

LNG Shipping News

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25 June 2020

China and India to drive LNG market - IEA

Global natural gas market demand will drop by 4%, or 150 bill cu m this year, as consumption takes a hit from the economic impact of the coronavirus pandemic.

However, a gradual recovery in demand is expected in 2021 and 2022, but the impact of the coronavirus will be long lasting, increasing uncertainties and dampening growth rates, according to the latest International Energy Agency (IEA) report.

Any demand recovery is likely to be led by LNG and will be headed by Asian countries.

A major concern is that much of the demand rebound will come from China and India, but this is dependent on whether Asia's two fastest growing major economies continue with gas-friendly policies, or whether they go back to coal imports, the IEA said.

China is expected to overtake Japan as the world's biggest LNG buyer, with imports of 128 bill cu m per year by 2025, equivalent to about 174 mill tonnes, or almost three times the 60.25 mill tonnes imported last year.

But the IEA said that this scenario is "highly dependent on China's future policy direction", which will need to include ongoing

coal-to-gas switching for industry and residential heating.

China's future coal-to-gas switching policies remain uncertain, after previous strict moves in favour of natural gas in order to reduce air pollution, were relaxed last winter.

The country has also allowed the planning and construction of new coal-fired power plants to proceed, and even be accelerated, as part of plans to boost the economy after the coronavirus-induced slowdown.

For India, the IEA expects an increase in demand of 28 bill cu m per year during 2019-25, as the country moves towards a goal of increasing the share of natural gas in the energy mix from 6% to 15%, as well as improving LNG and pipeline infrastructure.

Prime driver

India's industrial sector is viewed as the prime driver of increased LNG demand, although the roll-out of city gas networks and compressed natural gas fuel stations



IEA Executive Director Fatih Birol means the residential and transport sectors are also important.

Another key issue for India is price. The IEA said that the current low spot price for LNG in Asia will continue for some time.

Final investment decisions (FIDs) taken in recent years should lead to up to 120 bill cu m per year, or about 163 mill tonnes, of additional LNG capacity being added between 2020 and 2025.

"Slower growth in natural gas demand is likely to weigh on average utilisation rates of liquefaction plants, creating a situation of overcapacity as liquefaction growth out paces incremental LNG trade, thus limiting the risk of a return to a tight market before 2025," the IEA said.

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EIB approves Cyprus LNG import project loan

The European Investment Bank (EIB) has approved €150 mill loan to fund the construction of Cyprus LNG import project.

Cyprus Natural Gas Public Company (DEFA) confirmed that the project will be implemented by Natural Gas Infrastructure Company of Cyprus (ETYFA).

The loan is for 20 years with a low rate and will cover capital construction expenditure.

The project's total budget is

€289 mill. ETYFA has already secured €101 mill from the European Commission through the Connecting Europe Facility (CEF) and €43 mill from the Electricity Board of Cyprus' participation to ETYFA's share capital.

Elsewhere, the US Trade and Development Agency (USTDA) has awarded a grant to PT Nusatama Properti Panbil to fund a feasibility study into the development of an LNG receiving terminal.

In addition to the terminal, the study will look at storage and transshipment facilities on Asam Island.

USTDA's involvement will also create export opportunities for US LNG technology suppliers.

The proposed terminal and facilities will receive and process LNG for onward inter-island transportation, pipeline injection, or as a marine bunkering fuel, depending upon the final recommendations of the feasibility study, the agency said.

Around 40-45 US cargoes to be cancelled

Between 40 and 45 US LNG cargoes are expected to be cancelled for August, due to a slow recovery in Asian gas demand and record high European gas stocks, market sources said this week.

The exact number is yet to be confirmed, but it is expected to be close to 40 to 45 cargoes, the same number that were cancelled for July loadings.

This followed at least 20 to 30 US LNG cargoes cancelled for June loading after the coronavirus pandemic hit gas demand globally, causing gas and LNG prices to plummet, Reuters said.

European premium gas prices over the US Henry Hub remain too tight to deliver US cargoes with a profit, sources told the newswires.

The August contract on the Dutch gas hub was trading around \$0.10 MMBtu above Henry Hub for August earlier this week.

"At those levels, European buyers are looking at a loss of over \$5, compared with just paying a cancellation fee of \$3-\$3.50," a trader said.

Another trade source said that close to 30 cargoes were likely to be cancelled from Cheniere Energy's Sabine Pass and Corpus Christi export terminals.

Up to 10 cargoes could have been cancelled from the Freeport plant in Texas, a source said, adding that there were likely cancellations from other US projects, giving a total of around 45 cargoes cancelled.

