from Teekay LNG Part-

ners to Seapeak.

As a result of the conversion and renaming, effective on 28th February, 2022, the ticker symbols for Seapeak's preferred units was changed and began trading under their new symbols.

In addition, Seapeak filed to delist all of its issued and outstanding common units from the New York Stock Exchange (NYSE), which came into effect 24th January, 2022. ■

NEWS NUDGE

Arctic LNG 2 module delivered via NSR

The Arc7 Ice Class module carrier 'Audax' has completed a voyage along the Northern Sea Route (NSR) long after the traditional navigation season closed.

She delivered a process module weighing nearly 12,000 tonnes to Murmansk for the Arctic LNG 2 project.

The module, which was loaded at Tianjin, will be installed on the gravity-based structure (GBS) for Arctic LNG 2 Train 1 at the LNG construction centre in Belokamenka.

According to NOVATEK, this voyage was unique in terms of a

vessel of this size transiting the entire NSR with nuclear icebreaker support in February in challenging ice conditions.

Icebreaker assistance proved difficult largely due to navigation problems this winter. Severe ice conditions were encountered, compared to previous years and the summer/autumn navigation period ended at the beginning of November, 2021, much earlier than in previous years.

Due to 'Audax' size, icebreaker assistance in the route's most challenging sections in the Chukchi, East Siberian and Kara Seas, involved two icebreakers widening the ice channel. ■

Ukraine Crisis - Russian LNG exports

Given that sanctions could severely impact Russia's ability to export LNG, Italian-based broking house, Banchero Costa analysed the country's 2021 LNG exports.

Russia is currently the world's fourth largest seaborne LNG exporter, after Qatar, Australia and the US.

Last year, the country exported 30.3 mill tonnes of LNG by sea, according to Refinitiv vessel tracking data, an increase of 5.4% year-on-year and amounting to 7.8% of all global seaborne LNG exports.

Most of Russia's LNG exports are currently sourced from the Yamal LNG project and loaded at Sabetta on Russia's Arctic coast. Yamal is served by 15 Ice Class Arc7 170,000 cu m LNGCs.

In 2021, Yamal exports reached 19.5 mill tonnes - 64% of Russia's total. Some 70% or 13.7 mill tonnes was shipped to Europe, whilst just 5.7 mill tonnes (30%) went to Asia, including 3.2 mill tonnes to China.

A second LNG Plant - Arctic LNG 2 - is currently under construction with completion planned for this year at a site near the Gyda Peninsula, across the river Ob estuary from Sabetta. This project will be targeting Asian markets via the Northern Sea Route (NSR).

Arctic LNG 2 will consist of three LNG trains, with a capacity

of 6.6 mill tonnes per annum each.

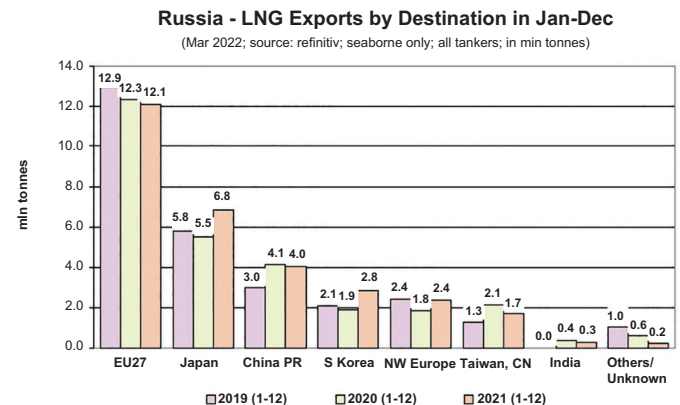
Sakhalin-2

The second largest Russian operational LNG export facility is at Prigorodnoye on Sakhalin Island, in the country's Far East region, dubbed the Sakhalin-2 project. This was the first LNG export facility in Russia having been inaugurated on 18th February, 2009.

Sakhalin LNG exports reached 10.1 mill tonnes in 2021, which was 33.3% of Russia's total. Shipments from Sakhalin go entirely to Asia - primarily to Japan (6 mill tonnes last year), South Korea (2 mill tonnes), Taiwan (1.2 mill tonnes) and to Mainland China (0.8 mill tonnes).

Finally, small amounts of LNG (0.7 mill tonnes in 2019) are shipped from Vysotsk in the Gulf of Finland. This LNG mainly goes to neighbouring Baltic Sea countries (Finland, Sweden, Lithuania), as well as to Rotterdam.

Russian LNG exports have been growing very fast in recent years, by 71.9% y-o-y in 2018 and 56.2% y-o-y in 2019. However since 2020, exports have slowed sharply,



largely due to limited demand from Europe. For example, in 2020, Russian export growth slowed to 1% y-o-y, followed by a 5.4% y-o-y hike last year, Banchero Costa said.

In terms of destinations, the main customer for Russian LNG is the European Union. In the 12 months of 2021, exports from Russia to the EU declined slightly by 2% y-o-y to 12.1 mill tonnes. However, the EU still accounted for 39.8% of Russian LNG shipments last year. The amount shipped in 2021 was three times higher than the 4.1 mill tonnes shipped in 2018.

Volumes to the UK, on the other hand, increased by 24.4%

y-o-y to 2.3 mill tonnes, just shy of the record 2.4 mill tonnes in 2019. This amounted to 7.5% of Russian LNG shipments.

The second top destination after Europe was Japan, which accounted for almost 23% of Russian LNG shipments in 2021. Shipments to Japan were up by 24.6% y-o-y last year to 6.8 mill tonnes - an all time high.

Exports to South Korea also increased last year, by 49.4% y-o-y to 2.8 mill tonnes, with South Korea holding a 9.4% share. Shipments to Mainland China declined marginally by 2.9% y-o-y in 2021 to 4 mill tonnes and to Taiwan by 21.4% y-o-y down to 1.7 mill tonnes.

INPEX commits to Ichthys LNG expansion

INPEX is to expand its long term LNG development plans in Australia's Northern Territory.

This involves the building of a third train at the Ichthys LNG onshore processing plant.

Northern Territory's Gas Task-

force Chair Alister Trier said: "Expansion of the Territory's LNG Export Hub will bring more than valuable export growth, it will

generate more jobs and greater economic contributions to the Territory for generations to come."

Northern Territory is already Australia's third largest LNG producer, with gas exports generating more than 20% of its gross state product.

Trier added: "LNG export expansion will see the Territory harness global demands for cleaner, more affordable energy whilst capitalising on our natural resource competitive advantages.

