

LNG Shipping News

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LNG trades to slow in 2022 - IEA

Global LNG trade growth is expected to slow to 4% this year, from a year-on-year growth of 6% seen in 2021.

This forecast appeared in the International Energy Agency's (IEA) latest quarterly gas market report, analysed by S&P Global Platts.

Last year's Asian LNG demand expansion is projected to moderate and the drought-driven rise in South American imports will cease.

However, Asia will account for all LNG imports net growth in 2022, the IEA said.

China remains the largest contributor to import growth, but its growth rate will drop to 9% in 2022, due to the ramp-up of Russian pipeline flows and the overall slowdown in gas demand growth.

India's LNG imports are projected to return to 2020 levels after a temporary dip in 2021, registering a 12% increase this year.

Emerging Asia LNG imports are due to expand by 27% this year, driven by a post-pandemic demand recovery, domestic production declines and planned import capacity additions.

European LNG imports are also expected to remain high, although likely below 2019/2021 levels – to meet the region's storage restocking needs.

Currently, stocks are said to be around 39% of capacity.

Middle East import growth during 2022 is expected to be 11%, partly boosted by Kuwait's new Al-Zour terminal, while in Africa, imports will be fuelled by the emergence of new importing countries - Ghana, South Africa and Senegal.

This year's LNG export growth will remain dominated by North America, which will account for more than 75% of the global LNG

supply net increase.

The commercial start up of Sabine Pass Train 6 and the Calcasieu Pass terminal, both ahead of schedule, are the main contributors to a 16% increase in US LNG production this year, the agency said.

Supply problems

Inadequate supply tightened LNG markets in 2021, due to LNG capacity outages and upstream under performance, some of which was caused by temporary unplanned issues and disruption to maintenance schedules, due to COVID-19 in 2020.

Last year's tight market led to record high spot LNG prices. The benchmark JKM spot Asian LNG price rose to an all-time high of \$56.33 per MMBtu in October.

Prices have since softened, with the JKM assessed on 31st January at \$27.92 per MMBtu.

The IEA also said that adequate gas supply could be a cause for concern in the medium term, due to a combination of recent LNG project delays, the relatively small number of new LNG FIDs in 2020/2021 and a decline in upstream spending since the early 2010s.

The most visible sign of supply under performance was the high level of LNG capacity outages, which spiked in 2020 and remained high throughout 2021,

the agency said.

About half of the LNG volumes lost to unplanned outages in 2021, excluding the long-term disruption in Yemen, was due to upstream issues limiting feedgas availability, with the most severe incidents occurring in Nigeria, Trinidad and Tobago, and Malaysia.

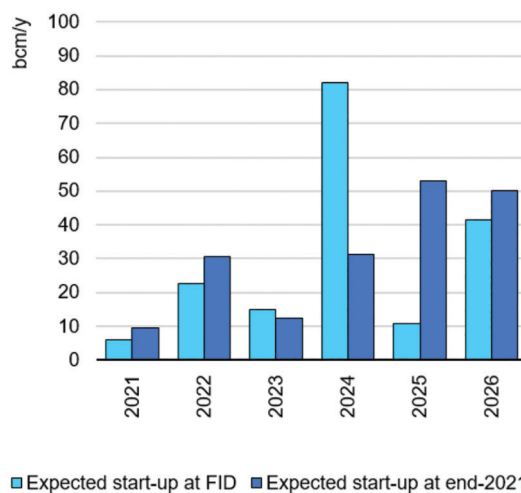
Project delays could further limit supply availability in the next few years.

Of the nearly 190 billion cu m of nameplate liquefaction capacity under construction in early 2021, about 20% was ahead of schedule by an average of eight months, 35% was on time and 45% was delayed by an average of 14 months, the agency said.

Delays are especially pronounced for projects that were initially targeting full capacity by 2024, including LNG Canada, Mozambique LNG and Golden Pass in the US.

However, the agency added that high and volatile spot LNG prices and the recent rise in LNG contracting activity, could result in additional FIDs.

Expected start-up year of new LNG capacity



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Ukraine crisis - where will the LNG come from?

There has been a lot of political posturing about supplying LNG worldwide in the light of the possible Russian invasion of the Ukraine.

It mainly surrounds the use of LNG to replace lost pipeline natural gas across Europe and beyond.

For example, the massive Nord Stream 2 pipeline project is still held up by European Union (EU) political wrangling over its certification, which has helped to increase President Putin's resolve to act.

Ukraine has huge storage capacity for natural gas and is connected to Russia and other countries via pipelines, which run through the country.

This situation has led to European importers with access to

coastal terminals to try to ramp up their LNG imports for their energy needs.

European LNG storage volume is thought to be only around 40% full and falling. The problem will increase if there is a cold snap in the region.

There have been reports of several Asian LNG cargoes being switched to Europe to the detriment of that area's energy needs, especially if the weather does turn colder.

However, the main problems are the lack of supply capacity world-

wide and the fact that most LNG shipments are undertaken on already agreed long term contracts.

Extra volumes

We have heard Australia, Qatar and US Governments make noises about ramping up LNG exports but where will the extra volumes come from?

