

LNG Shipping News

AN LNG JOURNAL TITLE ON LNG CARRIERS

22 July 2021

LNG market explosion on the cards - Drewry

At the end of June, an LNG market of high Asian LNG demand and low European storage inventories indicated a 'summer with all attributes of winter'.

According to Aman Sud, Drewry Maritime Research Lead LNG Analyst, at the end of the second quarter of this year, spot LNG prices were seven times higher than in 2020, while LNG shipping rates had doubled from last year.

Looking forward, demand in China, Japan and South Korea will remain robust owing to the hotter summer outlook increasing LNG demand for cooling and inventory replenishment.

Other Asian importers - India, Pakistan, Bangladesh and Thailand - are also on the lookout for spot supplies to satisfy domestic demand but are currently baulking at the high spot prices.

Conversely, securing European LNG cargoes will remain difficult this summer as more cargoes are attracted to Asia.

As for supply, this will be squeezed as many export facilities are scheduled to go into planned maintenance over the summer, mainly in Australia and the US.

European storage was at 44% of capacity in June, 25% below the average. Subdued Russian pipeline supplies and difficulty in securing additional LNG cargoes will impact

European restocking activity, leading to lower storage volumes at the end of summer.

Drewry said that European storage will be back up to 65-70% by October, but far below the levels needed to support winter demand. Therefore, a period of activity might be seen in October resulting in a scramble for LNG cargoes leading to even higher spot prices.

Asian LNG imports are likely to ease by September with nuclear restarts reducing power generation demand and inventories reaching sufficient levels.

Short term charters

LNGCs recently benefited from a surge in short-term charters, as charterers were keen to secure capacity for the peak season, highlighting their bullish stance on the winter of 2021.

Despite recently stabilising, LNGC rates are expected to firm over the summer months, as trade is forecast to increase on the US/Asia route. Possible delays at the discharge terminals will keep the vessels occupied.

However, Drewry expected some of the chartered vessels to

switch to the spot market as sublets, thus keeping vessel rates in check before a year end surge.

Panama Canal transit congestion is expected to return at the end of this year, although its impact could be reduced, as charterers are already identifying alternative routes or sourcing regional LNG stocks for the peak months.

In such a scenario, tonne/mile demand will decline with more US cargoes being shipped to Europe, leaving Australia and Qatar to cater for Asia.

As for newbuilding LNGCs, the huge Qatar order could be renegotiated due to higher prices, which would see firm orders pushed back until next year.

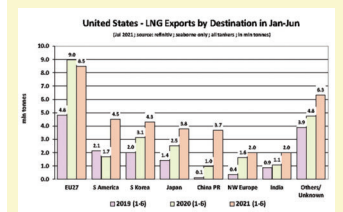
Also the 17 or so LNGC new-buildings earmarked for the Mozambique projects could have their shipyard slots snapped up by other operators, due to the problems in that country.

LNG shipping rates, which started the year on a high, are also expected to end the year at similar levels with the bull-run expected to last until 2Q22 when demand should normalise, Sud said.

SHIPPING NEWS AGENDA

MARKETING

Spot reversal **2**



US exports growing **3**

BUSINESS

NFE signs terminal contract **4**

PETRONAS to supply CNOOC **4**

Qatari gas agreements **6**

FINANCE

Nakilat increases profits **6**

TECHNOLOGY

New engines for LNGCs **10**



GTT marches on **9**

SafeSTS expands **11**

LNG ORDERBOOK

LNG carrier orderbook **13**

LNG small scale fleet **16**



The huge Qatari order might be put back to 2022

Asian importers seek spot market alternatives

Asian LNG importers are seeking alternative methods to meet increased demand during the summer season.

This move was to avoid spot cargo purchases, as market prices moved above legacy crude-linked contracts for most of 2021, according to a report from S&P Global Platts.

Alternatives included exercising upward quality tolerance (UQT) with long-term contract suppliers, adjusting the annual delivery programme, or swapping cargoes for different delivery windows, volumes, or qualities.

This marks a spot versus legacy contract pricing dynamics reversal from a year ago, Platts explained.

Spot and long-term LNG pricing changed dramatically from 2020 to 2021, with record lows to record highs recorded in just nine months.

"Last year we saw [some importers] exercising [DQT] but this year, it's the opposite. They want to lift as much as their long-term volumes," a Singapore based trader told Platts.

Currently, with spot LNG prices hovering above most long-term

contract prices, importers are trying to maximise their cargo purchases through long-term cargo deals, while minimising their spot procurement.

"There are quite a lot of requests from end-users for earlier delivery of [annual delivery programme]," an Asia/Pacific based producer said.

In Asia, Japan has the lowest percentage of spot procurement against total import volume, compared to other countries, such as China or South Korea. However, it is still exposed to changes in LNG demand and supply fundamentals, with importers having to rely on the spot market to meet additional demand or clear excess supply.

While a few long-term contracts between Japanese importers and their suppliers have a slope lower than 12% of either Brent or JCC, the average price of crude oil imported into Japan, most Japanese legacy contracts have a slope of closer to 13%-14%

at the beginning of this month, several sources told Platts.

High price

Regarding the price constant for oil-linked deals, some Australian contracts have a relatively high fixed price of about 70 cents per MMBtu, while contracts with other Asian suppliers have a lower constant. A few entities also have successfully removed constant with their suppliers, although possibly subject to a higher oil-linked slope.

Elsewhere, some creative Chinese importers have turned to buying term cargoes from Japanese utilities' long-term portfolios.

"Interest for small volume of LNG from China is strengthening," a Japanese utility said, also noting increased demand for gas up, cool down services for new South Korean LNGCs heading to the US.

However, while the spot market remains elevated, the forward market shows a slowing down of

pricing expectations over the next three years.

On 8th July, Platts assessed JKM derivatives for the calendar year 2022, 2023 and 2024 at \$9.65 per MMBtu, \$7.575 and \$6.8 per MMBtu, respectively.

S&P Global Analyst, Jeff Moore commented, "The LNG spot market is expected to stay relatively tight through at least 2023, and JKM is forecast to stay above \$8 per MMBtu on an annualised basis until 2024 when a new wave of liquefaction projects will come online."

NEWS NUDGE

Svitzer to service FGEN LNG

Towage service provider Svitzer has signed a 10-year timecharter agreement with Philippines-based FGEN LNG Corp.

The Maersk subsidiary will provide towage and other vessel support services to FGEN LNG's interim offshore LNG Terminal, which will include an FSRU that will be located at Batangas City.