"The Territory's world-class gas resources are considered one of our strongest advantages and a

recognised priority growth sector," he said.

INPEX also confirmed plans for a carbon capture storage facility and is also looking to build a 10,000 cu m methanation plant in Australia.

Trier explained that the development of Middle Arm Sustainable Development Precinct provides further LNG expansion, gas-based processing and advanced manufacturing sector development opportunities, as part of the Territory Government's vision to develop a world class gas production, manufacturing and services hub by 2030.



Inpex is to expand Ichthys

First Calcasieu Pass cargo sets sail

The first LNG cargo produced at Venture Global's Calcasieu Pass LNG export facility in Cameron, LA, sailed on 1st March.

The LNG was loaded on the Maran Gas-managed 'Yiannis', chartered by JERA Global Markets.

Calcasieu Pass now claims the world record for the fastest large-scale greenfield LNG facility to be built, moving from FID to LNG production in just 29 months. It is also one of the first greenfield LNG export projects to be constructed in the US.

"Venture Global is honoured to partner with JERA, one of the world's largest buyers of LNG, on the inaugural commissioning cargo from Calcasieu Pass," said Venture Global CEO, Mike Sabel. "This historic and proud moment for our company represents the culmination of many years of relentless efforts by our team to innovate, design, construct and now

deliver low-cost, clean LNG to our customers.

"Venture Global has successfully pioneered a new way of developing LNG projects that will result in the supply of low-cost, abundant, and affordable energy to people around the world, while also driving fuel switching from coal to natural gas. We want to thank our customers, financing partners, and state, local and federal stakeholders whose invaluable support helped get us to this moment," he said.

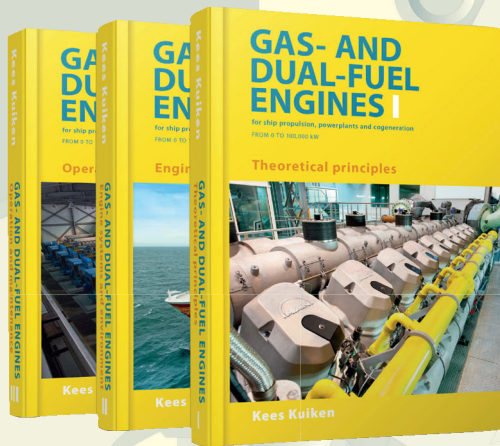
"We are delighted to receive the first cargo from the Calcasieu Pass LNG project, which has great significance for easing the supply-demand balance of LNG amid the tight global market situation," said JERA Global Markets CEO, Kazunori Kasai. "Based on a sup-



Maran Gas' LNGC 'Yiannis' has shipped the first LNG cargo out of Calcasieu Pass

ply agreement with Venture Global Calcasieu Pass, JERA Global Markets is pleased to support Venture Global and receive

LNG cargoes from this innovative project, which provides the industry with an exciting new model for LNG liquefaction." ■



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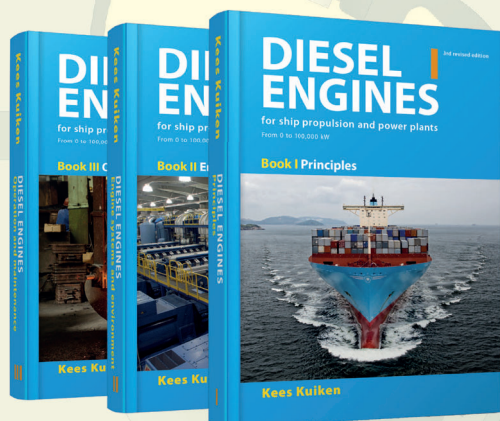
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The three volumes have 488, 544 and 534 pages. The majority of the more than 2900 pictures are in full colour.

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German LNG terminals to be fast tracked

Germany is to ramp up building work on two LNG terminals to help reduce dependence on Russian pipeline gas imports, Chancellor Olaf Scholz said last Sunday.

Speaking to the German Parliament, he said that Germany would look to increase its gas stocks by 2 bill cu m by using long-term storage options and buy gas in co-operation with the EU.

"We will do more to ensure our

country's energy security and we will change course in order to overcome our import dependency on single energy suppliers.

"The events of the last few days and weeks have shown us that a responsible, forward-look-

ing energy policy is not only crucial for our economy and our climate. But also crucial for our security," he said.

Scholz said Germany needed to make "important decisions", including on the building of LNG import infrastructure. "We have decided to quickly build two LNG terminals at Brunsbuettel and Wilhelmshaven," he said.

The LNG terminals could also handle green hydrogen in the future, he added.

Russia's state-controlled Gazprom sold 45.8 bill cu m of gas to German buyers in 2020 and increased sales by 10.5% last year, according to S&P Global Platts. Germany is a major gas importer given its high demand and low domestic production, all of which is shipped via pipelines.

Germany has two projects currently at the development stage -

the 8 bill cu m per year Brunsbuettel terminal and the 12 bill cu m per year facility at Stade, both located on the River Elbe.

In 2020, Uniper abandoned its plans to develop a 10 bill cu m per year FSRU terminal at Wilhelmshaven, instead turning its attention to hydrogen imports.

However, Scholz's comments suggested an FSRU at Wilhelmshaven could be its participation route back to the table, Platts said.

Brunsbuettel suffered a setback in November, 2021, when Dutch storage company Vopak, one of three partners in the project, decided to pull out.

Hanseatic Energy Hub, the developer of the Stade facility, had earlier pushed back the binding capacity process for the site until later this year, due to market volatility. ■



The German Chancellor is keen to resurrect two LNG receiving terminals on the River Elbe

NFE to fast track Congo liquefaction unit

New Fortress Energy (NFE) has signed a Heads of Agreement (HoA) with Eni's fully owned subsidiary, Eni Congo, to deploy fast track LNG liquefaction technology off the Republic of the Congo coast for 20 years.

NFE will deploy its 'Fast LNG' facility to produce up to 1.4 mill tonnes per year of LNG from the Congo gas fields.

The HoA also provides a framework for negotiating a long-term tolling agreement between the two parties for the full capacity of the facility and for NFE to purchase about 1.2 mill gallons of LNG per day on the back of a 20-year FOB sales and purchase agreement (SPA). Production is expected to start in 2Q23.

"This landmark partnership is a major milestone for our Fast LNG business. Eni is a world-class organisation and the perfect partner for the first Fast LNG unit," said Wes Edens, NFE Chairman and CEO. "With production beginning next year, we believe that this is just the first of many deployments of this game-changing technology

around the world."

