

LNG Shipping News

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Qatar takes FID on giant gas production project

On 8th February, Qatar Petroleum (QP) took the final investment decision (FID) for the development on the \$28.75 bill North Field East Project (NFE).

This will raise Qatar's LNG production capacity from 77 mill tonnes per annum to 110 mill tonnes, QP claimed.

In addition to LNG, NFE will produce condensate, LPG, ethane, sulphur and helium.

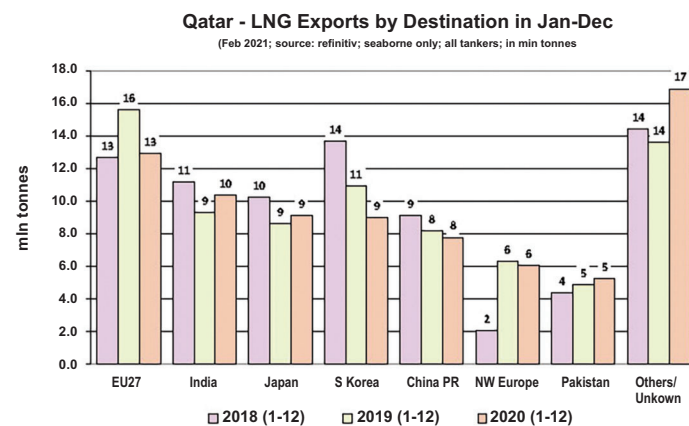
Production is expected to start in the fourth quarter of 2025. Its total production will reach about 1.4 mill barrels oil equivalent per day.

The decision to proceed with a FID was announced during a signing ceremony held for the award of the project's key onshore engineering, procurement and construction (EPC) contract with Chiyoda Corp and Technip Energies.

Four mega LNG trains will be built with a capacity of 8 mill tonnes per annum each, with associated facilities for gas treatment, natural gas liquids recovery, as well as helium extraction and refining within Ras Laffan Industrial City.

NFE is the first phase of Qatar's expansion plans. A second phase, referred to as the North Field South Project (NFS), will further increase the country's LNG production capacity to 126 mill tonnes.

With an expected production start date of 2027, the NFS project involves the construction of two additional mega LNG trains with a capacity of 8 mill tonnes per annum each and associated



offshore and onshore facilities, QP said.

Exports

Last year, Qatar was the largest LNG exporter, even though Australia came closer.

In 2020, Qatar exported 77.6 mill tonnes of LNG, according to Refinitiv data, analysed by Banchero Costa. This was a flat zero change year-on-year from 2019.

LNG shipments from Qatar saw limited seasonality last year. In the first three months, Qatar exported 20.2 mill tonnes, a rise of 2% year-on-year.

The second quarter saw shipments of 19.1 mill tonnes, a flat 0.1% year-on-year. In the third quarter, Qatar exported 19.5 mill tonnes, down -2.2% from the same quarter in 2019, while the fourth quarter saw 18.8 mill tonnes, a

flat +0.1% year-on-year.

Whilst total export volumes from Qatar were flat, there were quite remarkable reshuffles in terms of destinations last year.

Exports to the European Union, excluding the UK, declined by -17.1%, to just 12.9 mill tonnes. Volumes to the UK were also down by -4.1% to 6.1 mill tonnes.

Shipments also collapsed to South Korea, by -17.4% to 9 mill tonnes, which was quite surprising, as overall South Korean LNG imports increased last year, albeit marginally, Banchero Costa said. Exports to Mainland China also declined, by -4.7% to 7.8 mill tonnes.

On the other hand, exports to Japan increased by +5.8% to 9.1 mill tonnes. Shipments to India surged by +11.7% to 10.4 mill tonnes. India was the second largest destination for Qatari gas, accounting for 13.4% of volumes.

Volumes to Pakistan increased by +7.5% to 5.3 mill tonnes, while shipments to Bangladesh increased by +20.3% to 3.4 mill tonnes and also increased to Thailand by +19.5% to 2.3 mill tonnes.

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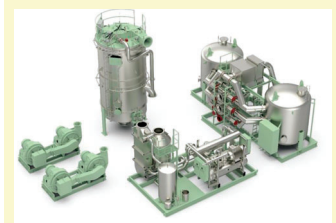
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“A second phase... will further increase the country's LNG production capacity to 126 mill tonnes.”

Ichthys to ship 120 LNG cargoes this year

Japan's Inpex is to ship around 120 LNG cargoes, 36 offshore condensate cargoes and 24 plant condensate cargoes from Ichthys this year.

The company said that it will ship 10 LNG cargoes per month in 2021, three cargoes a month of offshore condensate and one or two cargoes a month of plant condensate, an Inpex spokesman told S&P Global Platts.

These compare with 2020 shipments of 122 LNG cargoes, 34 offshore condensate cargoes, 22 plant condensate cargoes and 34 LPG cargoes, the spokesman added.

Ichthys, operated by Inpex, involves piping gas from the offshore field in the Browse Basin in northwestern Australia to the onshore 8.9 mill tonnes per year LNG plant near Darwin from where the LNG is exported.

With a 66.245% stake in Ichthys, Inpex is allowed to off-take 900,000 tonnes per year of LNG, a majority of which is shipped to its Naoetsu LNG import terminal in northwestern Japan for its pipeline gas supply.

Inpex, which reported its first-ever annual net loss in 2020, said it plans to raise its development expenditures in 2021 by 38.2% year-on-year to Y231 bill and boost its exploration expenditures by 49.5% to Y16 bill.

The development increase will be mainly for the Ichthys project, as well as for onshore and offshore oil developments in Abu Dhabi, the spokesman said.



Ichthys shown while under construction

On 10th February, Inpex posted a net loss of Y111.699 bill for 2020, compared with a Y123.550 net profit in 2019, due to an im-

pairment loss of Y189.9 bill from the coronavirus-led slump in oil prices and demand, among other factors. ■

Inventory re-stocking to sustain market

There should be significant LNG inventory re-stocking both in Asia/Pacific and in Europe this summer, due to the winter run on LNG.

For the LNG shipping market, the question is - who is doing the re-stocking and when, Poten & Partners' Jefferson Clarke said in the latest of the company's regular webinars.

Charterers undertaking short and medium term business for inventory re-stocking could prevent spot day rates dropping to around the \$30,000 mark this summer, as seen last year, he said.

However, he warned that much of the inventory re-building would be seen in Europe and with many cargoes coming from the US, this would reduce the tonne/mile equation, compared to the much longer US to Asia/Pacific routes.

Demand should come roaring back this summer, providing the vaccines keep the pandemic under control. Oil and gas prices will rise with a disconnect between spot and term prices seen. In addition, gas will increasingly replace coal in Europe on pricing and there should also be healthy LNG demand out of China, Poten said.