Due primarily to the pandemic, there have been virtually no FIDs taken on new facilities or expansion projects for some time. Most 'pundits' think that it won't be until 2024/2025 when we will see

the main proposed projects come online even if FIDs are taken this year.

Exporting liquefaction terminals are almost running at full capacity today, while planned maintenance shutdowns and other outages, such as seen with the FLNG 'Prelude' off Australia, have to be taken into consideration.

Most exporters could probably increase their export volumes by 'tweaking' their operations or re-routing ships but this would result in nowhere near enough LNG to cover the potential shortfall. ■

LNG market - unpredictability rules

From 2024 onwards, the LNG market will see a serious increase in LNG production coming online.

As a result, in the last six months, owners have moved aggressively to book slots in South Korean shipyards to try and secure competitive prices, Toby Dunipace, Head of LNG said writing in broker Simpson Spence Young (SSY) 2022 Outlook report.

Between July and December last year, newbuilding LNGC prices increased by over \$10 mill per vessel.

However, the issue was not only price, as due to LNG markets being very strong, plus very healthy containership orders, yard slots are now fully booked until 2025.

This adds further strong sentiment to the charter markets.

Will there be enough shipping to satisfy the growing LNG market? Can shipping keep up with this LNG boom we are seeing?

For the first quarter of 2022, market participants will keep a very close eye on worldwide weather patterns in order to determine the future of the spot market.

January and February can still be busy periods if there is cold weather, especially in the East. With the market still fundamentally quite short on shipping length, rates can quickly improve as ships disappear from the market.

The term market is likely to continue to see strong levels, whilst the worldwide gas prices remain so high; at the time of writing, the average is over \$20/MMBtu on a worldwide basis.

If this level starts to drop, as demand for LNG diminishes, if indeed it does, then charterers may reassess their positions and be more comfortable taking spot market exposure, as opposed to term business.

One thing is certain, LNG remains an unpredictable and volatile market. Making predictions gets more and more difficult each year, he concluded.

In its fourth quarter results presentation, quoting Poten & Partners, GasLog Partners said

that Global LNG demand for 2021 was 386 mill tonnes, compared to around 363 tonnes for 2020, an increase of 6%.

Growth was led by China last year, where demand grew by about 12 mill tonnes, or 17%, and South Korea, where demand expanded by around 7 mill tonnes, or 16%.

This growth was balanced by a drop in Europe, where demand fell by about 6 mill tonnes, or 8%, and India, where demand declined by around 2 mill tonnes, or 7%.

As for supply, last year saw a 6% increase to about 393 mill tonnes. The US led supply growth in 2021, up by around 25 mill tonnes, or 51% year-on-year, while Nigeria, Trinidad and Norway each registered a decline of over 3 mill tonnes, or 18%, 29% and 97%, respectively.

New capacity

Looking ahead, about 112 mill tonnes of new LNG capacity is currently under construction and

scheduled to come online between 2022 and 2026, GasLog said.

Headline spot rates for TFDE LNGCs, as reported by Clarkson Research Services, averaged \$149,000 per day in 4Q21, a 38% increase over the \$104,000 per day average reported for 4Q20.

Steam vessels' slot rates averaged \$107,000 per day in 4Q21, 47% higher than the average of \$73,000 per day in the corresponding quarter of 2020.

Spot rates in 4Q21 benefited from low vessel availability, as well as LNG demand growth, combined with supply growth in the US and longer than average waiting times at the Panama Canal.

In stark contrast, as of 21st January, 2022, Clarkson's assessed headline spot rates for TFDE and steam LNGCs at \$28,500 per day and \$19,500 per day, respectively (see page 10 for the latest rates). However, forward assessments indicated rising spot rates through this year. ■

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Awilco joins CoolCo

Oslo-based Awilco LNG has joined the recently formed LNGC owner and operator consortium, Cool Company (CoolCo).

This was achieved through CoolCo's private placement in which, Awilco was allocated 700,000 shares at a total value of \$7 mill.

Owner of two LNGCs, Awilco said that it supported the consolidation of the LNG market and looked forward to continuing working with CoolCo.

It added that the Board was committed to the statement made in the third quarter 2021 financial report to return capital to shareholders and intends to propose a dividend in line with the size of the investment in CoolCo to the Annual General Meeting scheduled for May, 2022.

The stake originated from Golar and Eastern Pacific Shipping (EPS) owned CoolCo's recent closing of an increased private placement of \$275 mill in new shares.

Following the equity hike, CoolCo will have an initial equity value of \$400 mill. At the time of the issue, EPS would be the largest stakeholder with a 38%

shareholding, Golar would own 31% and the public would be allocated the remaining 31%.

The shares will be listed on the Oslo N-OTC immediately following the private placement's completion. CoolCo will then apply to list the shares on Euronext Growth Oslo, this month. CoolCo also said that it will also target an additional listing on an internationally recognised stock exchange this year.

TFDE LNGCs

Initially owning eight modern TFDE LNGCs upon the closing of a Sale and Purchase Agreement (SPA) in February with Golar, CoolCo aims to become a growth vehicle and consolidator of modern LNGCs providing investors with direct market exposure to an expected continued strength in the LNG freight market.