Svitzer will provide four new 75-tonne bollard pull (bp) tugs to assist the FSRU and LNGCs that will deliver LNG to the unit in berthing, unberthing, plus navigation assistance - and provide other services, including fire-fighting, pollution control, port and vessel security services, pilot and boarding party transfer, and fender management.

Operations are planned to begin in the third quarter of next year.

BC plans another LNG export terminal

British Columbia's First Nation Nisga'a Nation has moved ahead with plans to build an LNG export facility.

Nisga'a Nation, whose territory is located north of Prince Rupert (BC) near the Alaskan border, has partnered with a group of Western Canadian natural gas producers - Rockies LNG Partners and the Texas-based energy company Western LNG.

The \$10 billion project, Ksi Lisims LNG, includes a pipeline to transport natural gas from the north-east corner of the province to the coast. LNG would then be exported to Asia in LNGCs.

The project developers have filed an Initial Project Description with the relevant authorities for discussion. An environmental assessment will also be undertaken, as part of a joint-regulatory review by the federal, provincial and Nisga'a governments.

Ownership of Ksi Lisims LNG is still being determined as the players continue to finalise commercial agreements.

Talking with Canadian media, company officials said that the

LNG facility could be operational in late-2027 or 2028 and reach net zero emissions within three years of startup through the use of hydro-electricity, energy efficiency, carbon offsets and potential carbon capture and storage.

An FLNG would be located near the village of Gingolx, a coastal community about 80 km north of Prince Rupert. The project will be capable of producing 12 million tonnes of LNG per year and generate 4,000 construction jobs.

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US exports continue to grow

The US is currently the world's third largest seaborne exporter of LNG after Qatar and Australia, accounting for 18% of the global LNG market.

US exports have surged in the last few years, unlike Qatar where production and export capacity have been static for quite a while, Banchero Costa said in a report.

Last year, the US was the only success story on the export front. Overall, in the 12 months of 2020, global seaborne LNG trade increased marginally by 1.5% year-on-year to 362.8 mill tonnes, according to Refinitiv vessel tracking data.

By comparison, Qatari exports increased by just 1% y-o-y in 2020 to 77.7 mill tonnes, while Australian exports increased by 0.5% y-o-y to 77.3 mill tonnes and Russian exports increased by 1% y-o-y to 28.7 mill tonnes.

By the end of June this year, the situation had improved. Overall, global LNG exports increased by 5.4% y-o-y in the first six months of 2021, to 194.2 mill tonnes.

Once again the US was the star

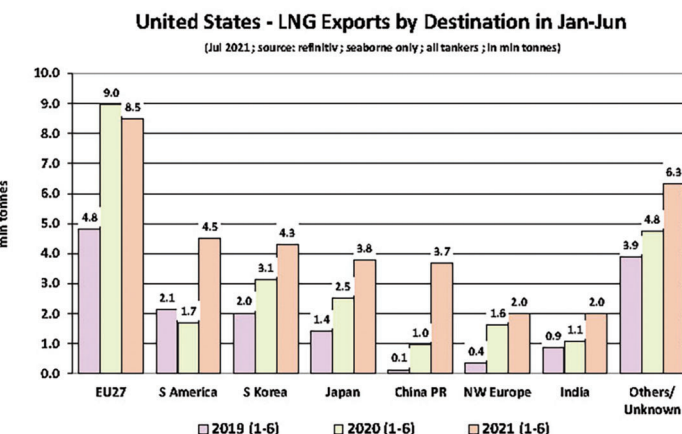
performer, which recorded a 41.7% y-o-y increase to 35.1 mill tonnes during the period.

Elsewhere, it was a mixed picture. Australia saw a marginal 0.4% y-o-y decline during the first six months of 2021, at 38.5 mill tonnes. Qatar recorded a modest 1% y-o-y increase in exports, at 39.7 mill tonnes.

Examining destinations, again, the Pacific basin performed much better than the Atlantic. Global LNG exports to Mainland China increased by 26% y-o-y to 38.3 mill tonnes.

Exports to the European Union countries collapsed by 15.1% y-o-y to 31 mill tonnes in the first half of this year.

US exports to Mainland China surged by 277% y-o-y to an all time record of 3.7 mill tonnes in the first six months of 2021, up from 1 mill tonnes in January/June, 2020, and 0.1 mill tonnes in the same period of 2019, despite



the current rocky political climate between the two countries.

China is the fifth top destination for US LNG this year, accounting for 10.5% of the US' total exports so far.

In addition, exports from the US to South America surged by 165% y-o-y in to 4.5 mill tonnes and this region now accounts for 12.9% of US exports.

Exports included 2.6 mill tonnes to Brazil, 1.4 mill tonnes to Chile, 0.5 mill tonnes to Argentina, and 0.1 mill tonnes to Colombia.

Shipments also increased to

South Korea, up by 37.0% y-o-y to 4.3 mill tonnes. Volumes to Japan increased by 51.4% y-o-y in the same period to 3.8 mill tonnes, India received 2 mill tonnes, up by 85.3% y-o-y, Taiwan was up by 15.3% y-o-y to 0.8 mill tonnes.

Europe remained the top destination, with the EU27 accounting for 24.2% of US LNG shipments this year, and the UK a further 5.7%. Volumes to the EU27 declined by 5.5% y-o-y to 8.5 mill tonnes, while to the UK, volumes were up 22.9% y-o-y to 2 mill tonnes in the first half of this year, Banchero Costa concluded.

FLNG project gains Australian renewal status

Transborders Energy's FLNG solutions project has secured a Major Project Status (MPS) renewal from the Australian Government.

MPS is the Government's recognition of a project's national significance - for economic growth,

employment or for regional Australia.

Senator Christian Porter, Aus-

tralian Minister for Industry, Science and Technology granted the MPS renewal on the basis that the project can contribute to the growth of the FLNG industry in Australia.