"The customers at our downstream terminals need access to affordable, clean and reliable energy. Our portfolio of Fast LNG facilities allows us to deploy offshore infrastructure more quickly and affordably, adds low-cost LNG to our existing portfolio and diversifies our business. This is a great step to support our rapidly growing customer base as we play a key role in the global energy transition," he added.

NFE's 'Fast LNG' liquefaction design is based on modular, mid-size liquefaction technology with jack up rigs or similar floating infrastructure to enable a much lower cost and faster deployment schedule than today's floating liquefaction vessels.

Under the HOA, the finalisation and execution of definitive agree-

ments remains subject to negotiation and a set of conditions, which are expected to be completed and satisfied by the end of March, 2022.

NFE is in advanced discussions for the deployment of this technology in several other markets around the world, including offshore US, the company claimed. ■



NFE's Wes Edens is to fast track Congolese floating terminal

Cheniere extends gas supply agreement

Cheniere Energy's subsidiary, Cheniere Corpus Christi Liquefaction Stage III (CCL Stage III), has amended its long-term Integrated Production Marketing (IPM) gas supply agreement with EOG Resources.

The company has extended the term and tripled the volume of LNG associated with the natural gas supply under this long-term IPM transaction, which was originally signed in 2019.

Under the amended IPM, EOG has agreed to sell 420,000 MMBtu of natural gas per day to CCL Stage III for 15 years. One third of the supply is earmarked to commence upon the completion of Trains 1, 4 and 5 of the project.

The LNG associated with this gas supply, around 2.55 mill tonnes per annum, will be owned

and marketed by Cheniere. EOG will receive a price based on the Platts Japan Korea Marker (JKM) for the gas.

In addition, the previously signed gas supply agreement, under which EOG will sell 300,000 MMBtu per day to CCL Stage III at a price indexed to Henry Hub, was extended to 15 years.

As a result, EOG will supply a total of 720,000 MMBtu of natural gas per day to CCL Stage III under the amended agreements for a 15-year period expected to commence upon the project's start-up.

EOG will continue to sell 140,000 MMBtu of natural gas per day to Corpus Christi Liquefaction, which started in 2020, until the commencement of the amended long-term agreements.

The CCL Stage III project will include seven mid-scale liquefaction trains with a total expected nominal production capacity of over 10 mill tonnes per year.

Cheniere Energy has also posted its results for 2021 and the fourth quarter of that year.

Consolidated adjusted EBITDA was around \$1.3 bill and \$4.9 bill

for 4Q21 and full year 2021, respectively.

The company also reported a net loss of about \$1.3 bill and \$2.3 bill for the respective periods.

At the same time, Cheniere raised its full year 2022 consolidated adjusted EBITDA guidance to \$7 - \$7.5 bill for this year, due primarily to the accelerated substantial completion of Train 6 at Sabine Pass, further improvement in LNG market margins across 2022 and the timing of delivery of certain LNG cargoes around year end 2023. ■

GTT enjoys record orderbook

For 2021, French engineering concern GTT reported solid earnings at high-end of annual targets and a record orderbook that will support growth in the years ahead.

Consolidated revenues were €314.7 mill, consolidated EBITDA was €172.2 mill, which led to a proposed dividend of €3.10 per share.

GTT's order book was at a record level with 161 units for the core business, or €795 mill in value, and 32 units for the LNG as fuel business, on the books.

Commenting on the results, Philippe Berterottière, GTT's Chairman and CEO, said: "With 68 LNG carrier orders, two ethane carrier orders and six onshore storage tank orders, GTT posted a strong commercial performance in 2021 for our core business.

"The market dynamics remain very positive in 2022 with 10 LNG carriers ordered since the beginning of the year. All of the liquefaction projects under construction still represent significant potential for LNG carrier orders.

"In the LNG as fuel segment, new orders were taken throughout the year to reach a total of 27 units, a volume that outstrips all orders taken by GTT in previous years. GTT's membrane technology has been adopted by several

international shipyards and shipowners and is becoming increasingly important in a segment that is expected to grow with the increasing sustainability of maritime transportation.

"With regard to innovation, GTT is pursuing its ambitious roadmap. During the year, we obtained several approvals from classification societies to develop new technologies in a wide variety of areas, such as improving the performance of our NO technology and designing a ballast-free bunker vessel.

"GTT maintains a tireless focus on R&D to meet its customers' energy transition needs and the increased requirements they face. In this respect, the recent announcement of a co-operation agreement with Shell for the design of a hydrogen carrier is another significant step towards a carbon-neutral future.

"From a financial standpoint, revenues for 2021 are in line with our expectations. They are down 21%, compared to 2020, when revenues were exceptionally high, but up 9% compared to 2019. 2021 EBITDA was €172 mill, slightly

above expectations thanks to cost control.

"With regard to our outlook for the current year, taking into account the distribution overtime of our orderbook, we estimate that consolidated revenues for 2022 should be in the range of €290 mill to €320 mill, consolidated EBITDA in the range of €140 mill to €170 mill, and we are proposing a 2022 dividend amount at least equal to the dividend proposed for the 2021 financial year.

"Looking further ahead, the Group expects to benefit from the current robust order momentum. In this regard, the Group underlines that the orders received since mid-2020 correspond to delivery dates spread mainly over the 2023-2025 period. These factors enable us to expect, from 2023 onwards, revenues and earnings to be significantly higher than in 2022," he said.

Of the 68 orders for LNGCs booked last year, these included three medium-capacity LNGCs (about 80,000 cu m) and four large-capacity LNGCs (200,000 cu m).

In April 2021, GTT also received an order from Hyundai Heavy Industries (HHI) to design the tanks of two very large ethane carriers (VLECs), with total cargo capacity of 98,000 cu m each, on behalf of an Asian shipowner.

Subsequently, last month, GTT received two new orders for the tank designs of six newbuilding LNGCs.

Four 174,000 cu m LNGCs will be built by Daewoo Shipbuilding & Marine Engineering (DSME) for Greek shipowner Maran Gas Maritime.

Each tank will be fitted with the GTT NO96 GW membrane containment system. Deliveries of the vessels are scheduled for the third and fourth quarters of 2025.

The other two ships will be built by Hyundai Samho Heavy Industries for an African shipowner.

GTT will also design the tanks of these vessels, which will be of 174,000 cu m capacity each. The LNGC tanks will be fitted with the GTT Mark III Flex membrane containment system.