Karl Fredrik Staubo, Golar and CoolCo CEO, commented: "We are very pleased with the reception of CoolCo. The company will target



Karl Fredrik Staubo - CoolCo CEO

to become a leading player for an expected continued strengthening of LNG shipping fundamentals, driven by new liquefaction capacity coming on stream, increasing distances and effective supply reductions from new environmental regulations effective 1st January, 2023.

"We are excited to develop Cool Company with Eastern Pacific Shipping and look forward to exploring consolidation opportunities," he said.

Cyril Ducau, EPS CEO, added: "The strong market support for this transaction creates a solid foundation for CoolCo. With a strong shareholder base, robust capital structure, experienced team and strong LNG market repu-

tation, the company is well equipped to realise value from an enviable market position and build on favourable dynamics for LNG shipping."

Clarksons Platou Securities and DNB Markets, a part of DNB Bank, acted as joint global co-ordinators and bookrunners, ABG Sundal Collier and Fearnley Securities acted as joint bookrunners and Danske Bank Norwegian Branch and Nordea Bank Abp, filial i Norge, acted as joint lead managers.

Earlier, agreements in principle for CoolCo to acquire the commercial and technical organisation associated with the operation of Golar's owned and operated shipping and FSRU assets for \$5 mill, were reached. ■

SIGTTO's Clifton to step down

SIGTTO's General Manager, Andrew Clifton, has announced that he is resigning from the society.

Clifton has headed up SIGTTO for over nine years but has decided to pursue a fresh challenge. His last working day will be 4th March, 2022.

"I would like to express my thanks to the President and Board of Directors for the unique opportunity to serve SIGTTO over the last nine years," Clifton said. "It has truly been an honour and privilege to do so and I wish to thank you all for your support over the years and wish the society well for the future."

SIGTTO President Steffen Jacobsen, added: "I would like to take this opportunity to thank An-

drew for his large and continuous effort for the society, ensuring a strong safety focus, attracting and developing talent in the secretariat and being the public face of the society. It has been a pleasure to work with him."

The society's Board has started the recruitment process for a replacement. A further announcement will be made in due course, it said.

Established in 1979, SIGTTO is the industry association responsible for bringing a global consensus to the promotion of best working practices and high standards of safety in the storage, handling and



Andrew Clifton has resigned as head of SIGTTO

seaborne transport of liquefied gases, including LNG, LPG, hydrogen and CO₂. ■

NEWS NUDGE

Svitzer tugs to operate at Dampier

Maersk's towage provider, Svitzer, has signed a 10-year contract with Woodside Energy.

Under the terms of the contract, Svitzer will provide towage and pilot transfer services at Woodside's LNG export operations at Dampier, starting from the end of 2023.

Following an open tender process, Svitzer will provide five 80-tonne bollard pull tugs to serve the towage needs for LNGCs calling to load export cargoes.

Svitzer will also provide a new pilot transfer vessel to support Woodside and its joint venture operations. ■

Mozambique LNG could restart this year

TotalEnergies CEO, Patrick Pouyanne, has confirmed that the Mozambique LNG project could be restarted this year.

The \$20 bill LNG project located in the north of the country was halted by an insurgent group with links to Islamic State nearly a year ago.

The attack on the town of Palma, adjacent to the project and home to many gas workers, prompted the French energy major to withdraw all of its staff and declare *force majeure*, bringing work to a halt until security

was restored.

"When I will see that life is back to normality, which means having some state services and population, then the project can restart," Pouyanne said on a visit to Mozambique earlier this week. "My objective is that we will restart in 2022."

The original intention was to produce the first LNG cargo in 2024.

"A lot of progress has been done and frankly in a very short period of time," Pouyanne told reporters, following the signing of a deal to train 2,500 young Mozambicans to help them contribute to the project.

However, more steps need to be taken to ensure these achievements were sustainable, he said, adding that this also included a return to normality in towns that



TOTALEnergies Pouyanne
confident of Mozambique restart

were left largely abandoned, without any public services.

Clashes with insurgents and smaller attacks were continuing, at the time of writing. ■

Dynagas and Cheniere declare dividends

Dynagas LNG Partners has declared a cash distribution of \$0.5625 per unit on its Series A cumulative redeemable perpetual preferred units.

This is valid from 12th November, 2021 to 11th February, 2022.

It is payable on 14th February,

2022 to all preferred unit holders of record as of 7th February, 2022.

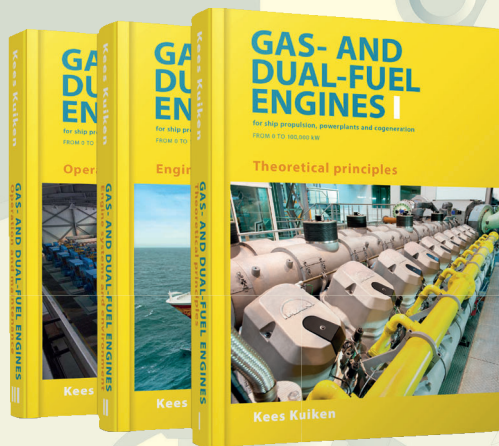
Distributions on the Series A preferred units will be payable quarterly in arrears on the 12th day (unless it falls on a weekend or public holiday, in which case

the payment date is moved to the next business day) of February, May, August and November of each year, when, and if is declared.