As for supply, there should be enough LNGCs to cope with demand growth this year and into 2022, as the fleet can increase speed to cope with any increase. At present, the average speed of an LNGC is only 14 knots, whereas most vessels boast a service speed

of 19 knots. However, higher speeds would impact on shipping costs.

Poten thought that the plethora of proposed US export projects would come but one of the problems currently was the ability to negotiate long term contracts to off-take the gas, while another headwind was that financial institutions were backing away from carbon-based energy sources, which could affect the developers ability to gain finance.

There are not many sponsored LNG projects around today, except Mozambique and Qatar, Poten pointed out.

Clarke thought that LNGC new-

buildings were being discussed at present to replace the older steam turbine driven vessels and even some of the TFDE and DFDE types.

Given only an LNGC lifecycle of 20-25 years for newbuildings today, instead of the 30-40 years for earlier vessels, this would change the dynamics of the earnings needed to see a return on investment (ROI), making the earnings necessary much higher. "It is important that rates support the ROI going forward," Poten said.

At today's low interest rates, investors will be happy see a single digit ROI but inflation will set in, the webinar warned. ■

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Japan's Soma import terminal reopens

Japan Petroleum Exploration Co (JAPEX) has resumed operations at the Soma LNG terminal, after shutting it down, due to the earthquake off the coast of Fukushima Prefecture on 13th February.

The resumption of operations included the supply of regasified gas from LNG to the gas pipeline network and LNG delivery by tank trucks.

However, the supply of LNG used as fuel for power generation to the Fukushima Natural Gas Power Plant (owned by Fukushima Gas Power (FGP)), located adjacent to Soma, was still suspended yesterday.

JAPEX said that the import terminal located at Shinchi-machi, Fukushima Prefecture was stopped for safety confirmation, and the

supply of LNG at the terminal was also suspended.

There was no damage to the surrounding area, such as any gas leakage from the terminal.

Due to the suspension of supply operations, immediately after the earthquake, boil-off gas (BOG) was burned to release the gas safely.

Having confirmed pipelines' safety by remote monitoring, the domestic gas pipeline network, including the Niigata/Sendai gas pipeline, is operating as usual.

Visual inspections of the pipelines and ancillary facilities



JAPEX has reopened the Soma import terminal

were conducted on Monday, and no damage or destruction that

would interfere with operations had been identified thus far. ■

Panama Canal sets LNGC records

The Panama Canal set a new monthly record for LNGC transits and tonnage in January.

This shows its capacity to respond to this segment's demand, as a result of the recent surge in the energy market, the authority said.

In January, 58 LNGCs transited through the Neopanamax Locks, totalling 6.74 mill Panama Canal tonnes (PC/UMS).

The previous monthly records were set in January, 2020 with 54 transits and in November, 2020 with 6.23 mill PC/UMS.

"These achievements reaffirm the canal's ability to adapt and guarantee our competitiveness and reliability to capture the opportunities presented by market changes, including the liquefied

natural gas segment," said Panama Canal Administrator, Ricaurte Vásquez Morales. "For more than a century, the Panama Canal has demonstrated its responsiveness to global trade changes, and what the world has experienced in the past year will not be the exception."

The authority recently implemented adjustments in its processes to provide greater operational flexibility and respond more efficiently to the continuous changes in the demands of maritime trade, reflected in the current vessel mix that uses the waterway.

In January, the authority announced modifications to the Transit Reservation Booking System, allowing any slot that becomes available for Neopanamax vessels within 96 hours prior to transit to be offered through an auction process.

Since the modifications, the canal has conducted 25 auctions, of which nine have been awarded to LNGCs. In addition, on 25th January, it was able to transit three northbound LNGCs in one day and on 31st January, handled four LNGCs, two northbound and two southbound.

This has allowed the canal to

maximise the efficiency and flexibility of the transit service to better handle the current demand.

LNGC transit increases through the Panama Canal was a result of record winter temperatures in Asia, which have caused LNG prices to rise to unprecedented levels, the authority claimed. ■



The number of LNGCs transiting the Panama Canal is increasing

PLL LNG tender - Vitol Bahrain offers lowest rates

Vitol Bahrain has offered the lowest rates to supply two April LNG cargoes to Pakistan LNG Terminal (PLL).

PLL had received lower bids for the two cargoes in the range of 10.89% to 11.05% of Brent against the tender that closed on 4th February.

With Brent trading at \$58.77 per barrel at the time, a cargo for 5th to 6th April delivery was priced at \$6.49 per MMBtu and the delivery for 19th to 20th April at \$6.4 per MMBtu.

Four traders submitted the bids, including QP Trading, Vitol Bahrain, POSCO International Corp and PetroChina International.

PLL had received considerably lower bids for three March LNG cargoes in the range of 12.7% to 13.6% of Brent against the tender that closed on 26th January.

In India, Adani Total Gas signed a three-year deal to import LNG from French major Total.

CEO Suresh Manglani said that the gas is being procured by Adani for sale to households and small industries. ■

Thailand to export surplus LNG

Thailand's state-owned energy conglomerate PTT has shipped LNG to Japan for the first time.

The first shipment left a PTT terminal in central Thailand in late January and arrived in Japan in early February.

Japan is experiencing a seasonal supply shortage, Nikkei Asia said, adding that the unidentified buyer was thought to be a major energy company.

The cargo was about 145,000 cu m.

PTT will "explore more opportunities," tapping the country's "infrastructure and proximity to Japan, South Korea, China and Taiwan, all of which are big LNG buyers," a source at the company told Nikkei Asia.

Thailand has a glut of LNG, due to a lack of winter heating demand and the pandemic, which is having a negative effect on industrial electricity usage.

PTT was thought to have charged spot prices for the LNG after buying it at a lower cost under long-term agreements, thereby making a good profit. PTT buys LNG from Malaysia and Qatar, mostly under long-term contracts.

Projecting more domestic demand for electricity, Thailand - which mainly uses locally produced natural gas for its energy needs - plans to increase procurement and is expanding import terminals, with a second facility slated for completion next year.

However, this strategy comes at the risk of being stuck with a surplus if demand declines at home, Nikkei said.

The Thai government also has plans to transform the country into an international LNG trading hub. ■

Höegh LNG ties up LNGC contracts

Höegh LNG Holdings has announced two new charter contract extensions and another charter.

The company has signed an agreement with Trafigura to extend the existing interim LNGC timecharter of 'Höegh Gannet' for another 12 months and agreed a new interim LNGC timecharter for 'Höegh Gallant' for 12 months, effective from the redelivery from its current charter at the end March, 2021.

In addition, an agreement was reached with Cheniere to extend the existing interim LNGC

timecharter for the 'Höegh Galleon' again for another 12 months.