These vessels are scheduled for delivery in the first quarter of 2025. ■

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Golar to concentrate on FLNG space

Golar LNG has reported a 16% drop in net income to \$6.8 mill for the fourth quarter of last year.

The total net income for 2021 was \$412.7 mill.

Other highlights included fourth quarter operating revenues of \$115 mill, down 3%, compared to 4Q20 and adjusted EBITDA of \$93.5 mill, up 20%.

Annual operating revenues were \$451.8 mill and adjusted EBITDA was \$312.7 mill, a rise of 12% on the 2020 figure.

As for the 'FLNG Hilli', the increased earnings from Brent Oil-linked production realised an income increase of 45% on the previous quarter to \$12.9 mill in 4Q21. The company also reported a 2022 earnings upside from the TTF-linked production.

In addition, the forming of Cool Company Limited (CoolCo) will reduce Golar's contractual debt by

about \$833 mill and will improve Golar's cash and marketable securities position by \$342 mill, the company claimed.

During the quarter, Golar signed a new \$250 mill undrawn corporate bilateral facility with Sequoia Investment Management to further increase financial flexibility and facilitate FLNG growth.

The formation and funding of LNG shipping pure-play CoolCo marks the last major step of Golar LNG's corporate simplification process. Over the last 12 months, this process has involved the sale of assets and subsidiaries for a total value of around \$6.2 bill and the refinancing of around \$1 bill of debt.

Golar said that this had crystallised underlying value and sig-

nificantly strengthened its cash and marketable securities position to more than \$1.1 bill, facilitating attractive future growth.

The company will now focus on further increasing the value generated by 'FLNG Hilli' and delivering 'FLNG Gimi' to bp and seek further FLNG growth projects. "We continue to make significant progress on new FLNG projects with existing and new prospective clients and expect a contract award within 2022," the company said.

'FLNG Gimi' is 80% technically complete. Pre-commissioning and testing of multiple systems is now underway with construction on track to meet the scheduled 2023 start-up date for the 20-year lease and operate agreement with bp.

This will unlock around \$3 bill of earnings backlog for Golar.

The formation of CoolCo enables an attractive business separation of Golar's assets. As a result, Golar will de-consolidate around \$832.9 mill of year-end contractual debt associated with the eight TFDE vessels upon closing, which is expected during 1Q22 and also expected to receive a cash settlement of about \$217 mill.

Golar also said that it will continue to explore conversion, sale, or charter alternatives for its remaining steam turbine vessel 'Golar Arctic' and the TFDE FSRU 'Golar Tundra'.

In 4Q21, the TCE of \$57,300 for the fleet was up 16% on 3Q21 and 17% on 4Q20. ■

Höegh LNG boosted by 'Hoegh Gallant' operations

Höegh LNG reported that the highlights for the fourth quarter of 2021 included an EBITDA of \$56.5 mill and a net profit of \$3.6 mill.

As for the fleet, 'Hoegh Gallant' commenced a new 10-year contract with a subsidiary of New Fortress Energy, a new unconditional 10-year FSRU contract was signed with a subsidiary of Compass Gäs & Energia, while an FSRU contract was signed with AIE, which was dependant on a final investment decision (FID) being taken on the project.

During the quarter, Höegh LNG Partners refinanced the 'PGN FSRU Lampung' and the 'Neptune' debt facilities.

Höegh LNG Holdings raised \$30 mill in new equity from its shareholders and launched a non-binding buyout offer for Höegh LNG Partners common units.

Subsequently, Klaipėdos Nafta (KN), the charterer of 'Independence', announced that it intends to exercise its purchase option to acquire the FSRU at the end of the existing charter, which is due to end in 4Q24.

Höegh LNG Holdings and its subsidiaries reported a total in-

come of \$94.7 mill for 4Q21, compared with \$86.1 mill in the preceding quarter.

This increase is mainly due to higher timecharter revenue for 'Hoegh Gallant' after commencing operations in Jamaica at the end of November, 2021 and timecharter revenues from a short-term replacement vessel to facilitate early redelivery of 'Hoegh Gallant' from her previous charter.

As at 31st December, 2021, Höegh LNG held \$134 mill in current unrestricted cash, while the net interest-bearing debt, including lease liabilities, decreased during the quarter by \$62 mill to \$1.44 bill.

For the full year 2021, Höegh LNG reported a total income of \$351.8 mill and an EBITDA of \$217.2 mill, which compares with \$335.1 mill and \$225.4 mill, respectively for the previous year.

However, Höegh LNG reported a net loss of \$21.2 mill for 2021, which compares with a \$0.1 mill profit for 2020. ■

Awilco reports net result rise

Oslo-based Awilco LNG achieved a net result of \$5.8 mill and earnings per share of \$0.04 for the fourth quarter of last year, up from \$5.1 mill and \$0.04, respectively, in 3Q21.

Net freight income was \$14.5 mill in 4Q21, up from \$14.3 mill in third quarter, while EBITDA ended up at \$10.7 mill, slightly down from \$10.8 mill recorded for 3Q21.

Vessel utilisation for the quarter was 100% with a net TCE of \$78,600 per day.

For the full year, the net result was \$21.1 mill and EPS was \$0.16, compared to a loss of \$7.9 mill for 2020.

Net freight income was \$57.1 mill in 2021, up from \$30.7 mill in 2020. EBITDA was \$43.3 mill, up from \$18.1 mill in 2020. Net TCE was \$78,200 per day for the year.

In January, 2021 Awilco LNG invested \$7 mill in Cool Company Limited.

CEO Jon Skule Storheill, commented: "Throughout the fourth quarter, we continued to deliver strong results on the back of our fixed rate contracts for both vessels. This is set to continue until the start of second quarter 2022

and earnings can be expected to remain at this level through the first quarter 2022.

"The market has experienced a seasonal downturn earlier than normal, mostly on the back of negative arbitrage between European and Asian gas prices, leading to shorter sailing distances and more open freight capacity in our market," he said.

'WilForce' was involved in a collision with another vessel in 2Q19. Based on an assessment of facts and legal advice, Awilco LNG holds the other vessel fully and completely liable for the collision and the Group expects to recover costs, expenses, and losses from the other vessel, including insurance deductibles, off-hire and lost timecharter hire, in due course.

Awilco's claim was presented to the counterparty in February, 2021 and the legal procedure is slowly moving forward with a trial date set at the end of March, this year. ■

Shell LNGCs to be fitted with Kongsberg software

Kongsberg has signed a five year contract with Shell to install its JAWS (Just Add Water System) software on board 45 of the energy major's LNGCs.