This is the 26th sequential cash distribution on these since they began trading on the NYSE,

Dynagas said.

Elsewhere, Cheniere Energy has declared a quarterly cash dividend of \$0.33 per common share payable on 28th February, 2022 to shareholders of record as of the close of business on 7th February, 2022. ■



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Gastrade takes FID on Alexandroupolis

Greek LNG developer Gastrade's shareholders have taken the Final Investment Decision (FID) to build the Alexandroupolis Independent Natural Gas System (INGS), which includes an FSRU.

The decision was unanimously approved after all the requirements for the project's materialisation were secured and the project was on track in line with its schedule.

A 153,500 cu m capacity FSRU will be connected to the Greek national natural gas transmission system via a 28 km long pipeline, through which the regasified LNG will be shipped to Greece, Bulgaria and to Romania, Serbia and North Macedonia, and on to Moldova and Ukraine.

Atlantic LNG to be restructured

The Trinidad and Tobago Government has signed a Heads of Agreement (HoA) with the Atlantic LNG project shareholders to aid its restructuring plans.

As part of the restructuring programme, BP, Shell, and NGC will continue discussions to agree to continue with the project. The proposed date for the definitive restructuring agreements' completion and execution is 30th June, 2022.

Trinidad's Ministry of Energy and Energy Industries said that the HoA came after months of discussions and complex negotiations.

China Investment Corporation (CIC), which has an equity interest in Atlantic LNG Train 1, is not participating in the restructuring programme but has held discussions with shareholders and the Government.

Atlantic LNG comprises four LNG trains with a total capacity of about 15 mill tonnes per annum of LNG. Each train has a different shareholder structure and commercial arrangement. However, the facility has suffered supply issues, due to diminishing domestic gas reserves, it was reported. ■

The Terminal is expected to be operational by the end of 2023. The contracted regasification capacity has already reached 50% of its technical capacity of 5.5 billion cu m per year.

Founding Shareholder and Chairperson of the Gastrade Board, Elmina Copelouzou, said: "The Final Investment Decision opens a new, important chapter in the energy security of the country and southeastern Europe. We are particularly happy that Gastrade has undertaken a critical project that is a priority for the European Union. Alexandroupolis INGS will be adding to the security of the energy supply, diversifying the energy routes and contributing to the development of competition to the benefit of the final consumers."

Konstantinos Sifnaios, Gastrade's Vice President and Managing Director, added "A strategic project for the region is now reaching the stage of implementation. We are really proud of this achievement and confident that Gastrade's human resources coupled, with the knowhow and support of its shareholders, will make the vision for a new, innovative energy entry gate in our



Gastrade's proposed GasLog FSRU

country, a reality."

GasLog Cyprus Investments' and GasLog Partners CEO, Paolo Enozzi, commented: "GasLog invested and supported the work from the very beginning and we are especially delighted that we reached today's outcome. This work matters greatly to us since GasLog not only participates in the shareholders' composition of Gastrade, but also, following the successful completion of the relevant competitive procedure, GasLog will be undertaking the conversion of one of our fleet vessels to an FSRU, which will subsequently be transferred to Gastrade at the end of 2023.

"Furthermore, GasLog will be undertaking the operation and maintenance FSRU, ensuring via

its expertise the supply of high level of services to the users of the station.

"This pluralistic role of our company to this work provides us with a special motive for its success, and we are looking forward to secure a new, contemporary and adequately functioning entrance portal of LNG for Greece and southeast Europe," he said.

The construction and operation of the Alexandroupolis LNG terminal will contribute to the energy security, liquidity and diversification of the country and the entire southeastern Europe region, strengthening the strategic role of Greece and offering alternative sources and routes for the supply of natural gas in the area, Gastrade claimed. ■

Hammerfest start-up further delayed

Equinor's Hammerfest/Melkoya LNG export plant restart has been pushed back to 17th May from 31st March this year.

The Norwegian energy giant explained that the previous estimate for the start-up following a fire was uncertain, particularly due to the development of the pandemic with operational restrictions in place.

"We work systematically to deliver on the plan we established, but challenges related to COVID-19 restrictions require that we need more time to prepare the plant for safe and stable start-up and operations," said Grete Haaland, Senior Vice President for Equinor's onshore plants.

Extensive work has been under-

taken after the September, 2020 fire at the plant. More than 22,000 components have been checked, 180 km of electrical cables were replaced and daily around 1,000 people have been working to get the plant back into operation.

Repairs on advanced equipment and compressors were carried out in addition to executing a planned turnaround and ordinary maintenance.

To limit COVID-19 infections, comprehensive measures and strict distancing rules have had to be maintained in all areas of the plant.

"The latest wave of infections, combined with restrictions and narrow working areas, impacts the progress. At times, half of staff have been in quarantine and isolation," explained Thor Johan Haave, Hammerfest LNG Plant Manager.

"The project work is nearing completion and we're doing what we can to finish the project. We are pleased with the good co-operation we have with Hammerfest municipality, employee representatives, safety delegates and suppliers. Now it is all about completing the job together," he added. ■

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Impairment hits GasLog's bottom line

GasLog Partners reported a total non-cash impairment loss of \$104 mill for the quarter ended 31st December, 2021.