Höegh said that the rates achieved were consistent with the term market levels for TFDE LNGCs and modestly above those achieved for 'Höegh Gallant' and 'Höegh Gannet' last year.

The three timecharters also include other extension options, which could result in back-to-back employment with the possibility of

new FSRU awards.

With these charters, the company's fleet's contracts are secured for 2021, with the exception of 'Höegh Esperanza' for which Höegh is in discussions with the existing charterer on an extension to the expiry date, due in June, 2021.

Höegh LNG said that it aimed to secure an extension that potentially covers the period until 'Höegh Esperanza' is set to be employed on a long-term FSRU contract. This contract is conditional on a final investment decision (FID) being taken on AGL's Crib Point FSRU project in Australia.

President and CEO, Sveinung Støhle said: "We are off to a very good start for 2021 with these charters in place, taking advantage of the seasonally strong LNGC market to bridge the interim period with solid counterparties."

Elsewhere, brokers reported that NAKILAT had chartered out three of its four newbuildings to Cheniere. ■



'Höegh Gallant' is to go on an interim 12 month charter

Total signs up to Papua LNG

Last week, the Papua New Guinea Government and Total signed a fiscal stability agreement for the Papua LNG project, PNG Prime Minister James Marape said.

After nearly two years of uncertainty over the fate of the 5.4 mill tonnes per year LNG project, Marape said the agreement would stick to the original terms agreed upon in April, 2019.

"It demonstrates Papua New Guinea's commitment to the Papua LNG Project and gives comfort and encouragement to the developers to progress the project," Marape said in a statement.

Total and its partners ExxonMobil Corp and Oil Search had planned to develop Papua LNG in tandem to expand Exxon's PNG LNG in a \$13 bill project by adding three new production trains at the plant, to help save billions of dol-

lars, Reuters said analysing the deal.

This would have doubled the country's LNG exports to 16 mill tonnes per year.

However, Exxon has not agreed to terms sought by the Government for the P'nyang gas development that was going to help feed the expansion.

As a result, Total's Papua LNG project will go ahead with two new production trains to be built at the PNG LNG site, fed by the Elk Antelope gas fields.

"These are great outcomes for all stakeholders of the project but more so the National Government," Marape said. ■

NEWS NUDGE

All change at Oman LNG

Oman LNG's long-standing CEO, Harib al Kitani has stepped down and Hamed al Numani has been appointed the new CEO.

A veteran of the sultanate's gas and LNG industry, al Kitani was employed by Oman LNG from its inception in the late 1990s, holding senior positions before heading up the majority Government-owned company as its CEO.

Al Numani has over 20 years' experience in the industry, leading critical LNG projects in Europe and the US. ■

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Nakilat records highest profit

Qatar Gas Transport Company (Nakilat) has reported a consolidated net profit of QR1,161 mill in 2020, an increase of 15.7%, compared to QAR1,003 mill reported for 2019.

As a result, the Board recommended a cash dividend at QAR0.11 per share.

Even though the global economy and LNG shipping market were impacted by the COVID-19 pandemic for most of 2020, Nakilat continued to demonstrate great resilience as reflected in its operational and financial performance for the year, it claimed.

Business model

The outstanding financial performance in 2020 is a testament to the company's defensive business model and concerted efforts, which includes the safe completion of the second phase fleet management transition involving seven LNGCs, delivery of two MEGI LNGC newbuilds, as well as the first FSRU transition to NSQL ship-management.

Key 2020 financial highlights:

- Net profit of QAR1,161 mill, an increase of 15.7%.
- Revenue of QAR4,017 mill, an increase of 3.4%.
- General and administrative expenses decreased by 28%.

HE Dr Mohammed Bin Saleh Al Sada, Nakilat's Board Chairman, said: "During this past year, Nakilat, like the rest of the global shipping and maritime industry, has had to navigate unprecedented challenges to its operations due to the COVID-19 global pandemic.

"However, the company's solid business continuity plans and infrastructure enabled us to swiftly adapt to the situation and allowed us to remain focused on creating value for our shareholders and customers. Nakilat remained committed in achieving its vision and delivered many noteworthy accomplishments during this challenging year.

"The company continued to transport clean energy to worldwide destinations safely and reliably without any interruptions, upholding our commitment to operational excellence and customer satisfaction," he said.

CEO Eng Abdullah Fadhalah Al Sulaiti, added: "Amid the challenging business landscape, Nakilat remained steadfast in



executing our long-term strategies, sustaining operational efficiencies while ensuring fiscal discipline across our global shipping and maritime operations.

"We were able to quickly adapt to the new normal of operating and demonstrated great resilience, as evident from our business and operational accomplishments throughout the year. 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.

"We would also like to extend our appreciation to Qatar Petroleum for their support, as well as our strategic partner Qatargas in playing a significant role to ensure our robust financial performance. Such synergies help drive the company's vision to be a global leader and provider of choice for energy transportation and maritime services," he said.

ICE to launch LNG freight futures contracts

Intercontinental Exchange (ICE) plans to launch LNG freight futures contracts based on Spark Commodities' price assessments.

The new contracts - called the Spark30S Atlantic and Spark25S Pacific LNG Freight Future contracts - are traded and settled in US dollars per day.

The numbers in the contract names indicate the number of days it takes an LNGC to complete a return voyage on the respective routes.

Market participants can use the contracts to manage price risk in respect of round trip voyages between the US Gulf Coast and Northwest Europe (Spark30 assessment); and Australia and Japan, South Korea, Taiwan and China (Spark25 assessment).

ICE plans to launch the cash

settled futures contracts on 22nd March, 2021, subject to regulatory approval.

The new freight contracts will form part of ICE's global natural gas complex, as the market manages freight price risk alongside existing TTF, NBP, Henry Hub, JKM LNG (Platts) and WIM LNG (Platts) contracts.

"We have been in close engagement with the LNG market for more than two years about the right assessment on which to base LNG freight futures.

"During that time, LNG freight markets have become increasingly volatile, significantly increasing demand for suitable LNG freight

risk management tools," said Gordon Bennett, ICE's Managing Director of Utility Markets.

"We believe that our freight futures contracts, priced against Spark's assessment, will provide the hedging tools the market has been waiting for. They will trade and clear alongside the highly liquid and global gas benchmarks on ICE including TTF, Henry Hub, NBP, JKM and WIM.

"This is a milestone moment in the evolution and maturity of the LNG market and one we think can benefit all those involved in LNG markets," he said.

"After a summer of LNG freight rates at record lows, this winter followed with the highest LNG

freight rates ever assessed, peaking at \$322,500 per day on 8th January, 2021. This volatility necessitates new risk management tools, as well as future orientated, tech driven price discovery platforms", said Tim Mendelssohn, Spark Managing Director.