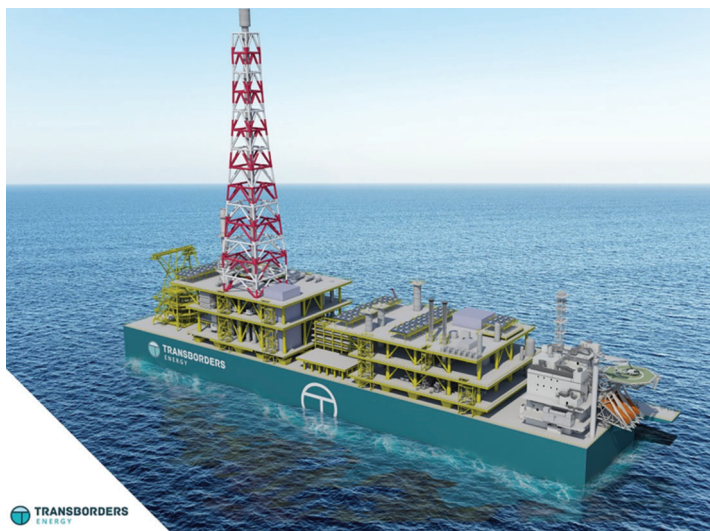
Minister Porter considered this to be a significant project because of the potential to encourage LNG exports and future project development, which offers an opportunity to grow and diversify the Australian economy and contribute to the economic development of regional Western Australia and the Northern Territory.

Transborders Energy Chairman, Jack Sato, said: "We are very pleased to be re-awarded the MPS grant. It clearly indicates the Australian Government's ongoing sup-

port for our FLNG solution development.

"We will continue progressing our development with a view to offer sustainable and affordable energy during the transition towards a carbon free environment, as well as to provide job opportunity and growth in Australia," he said.

Together with its partners Kyushu Electric Power, Mitsui OSK Lines (MOL), Technip Energies, SBM Offshore and Add Energy, Transborders can convert a range of stranded gas resources into a 'project sanction (FID) ready' state within 24 months after the FLNG solution deployment, while also allowing LNG buyers access to competitive gas supply sources, the company claimed.



TRANSBORDERS
ENERGY

Transborders has received major project status extension

NFE to build Sri Lankan terminal

New Fortress Energy (NFE) has signed a framework agreement with the Sri Lankan Government to install an FSRU.

The terminal will be located off Colombo and will supply gas to the country's power plants.

As part of the agreement, NFE will supply natural gas to the existing 300 MW Yugadanavi power plant and is negotiating the purchase of the Government's 40% stake in the company owning the power plant.

"We are excited to support the transition of Sri Lanka to clean, reliable and affordable energy," said Wes Edens, NFE's Chairman and CEO. "This investment in Sri Lanka's first LNG terminal will advance the country's clean energy transition and support sustainable development for this vibrant economy. This is the first of what we think will be a number of investments in power and infrastructure in the country."

As part of the agreement, the Government will organise the necessary permits and entitlements to allow NFE to construct the terminal.

It is expected to be operational by the second half of 2022.

NFE also revealed that it had agreed enough LNG supply to cover the needs for its existing natural gas and electricity businesses through the end of 2027.

In addition, NFE has announced that its small-scale LNG terminal at Pichilingue, Baja California Sur, Mexico has begun commercial operations.

This terminal features NFE's proprietary ISOFlex system, which allows larger LNGCs to offload LNG into ISO storage containers on offshore support vessels (OSVs) fitted with a specialised manifold.

These ISO storage containers can be easily offloaded at con-

tainer ports and onto trucks, which enables time saving, permitting requirements and capital costs for the development of NFE's terminals, the company claimed.

Under the terms of an agreement signed in March, NFE will supply natural gas to the CTG La Paz and CTG Baja California Sur power plants in Baja California Sur through the terminal.

NFE also said that it has nearly completed the construction of its

own gas-fired power plant in Baja California Sur with a capacity of around 135 MW that should begin operations later this quarter. ■



Schematic of NFE's La Paz small-scale facility

CNOOC to import Petronas LNG

Petronas LNG has signed a 10-year term deal to supply LNG to CNOOC Gas and Power Trading & Marketing Limited, a subsidiary of China National Offshore Oil Corp (CNOOC).

This agreement also includes gas from LNG Canada when the facility commences its operations by middle of this decade.

Around 2.2 mill tonnes per annum of LNG will be supplied over a 10-year period, indexed to a combination of the Brent and Alberta Energy Company (AECO) indices. The deal is valued at about \$7 bill over the period.

"Petronas is proud to strengthen our decade long relationship with CNOOC through this term LNG supply. Importantly, it reflects the markets' receptiveness and recognition of AECO indexed LNG into the world's largest LNG market; as we seek to grow the use of LNG as a cleaner and cost effective form of energy," said Petronas LNG Marketing & Trading Vice President, Shamsairi M. Ibrahim.

The AECO index, part of the ICE NGX commodity exchange platform, is one of the most liquid spot and forward energy markets in North America, the company claimed. It is the leading price marker for natural gas in Canada, similar to US' Henry Hub.

Petronas introduced this index in May of this year following the sale of a spot cargo from Bintulu, Malaysia, to a Far East buyer. ■

MPA offers incentives to FSU/FSRU operators

The Maritime and Port Authority of Singapore (MPA) has introduced concessions to support the deployment of FSUs and FSRU for LNG bunkering and breakbulk activities.

Qualifying vessels, including FSUs/FSRUs, will be offered a 50% harbour craft port dues concession, up to Sing\$0.6 mill annually per craft, for five consecutive years.

The criteria for MPA-approved FSUs/FSRUs from 1st July, 2021 to 31st December, 2024, will be conditional on -

- The FSU/FSRU must be licensed as harbour craft and Singapore-flagged.
- They must be deployed at a

berth approved by Port Master and not at an anchorage.

- They will not be allowed to leave Singapore during the five-year consecutive period without approval by the Port Master.
- The operator of the unit will be required to provide an undertaking to MPA that the FSU/FSRU would support LNG bunkering activities or LNG bunkering and breakbulk activities, with an estimate

of volumes over the five year period.

The 50% harbour craft port dues concession will be given annually upon successful renewal of the harbour craft licence, the MPA said.

In the event of non-compliance at any time during the licence period, the concession for that year will be withdrawn and the owner/agent will be required to repay the MPA the concession received. ■

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Qatar signs more long term deals

Qatar Petroleum (QP) has signed a 15-year LNG Sale and Purchase Agreement (SPA) with CPC Corp, Taiwan to supply 1.25 mill tonnes per annum of LNG.

Under the terms of the agreement, LNG deliveries will commence in January, 2022. The gas will be delivered to CPC's LNG receiving terminals.

QP President and CEO and Qatar Minister of State for Energy Affairs, HE Saad Sherida Al-Kaabi, said, "We are pleased to enter into this long term LNG SPA, which is another milestone in our relationship with CPC, which dates back to almost three decades.

"We look forward to commencing deliveries under this SPA and to continuing our supplies as a trusted and reliable global LNG provider," he said.