This was with respect to its five steam LNGCs and was in accordance with International Financial Reporting Standards (IFRS).

This compared to a total impairment loss of \$5.1 mill for the same period in 2020.

The main factors involved in the impairment loss in the quarter, included the differences of the shipbroker estimates of the five steam LNGCs' fair market values versus their carrying values, as well as reduced expectations of the long-term rates for these older technology vessels.

This led to a decrease in profit of \$93.4 mill - from a profit of \$22.6 mill in 4Q20 to a loss of \$70.8 mill in 4Q21.

An increase in adjusted profit of \$4.8 mill, from \$25.9 mill in 4Q20 to \$30.7 mill in 4Q21, was mainly attributed to the increase of \$5.2 mill in adjusted EBITDA.

In total, quarterly revenues, profit/(loss), adjusted profit and adjusted EBITDA for 4Q21 were \$88.2 mill, (\$70.8) mill, \$30.7 mill and \$64.2 mill, respectively.

Annual revenues, profit, adjusted profit and adjusted EBITDA were \$326.1 mill, \$5.7 mill, \$99.8 mill and \$230.6 mill, respectively.

Quarterly earnings/(loss) per unit (EPU) of (\$1.50) and adjusted

EPU of \$0.45 were recorded for the quarter, while the annual EPU was (\$0.47) and adjusted EPU was \$1.39.

Cash distribution

The company declared a cash distribution of \$0.01 per common unit for 4Q21.

Recently appointed CEO, Paolo Enoizi, commented: "The fourth quarter was another period of strong operational and financial performance for the Partnership. We have delivered for our customers amidst continued COVID-19 difficulties with 100% fleet uptime and zero lost-time incidents, while our continued cost optimisation and re-chartering activities helped improve our profitability, as well as our overall liquidity position, with approximately \$146 mill of cash and cash equivalents at the end of the year.

"We keep focusing on debt repayments and improving the breakeven rates of the Partnership, while successfully executing our strategy and making progress towards our target leverage metrics. Furthermore, we repurchased an additional \$6 mill of preference units in the open market during the fourth quarter, bringing the total amount of pref-

erence units repurchased to \$18.4 mill during 2021 and further improving the fleet's all-in free cash flows.

"As we look ahead to 2022, we expect to continue with our capital allocation strategy, which will enhance our competitiveness and position the Partnership for continued success in the spot and short-term market for LNG shipping," he said.

Revenues increased by \$3.2 mill, from \$85 mill for 4Q20, to \$88.2 mill for the same period in 2021. This increase was mainly attributable to the improved performance of the spot fleet in 4Q21, in line with the ongoing improvement of the LNG shipping market observed last year and the short-term charters entered into.

Daily vessel operating costs (after excluding calendar days for the 'Solaris', the operating costs of which are covered by the charterers) decreased from \$15,127 per day for 4Q20, to \$14,695 per day for 4Q21.

The increase in adjusted EBITDA of \$5.2 mill, from \$59 mill in the 4Q20, compared to \$64.2 mill in the same period of 2021, was mainly attributable to the increase in revenues of \$3.2 mill and an aggregate decrease of \$2.1



GasLog Partners new head - Paolo Enoizi

mill from reduced operating expenses and general and administrative expenses.

As of 31st December, 2021, the company had \$145.5 mill of cash and cash equivalents, of which \$72.6 mill was held in current accounts and \$72.9 mill was held in time deposits with an original duration of up to three months.

At the same time, GasLog Partners had an aggregate of \$1,085.8 mill of borrowings outstanding under its credit facilities, of which \$99.3 mill was repayable within a year and an aggregate of \$55.9 mill of lease liabilities mainly related to the sale and leaseback of the 'GasLog Shanghai' last October, of which \$10.3 mill was payable within one year. ■

NEWS NUDGE

CB&I to build Plaquemines' tanks

McDermott's storage arm, CB&I, has won a contract from Venture Global Plaquemines LNG to build two 200,000 cu m LNG storage tanks.

The tanks will form part of Plaquemines LNG export project's first phase.

Located on the Mississippi River, 20 miles south of New Orleans, Plaquemines LNG is expected to have a combined export capacity of up to 20 mill

tonnes per year.

Phase one's scope involving CB&I includes the engineering, procurement and construction of two full containment concrete LNG storage tanks with associated foundations, tank top mechanical systems and pipe racks extending to the main facility.

CB&I recently reached ready for cool down on schedule for two LNG tanks of similar size and design for Venture Global's Calcasieu Pass LNG project.

Baker Potts advises on Tanzanian LNG project

The London practice of international law firm, Baker Botts, has been hired by state-owned Tanzania Petroleum Development Corporation (TPDC) to help in the development of the country's LNG project.

Baker Potts, which specialises in international energy, technology and life sciences, has been appointed the transaction adviser to the Government negotiation team and

to TPDC.

This project involves the development and construction of an onshore LNG plant to process and liquefy natural gas from Tanzania's large offshore natural gas discoveries and to export LNG to international markets.