"By partnering with ICE, something we are very proud to do, we are hitting a critical milestone for our business; providing our customers with a cleared, tradeable LNG freight product within a platform that gives them far greater insight than their alternatives. Importantly, it demonstrates that the market wants progress," he concluded.

Higher rates boost Flex LNG results

Flex LNG has reported revenues of \$67.4 mill for the fourth quarter of last year, compared to \$33.1 mill for 3Q20.

Net income was \$25.8 mill and earnings per share \$0.48 for the quarter, compared to \$3.8 mill and earnings per share of \$0.07 for the previous quarter.

The average daily timecharter equivalent (TCE) rate was \$73,712, compared to \$46,569 per day for 3Q20.

Adjusted 4Q20 EBITDA of \$50.2 mill, compared to \$21.9 mill for the third quarter, while the adjusted net income was \$24.2 mill, compared to \$1.2 mill for the third quarter.

The Board has declared a cash dividend of \$0.30 per share for 4Q20.

Øystein M Kalleklev, Flex LNG Management CEO, commented: "During the last quarter of 2020 and into 2021, the LNG market improved markedly driven by strong demand from Asia, due to a combination of cold weather and economic recovery, which resulted in a shortage of both LNG and ships to transport it.

"LNG prices, which hit synchronised lows following the Covid-19 pandemic, rebounded with an 18 times price increase of Asian LNG from the low in April, 2020 to the

highs in January, 2021, a remarkable turnaround. With the pull from Asia and a relative cold start to 2021 in Northern Europe, gas inventories in Europe, which hit tank tops in the autumn, have been depleted.

"This has firmed up future gas prices, as restocking will be required during spring and summer months. Restocking demand, particularly in Europe, will mean more demand for flexible US cargoes during the summer, and we therefore do not expect a repeat of the flurry of US cargo cancellations, which adversely affected the market in 2020.

"With an improved economic outlook, we do expect LNG exports to grow steadily in 2021, as the US is expected to produce close to capacity and this will also be positive for shipping demand.

"For Flex LNG, the recent improvement in the market is evident from the results we are presenting today with average Time Charter Equivalent earnings of about \$74,000 per day in line with guidance of \$70,000 to \$75,000.

"We have also been able to

book 87% of the first quarter at healthy rates and we therefore expect our revenues to grow from \$67 mill in the fourth quarter of 2020 to between \$80 and \$90 mill in the first quarter of 2021. The stronger trading results reflects generally higher charter rates at the start of the year, as well as delivery of two newbuildings in January, 2021.

"With improved financial performance and a strong balance sheet, we are therefore pleased to announce an increase of our quarterly dividend from \$0.10 per share for the third quarter to \$0.30 per share for the fourth quarter, which represents an attractive yield for our shareholders.

"With the recent fleet additions, our operating fleet has grown to 12 vessels on the water, and we expect to take delivery of the last newbuilding in the second quarter. With the final delivery, our fleet will consist of 13 large LNG carriers with the latest generation technology. These ships are more than 50% more efficient than the steam turbine ships and represent a big reduction in the carbon footprint for the industry," he said. ■

Plaquemines LNG gets finance

Venture Global LNG has closed a \$500 mill term loan.

The banks involved were JPMorgan Chase Bank, Morgan Stanley Senior Funding, Mizuho Bank, and Bank of America.

The proceeds will be used to fund pre-FID construction activities at the company's Plaquemines LNG export project, as well as for general corporate purposes.

The transaction was increased from \$400 mill to \$500 mill based on strong lender interest, the company said.

CEO, Mike Sabel, said, "We are proud to continue to partner with this group of leading banks, all of whom are lenders to our Calcasieu Pass LNG export facility, as we move towards the launch of full construction on Plaquemines LNG in 2021.

"Replicating the successful strategy we pioneered and utilising the same configuration, we will continue to execute on our commitment to provide the lowest cost LNG to the global market and supply the world's growing demand for clean and reliable energy," he said.

Plaquemines LNG has contracted 3.5 mill tonnes per annum of the facility's 10 mill tonnes first phase under binding 20-year offtake agreements and received both US Department of Energy export authorisation and final FERC approval.

JPMorgan and Morgan Stanley served as joint lead arrangers on the transaction, and Bank of America and Mizuho participated as lenders.

Davis Polk & Wardwell and Simpson Thatcher & Bartlett served as Borrower's and Lenders' counsel, respectively. ■

NEWS NUDGE

Zeebrugge LNG regas capacity to expand

Fluxys has reported that the open season for additional regasification capacity at the Zeebrugge LNG terminal has been closed.

During the binding window, the full 6 mill tonnes per year capacity on offer was subscribed.

As a result, the terminal operator has taken the final investment decision (FID) to build additional infrastructure.

The additional regasification capacity will be provided in two phases:

1) From early 2024, a total of

4.7 mill tonnes per year of additional capacity;

2) From early 2026, the full 6 mill tonnes per year of additional regasification capacity.

Second PETRONAS FLNG comes onstream

PETRONAS second FLNG 'PFLNG DUA' has been commissioned and has produced its first LNG.

This historic event signifies the ability of 'PFLNG DUA' topside facility to produce on spec LNG, which further validates the technology concept of FLNG solutions for deepwater gas fields, the Malaysian giant said.

Its first deepwater FLNG facility, 'PFLNG SATU' is currently located at the Rotan gas field,

140 km off Kota Kinabalu, Sabah. This FLNG first produced LNG from the Kanowit gas field offshore Sarawak in 2016 and was then relocated to Kebabangan field offshore Sabah in 2019.

In collaboration with its upstream production sharing contract partner, PTT Exploration and Production, it completed the subsea commissioning phase of the second FLNG and achieved first gas on 6th February, 2021.

'PFLNG DUA' is expected to deliver its first LNG cargo by the middle of next month. Upon commercialisation, PETRONAS will become the first global energy company to own and operate two FLNGs. ■

Kongsberg to supply Arc7 deck equipment

Kongsberg Maritime (KM) has signed a contract to supply equipment to Russian LNG producer NOVATEK.

Under the terms of the deal, KM will supply a range of electric frequency converter-driven deck machinery for six Ice Class LNGCs, with an option for a further four.

They will be built by Daewoo Shipbuilding & Marine Engineering (DSME) and chartered to NOVATEK for operations around northwest Siberia.

Each vessel will be equipped with two combined windlasses and mooring winches capable of handling a 17 tonne anchor with 111 mm anchor chain, plus a further seven mooring winches.

Designed to operate under extreme ambient temperatures as low as -52 deg C, the windlasses

and mooring winches will also feature a specially-developed modification in the form of an electrically-operated, spring-loaded band brake, as requested by the charterer.

Espen Liset, KM's Senior Vice President Deck Machinery Motion Control, said: "These Ice Class Arc7s are built to navigate winter/spring ice thickness of up to 1.8 m.