However, some sources said that loading a cargo in August



Cheniere's Sabine Pass could be hit by cargo cancellations

might make more sense compared to June and July, as there was a price contango between August and forward months, with shipping

rates low. But finding a ship for the autumn months could be difficult, a European trader said. ■

KN calls in the experts

Lithuanian LNG terminal operator, AB Klaipėdos nafta (KN), is to use external expertise to facilitate its long-term LNG supply project.

By taking this step, KN said that it would continue to implement its LNG long-term supply solution. The company has also announced a public consultation on the planned procurement of the legal expertise services.

Under a Lithuanian law, KN must acquire and operate an FSRU by 31st December, 2024 at the latest. It must also choose the most economical offer and ensure the LNG terminal's reliable operations by 2044.

In order to achieve these goals, consultants will be used to develop strategies and contracts for the acquisition and management of FSRU maintenance services. Various alternatives will also be considered, including (but not limited to) the acquisition of the existing FSRU 'Independence'.

According to Darius Šilenskis, KN's General Manager, the law provides a clear time frame for the LNG project's implementation. External expertise will be used to implement the project in a timely manner and at the lowest possible cost, in accordance with the principles of transparency, equality and the promotion of competition, he said.

"The project requires specific competencies, such as shipbrokers, ship classification specialists, as well as lawyers specialising in the LNG ship industry. That is why the aim is to use the services of external experts," Šilenskis explained.

"Market consultation allows contracting authorities, such as KN, to better understand the structure of the market and the possibilities of suppliers. According to the Pub-

lic Procurement Directives, preliminary market consultations have two objectives: to gather information from the market and to inform about procurement plans.

"Prior market consultation is particularly important for complex procurements that require a high degree of preparation. In this case, the implementation of a long-term LNG supply solution is a complex process, where errors need to be minimised at each stage.

"On the basis of the information received during the consultation, KN will be able to develop more precise specifications for the services to be procured and to be better informed about the choice of the most appropriate procurement procedure, planning the appropriate duration of the procurement process," he said. ■

NEWS NUDGE

Curtis Island ships milestone cargo

ConocoPhillips and its Australia Pacific LNG (APLNG) joint venture has shipped its 500th LNG cargo from the Curtis Island plant, near Gladstone.

Queensland Resource Council (QRC) CEO Ian Macfarlane said the Australian State's gas industry was continuing to deliver exports and support jobs to help with the post COVID-19 economic recovery.

"The gas industry has had to adapt to COVID-19. We have worked within the restrictions to slow the spread and keep as many of the 37,000 Queenslanders who rely on us for their work and pay on the job.

"In total the gas industry contributes Aus\$8 bill to the Queensland economy and invests Aus\$2.7 bill with local businesses," he said. ■

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China to lead regasification capacity

China is to head the world's LNG regasification capacity share to 2024, according to a new report.

In the report, GlobalData predicted that China will have a 25% capacity share from planned and announced newbuilding projects between 2020 and 2024.

The report 'Global LNG Industry Outlook to 2024 - Capacity and Capital Expenditure Outlook with Details of All Operating and Planned Terminals' revealed that China has the highest LNG regasification capacity additions amounting to 3.8 trill cu ft globally by 2024 from 16 planned and announced newbuilding regasification terminals.

Out of this total, 2.5 trill cu ft will come from planned projects that have received the required approvals for development, while

the remaining 1.3 trill will come from early-stage announced projects.

Adithya Rekha, GlobalData's Oil and Gas Analyst, commented: "Among the upcoming regasification terminals in China, Tangshan II has the highest capacity of 584 bill cu ft (bcf). This announced on-shore terminal is expected to start operations in the Hebei province by 2022."

India is expected to have the second highest regasification capacity additions globally, adding 2.5 trill cu ft of regasification capacity via 15 terminals by 2024. Of this total capacity, 2 trill is expected to come from 11 planned projects, while 0.5 trill cu ft is

likely to come from four early-stage announced projects.

Pakistan follows in third place with additions of 1.3 trill cu ft by 2024. Four planned regasification terminals are expected to add a total capacity of 1.1 trill cu ft, while the remaining 219 bill capacity would be added by one announced terminal- Sonmiani Floating - in Karachi state.

Liquefaction capacity

As for liquefaction, GlobalData reported that North America is expected to be the frontrunner in global LNG liquefaction capacity growth through planned and announced new and expansion projects up to 2024.

The region is likely to contribute about 75% of the total global growth, according to another report, 'Global Capacity and Capital Expenditure Outlook for LNG Liquefaction Terminals, 2020 - US and Russia Lead Global Liquefaction Capacity Additions'.