TPDC and the Tanzanian Government is running the project, together with a number of international energy companies, including Equinor, Shell, Exxon-Mobil, Pavilion Energy and Ophir Energy. ■

Driftwood's construction to begin in April

Tellurian is to start the full construction of its Driftwood LNG export terminal in Louisiana in April.

This is regardless of whether the company has sufficient financing in place by that time to complete the first phase of the project, Executive Chairman, Charif Souki, said in a podcast posted on the company's website on Monday.

Souki also said that discussions with banks on finance may extend "a little bit longer."

"It is critical to get it right for the value of the shareholder, so

we're not going to rush through that process," Souki said. "We're very comfortable starting the construction programme without being completely sure that the financing will be put in place."

Following 10-year agreements with Gunvor, Vitol and Shell, Driftwood's total offtake commitments stand at 9 mill tonnes per year, which is enough for the project's two-plant first phase. Each plant is expected to have up to four liquefaction trains, giving a total design capacity of up to 27.6 mill tonnes per year.

The offtake deals were indexed to a combination of Platts JKM and the Dutch TTF European gas hub contract, netted back for transportation charges.

LNG would be delivered free-on-board (FOB) from Driftwood. Tellurian intends to produce its own feedgas for the first phase of the terminal but currently it is well short of the upstream production necessary to guarantee that.



Tellurian's Charif Souki



We're very comfortable starting the construction programme without being completely sure that the financing will be put in place



- Charif Souki, Executive Chairman, Tellurian

The shorter length of Tellurian's commercial deals than the traditional 20-year agreements that were used to finance the first wave of US liquefaction terminals and the pricing mechanisms underlying the company's agreements have raised questions in the market about the company's ability to obtain financing, S&P Global Platts said.

Souki tried to allay those concerns in the podcast, while at the same time acknowledging that Tellurian may have to use available cash and lines of financing to pay contractor Bechtel, while talks over the amount of money that would be needed to finish the first phase of the project continued.

"We now have a number of banks that are willing to consider a project like this," Souki said. "We feel very confident and comfortable that this will be done."

Following this podcast, uncertainty remained over whether and when Tellurian would announce a formal final investment decision (FID), in line with the traditional practice of US LNG exporters and the same process Souki employed when he was CEO of Cheniere Energy, a company he co-founded and led in the run-up to its flagship Sabine Pass terminal beginning exports in 2016, Platts said.

Regarding Driftwood LNG, Souki claimed that FID "doesn't apply here."

Dunkerque offers future regasification capacity

Fluxys' Dunkerque LNG has announced a 'call for market interest' process to book up to 3.5 bill cu m per annum of regasification capacity with a minimum of three years between 2023 and 2036.

This was as a result of the world's regasification capacity's limited availability in the market and considering the currently unsold capacity at its terminal.

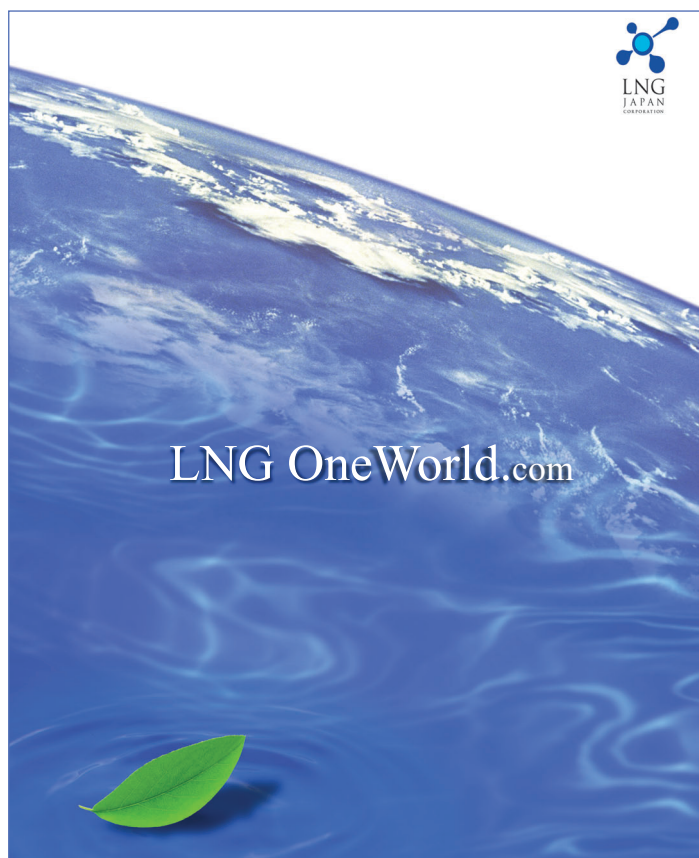
European LNG imports have witnessed a strong increase in recent years and are expected to continue to rise, as gas will be key in the energy transition.

Gas demand is expected to remain resilient and indigenous gas production continues to fall. Northwestern Europe will be the destination of choice thanks to its liquid and strongly interconnected markets.

Thanks to its location and its technical characteristics, the Dunkerque LNG facility stands out as one of the most attractive terminals in Europe, the company claimed.