"Our customised deck machinery system is designed for ease of installation and reliable operation in such harsh environments. Selecting our stainless-steel brake drum surfaces allows consistent smooth operation," he said.

KM will also supply the winches' control systems and load monitoring, with further integration to KONGSBERG automation systems available as an option.

"This contract represents an important endorsement of our advanced technologies as well as signposting our future growth," said Leo Pantazopoulos KM's Senior Vice President Sales & Regional Operations, APAC. "Working with NOVATEK will sharpen our competitive edge in the fast-growing, Russian-owned Arctic market, reinforcing our reputation as a reliable supplier with a provably efficient support infrastructure.

I would like to thank our teams

for working so well collaboratively, and with such a dedicated sense of purpose, to bring this contract agreement to fruition," he said. ■

NEWS NUDGE

Fisher appointed director of GasLog Partners

GasLog Partners has appointed Roland Fisher as Independent Director to the Partnership's Board of Directors, effective immediately.

Fisher is the founder of Gasfin Development, a company which is pioneering mid-scale LNG infrastructure in multiple markets.

Gasfin is a partner in the Tema LNG Terminal in Ghana, Sub-Saharan Africa's first LNG terminal, and developed the LNG regasification barge and floating storage unit being employed there.

Prior to founding Gasfin, Fisher was TGE Group CFO, a specialist cryogenic gas engineering business.

Previously, he also spent 10 years in private equity investment roles with Caledonia Investments and Actis working on a diverse portfolio from natural resources to financial services across Europe, Southern Africa and South America.

He started his career with Deloitte in London.

Curt Anastasio, GasLog Partners Board Chairman, stated, "On behalf of the directors and management, I am pleased to welcome Roly to the Partnership's Board. His expertise in LNG infrastructure as well as capital markets will be a welcome addition to the Board and I look forward to working together during this exciting and transitional period for our business." ■

GTT receives two AiP awards

GTT has obtained two Approvals in Principle (AiP) from Bureau Veritas (BV).

The first Approval is related to the 'NH3 Ready' classification of Mark III membrane tanks.

This AiP recognises that the Mark III system is suitable for the subsequent containment of ammonia in LNG as fuel applications, without any major design changes.

Over the course of the AIP study, a compatibility assessment with ammonia was carried out for the primary barrier of Mark III technology and tests were performed to determine the level of reinforcement of the containment system to take into account the higher density of ammonia, compared to LNG.

The second AiP related to the higher design pressure of '1 barg' in LNG as fuel applications, such as large container vessels. Thanks to an already existing alternative design of membrane tanks with specific dome reinforcement, this Approval gives shipowners more flexibility in all their operations.

Philippe Berterottière, GTT Chairman and CEO, said: "Being

'NH3 Ready', and the alternative '1 barg' design, once again underline the importance of our ability to continuously innovate, in order to provide our customers with even more reliable, performing, safe and flexible technologies.

"GTT targets bringing increased flexibility to shipowners required to adapt as quickly as possible to an ever changing fuel world. While we are convinced that LNG is the solution of choice for cleaning-up ship emissions even further, we have to take into consideration that ammonia, coming from green hydrogen, could bring additional reductions in emissions.

"In offering ammonia compatibility, we open the perspective to owners of a much longer period for ship amortisation," he said.

Matthieu de Tugny, President, Bureau Veritas Marine & Offshore, added: "Bureau Veritas is helping the industry prepare for the future fuel landscape. It is therefore exciting to support GTT in their continued journey of innovation. Our

role is to help the industry understand - and address - both risk and opportunity as we look for energy transition solutions.

"It is a pleasure to be awarding this first approval for an ammonia membrane containment tank system, based on the tried and trusted Mark III technology, to GTT.

"Bureau Veritas has made significant investments in expertise to help manage the challenges of the energy transition. This expertise continues to be enhanced and we look forward to being able to share it with our stakeholders to find solutions to the challenges we face," he concluded.

In addition, GTT reported that it had won an order from Hyundai Samho Heavy Industries (HSHI) for the tank design of a new LNGC.

As part of this order, GTT will design the tanks of a 174,000 cu m LNGC, which is to be delivered in the second quarter of 2023.

The LNGC tanks will be fitted with the GTT Mark III Flex membrane containment system. ■

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Wärtsilä and SAACKE in tie-up

Wärtsilä has signed a partnership agreement with SAACKE.

This agreement will strengthen the companies' ability to offer a comprehensive range of leading technology solutions to shipyards and shipowners, Wärtsilä claimed.

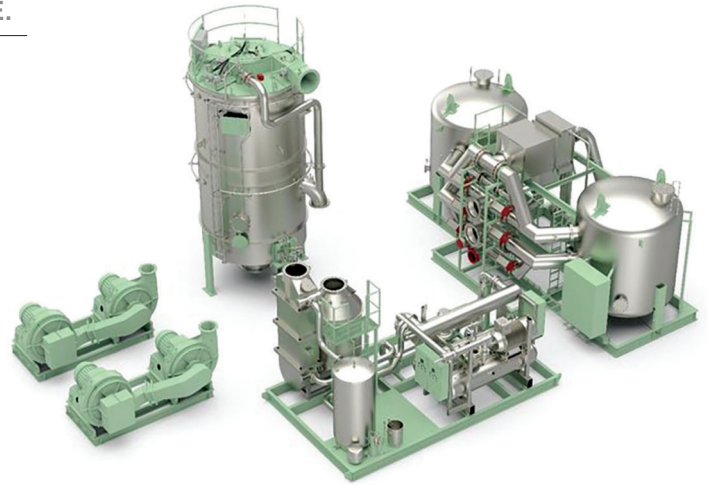
A central feature of the agreement is a co-operation regarding safety, in particular with inert gas systems and gas combustion units (GCU). It will also enable both partners to offer larger and more comprehensive scopes of supply, which will benefit customers regarding technology capability, cost savings, improved services and easier procurement procedures.

"Our agreement with Wärtsilä extends our long-standing co-operation to a strategic partnership. This will deliver value to our customers and will improve the market position for both companies,"

said Peter Breidenich, SAACKE's Director of Marine Systems.

"We are very excited at the potential benefits this agreement offers, both to the two companies and to their customers. We are confident that by working closely together, we can improve performance for all of us," added Geir Hellum, Product Line Manager, Inert Gas Systems, Wärtsilä Gas Solutions.

The agreement covers SAACKE's boilers, exhaust gas economisers, and air-cooled CGUs, as well as Wärtsilä's IGS and combined inert gas & gas combustion units. Wärtsilä will also make its flue gas system available to SAACKE, thereby making it possible for the delivery of a boiler and flue gas system as a single entity,



Wärtsilä's inert gas and combined IGS and gas combustion unit

thus improving system performance and reducing costs.