Since the first LNG delivery in

March, 2006 up to the beginning of this month, CPC had received more than 63 mill tonnes of Qatari LNG.

In addition, Korea Gas Corp (KOGAS) has signed a 20-year LNG supply agreement with Qatar starting in 2025.

KOGAS will buy 2 mill tonnes of LNG per year from QP.

This long-term contract is considered to have favourable contract conditions, which would help stabilise LNG supply as well as to significantly drop fees, the Korean Energy Ministry said in a statement.

KOGAS already purchases 9 mill tonnes of LNG annually

from Qatar through long-term contracts. A 4.9 mill tonnes per

year contract is expected to end in 2024.



More Qatari cargoes will arrive in Taiwan and South Korea

NEWS NUDGE

LNG heavyweights on the move

Shipmanagement and service company V.Group has appointed David Taylor as Managing Director of LNG.

He joins V.Group from the Shell Group management team, where he held roles in various locations, including General Manager Ship Management and Global Discipline Head and Process Owner Logistics.

Taylor will head up a technical management team.

Elsewhere, GasLog Partners has appointed Paolo Enoizi as CEO, effective 1st August, 2021.

Currently COO of GasLog and GasLog Partners, Enoizi will succeed Paul Wogan, who is to step down from his position, but remain CEO of GasLog.

Enoizi will also continue to serve as COO of both Gaslog companies after he takes on his new role.

In addition, Wogan will be replaced by Enoizi as a Director of Gaslog Partners.

Nakilat announces increased profits

Nakilat has achieved a net profit of QR636 mill in the first half of this year, compared to QR550 mill during the same period in 2020 - an increase of 15.6%.

As part of its fleet expansion and consolidation, Nakilat completed the second phase fleet management transition involving seven LNGCs, took delivery of two out of four MEGI LNGC newbuildings, as well as seeing the first FSRU transition to NSQL management.

Nakilat's successful fleet expansion bears testament to the company's continued commitment

towards maintaining its leadership in energy transportation, while remaining fully compliant with all health and safety guidelines, it said in its results presentation.

In addition, Nakilat continued to strengthen its value proposition, with its shiprepair, offshore fabrication, towage and other maritime services remaining fully operational and contributing to-

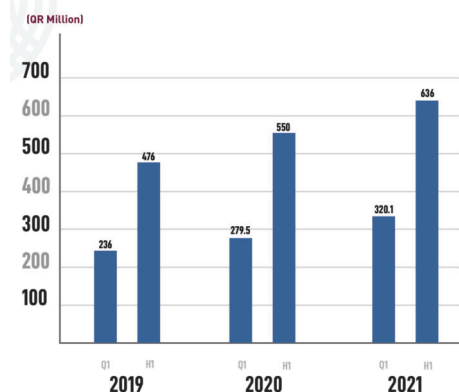
wards the company's vision to be a global leader and provider of choice for energy transportation and maritime services, as well as Qatar's 2030 vision.

Nakilat CEO, Eng Abdullah Al Sulaiti, said: "Nakilat continues to demonstrate great resilience, as reflected in our operational and financial performance for the year. Our outstanding financial performance in the first half of 2021 is a testament to our concerted efforts.

"Despite the sudden adjustment to enhanced health and safety protocols, Nakilat remained steadfast in executing our strategies, sustaining operational efficiencies while ensuring fiscal discipline across all our shipping and maritime operations.

"The company persevered and has managed to sustain its growth momentum while continuing to create value for our shareholders, thanks to the valuable efforts and contributions of our employees and seafarers," he said.

NAKILAT FINANCIAL PERFORMANCE FIRST HALF OF 2021



FLEET SIZE

74
vessels

69* LNG Carriers

4 LPG Carriers

1 FSRU

*Includes 2 newbuilds

Carbon neutral/offset cargoes increase

bpGM, Semptra LNG and Infraestructura Energética Nova, (IEnova) have taken delivery of the companies' first carbon offset LNG cargo.

This cargo was due to be delivered to the Energía Costa Azul (ECA) terminal in Mexico on 16th July, 2021, and it was sourced from bp's global LNG portfolio.

IEnova and Semptra LNG said that they intend to continue supporting growth by diversifying their offerings, including developing bundled carbon offset LNG products to help meet customers' demand.

CO₂ and methane emissions associated with the LNG cargo, from wellhead to discharge terminal, will be estimated using bp's GHG quantification methodology for LNG.

The estimated emissions will be offset by retiring a corresponding amount of carbon credits, sourced from a Mexican afforestation project from bp's vetted portfolio of

offsets on behalf of Semptra LNG.

Elsewhere, Shell has signed a five-year contract with PetroChina to supply carbon neutral LNG cargoes.

For each cargo delivered, the two companies will co-operate to offset life-cycle carbon dioxide equivalent (CO₂e) emissions generated across the LNG value chain, using high-quality carbon credits from nature-based projects, Shell said.

PetroChina has already received its first carbon-neutral LNG cargo at Dalian from Shell.

"This first term deal is an important step in scaling up the market for carbon-neutral LNG and we are very grateful to our valued partner PetroChina for their col-

laboration in enabling this industry milestone," Steve Hill, Executive Vice President Shell Energy, said.

Shell said the offsets would come from its own portfolio of nature-based emission reduction projects.

The energy major has also delivered a carbon-neutral LNG cargo to Japanese utility Osaka Gas, which was purchased from Brunei LNG.

It was delivered to the Senboku LNG terminal and represents the first carbon-neutral LNG cargo for both Brunei LNG and Osaka Gas.

Supply agreements

In a statement, Osaka Gas said it will begin supplying carbon-neutral gas to domestic customers from 1st August. The utility has signed several supply agreements.

In addition, Japanese gas importer Inpex is to offtake carbon neutral LNG from its Australian Ichthys LNG project.

Inpex will receive the carbon neutral LNG cargo at its Naoetsu LNG terminal in Joetsu City in Niigata Prefecture, Japan.

This marks INPEX's first carbon neutral LNG offtake agreement.

The LNG shipment's carbon footprint was offset using carbon credits in an arrangement with Ichthys' major partner TotalEnergies.

Credits were applied to greenhouse gas emissions across the project's entire natural gas supply chain, including upstream production, liquefaction, transportation, regasification, marketing and Japanese customers' combustion. ■

Tender issued for Lithuanian FSRU

Lithuania's state-owned terminal operator Klaipėdos Nafta (KN) has issued a tender to buy an FSRU.

Offers from potential suppliers will be compared to the redemption (option) value of the current operational FSRU 'Independence', selecting the most economically advantageous offer, as required by the Law of LNG Terminal, KN said.