The LNGCs already utilise the Kongsberg Maritime K-IMS Information Management System application suite.

This contract follows a year-long trial, co-conducted by Kongsberg, Shell and the LNG shipowner GasLog, on board the LNGC 'Methane Julia Louise'.

Her shaft energy consumption was recorded for nine months prior to the JAWS installation, as well as throughout the year-long trial with the JAWS software installed. The trial demonstrated that the software could provide a significant fuel saving for the vessel, it was claimed.

JAWS is a hydrodynamic optimisation program, with no additional instrumentation required. It calculates the most advantageous operating conditions in real time based on algorithms developed from historic high-frequency vessel data.

The software constantly issues recommendations for optimal trim and draft, helping crews to cut fuel consumption and GHG (greenhouse gas) emissions. JAWS provides the live data that allows ship and fleet managers to monitor and report emissions savings.

K-IMS is a web-based solution, which gives both ship crews and shore teams continual access to voyage and vessel data. The provision of JAWS as an application within the K-IMS suite renders it instantly available to all K-IMS users.

Over the course of the 12-month testing phase, on board and onshore monitoring confirmed that the JAWS software generated average energy savings of 5% when its recommendations were followed. This benchmark data was compared with performance data gathered from her sistership

'Methane Becki Anne', which followed a similar trading pattern.

One immediate outcome of the tests was a commitment from Nigeria Ship Management Limited (NSML) to invest in JAWS software for 11 of its LNGCs.

Karrie Trauth, Senior Vice President of Shell Shipping and Maritime, said; "JAWS has arrived at a pivotal time for shipping opera-

tions, when digitalisation is being recognised as a key enabler for an industry determined to cut costs, reduce emissions and enhance efficiency. It was encouraging to see JAWS referenced directly in the International Energy Agency's (IEA) World Energy Outlook 2021 flagship report as a key technology for delivering on emission-reducing targets in the shipping sector." ■



Shell is to install Kongsberg software on several LNGCs

NEWS NUDGE

Murmansk transshipment project's VTS agreed

According to Russian media reports, the holding company Roselectronics of Rostec State Corp will undertake work on the LNG transshipment complex infrastructure at Murmansk.

One of the key facilities will be an automated radio engineering post for the vessel traffic control system, which will

ensure the safety of navigation in the port's waters in the Bay of Ur.

The general developer of the project's documentation for the first stage of the port infrastructure in the Barents Sea has been appointed - Roselectronics subsidiary, the Neptune Research Institute. The project is being implemented by FSUE Rosmorport.

This project was approved by

the Murmansk region's administration and has received an environmental agreement from Rosprirodnadzor.

New Fujian terminal gets the nod

China's state economic planner has approved Hanas Group's plans to build an LNG receiving terminal in the southeastern province of Fujian.

The terminal, estimated to

cost Yuan5.26 bill, will have an annual LNG receiving capacity of 5.65 mill tonnes, the Chinese National Development and Reform Commission (NDRC) said last week, according to newswires.

The terminal, to be built in Meizhouwan, will have one berth and two storage tanks of 200,000 cu m capacity each, the planner said in a statement posted on its website. ■

Monthly Large LNGC Values*

Newbuildings (174,000 cu m)	\$206.71 mill
Five years old (174,000 cu m)	\$164.59 mill
Total Fleet (541 ships)	\$66.06 bill
Orderbook (183 ships)	\$39.44 bill

*Source: VesselsValue (01/03/22)

*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	\$35,000	+\$8,500
West of Suez	\$35,000	+\$8,500
12 mos T/C	\$76,000	+\$1,000

*Since last report (17/02/22)

Source: Fearnleys (02/03/22)

LNGC online training course updated

Ocean Technologies Group (OTG) has updated its STCW oil, chemical and liquefied gas tanker training courses.

The updates reflect changes to the UK MCA's requirements for online learning, enabling more seafarers internationally to obtain MCA approved STCW basic and advanced tanker training certification.

Previously, the MCA stipulated that online courses had to be supplemented by an MCA approved firefighting certificate, offered almost exclusively by training providers located in the UK.

Due to the ongoing travel dis-

ruption and closure of training facilities caused by COVID-19, the MCA granted a concession to allow seafarers holding non-MCA firefighting certificates to gain MCA tanker certification, provided they completed MCA tanker firefighting theory training.

As the MCA has now made this concession permanent, OTG has revised its STCW Basic Oil & Chemical, Basic Liquefied Gas, Advanced Oil, Advanced Chemical

and Advanced Liquefied Gas tanker e-learning courses to include new tanker firefighting theory modules, which cover the MCA syllabus and offer certification to a much wider audience globally.

"The fact that our updated tanker courses have UK MCA approval is good news for seafarers everywhere. Existing firefighting certificates from a long list of countries will now be accepted by the MCA, which, when combined

with our e-learning and its practical exercises, will make the highly regarded and highly respected MCA tanker training certificate available to seafarers, regardless of where they are based," said Steven Gosling, OTG's Global Manager, Courses and Certification.

These courses can be undertaken through an Ocean Learning Platform subscription or pay-as-you-go from OTG's online shop at shop.oceantg.com

NEWS NUDGE

Ships -- Newbuildings and charters

There has been no let up in the number of LNGC orders reported recently.

The latest batch included a possible four, option four, 174,000 cu m vessels ordered by H-Line at Samsung on the back of long term charters to ExxonMobil.

The firm four were ordered at an estimated cost of \$830 mill and will be delivered in 2025.

QatarGas has reportedly firmed up another six 174,000 cu m LNGC orders in South Korea.

The vessels will be built at Hyundai Samho (four), Samsung (one) and Daewoo (one) for deliveries stretching from 2023 to 2025.

Hyundai Samho has also won a contract from Hyundai Glovis to build a 174,000 cu m vessel on the back of a seven year charter to Woodside.

The cost was estimated at \$217 mill and the vessel is due for delivery in 2024.

In the charter market, GasLog was reported to have secured long term charters for three out of four Daewoo newbuildings.

GasLog signed a contract with Japanese trading house Mitsui & Co to charter one vessel

for nine years, starting in 4Q24.

Two more newbuildings were reported taken by an undisclosed LNG producer for 10 years each with the charter due to start following their delivery in the third and fourth quarters of 2025, respectively.

GasLog also revealed that Gunvor had extended the charter of the 2015-built 155,000 cu m 'GasLog Salem' for another 12 months.