The joint offering targets the LNGC and LPG carrier markets, which are expected to remain strong during the coming years.

For Wärtsilä, the agreement encourages an increased focus on gas systems, while for SAACKE it adds the ability to deliver boilers and IGS as a single integrated solution for gas carriers.

NEWS NUDGE

Newbuilding deliveries

Hyundai Mipo Dockyard (HMD) has delivered the 30,000 cu m medium size LNGC 'Ravenna Knutsen' to Knutsen OAS Shipping.

She is scheduled to ship LNG mainly in the Mediterranean area from the third quarter of 2021, HMD said.

'Ravenna Knutsen' is fitted with three 10,100 cu m bi-lobe cargo tanks featuring low alloy 9% Ni steel and is powered by a WinGD dual-fuel engine.

Elsewhere, Mitsui OSK Lines (MOL) has named an LNGC, which is to be chartered to Indian gas company GAIL.

The new 180,000 cu m vessel 'Gail Bhuwan' is due to be delivered from Daewoo (DSME) this month.

She will mainly transport LNG from North America to India and will be managed by MOL LNG Transport Asia.

NOVATEK joins Arctic Economic Council

Gas and oil production concern, PAO NOVATEK has joined the

Arctic Economic Council (AEC).

AEC is an international business forum established in 2014 at the initiative of the Arctic Council in order to facilitate business-to-business activities and promote responsible economic development of the Arctic region.

US regulatory updates

Cheniere Energy has asked the US Federal Energy Regulatory Commission (FERC) to approve a request to put in service the third liquefaction train at its Corpus Christi LNG export plant.

The train has already been operating for several months under test.

In its recent filing, Cheniere asked FERC to approve its request at the earliest date possible but no later than 12th March.

Each of the three trains has the capacity to produce about 5 mill tonnes per annum of LNG.

Elsewhere it has been reported that Port Arthur LNG (PALNG) has received a favourable environmental assessment from FERC for its expansion project, located in Jefferson County, Texas.

The original PALNG liquefaction terminal, authorised in April,

2019, allowed PALNG to construct and operate natural gas liquefaction facilities and an LNG export facility.

This included two liquefaction trains, each with its own gas treatment facility and capacity to produce 6.73 mill tonnes per year under optimal conditions; condensate and refrigerant storage areas; a marine facility, including two LNGC berths, with two LNG loading arms and two hybrid arms; condensate loading and refrigerant unloading truck facilities; a construction and materials loading/unloading dock; three full-containment LNG storage tanks; and the capability of self-generation of the electrical power required for the liquefaction project by utilising eight of nine combustion turbine

generators.

The expansion project includes two additional liquefaction trains of the same capacity, along with associated utilities and infrastructure. The project also includes one new boil-off gas (BOG) compressor unit to compress BOG and deliver as fuel to the gas turbines, two new utility and instrument air compressor packages to deliver air to two new air drier packages, and one new 3.675 MW capacity diesel-powered standby generator.

In another move, the US Department of Energy (DOE) said that it had received an application from Southern LNG Co, requesting blanket authorisation to export LNG previously imported.

Comments must be received by 5th March, the DoE said.

LNG rate assessments

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

Region	This week	Change*
East of Suez	\$50,000	-\$30,000
West of Suez	\$54,000	-\$31,000
12 mos T/C	\$48,000	-\$1,000

*Since last report (04/02/21)

Source: Fearnleys (17/02/21)

WORLD LNG CARRIER ORDERBOOK

Name	Containment system	Propulsion	Yard	Delivery date	Capacity	Primary Owner
Hyundai Ulsan 3243	Unknown	XDF	Hyundai	01/11/2022	174000	Knutsen OAS Shipping
AS						
Hyundai Ulsan 3244	Unknown	XDF	Hyundai	01/05/2023	174000	Knutsen OAS Shipping
AS						
Hyundai Ulsan 3191	Unknown	XDF	Hyundai	01/06/2023	174000	Korea Line
Hyundai Ulsan 3198	Unknown	XDF	Hyundai	01/08/2023	174000	Korea Line
Daewoo 2514	Unknown	TFDE - Azipod	DSME	01/12/2022	175000	Sovcomflot
Daewoo 2515	Unknown	TFDE - Azipod	DSME	01/04/2023	175000	MOL
Daewoo 2516	Unknown	TFDE - Azipod	DSME	01/07/2023	175000	Sovcomflot
Daewoo 2517	Unknown	TFDE - Azipod	DSME	01/09/2023	175000	Sovcomflot
Daewoo 2518	Unknown	TFDE - Azipod	DSME	01/10/2023	175000	MOL
Daewoo 2519	Unknown	TFDE - Azipod	DSME	01/12/2023	175000	MOL
Zvezda 046	Unknown	TFDE - Azipod	Zvezda SSK	01/08/2024	172600	Smart LNG
Zvezda 047	Unknown	TFDE - Azipod	Zvezda SSK	01/09/2024	172600	Smart LNG
Zvezda 048	Unknown	TFDE - Azipod	Zvezda SSK	01/10/2024	172600	Smart LNG
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
Hyundai Samho 8095	Unknown	XDF	Hyundai	01/05/2023	174000	Knutsen
Hyundai Samho 8096	Unknown	XDF	Hyundai	01/06/2023	174000	Knutsen
Hyundai Ulsan 3189	Unknown	XDF	Hyundai	01/03/2023	174000	ICBC Leasing
Hyundai Ulsan 3190	Unknown	XDF	Hyundai	01/05/2023	174000	ICBC Leasing
United Fortune	Unknown	XDF	Hudong-Zhonghua	01/04/2023	174000	China LNG Shipping
United Glory	Unknown	XDF	Hudong-Zhonghua	01/01/2023	174000	China LNG Shipping
United Prosperity	Not Applicable	XDF	Hudong-Zhonghua	01/10/2022	174000	China LNG Shipping
Hyundai Samho 8033	GTT MK III Flex	XDF	Hyundai	01/06/2022	173000	NYK
Hyundai Ulsan 3187		XDF	Hyundai	01/11/2022	174000	JP Morgan
Hyundai Ulsan 3188		XDF	Hyundai	01/12/2022	174000	JP Morgan
Hyundai Samho 8091	Unknown	XDF	Hyundai	01/08/2022	174000	Knutsen
Hyundai Samho 8092	Unknown	XDF	Hyundai	01/10/2022	174000	Knutsen
Hyundai Samho 8093	Unknown	XDF	Hyundai	01/11/2022	174000	Knutsen
Hyundai Samho 8094	Unknown	XDF	Hyundai	01/12/2022	174000	Knutsen
Hyundai Ulsan 3185		XDF	Hyundai	01/08/2022	174000	Korea Line
Hyundai Ulsan 3186		XDF	Hyundai	01/10/2022	174000	Korea Line
Daewoo 2508	Unknown	XDF	DSME	01/01/2022	174000	Maran Gas Maritime
Hyundai Samho 8026	GTT MK III Flex	XDF	Hyundai	01/06/2022	174000	H-Line
Samsung 2315	Unknown	XDF	Samsung	01/06/2022	173400	SinoKor
Samsung 2316	Unknown	XDF	Samsung	01/09/2022	173400	SinoKor
Samsung 2317	Unknown	XDF	Samsung	01/12/2022	173400	SinoKor