Shippers are benefiting from several advantages, including no gas-in-kind used in the regasification process, an ideal location in Northwestern Europe with a direct access to two gas markets, as well as a broad operational and commercial flexibility.

The qualification phase for the process started on 1st February and will close on 25th February, 2022. ■



CII- a perfect storm!

A record 85 newbuilding contracts were signed at substantially higher prices in 2021 and another year of record contracting is forecast for this year.

For example, a further 10 were ordered in the first few days of January and with projects lined up, this number could easily triple, said Lloyd's Register's (LR) Panos Mitrou, Global Gas Segment Manager, in a blog.

Given these statistics, concerns are being raised about regulatory compliance.

"We are likely to have a shortage of ships that comply with the IMO's carbon intensity indicator (CII) from 2025 onwards. This could limit charterers' options, propel rates for compliant ships to new highs, and ultimately put a brake on the world's de-carbonisation process to the extent that this is driven from the coal to gas shift," he warned.

A supply squeeze is inevitable, despite the arrival of several newcomers in LNG construction, including Dalian Shipbuilding and Jiangnan Shipbuilding.

Despite this capacity expansion, LNGC shipbuilders are full until 2025 for a sector, which historically had a capacity of around 30 units a year.

LNG trades are predicted to grow by 250 mill tonnes per annum, until 2030, according to

MSI and IGU forecasts, putting even more pressure on the shipbuilding sector.

Panos outlined the challenges for today's existing fleet. There are about 250 elderly steam turbine vessels, which typically have a daily boil-off rate (BOR) of about 0.15% of cargo but cannot use this as fuel.

These ships were designed to use the boil-off for propulsion. However, their propulsion arrangements did not look to efficiency but to the productive consumption of liquid turning into gas.

For this reason, boilers coupled with steam turbines seemed like a good match despite its efficiency being marginally over 30%, or even lower when away from the optimum operating parameter, such as in 'slow steaming' conditions, he said.

LNG ship design then moved from steamships to 4-stroke, dual- or tri-fuel diesel-electric propulsion systems, using marine fuels or LNG. These vessels, with lower BORs of around 0.1%, have smaller engines and better efficiency of more than 40%. There are about 150 of these ships in the fleet today.

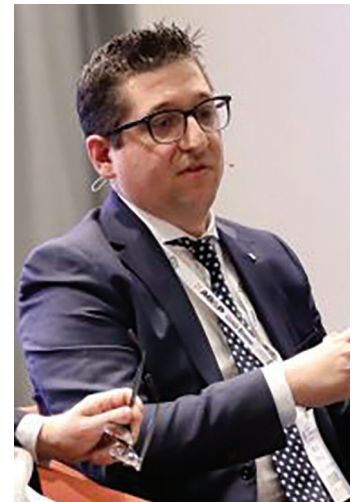
The latest generation of 2-stroke LNGCs have BORs as low as 0.07%. Their efficiency is almost or marginally below 50% and these vessels are equipped with reliquefaction plants on board to convert any excess boil-off back into liquid cargo.

Conserving cargo

As a result, during a slow canal transit, or port operations when propulsive power is not required, operators can conserve cargo and its value. There are about 280 of these ships in operation today, making up the balance of the fleet.

The first two ship categories, well over half of the existing fleet, are unlikely to achieve CII ratings of A, B, or C when they are gauged next year. This means that ships rated E will have to undergo carbon-efficiency improvements immediately (a subject to be covered in another blog) and owners of D-rated vessels will have to ensure that ships become more fuel efficient within the three following years.

However, since CII assessments will become progressively stricter from 2027 until the end of the



LR's Panos Mitrou warns of CII trouble ahead

decade, ships, which are adapted to meet CII requirements by 2024/5 may subsequently fall into categories D and E later in the decade.

Owners of these older vessels will then be faced with the decision over whether to invest in expensive sustainability measures, sell them for conversion to floating LNG plants, or dispose of them for recycling, Panos said.

On the one hand, there is limited scope to raise supply to meet the growing demand for seaborne LNG because shipbuilders have no extra capacity. On the other, a majority of ships in the fleet are unlikely to meet CII requirements from 2025 onwards, in what could resemble to a perfect storm! ■

BV wins Nakilat LNGC CAP surveys

Bureau Veritas Solutions Marine & Offshore (BV Solutions M&O), part of the Bureau Veritas Group, has been awarded a three-year contract by Nakilat to carry out condition assessment programmes (CAP) for its LNGC fleet.

The CAPs will start this year and cover 21 of Nakilat's LNGCs, all of which will be close to 15 years old and due for their third special surveys at the time of the CAP.

All of the CAP surveys will be scheduled to coincide with Nakilat's routine drydockings at the giant Ras Laffan repair yard.

A specific methodology was developed by BV to assess the condition of LNGCs fitted with both Moss type and membrane

containment systems.

This LNGC programme is described in BV's NI623 Condition Assessment Programme for LNG Carriers (LNG CAP) - an annex to the class society's NI465 for general CAP surveys.

Paul Shrieve, BV Solutions M&O President and Vice President Global Services at Bureau Veritas M&O, said: "Our CAP methodology has been built on more than 20 years of experience, and we have become the indus-

try's most trusted partner with more than 150 experts around the globe.