In addition, ADNOC Logistics & Services (ADNOC) and Atlantic Gulf & Pacific International Holdings (AG&P) have signed a charter agreement for ADNOC's LNGC 'Ish' for use as an FSU.

Under the terms of the agreement, starting 3Q22, AG&P will use the LNGC as the first LNG import terminal in the Philippines at Ilijan in Batangas Bay (PHLNG).

The agreement, which runs for 11 years with the option to extend for another four years, strengthens an existing relationship between the two companies and builds on a previous agreement between the two companies to provide another FSU in India, signed in 2021, ADNOC said.

'Ish' was built in 1995 in Japan and has a capacity of 137,315 cu m.



LNG OneWorld.com



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

Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
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	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	Avenir Allegiance	20,000	LNG	China	Yes	SSES
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	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
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
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	???
2026	Avenir TBN (option)	20,000	LNG	Worldwide	Yes	Avenir LNG
2026	Avenir TBN (option)	20,000	LNG	Worldwide	Yes	Avenir LNG

WORLD LNG CARRIER ORDERBOOK

Name	Containment system	Propulsion	Yard	Delivery date	Capacity	Primary Owner
Clean Cajun	Unknown	XDF	Hyundai Heavy	Q1, 2022	200000	Dynagas
Elisa Aquila	Gtt Mkiii Flex	XDF	Hyundai Samho	Q1, 2022	174000	NYK
Global Sealine	Gtt96 Gw	XDF	DSME	Q1, 2022	173400	Nakilat
Maran Gas Kythira	Gtt96 Gw	XDF	DSME	Q1, 2022	174000	Maran Gas Maritime
Orion Sea	Gtt Mkiii Flex	XDF	Samsung	Q1, 2022	174000	JP Morgan
Orion Star	Gtt Mkiii Flex	XDF	Samsung	Q1, 2022	174000	JP Morgan
Alexey Kosygin	Gtt Mkiii	TFDE - Azipod	Zvezda SSK	Q1, 2023	172600	Smart LNG
Asterix I	Gtt Mkiii Flex	XDF	Hyundai Heavy	Q1, 2023	174000	Capital Gas
Hudong-zhonghua H1837a	Gtt96 L03+	XDF	Hudong-Zhonghua	Q1, 2023	79960	Shenzhen Gas
Hyundai Ulsan 3243	Unknown	XDF	Hyundai Heavy	Q1, 2023	174000	Knutzen
Samsung 2364	Gtt Mkiii Flex+	XDF	Samsung	Q1, 2023	174000	MISC
Samsung 2365	Gtt Mkiii Flex+	XDF	Samsung	Q1, 2023	174000	MISC
United Glory	Unknown	XDF	Hudong-Zhonghua	Q1, 2023	174000	ULT
DSME 1/4	Unknown	ME-GA	DSME	Q1, 2024	174000	MOL
Hudong-zhonghua H1829a	Gtt96 L03+	XDF	Hudong-Zhonghua	Q1, 2024	170520	CSSC
Hyundai Samho 8148	Unknown	XDF	Hyundai Heavy	Q1, 2024	174000	Knutzen
Hyundai Samho 8149	Unknown	ME-GA	Hyundai Samho	Q1, 2024	174000	Knutzen
Hyundai Ulsan 3244	Unknown	XDF	Hyundai Heavy	Q1, 2024	174000	Knutzen
Hyundai Ulsan 3292	Unknown	ME-GA	Hyundai Heavy	Q1, 2024	200000	Dynagas
Hyundai Ulsan 3293	Unknown	ME-GA	Hyundai Heavy	Q1, 2024	200000	Dynagas
Hyundai Ulsan 3294	Unknown	XDF	Hyundai Heavy	Q1, 2024	174000	Hyundai LNG Shipping
Hyundai Ulsan 3297	Unknown	XDF	Hyundai Heavy	Q1, 2024	174000	Hyundai LNG Shipping
Samsung 2461	Gtt Mkiii Flex	ME-GA	Samsung	Q1, 2024	180000	Celsius Shipping
Samsung Sovcomflot 4/4	Gtt Mkiii Flex	XDF	Samsung	Q1, 2024	174000	NYK
SHI Oct 1/4		Other/unknown	Samsung	Q1, 2024	174000	JP Morgan
ULT #5	Gtt96 L03+	XDF	Hudong-Zhonghua	Q1, 2024	174000	ULT
ULT #6	Gtt96 L03+	XDF	Hudong-Zhonghua	Q1, 2024	174000	ULT
BW DSME 1/2		ME-GA	DSME	Q1, 2025	174000	BWGas
Hudong-Zhonghua QP #3	Unknown	Other/unknown	Hudong-Zhonghua	Q1, 2025	175000	Qatar Petroleum
Qatar DSME 1/4	Unknown	MEGI	DSME	Q1, 2025	174000	Qatar Petroleum
Qatar HHI 1		Other/unknown	Hyundai Heavy	Q1, 2025	174000	Qatar Petroleum
Qatar HHI 2		Other/unknown	Hyundai Heavy	Q1, 2025	174000	Qatar Petroleum
Qatar SHI 1/2		ME-GA	Samsung	Q1, 2025	174000	Qatar Petroleum
Qatar SHI 2/2		ME-GA	Samsung	Q1, 2025	174000	Qatar Petroleum
Clean Copano	Unknown	XDF	Hyundai Heavy	Q2, 2022	200000	Dynagas
Grace Freesia	Gtt Mkiii Flex	XDF	Hyundai Samho	Q2, 2022	173000	NYK
Hudong-zhonghua H1788a	Gtt96	XDF	Hudong-Zhonghua	Q2, 2022	79960	K-Line
Lagenda Serenity	Gtt96 L03+	XDF	Hudong-Zhonghua	Q2, 2022	79960	K-Line
Samsung 2337	Gtt Mkiii Flex	XDF	Samsung	Q2, 2022	174000	JP Morgan
Vivit Arabia Lng	Gtt Mkiii Flex	XDF	Hyundai Samho	Q2, 2022	174000	H-Line
Daewoo 2515	Unknown	TFDE - Azipod	DSME	Q2, 2023	172500	Sovcomflot
El Ferrol Knutsen	Unknown	XDF	Hyundai Heavy	Q2, 2023	174000	Knutzen
Extremadura Knutsen	Unknown	XDF	Hyundai Heavy	Q2, 2023	174000	Knutzen
Hudong-zhonghua H1833a	Unknown	XDF	Hudong-Zhonghua	Q2, 2023	174000	ULT
Samsung 2426	Unknown	XDF	Samsung	Q2, 2023	174000	Pan Ocean
Daewoo 2522	Unknown	MEGI	DSME	Q2, 2024	174000	Hyundai LNG Shipping
DSME 2/4	Unknown	ME-GA	DSME	Q2, 2024	174000	MOL
Hudong-zhonghua H1830a	Gtt96 L03+	XDF	Hudong-Zhonghua	Q2, 2024	170520	CSSC