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 = 25th November 2020

Name	Containment system	Propulsion	Yard	Delivery date	Capacity	Primary Owner
Samsung 2318	Unknown	XDF	Samsung	01/03/2023	173400	SinoKor
Samsung 2364	GTT MK III Flex+	XDF	Samsung	01/01/2023	174000	MISC
Samsung 2365	GTT MK III Flex+	XDF	Samsung	01/02/2023	174000	MISC
Daewoo 2509	Unknown	MEGI	DSME	01/08/2022	174000	BWGas
Daewoo 2510	Unknown	MEGI	DSME	01/09/2022	174000	BWGas
Hyundai Samho 8025		XDF	Hyundai	01/12/2021	174000	H-Line
Samsung 2355	GTT MK III Flex	XDF	Samsung	01/10/2021	174000	NYK
Zvezda 041	GTT MK III	TFDE - Azipod	Zvezda SSK	01/03/2023	172600	Smart LNG
Zvezda 042	GTT MK III	TFDE - Azipod	Zvezda SSK	01/09/2023	172600	Smart LNG
Zvezda 043	GTT MK III	TFDE - Azipod	Zvezda SSK	01/10/2023	172600	Smart LNG
Zvezda 044	GTT MK III	TFDE - Azipod	Zvezda SSK	01/11/2023	172600	Smart LNG
Zvezda 045	Unknown	TFDE - Azipod	Zvezda SSK	01/12/2023	172600	Smart LNG
Daewoo 2507	GTT 96 GW	XDF	DSME	01/10/2021	174000	Maran Gas Maritime
Hudong-zhonghua H1829a	GTT 96 L03+	XDF	Hudong-Zhonghua	01/03/2022	170520	CSSC
Hudong-zhonghua H1830a	GTT 96 L03+	XDF	Hudong-Zhonghua	01/06/2022	170520	CSSC
Hyundai Ulsan 3111	GTT MK III Flex	XDF	Hyundai	01/01/2023	174000	Capital Gas
Hyundai Ulsan 3157	GTT MK III Flex	XDF	Hyundai	01/12/2021	174000	Tsakos Energy Navigation
Hyundai Ulsan 3145	Unknown	XDF	Hyundai	01/09/2022	180000	SK Shipping
Hyundai Samho 8032	GTT MK III Flex	XDF	Hyundai	01/01/2022	174000	NYK
Hyundai Ulsan 2939	GTT MK III Flex	XDF	Hyundai	01/10/2021	180000	SK Shipping
Samsung 2319	GTT MK III Flex	XDF	Samsung	01/03/2022	174000	JP Morgan
Samsung 2336	GTT MK III Flex	XDF	Samsung	01/12/2021	174000	JP Morgan
Samsung 2337	GTT MK III Flex	XDF	Samsung	01/07/2022	174000	JP Morgan
Daewoo 2506	GTT 96	MEGI	DSME	01/11/2021	174000	Maran Gas Maritime
Clean Cajun	Unknown	XDF	Hyundai	01/04/2022	200000	Dynagas
Clean Copano	Unknown	XDF	Hyundai	01/07/2022	200000	Dynagas
Daewoo 2505	Unknown	MEGI	DSME	01/07/2021	174000	MOL
Asklipios	GTT MK III Flex	XDF	Hyundai	01/09/2021	174000	Capital Gas
Daewoo 2504	GTT 96	XDF	DSME	01/09/2021	174000	Maran Gas Maritime
Elisa Aquila	GTT MK III Flex	XDF	Hyundai	01/03/2022	174000	NYK
Daewoo 2502	GTT 96 GW	XDF	DSME	01/09/2021	173400	Nakilat
Daewoo 2503	GTT 96 GW	XDF	DSME	01/01/2022	173400	Nakilat
Adamastos	GTT MK III Flex	XDF	Hyundai	01/08/2021	174000	Capital Gas
Yiannis	GTT 96 GW	MEGI	DSME	01/06/2021	174000	Maran Gas Maritime
Hudong-zhonghua H1828a	GTT 96 L03+	XDF	Hudong-Zhonghua	01/01/2022	174000	CSSC
Mu Lan	GTT 96 L03+	XDF	Hudong-Zhonghua	01/06/2021	174000	CSSC
Samsung 2313	Unknown	XDF	Samsung	01/05/2021	180000	Celsius Shipping
Samsung 2314	Unknown	XDF	Samsung	01/08/2021	180000	Celsius Shipping
Minerva Chios	GTT MK III Flex+	XDF	Samsung	01/07/2021	174000	Minerva Marine
Marvel Swan	Unknown	XDF	Samsung	01/03/2021	173400	Navigare
Samsung 2332	GTT MK III Flex+	XDF	Samsung	01/11/2022	174000	Minerva Marine
Bw Helios	GTT 96 GW	MEGI	DSME	01/03/2021	174000	BWGas
Bw Lesmes	GTT 96 GW	MEGI	DSME	01/02/2021	174000	BWGas
Daewoo 2495	GTT 96 GW	XDF	DSME	01/06/2021	174000	Maran Gas Maritime