This revealed that North America was expected to have a newbuild and expansion LNG liquefaction capacity of nearly 148.1 mill tonnes per annum by 2024.

Haseeb Ahmed, Oil and Gas Analyst at GlobalData, said: "Planned projects with identifiable development plans account for most of the newbuild capacity additions in the region with nearly

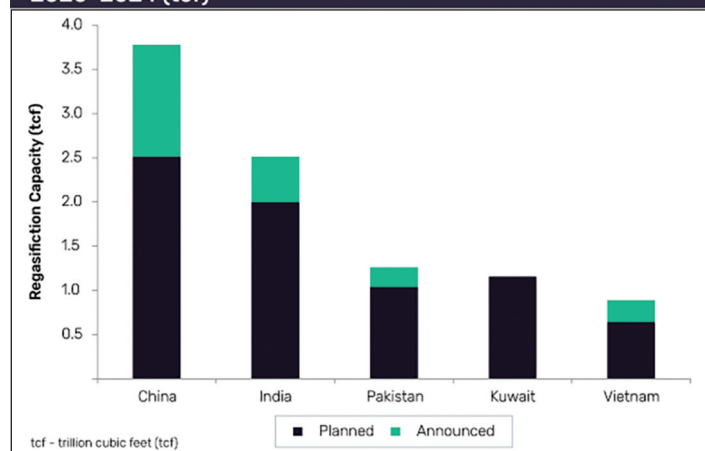
72% or 106.6 mill tonnes per year, while expansion and early-stage announced projects account for the remaining capacity.

"In North America, 16 newbuild and three expansion projects are expected to start operations by 2024. Of these, the Plaquemines terminal in Louisiana has the highest LNG liquefaction capacity additions by 2024 with 20 mill tonnes per annum," he explained.

"The Former Soviet Union is the second-highest region, in terms of global LNG liquefaction capacity growth, with expected capacity additions of 31.2 mill tonnes by 2024. All of the capacity additions in the region are from the newbuild projects. The Arctic-2 floating and Baltic terminals account for most of the capacity additions with capacities of 13.2 mill tonnes and 13 mill tonnes per annum, respectively, by 2024.

"Africa stands third globally with newbuild LNG liquefaction capacity additions of 10.1 mill tonnes by 2024. The Coral floating terminal in Mozambique is the largest upcoming liquefaction project in the region with a newbuild capacity of 3.4 mill tonnes per annum by 2024," he said. ■

Planned and Announced LNG Regasification Capacity Additions by Key Countries, 2020-2024 (tcf)



Source: GlobalData, Oil and Gas Intelligence Center

Krk capacity fully booked

Croatia's floating liquefied natural gas (LNG) terminal located on the northern Adriatic island of Krk is due to start operating on 1st January, 2021.

Its capacity has already been fully booked for the next few years, Croatian Energy and Environment Minister, Tomislav Coric, said last week.

"By this project, we achieve security of gas supply for Croatia and we contribute to the security of gas supply for the European Union. Due

to the higher competition on the gas market, we expect that the gas prices in Croatia may fall," he said.

The Krk LNG terminal capacity is about 2.5 bill cu m of gas per year and, according to operator, LNG Hrvatska, the terminal's capacity is sold out until October, 2023.

Up to October, 2027, around

2.1 bill cu m of gas sales annually had been agreed and from 2027 to 2030, LNG Croatia had agreed sales of up to 1.14 bill cu m of gas per year.

"The projected revenues of LNG Croatia are expected to surpass €100 mill in the next five years," Coric added. ■

NEWS NUDGE

Global Venture appoints new CFO

Jonathan (Jack) Thayer has joined Global Venture LNG as CFO.

Thayer has over 15 years of finance leadership experience. Prior to joining Venture Global, he served as CFO of Exelon Corp, a utility, power marketing, and generation holding company, and CFO of Constellation Energy Group, a large, integrated energy company, with power generation, gas and electric distribution, and energy management services. ■

Driftwood construction delayed

Driftwood's LNG export terminal's construction has been delayed until next year.

Developer Tellurian's CEO, Meg Gentle, confirmed the news during an investor presentation webcast. This follows the company's inability to sign a key equity partnership agreement with India's Petronet.

At a full development capacity of 27.6 mill tonnes per year, about half of Driftwood's capacity is expected to be used by the equity investment partners that Tellurian had earmarked. The remaining capacity will be retained by the company to market separately.