Name	Containment system	Propulsion	Yard	Delivery date	Capacity	Primary Owner
Hyundai Ulsan 3295	Unknown	XDF	Hyundai Heavy	Q2, 2024	174000	Hyundai LNG Shipping
Samsung 2579	Gtt Mkiii Flex	ME-GA	Samsung	Q2, 2024	180000	Celsius Shipping
SHI Oct 2/4		Other/unknown	Samsung	Q2, 2024	174000	JP Morgan
BW DSME 2/2		ME-GA	DSME	Q2, 2025	174000	BWGas
Hudong-Zhonghua QP #4	Unknown	Other/unknown	Hudong-Zhonghua	Q2, 2025	175000	Qatar Petroleum
Hyundai Ulsan 3320	Unknown	ME-GA	Hyundai Heavy	Q2, 2025	174000	JP Morgan
Qatar DSME 3/4		MEGI	DSME	Q2, 2025	174000	Qatar Petroleum
Qatar HHI 3		Other/unknown	Hyundai Heavy	Q2, 2025	174000	Qatar Petroleum
Samho Capital 1/3	Mark III Flex	ME-GA	Hyundai Samho	Q2, 2025	174000	Capital Gas
Samho Capital 2/3	Mark III Flex	ME-GA	Hyundai Samho	Q2, 2025	174000	Capital Gas
Bw Cassia	Gtt96 Gw	MEGI	DSME	Q3, 2022	174000	BWGas
Bw Iris	Gtt96 Gw	MEGI	DSME	Q3, 2022	174000	BWGas
Prism Diversity	Unknown	XDF	Hyundai Heavy	Q3, 2022	180000	SK Shipping
Santander Knutsen	Unknown	XDF	Hyundai Heavy	Q3, 2022	174000	Knutsen
Sm Albatross		XDF	Hyundai Heavy	Q3, 2022	174000	Korea Line
Sm Bluebird		XDF	Hyundai Heavy	Q3, 2022	174000	Korea Line
Daewoo 2516	Unknown	TFDE - Azipod	DSME	Q3, 2023	172500	Sovcomflot
Daewoo 2517	Unknown	TFDE - Azipod	DSME	Q3, 2023	172500	MOL
H-line #3	Gtt Mkiii Flex	XDF	Hyundai Samho	Q3, 2023	174000	H-Line
Hudong-zhonghua H1838a		XDF	Hudong-Zhonghua	Q3, 2023	79960	K-Line
Hyundai Samho 8105	Gtt Mkiii Flex	XDF	Hyundai Samho	Q3, 2023	174000	Sovcomflot
Hyundai Ulsan 3290	Unknown	ME-GA	Hyundai Heavy	Q3, 2023	200000	Dynagas
Lng Harmony	Unknown	XDF	Hyundai Heavy	Q3, 2023	174000	JP Morgan
Orion Sage	Unknown	XDF	Hyundai Heavy	Q3, 2023	174000	JP Morgan
Samsung 2425	Unknown	XDF	Samsung	Q3, 2023	174000	Maran Gas Maritime
Samsung 2459	Gtt Mkiii Flex	ME-GA	Samsung	Q3, 2023	180000	Celsius Shipping
Samsung Sovcomflot 1/4	Gtt Mkiii Flex	XDF	Samsung	Q3, 2023	174000	NYK
Sm Golden Eagle	Unknown	XDF	Hyundai Heavy	Q3, 2023	174000	Korea Line
Zvezda 042	Gtt Mkiii	TFDE - Azipod	Zvezda SSK	Q3, 2023	172600	Smart LNG
DSME 3/4	Unknown	ME-GA	DSME	Q3, 2024	174000	MOL
DSME 4/4	Unknown	ME-GA	DSME	Q3, 2024	174000	MOL
DSME MOL	Unknown	ME-GA	DSME	Q3, 2024	174000	MOL
Hyundai Ulsan 3221	Unknown	XDF	Hyundai Heavy	Q3, 2024	174000	Pan Ocean
Hyundai Ulsan 3224	Unknown	ME-GA	Hyundai Heavy	Q3, 2024	174000	Pan Ocean
Hyundai Ulsan 3296	Unknown	XDF	Hyundai Heavy	Q3, 2024	174000	Hyundai LNG Shipping
Hyundai Ulsan 3298	Unknown	XDF	Hyundai Heavy	Q3, 2024	174000	Hyundai LNG Shipping
Maran DSME	Gtt96 Gw	MEGI	DSME	Q3, 2024	174000	Maran Gas Maritime
Samsung 2473	Unknown	XDF	Samsung	Q3, 2024	174000	Maran Gas Maritime
Samsung 2474	GTT Mark III Flex	XDF	Samsung	Q3, 2024	174000	Maran Gas Maritime
Samsung 2584	Gtt Mkiii Flex	ME-GA	Samsung	Q3, 2024	180000	Celsius Shipping
Samsung 2585	Gtt Mkiii Flex	ME-GA	Samsung	Q3, 2024	180000	Celsius Shipping
SHI Oct 3/4		Other/unknown	Samsung	Q3, 2024	174000	JP Morgan
Sovcomflot #1	Gtt Mkiii Flex	XDF	Hyundai Samho	Q3, 2024	170520	Sovcomflot
Sovcomflot #2	Gtt Mkiii Flex	XDF	Hyundai Samho	Q3, 2024	170520	Sovcomflot
Zvezda 046	Unknown	TFDE - Azipod	Zvezda SSK	Q3, 2024	172600	Smart LNG
Zvezda 047	Unknown	TFDE - Azipod	Zvezda SSK	Q3, 2024	172600	Smart LNG
Hyundai Samho 8102	Unknown	ME-GA	Hyundai Heavy	Q3, 2025	174000	Knutsen
Hyundai Ulsan 3321	Unknown	ME-GA	Hyundai Heavy	Q3, 2025	174000	JP Morgan
Qatar DSME 2/4		MEGI	DSME	Q3, 2025	174000	Qatar Petroleum
Qatar HHI 4		Other/unknown	Hyundai Heavy	Q3, 2025	174000	Qatar Petroleum