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 = 25th November 2020

Name	Containment system	Propulsion	Yard	Delivery date	Capacity	Primary Owner
Energy Intelligence	GTT 96 GW	MEGI	DSME	01/06/2021	174000	Alpha Gas
Gail Bhuwan	GTT 96 GW	MEGI	DSME	01/02/2021	180000	MOL
Gaslog Wellington	GTT MK III Flex+	XDF	Samsung	01/06/2021	180000	GasLog
Lng Rosenrot	GTT 96 GW	MEGI	DSME	01/01/2021	180000	MOL
LNG Ships Express	GTT MK III Flex	XDF	Samsung	01/03/2021	174000	TMS Cardiff Gas
Samsung 2306	GTT MK III Flex	XDF	Samsung	01/09/2021	174000	NYK
Samsung 2307	GTT MK III Flex	XDF	Samsung	01/12/2021	174000	NYK
Samsung 2312	GTT MK III Flex+	XDF	Samsung	01/08/2021	180000	GasLog
Diamond Gas Crystal	GTT MK III Flex	XDF	Hyundai	01/05/2021	174000	NYK
Diamond Gas Victoria	GTT MK III Flex	XDF	Hyundai	01/09/2021	174000	NYK
Hellas Athina	GTT MK III Flex	XDF	Hyundai	01/09/2021	174000	Latsco Shipping
Hellas Diana	GTT MK III Flex	XDF	Hyundai	01/03/2021	174000	Latsco Shipping
Lngships Athena	GTT MK III Flex	XDF	Hyundai	01/03/2021	174000	TMS Cardiff Gas
Lngship Manhattan	GTT MK III Flex	XDF	Hyundai	01/04/2021	174000	TMS Cardiff Gas
Cool Racer	GTT MK III Flex	XDF	Hyundai	01/02/2021	174000	Thenamaris
Minerva Kalymnos	GTT MK III Flex+	XDF	Samsung	01/02/2021	174000	Minerva Marine
Samsung 2302	GTT MK III Flex	XDF	Samsung	01/03/2021	174000	NYK
Cobia Lng	GTT MK III Flex	XDF	Hyundai	01/02/2021	174000	TMS Cardiff Gas
Sof Timmerman	GTT MK III Flex	XDF	Hyundai	01/02/2021	174000	Sovcomflot
Celsius Canberra	GTT MK III Flex	XDF	Samsung	01/12/2020	180000	Celsius Shipping
Gaslog Galveston	GTT MK III Flex	XDF	Samsung	01/12/2020	174000	GasLog
Aristidis I	GTT MK III Flex	XDF	Hyundai	01/11/2020	174000	Capital Gas
Global Star	GTT 96	MEGI	DSME	01/01/2021	173400	Nakilat
Aristarchos	GTT MK III Flex	XDF	Hyundai	01/03/2021	174000	Capital Gas
Attalos	GTT MK III Flex	XDF	Hyundai	01/06/2021	174000	Capital Gas
Flex Freedom	GTT 96 GW	MEGI	DSME	01/11/2020	173400	Flex LNG
Flex Vigilant	GTT MK III Flex	XDF	Hyundai	01/05/2021	174000	Flex LNG
Flex Volunteer	GTT MK III Flex	XDF	Hyundai	01/02/2021	174000	Flex LNG
Energy Integrity	GTT 96 GW	MEGI	DSME	01/05/2021	173400	Alpha Gas
Energy Endeavour	GTT 96 GW	MEGI	DSME	01/12/2020	173400	Alpha Gas
Minerva Limnos	GTT 96 GW	MEGI	DSME	01/03/2021	173400	Minerva Marine
Minerva Psara	GTT 96 GW	MEGI	DSME	01/01/2021	173400	Minerva Marine
Dorado LNG	GTT MK III	XDF	Samsung	01/11/2020	174000	TMS Cardiff Gas

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 = 25th November 2020



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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	Akebono Maru	3,556	LNG	Japan	Yes	Chuo Kaiun
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	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	JX Energy TBN	2,500	LNG	Japan	Yes	JX Energy
2013	Kakuyu Maru	2,500	LNG	Japan	Yes	Tsurumi Sunmarine
2013	Coral Anthelia	6,500	LNG/Ethylene			Anthony Veder
2015	LNG Barge TBN	3,000	LNG	US Coast	Yes	LNG America
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	PetroChina TBN	30,000	LNG	China		PetroChina
2016	Clean Jacksonville	2,200	LNG	US Coast	Yes	CME
2016	LNG Prime	2,250	LNG	Northwest Europe	Yes	Veka Deen LNG
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	Hai Yang Shi You 301	30,000	LNG	Bali FSU	Yes	CETS (CNOOC)
2017	Oizmendi	600	LNG	Bilbao	Yes	Itsas Gas
2017	Green Zeebrugge	5,000	LNG	Northwest Europe	Yes	NYK
2017	Coralius	5,800	LNG	Northwest Europe/Baltics	Yes, for Skangas	Anthony Veder
2017	Cardissa	6,500	LNG	Northwest Europe	Yes	Shell
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya

For more information please visit <http://small-lng.com>

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

TBN = To Be Nominated indicates ships are still at construction/planning stage

** = project shelved † = Data to be verified Data last updated = 3rd February 2021

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	Coral EnergICE	18,000	LNG	Northwest Europe/Baltics	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	Coral Encanto	30,000	LNG	China	Yes	Anthony Veder
2018	HUA XIANG 8	13,720	LNG	China	Yes	Zhejiang Huaxiang
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	Kairos	7,500	LNG	Baltic	Yes	Bernhard Schulte
2018	Bunker Breeze	0	LNG	Barcelona	Yes	Suardiaz Energy Shipping
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	Stolt-Nielsen Gas
2020	Avenir Accolade	7,500	LNG	Mediterranean	Yes	Stolt-Nielsen Gas
2020	SM Jeju LNG2	7,500	LNG	Korea	Yes	Korea Line
2020	CNTIC VPOWER Global	28,000	LNG	Myanmar	Yes	Dalian Inteh Group
2020	Q-LNG 4000	4,000	LNG	US Coast	Yes	Q-LNG Transport/Harvey Gulf
2020	Avenir Aspiration	7,500	LNG		Yes	Stolt-Nielsen Gas
2020	FueLNG Bellina	7,500	LNG	Singapore	Yes	FueLNG
2020	Kaguya	3,500	LNG	Japan	Yes	CLS
2020	Optimus	6,000	LNG	NWE	Yes	Elenger
2020	ENN TBN	8,500	LNG	China	Yes	ENN
2020	Flexfueller 002	1,480	LNG	Antwerp	Yes	Titan LNG
2020	Ecobunker Tokyo Bay	2,500	LMG	Japan	Yes	Ecobunkers
2021	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2021	Knutsen TBN	30,000	LNG	Mediterranean	Yes	Knutsen OAS
2021	Dmitry Mendelev	5,800	LNG	Russia	Yes	Gazprom Neft
2021	PE TBN	12,000	LNG	Singapore	Yes	MOL
2021	JMU TBN	2,500	LNG	Japan	Yes	JMU
2021	TBN	18,600	LNG	Mediterranean	Yes	MOL
2021	TG TBN	500	LNG	Korea	Yes	Trans Gas
2022	Stolt TBN	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2022	Stolt TBN	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2022	Clean Cañaveral	5,400	LNG	USG	Yes	PNE
2023	Cryopeak TBA	4,000	LNG	West Canada	Yes	Cryopeak
2022	Knutsen TBN	5,000	LNG	Spain	Yes	Knutsen OAS
2023	Knutsen TBN	12,500	LNG	Spain	Yes	Knutsen OAS
2024	Stolt TBN (option)	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2024	Stolt TBN (option)	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2026	Stolt TBN (option)	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2026	Stolt TBN (option)	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas

For more information please visit <http://small-lng.com>

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