The tender results will show whether there are any better alternatives on the market than the option of buying 'Independence' as provided in the FSRU lease, operations and maintenance agreement with Höegh LNG, which was signed in 2012.

This agreement expires at the end of 2024. However, by December, 2022, Lithuania must decide on an FSRU acquisition.

"For Lithuania LNG terminal is one of the success stories of energy security and strengthening of the independence of the state. Thanks to it, today we have secured alternative natural gas supply, price competitiveness and we can choose from where and under what conditions we will buy natural gas.

"Our goal remains to ensure efficient operation of the terminal and the best price for consumers. The terminal, as an important component of the regional natural gas market, will become even more important when the gas pipeline between Lithuania and Poland becomes operational, joining the continental natural gas network," Lithuanian Minister of Energy, Dainius Kreivys, said.

Prior the tender for the acquisition of the FSRU, KN had hired external experts, ie three foreign companies to provide legal, commercial and technical consulting services selected through a public procurement procedure. They have carried out an LNG market research and public market consultation.

Assessments

The perspective of LNG and the expectations of the LNG terminal users were assessed, essential technical conditions were determined, as well as the FSRU param-

eters and supplier qualification requirements were defined, KN said.

Applications are expected within a month of the issuing of the tender.

"We announce public procurement in order to achieve maximum openness and transparency of the FSRU selection procedure, thus we urge market participants to submit their tenders for the acquisition of an FSRU. A tender ranking model was created with special diligence, by engaging competent external experts.

"Even though the price of the FSRU is an important criterion in the selection process, the final decision will also depend on other important components: age and size of the suggested vessel, regasification capacity, expected operational costs, as well as certain technical solutions. In other words, the company will evaluate not only the price, but also the FSRU life-cycle costs, technological and market compliance, thus

ensuring the criterion of economic efficiency and validity of the future selection," explained Darius Šilenskis, KN CEO.

"Orientation capacity of the FSRU should be at least 150,000 cu m (in comparison, the current FSRU capacity is 170,000 cu m). Users of the LNG terminal expect other parameters of the FSRU to be at least equivalent to those of the current FSRU 'Independence'.

"Both the comments provided by the users of the terminal and the global FSRU market trends were taken into account while formulating the requirements for the future FSRU. However, it is also important to understand that the range of the FSRU suppliers is rather narrow and the market considered as niche, due to high and specific requirements for technology, its flexibility, efficiency and reliability, thus the number of possible alternative offers on the market may be sufficiently limited," he added. ■

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GTT wins more orders - gains AiPs for new design concept

GTT has received an order from Samsung Heavy Industries (SHI) for the tank design of three new LNGCs.

They are being built for an undisclosed shipowner, believed to be Celsius Shipping.

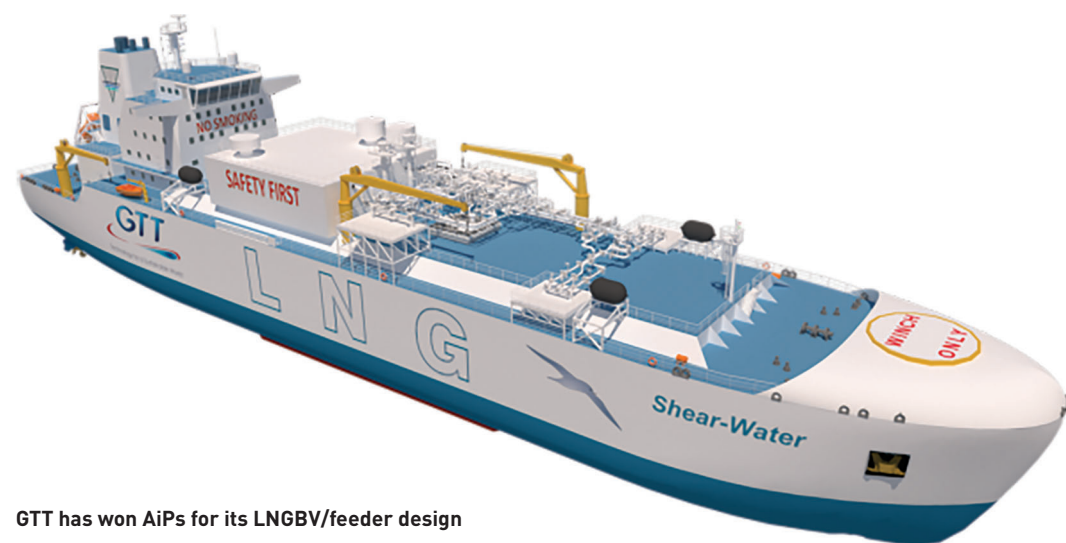
GTT will design the vessels' tanks, which will offer a cargo capacity 180,000 cu m and will be fitted with the Mark III Flex membrane containment system.

They will be delivered between the second quarter of 2023 and the first quarter of 2024.

In addition, GTT has recently received two Approval in Principles (AiPs) from class societies China Classification Society (CCS) and DNV for a 'Ballast-Water-Free' LNG bunker & feeder vessel concept.

These approvals were gained in co-operation with Hudong-Zhonghua Shipbuilding Group (HZ) and recognised the compliance of the 'Ballast-Water-Free' vessel design with the rules and codes relating to ocean-going vessels, their construction and equipment.

This design, fitted with GTT's membrane system, enables the



GTT has won AiPs for its LNCBV/feeder design

construction of more economical and environmentally friendly vessels, the company claimed.

A considerable quantity of ballast water is usually carried on board a ship. Even when the ballast water is treated, there is a risk of transferring harmful aquatic organisms and pathogens from one area to another.

GTT's solution is claimed to eliminate this risk completely. In addition, removing the need for a ballast water treatment system (BWTS) also reduces the vessels'

energy consumption and CO2 footprint.

A ballast-free vessel also offers advantages in terms of investment and operational cost, simplification of vessel operation, reduction of corrosion and an extended life cycle, GTT said.

Extensive hull test tank trials has demonstrated the design's good sailing and seakeeping capabilities.

GTT has also received an order from Samsung Heavy Industries (SHI) for the fuel tank design of

five very large LNG-fuelled container vessels, able to carry 15,000 TEU each.

The vessels will be built for Seaspan, a wholly owned subsidiary of Atlas Corp and for ZIM.