Name	Containment system	Propulsion	Yard	Delivery date	Capacity	Primary Owner
Samho Capital 3/3	Mark III Flex	ME-GA	Hyundai Samho	Q3, 2025	174000	Capital Gas
Zvezda 051	Unknown	TFDE - Azipod	Zvezda SSK	Q3, 2025	172600	Smart LNG
Zvezda 052	Unknown	TFDE - Azipod	Zvezda SSK	Q3, 2025	172600	Smart LNG
Tenergy	Gtt Mkiii Flex	XDF	Hyundai Heavy	Q4, 2021	174000	Tsakos Energy Navigation
Vivirt City Lng	Gtt Mkiii Flex	XDF	Hyundai Samho	Q4, 2021	174000	H-Line
Alicante Knutsen	Unknown	XDF	Hyundai Heavy	Q4, 2022	174000	Knutsen
Daewoo 2514	Unknown	TFDE - Azipod	DSME	Q4, 2022	172500	Sovcomflot
Hudong-zhonghua H1831a	Not Applicable	XDF	Hudong-Zhonghua	Q4, 2022	174000	ULT
Huelva Knutsen	Unknown	XDF	Hyundai Heavy	Q4, 2022	174000	Knutsen
Lng Prosperity		XDF	Hyundai Heavy	Q4, 2022	174000	JP Morgan
Malaga Knutsen	Unknown	XDF	Hyundai Heavy	Q4, 2022	174000	Knutsen
Minerva Amorgos	Gtt Mkiii Flex+	XDF	Samsung	Q4, 2022	174000	Minerva Marine
Orion Song		XDF	Hyundai Heavy	Q4, 2022	174000	JP Morgan
Amore Mio I	Gtt Mkiii Flex	ME-GA	Hyundai Heavy	Q4, 2023	174000	Capital Gas
Axios II	Gtt Mkiii Flex	ME-GA	Hyundai Heavy	Q4, 2023	174000	Capital Gas
Daewoo 2518	Unknown	TFDE - Azipod	DSME	Q4, 2023	172500	MOL
Daewoo 2519	Unknown	TFDE - Azipod	DSME	Q4, 2023	172500	MOL
Daewoo 2520	Unknown	MEGI	DSME	Q4, 2023	174000	MOL
Daewoo 2521	Unknown	MEGI	DSME	Q4, 2023	174000	Hyundai LNG Shipping
Hyundai Samho 8101	Unknown	XDF	Hyundai Heavy	Q4, 2023	174000	Knutsen
Hyundai Samho 8139	Unknown	XDF	Hyundai Samho	Q4, 2023	174000	Knutsen
Hyundai Ulsan 3291	Unknown	ME-GA	Hyundai Heavy	Q4, 2023	200000	Dynagas
Jiangnan H2637	Gtt Mkiii Flex	XDF	Jiangnan	Q4, 2023	79800	Jovo Energy
Samsung 2460	Gtt Mkiii	ME-GA	Samsung	Q4, 2023	180000	Celsius Shipping
Samsung Sovcomflot 2/4	Gtt Mkiii Flex	XDF	Samsung	Q4, 2023	174000	NYK
Samsung Sovcomflot 3/4	Gtt Mkiii Flex	XDF	Samsung	Q4, 2023	174000	NYK
Sm Kestrel	Unknown	XDF	Hyundai Heavy	Q4, 2023	174000	Korea Line
ULT #4	Gtt96 L03+	XDF	Hudong-Zhonghua	Q4, 2023	174000	ULT
Zvezda 043	Gtt Mkiii	TFDE - Azipod	Zvezda SSK	Q4, 2023	172600	Smart LNG
Zvezda 044	Gtt Mkiii	TFDE - Azipod	Zvezda SSK	Q4, 2023	172600	Smart LNG
Zvezda 045	Unknown	TFDE - Azipod	Zvezda SSK	Q4, 2023	172600	Smart LNG
DSME Gaslog 1/4		MEGI	DSME	Q4, 2024	174000	GasLog
DSME Gaslog 2/4		MEGI	DSME	Q4, 2024	174000	GasLog
Hudong-Zhonghua QP #1	Unknown	Other/unknown	Hudong-Zhonghua	Q4, 2024	175000	Qatar Petroleum
Hudong-Zhonghua QP #2	Unknown	Other/unknown	Hudong-Zhonghua	Q4, 2024	175000	Qatar Petroleum
Hyundai Samho 8100	Unknown	XDF	Hyundai Heavy	Q4, 2024	174000	Knutsen
Hyundai Ulsan 3222	Unknown	XDF	Hyundai Heavy	Q4, 2024	174000	Pan Ocean
Hyundai Ulsan 3225	Unknown	ME-GA	Hyundai Heavy	Q4, 2024	174000	Pan Ocean
Hyundai Ulsan 3299	Unknown	XDF	Hyundai Heavy	Q4, 2024	174000	Hyundai LNG Shipping
Maran DSME 2	Gtt96 Gw	MEGI	DSME	Q4, 2024	174000	Maran Gas Maritime
Orion Sky	Unknown	XDF	Hyundai Heavy	Q4, 2024	174000	JP Morgan
SHI Oct 4/4		Other/unknown	Samsung	Q4, 2024	174000	JP Morgan
Zvezda 048	Unknown	TFDE - Azipod	Zvezda SSK	Q4, 2024	172600	Smart LNG
Zvezda 049	Unknown	TFDE - Azipod	Zvezda SSK	Q4, 2024	172600	Smart LNG
Zvezda 050	Unknown	TFDE - Azipod	Zvezda SSK	Q4, 2024	172600	Smart LNG
DSME Gaslog 3/4		MEGI	DSME	Q4, 2025	174000	GasLog
DSME Gaslog 4/4		MEGI	DSME	Q4, 2025	174000	GasLog
Qatar DSME 4/4		MEGI	DSME	Q4, 2025	174000	Qatar Petroleum
Zvezda 053	Unknown	TFDE - Azipod	Zvezda SSK	Q4, 2025	172600	Smart LNG
Zvezda 054	Unknown	TFDE - Azipod	Zvezda SSK	Q4, 2025	172600	Smart LNG
Zvezda 055	Unknown	TFDE - Azipod	Zvezda SSK	Q4, 2025	172600	Smart LNG

DFDE = dual fuel diesel engines, STRH = steam turbine reheat / ultra steam turbine, MEGI = marine electric gas injection, DRL = slow speed diesel, FSRU = vessel with regas capacity, FLNG = floating LNG production unit
Data last updated = Data last updated = 9th December 2021