"It has also been internationally recognised by oil majors, cargo owners and charterers, and because of this we are able to ensure our clients' vessels comply with vetting requirements while also making them as commercial as possible.

"A lot of that work has been built on good relationships and we are excited by the prospect of

working with Nakilat on this project. It is particularly pleasing that we will be assessing the quality of vessels based on their current condition rather than age, this shows the forward-looking nature of Nakilat and we are looking forward to work getting under way," he said.

This contract builds on a successful 2021 for BV M&O, which saw more than 100 CAP surveys performed worldwide, of which about 20% were on LNGCs. ■

Höegh joins carbon capture initiative

Höegh LNG has joined Aker Carbon Capture and Alterra Infrastructure in a non-exclusive collaboration agreement to explore the prospect of offering carbon capture, utilisation, and storage (CCUS).

"Strategic partnerships with providers of CO2 processing, transport and storage capabilities help to optimise the value chain to fast-track the deployment of carbon capture utilisation and storage. We are pleased to collaborate with Alterra Infrastructure and Höegh LNG with their maritime infrastructure expertise in our efforts to accelerate the CCUS market," explained Jon Christopher Knudsen, Aker Carbon Capture CCO.

The companies will collaborate

on offering carbon capture as a service to industrial emitters, enabling cost-effective implementation of the full operation needed to realise carbon capture, utilisation, and storage projects.

Alterra Infrastructure and Höegh LNG are global maritime and infrastructure companies, providing services in the CCUS arena, including gaseous and liquid CO2 gathering, purification, liquefaction, transportation and CO2 permanent underground storage.

Their Stella Maris CCS project

covers large-scale transport with shuttling of CO2 to an offshore site for injection and permanent storage in a subsea reservoir.

Ingvild Sæther, Group CEO of Alterra said: "Large scale maritime CCS is seen as a cornerstone in Alterra's future business and a concept we have been working on for more than a decade, more recently with our partner, Höegh LNG. We believe delivery of CCUS will be required to achieve a meaningful contribution to net zero and we are delighted to be collaborating

with Aker Carbon Capture as a leader in carbon capture technology."

The collaboration is non-exclusive, allowing the parties to offer a full value chain at locations where the combined technical concept of Aker Carbon Capture's technology and the processing and shipping capabilities of Alterra Infrastructure and Höegh LNG is best suited, whilst leaving the companies with the flexibility to work with alternative solutions elsewhere. ■

NEWS NUDGE

Ships - Deliveries and sales

Nakilat has taken delivery of a newbuilding LNGC, 'Global Sealine'.

She is commercially and technically managed in-house by Nakilat Shipping Qatar Limited (NSQL) and is the last LNGC in a series of four to be delivered by Daewoo to Global Shipping, a joint venture between Nakilat (60%) and Maran Ventures (40%).

The 174,000 cu m LNGC is the second vessel to be fitted with an X-DF propulsion system to join the Nakilat fleet. She has been chartered to Cheniere Marketing International.

Her delivery brings Nakilat's fleet to 74 vessels, which is about 12% of the current global LNG fleet based on carrying capacity.

To date, there are 25 LNGCs, four LPG carriers and an FSRU managed and operated in-house by NSQL.

On 28th January, Mitsui OSK Lines (MOL) concluded a timecharter contract for a newbuilding 174,000 cu m LNGC with Mitsui & Co.

This represents the fourth contract, following deals for three newbuilding LNGCs signed between September, 2014 and January, 2015.

MOL will provide shipmanagement services for the vessel.

She will be fitted with an MAN Energy Solutions engine, which improved fuel efficiency and is scheduled to be delivered after 2024, MOL said.

Broking sources said that the MOL newbuilding contract was the firming up of an option.

Elsewhere, brokers reported that the 2002-built 135,273 cu m LNGC 'Excalibur' had been sold to Chinese interests for about \$35 mill.

Cargoes

China's Sinopec has issued a tender to sell up to 45 LNG cargoes

this year.

This rare move was made to take advantage of high Asian spot prices, traders told newswires.

Sinopec offered between two to five cargoes per month between February and October on a delivered ex-ship (DES) basis.

Prices will be linked either to Europe's Title Transfer Facility (TTF) pricing or North Asian benchmark Japan Korean Marker (JKM).

The tender closed on 21st January. The results were still unknown by the time LNG Shipping News went to press. ■

Monthly Large LNGC Values*

Newbuildings (174,000 cu m)	\$206.65 mill
Five years old (174,000 cu m)	\$164.87 mill
Total Fleet (541 ships)	\$66.55 bill
Orderbook (172 ships)	\$36.66 bill

*Source: VesselsValue (01/02/22)

*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	\$30,000	-
West of Suez	\$30,000	-
12 mos T/C	\$87,000	-\$4,000

*Since last report (20/01/22)

Source: Fearnleys (02/02/22)

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

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

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

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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 Mendelev	5,800	LNG	Russia	Yes	Gazprom Neft
2021	JMU TBN	2,500	LNG	Japan	Yes	JMU
2021	Ravenna Knutsen	30,000	LNG	Mediterranean	Yes	Knutsen OAS
2021	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

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