Each vessel's fuel tank will have a capacity of 12,000 cu m and will be fitted with the Mark III membrane containment system. The tanks will be built for potential conversion to ammonia. The Mark III membrane technology tank has been adapted for compatibility with ammonia. ■

NEWS NUDGE

Al-Zour handles first LNG shipment

A Qatargas Q-Flex has delivered the first LNG cargo to commission Kuwait's Al-Zour LNG receiving terminal this month.

The cargo was shipped on board the Qatargas-chartered 'Al Kharsaah', at Ras Laffan on 9th July, 2021 and was delivered to Kuwait Petroleum Corp's (KPC) Al-Zhour terminal three days later.

Khalid bin Khalifa Al Thani, Qatargas CEO, said: "At Qatargas, we're honoured to have been able to supply the commissioning cargo to this landmark

facility in co-operation with our strategic business partners at KPC. The successful commissioning of this LNG receiving terminal will contribute towards strengthening our business relations with KPC."

Al-Zour LNG terminal is due to become one of the largest in the world by its overall import capacity of 22 mill tonnes per annum by 2022. Currently, it is the world's largest capacity LNG storage & regasification green field project.

The terminal consists of two jetties, capable of simultaneous discharge and it is fitted with

eight storage tanks, with a net volume capacity of 225,000 cu m each.

SGX adds three LNGC FFAs

Singapore Exchange (SGX) has added three new LNGC Forward Freight Agreement (FFA) and futures contracts.

The new contracts launched on 12th July, are listed out to three years forward, referencing the Baltic Exchange's independent freight price assessments for LNG cargoes from Australia to Japan, US Gulf to Europe and US Gulf

to Japan.

These three routes constitute the bulk of global spot market LNG flows and the assessments serve as benchmark pricing for LNG freight.

The launch day's first trade, BLNG2g was brokered by SSY Futures on the US Gulf to Europe contract with a July/August settlement basis.

BLNG2g is calculated on a daily rate for a 91,500 dwt vessel of 160,000 cu m capacity - basis delivery cold, ready to load, 0.1% boil off, max vessel age 20 years on a US Gulf/Continent round voyage. ■

Hyundai orders first ME-GA engines

HHI-EMD (Hyundai Heavy Industries' Engine Machinery Division) has ordered the first low-speed ME-GA engines, the latest units from MAN Energy Solutions' (MES) dual-fuel engine portfolio.

The engine builder has ordered twin 5G70ME-GA10.5 engines, which will be fitted in six 174,000 cu m LNGCs for owners KLC (two vessels), Panocean (two), Knutsen (one), and JP Morgan (one).

Hyundai Heavy Industries will build the vessels, which will be chartered by Shell Tankers (Singapore) upon their delivery.

Delivery of the first engine is scheduled for August, 2022, with the final unit arriving in the following year.

MES said that each engine will feature its proprietary EGR (exhaust gas recirculation) system for emissions reduction.

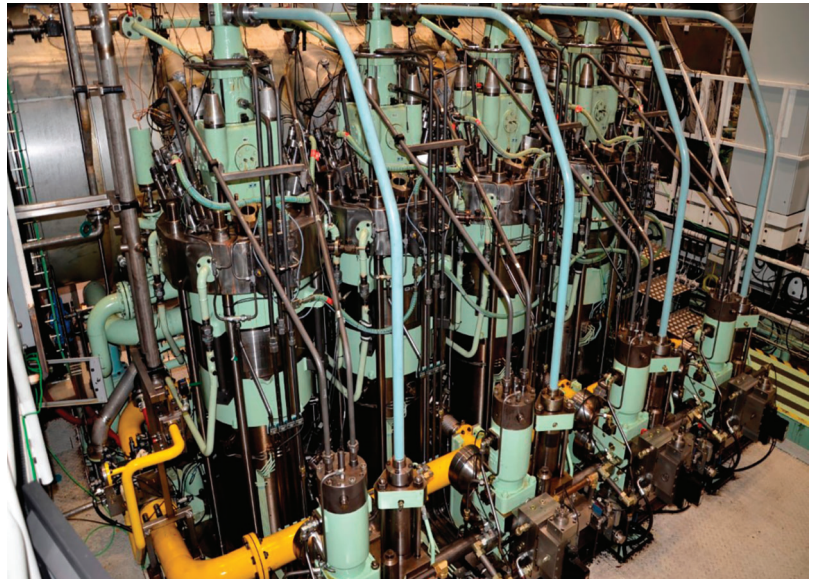
Bjarne Foldager, MES' Senior Vice President and Head of 2-Stroke Business, said: "Following our virtual launch event in March this year, we have experienced overwhelming interest from shipowners, shipyards, engine builders and charterers in ME-GA.

"We are very excited about this first order and are looking forward to a successful, close co-operation with all parties to ensure the engines meet the high performance and reliability level expected of them.

"The ME-GA's genesis owes much to us recognising a strong market desire for a lower-cost alternative to the ME-GI engine, driven primarily by the LNG carrier market. Accompanied by our EGR system - a proven concept with a decade of experience behind it - these engines will deliver lower methane slip compared to existing, Otto-cycle LNG engines, and better fuel-efficiency in both gas and fuel-oil modes. This further confirms our leadership in the critical, dual-fuel, marine segment," he said.

MES also said that its portfolio of 2-stroke, dual-fuel engines has accumulated over 1.7 mill operating hours from the 158 engines currently in service - all running on clean fuels, such as LNG, LPG, ethane and methanol.

With fuel prices and availability currently in flux, MES expected the option of retrofitting to dual-fuel engines to increasingly become a necessity.



A MAN B&W ME-GA engine seen on a testbed

MES claimed that the MAN B&W ME-GA engine delivers a low CAPEX solution aimed at certain vessel types and applications, such as LNGCs, that are able to use boil-off gas as a source of fuel. It could also be of appeal to smaller vessels where low capital outlay is a priority.

Based on the MAN B&W dual-fuel design with minimal installation requirements, the ME-GA uses an efficient ignition concept

and unique gas-admission system that delivers safe and reliable operation.

Furthermore, the engine features minimal operational costs, simple supply and purging concepts, and low maintenance costs for its fuel-gas supply system. With Tier III compliance in gas mode, the engine meets all current and upcoming NOx emission regulations with the addition of an EGR, MES said. ■

NEWS NUDGE

Newbuildings, charters, etc

Shell Tankers (Singapore) has agreed timecharters for another six 174,000 cu m dual-fuelled LNGCs with Knutsen LNG, Pan Ocean and other investors believed to be Global Meridian Holdings.

The six vessels will be built by Hyundai Heavy Industries (HHI) and Hyundai Samho Heavy Industries (HSHI) with their deliveries starting in 2023.

They will each be fitted with dual-fuel X-DF engines, boil-off management plants, air lubrication

systems and shaft generators for auxiliary power, along with optimised hull and design speed.

Shell had already ordered eight similar ships in December, 2019, six in August, 2020, and four in December, 2020.

The price per vessel was believed to be around \$195-\$198 mill.

Capital Gas was thought to have firmed up another newbuilding option at Hyundai following on from two orders reported recently.

In the charter market, PAO Sovcomflot (SCF Group) has received confirmation from TotalEnergies of the exercising of an option to charter another two

174,000 cu m LNGCs.

Each vessel will be chartered for up to seven years, operating within TotalEnergies global portfolio LNG trades under SCF's technical management.

The option was exercised under a contract between TotalEnergies and SCF signed earlier this year for one vessel to be delivered in the third quarter of 2023.

They are equipped with twin slow-speed X-DF engines, a hull-air lubrication system, and two shaft generators with electronic frequency converters to provide significant fuel savings and together with a re-liquefaction system minimising GCU usage,

will help reduce the vessels' emissions footprint significantly, SCF claimed.

The LNGC 'Mediterranean Energy' arrived at Chattogram, Bangladesh for recycling on 11th July (see LNG News, 8th July, page 8).

Yamal Train 1 to shut for maintenance

Yamal LNG's first train will shut-down for 19 days from 1st to 19th August, 2021.

Regular maintenance will be carried out in accordance with the approved annual schedule and will not affect the planned LNG production volume for the year, Yamal said. ■

SafeSTS establishes new bases

In the past two months, ship-to-ship (STS) transfer company SafeSTS has opened additional operational bases in Scapa Flow and Panama.

In Panama the new SafeSTS base is in a sheltered location within port limits near to the Pacific Ocean entrance to the Panama Canal.

From here SafeSTS can handle all vessel sizes and all types of cargoes, including LNGCs and said that it will provide support for the many oil and gas majors making use of the canal.

Scapa Flow will mainly handle oil and oil products transfers.

SafeSTS CEO, Yvonne Gilchrist-Mason, said; "These new bases in Scapa Flow and Panama are in line with our goals and objectives for 2021.

"Setting up a new base is always a complex process, and at the moment it is being made more complicated by the varying international restrictions being imposed in response to the on-going pandemic.

"Despite this, we have a number of other bases in the final stages of planning, and I am confident that we shall have further exciting announcements to make over the coming months," she said.

From its base in Diss, UK, SafeSTS now manages lightering operations from 16 locations worldwide. All operations are undertaken in line with MARPOL

Chapter 8 and the latest ICS/OCIMF STS transfer guidelines.

All the POACs have undergone global training and are MARPOL compliant. They all have a detailed understanding of vessel dynamics, operability and logistics, skills which are underpinned with respect for the country and culture in which transfer operations take place, the company claimed. ■

Labuan's new STS hub to cater for LNGCs

Straits Inter Logistics Berhad, a Bursa Malaysia Listed Company, has received approval for Victoria STS (Labuan) to develop an integrated offshore ship-to-ship (STS) energy transshipment hub.

This hub will be located within the port limits of Victoria Bay, Labuan.

Victoria STS is a 70% owned subsidiary of Fajar Maritime and Logistics, which in turn is a 60% owned subsidiary of Straits.

The Victoria Bay deepwater area spans 3,309 hectares supporting an initial six slots with safe water depths of up to 30 m. The development will be able to accommodate LNGCs of up to Q-Max capacity and VLCCs.

Victoria Bay is strategically located along the international shipping and energy trade routes.

Straits' plan to develop the STS Hub is set to be one of the largest offshore LNG and LPG energy transshipment hubs in Asia, the company said. The hub is also sited within the vicinity of Labuan Liberty Port, which is managed and operated by Megah Port Manage-

ment (MPM), a 51% owned subsidiary of Straits.

The hub's first phase will see the development of an anchorage-based and single point mooring system infrastructure supporting up to six deepwater mooring slots. It is due to commence operation by 4Q21.

Two partnerships

Victoria STS has formed two partnerships, with MISC Maritime Services (MMS) and STS Marine Solutions (Bermuda) (STSM), to collaborate in the hub's development.

In the earlier planning stage, both MMS and STSM separately signed a memorandum of understanding (MOU) with Victoria STS with a view to facilitate further definitive agreements when the STS hub materialises.

Straits Group Managing Direc-

tor, Dato Sri Ron Ho Kam Choy, commented: "We are certainly very excited on this new STS transshipment hub as it is a landmark milestone for Straits Group. Straits has over the years diligently established its comprehensive infrastructure and widened its customer base and this STS hub will kick start Straits' foray into the sustainable and alternative energy space.

"With this project as a start, Straits aims to be a major player in the sustainable and alternative energy industry in addition to its current fuel bunkering and port operation business.

"Our main focus is to collaborate with specialist industry partners like MMS and STSM to establish Victoria Bay Port as a major LNG and LPG energy transshipment hub. We are confident we are able to

serve the needs of the major global shipping lines customers with our wide spectrum of energy related maritime solutions.

"On top of that, this STS hub will be a new local economic driver with huge and substantial spillover effect to the local maritime services as well as employment opportunities for both skilled and semi-skilled labour. It will also be a catalyst to other related business in the Malaysia Maritime sector.

"The company will be preserving the environment, with plans to establish an artificial reef designed for sustainable fishing and to conduct coral conservation and water monitoring programmes to help the reefs of Labuan recover from the past blast and cyanide fishing, which has caused fish stocks to deplete rapidly," he concluded. ■

Monthly Large LNGC Values*

Newbuildings (174,000 cu m)	\$186.54 mill
Five years old (160,000 cu m)	\$142.86 mill
Total Fleet (523 ships)	\$58.17 bill
Orderbook (134 ships)	\$26.13 bill

Source: VesselsValue (20/07/21)

*The above is updated each month courtesy of VesselsValue

LNG rate assessments

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

Region	This week	Change*
East of Suez	\$55,000	-
West of Suez	\$65,000	-\$8,000
12 mos T/C	\$93,000	+\$3,000

*Since last report (08/07/21)

Source: Fearnleys (21/07/21)

The background image shows a male worker in a white hard hat and safety glasses, focused on a task. He is wearing a dark blue work shirt. In the foreground, a large, white, curved industrial component, possibly a compressor or expander, is visible. A blue triangular graphic overlay in the bottom left corner contains a technical drawing of a circular machine component with various dimensions and labels. The Atlas Copco logo is visible on the worker's hard hat and in the top right corner.

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WORLD LNG CARRIER ORDERBOOK

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

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

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

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 = 23rd June 2021



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WORLD SMALL SCALE LNG FLEET*

Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
1974	Seagas	187	LNG	Sweden	Yes	AGA
1988	Kayoh Maru	1,517	LNG	Japan	Yes	Daiichi
1993	Aman Bintulu	18,928	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
1996	Surya Aki	19,475	LNG	Indonesia - Japan	Yes	MCGC
1997	Aman Sendai	18,928	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
1998	Pelita Energy	18,800	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
2000	Triputra	23,096	LNG	Indonesia - Japan	Yes	MCGC
2003	Pioneer Knutsen	1,100	LNG	Norway	Yes	Knutsen
2003	Shinju Maru No.1	2,540	LNG	Japan	Yes	Shinwa
2005	North Pioneer	2,500	LNG	Japan	Yes	Japan Liquid Gas
2007	Sun Arrows	19,531	LNG	Malaysia - Russia - Japan	Yes	Mitsui
2008	Kakurei Maru	2,536	LNG	Japan	Yes	Hogaki Zosen
2008	Shinju Maru No.2	2,540	LNG	Japan	Yes	Shinwa
2009	Coral Methane	7,551	LNG/LPG/Ethylene	Northwest Europe/Baltics	Yes, sometimes	Anthony Veder
2010	Coral Favia	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
2010	Coral Fraseri	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
2011	Coral Furcata	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
2011	Coral Fungia	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
2011	Akebono Maru	3,556	LNG	Japan	Yes	Chuo Kaiun
2011	Vision Spirit	12,000	LNG/LPG/Ethylene	Worldwide	No	Teekay
2011	Unikum Spirit	12,000	LNG/LPG/Ethylene	Worldwide	No	Teekay
2012	Coral Energy	15,600	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2013	Coral Anthelia	6,500	LNG/Ethylene			Anthony Veder
2013	JX Energy TBN	2,500	LNG	Japan	Yes	JX Energy
2013	Kakuyu Maru	2,500	LNG	Japan	Yes	Tsurumi Sunmarine
2015	JS Ineos Ingenuity	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	JS Ineos Insight	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	JS Ineos Intrepid	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	LNG Barge TBN	3,000	LNG	US Coast	Yes	LNG America
2015	PetroChina TBN	30,000	LNG	China		PetroChina
2016	Hai Yang Shi You 301	30,000	LNG	Bali FSU	Yes	CETS (CNOOC)
2016	Clean Jacksonville	2,200	LNG	US Coast	Yes	CME
2016	JS Ineos Indepence	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Innvation	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Inspiration	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	LNG Prime	2,250	LNG	Northwest Europe	Yes	Veka Deen LNG
2017	Coralius	5,800	LNG	Northwest Europe/Baltics	Yes, for Skangas	Anthony Veder
2017	Coral EnergICE	18,000	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2017	Coral Encanto	30,000	LNG	China	Yes	Anthony Veder
2017	JS Ineos Invention	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2017	JS Ineos Intuition	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2017	Oizmendi	600	LNG	Bilbao	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

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Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	Green Zeebrugge	5,000	LNG	Northwest Europe	Yes	NYK
2017	Cardissa	6,500	LNG	Northwest Europe	Yes	Shell
2018	Kairos	7,500	LNG	Baltic	Yes	Bernhard Schulte
2018	LNG London	3,000	LNG	Northwest Europe	Yes	Shell
2018	Shell Bunker Barge TBN 2	6,500	LNG	Northwest Europe	Yes	Shell
2018	Shell Bunker Barge TBN 3	6,500	LNG	Northwest Europe	Yes	Shell
2018	Bunker Breeze	1,200	LNG	Barcelona	Yes	Suardiaz Energy Shipping
2018	HUA XIANG 8	13,720	LNG	China	Yes	Zhejiang Huaxiang
2019	SM Jeju LNG1	7,500	LNG	Korea	Yes	Korea Line
2019	Gas Agility	18,600	LNG	NWE	Yes	MOL
2019	Flexfueller 001	1,480	LNG	Amsterdam	Yes	Titan LNG
2020	Avenir Advantage	7,500	LNG	Mediterranean	Yes	Avenir LNG
2020	Avenir Accolade	7,500	LNG	Mediterranean	Yes	Avenir LNG
2020	Avenir Aspiration	7,500	LNG		Yes	Avenir LNG
2020	Kaguya	3,500	LNG	Japan	Yes	CLS
2020	CNTIC VPOWER Global	28,000	LNG	Myanmar	Yes	Dalian Inteh Group
2020	Ecobunker Tokyo Bay	2,500	LMG	Japan	Yes	Ecobunkers
2020	Optimus	6,000	LNG	NWE	Yes	Elenger
2020	ENN TBN	8,500	LNG	China	Yes	ENN
2020	FueLNG Bellina	7,500	LNG	Singapore	Yes	FueLNG
2020	SM Jeju LNG2	7,500	LNG	Korea	Yes	Korea Line
2020	Q-LNG 4000	4,000	LNG	US Coast	Yes	Q-LNG Transport/Harvey Gulf
2020	Flexfueller 002	1,480	LNG	Antwerp	Yes	Titan LNG
2021	Avenir Ascension	7,500	LNG		Yes	Avenir LNG
2021	Avenir Allegiance	20,000	LNG	Worldwide	Yes	Avenir LNG
2021	Bergen LNG	850	LNG	Norway	Yes	Bergen Tankers
2021	Dmitry Mendeleev	5,800	LNG	Russia	Yes	Gazprom Neft
2021	JMU TBN	2,500	LNG	Japan	Yes	JMU
2021	Ravenna Knutsen	30,000	LNG	Mediterranean	Yes	Knutsen OAS
2021	PE TBN	12,000	LNG	Singapore	Yes	MOL
2021	TBN	18,600	LNG	Mediterranean	Yes	MOL
2021	TG TBN	500	LNG	Korea	Yes	Trans Gas
2022	Veder TBN	30,000	LNG	Worldwide	Yes	Anthony Veder
2022	Avenir Achievement	20,000	LNG	Worldwide	Yes	Avenir LNG
2022	Kuntsen 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	Kuntsen 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
2024	Avenir TBN (option)	20,000	LNG	Worldwide	Yes	Avenir LNG
2024	Avenir TBN (option)	20,000	LNG	Worldwide	Yes	Avenir LNG
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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