Thus far, however, after a preliminary deal with Petronet expired when it was not completed by the end of May, only France's Total has made a firm commitment to support the project - a \$500 mill investment signed last summer.

She said that Tellurian is in talks

with potential partners and hopes to have sufficient agreements in place during the first half of 2021, to enable the company to obtain financing and begin construction.

LNG production startup is expected by the end of 2024, a delay from the previous target of late 2023. Full operations aren't expected until 2026 or 2027, Gentle said during the presentation.

"I would expect that as we emerge from covid-19 and see JKM recover as we get over \$5/MMBtu, we will be able to finalise those partnership agreements," Gentle said.

Platts' JKM for August, the new front-month, was assessed at \$2.225/MMBtu on 16th June. As the JKM has traded in a historically narrow spread to the US Henry Hub, it was uneconomical

to place some US spot LNG cargoes in northeast Asia, the world's largest importing region.

Ultra-low prices

A wave of cargo cancellations and deferrals driven by ultra-low prices in end-user markets in Asia and Europe have hit existing US LNG exporters and has made it difficult for developers of new terminals to sign long-term deals with buyers, Platts said.

Tellurian has cut costs by shedding staff and has agreed new financing and loan arrangements to give it some breathing space, as it works to commercialise Driftwood. There may be further opportunities to bring down the capital budget, Gentle said.

During her presentation at the JP Morgan Energy, Power &



Tellurian CEO Meg Gentle

Renewables Conference, Gentle said Tellurian continued to believe that its equity partner model and its experienced leadership differentiate Driftwood LNG from the rest of the pack of US export terminal developers.

"The \$3.50/MMBtu cost of delivering LNG on the water is always going to beat the Henry Hub-indexed projects, especially in a rising Henry Hub price environment," she explained. ■

Signing a forward contract today

Despite suffering a little bit of a setback, the long term LNG sector projections will remain the same, Michael Tusiani, Poten and Partners Chairman Emeritus claimed.

The sector will get through this, he stressed in a recent Poten webinar on LNG shipping.

The LNG industry has lost three to four months, due to the worldwide pandemic. The predicted trade slowdown equates to around one year for each month lost, Tusiani explained.

Long term forecasts to 2030 will not change but predictions for 2021 and 2022 will be lower, based on this scenario, he thought.

As projects have stalled worldwide, the questions going forward are - Will the signing of long term contracts make sense? What is a good price? What is a good five to 10-year timecharter rate?

Tusiani viewed the US as a swing supplier - a sort of insurance policy for suppliers and buyers against the other major world LNG suppliers.

As for the US - is there enough supply? Does the US just need to add on trains to its current supply facilities, or will it need other

projects going forward to satisfy demand?

Jefferson Clarke, Poten's Head of Shipping Analytics added that while there were still good deals to be had, were they needed?

One of the difficulties going forward was that some of the recent newbuildings were ordered on the back of US cargoes, given that the US/Asia trade was the longest in tonne/miles, equalling roughly two vessels for every million tonnes shipped.

However, in the shorter Southeast Asia/Australia to Asia trades, this figure was more akin to one vessel or less for every million tonnes.

Pick and choose

As a result of the number of vessels ordered for the US trades, potential suppliers are now able to pick and choose tonnage, as there is a lot of availability.

Senior Advisor, Gordon Shearer thought that trying to persuade a

buyer to sign a long term contract today was very challenging. The fundamental issues were that there were no benchmarks to go on and no transparency in Asia.

Shipowners signing a long term contract today would not cover their expenses going forward, he said.

Tusiani argued that the LNG shipping business was traditionally a long term contractual sector. However, this trend had started to move more towards the spot market, as owners hoped for a rate boom.

In addition, newbuilding prices decreased and there was a lot of cheap money around. Five to seven year charters do not make sense, he warned, especially at \$200 mill per asset. Owners originally ordering on the back of projects only made matters worse, as the fleet will increase in size.

Talking about the asset, he asked - Who's going to buy a secondhand ship even at \$180 mill? There are currently no buyers, un-

less the market returns to long term project covering.

Large projects, such as the Qatari North Field and the US Golden Pass, have resulted in newbuildings being negotiated but this just adds to the LNGC numbers going forward, he reiterated.

Tusiani thought that a project sponsor with a start up date of 2025-2026 would not need to charter a newbuilding delivered in 2021. He or she should wait until the project is ready before committing to a new LNGC, as the original vessel would be three to four years old by then.

On the positive side, he said there were a lot of good owners in the sector who were very cost conscious and were willing to be as flexible as possible in today's market.

Clarke added that there were possibilities for floating storage today, which could take the older less economic units, such as steam turbine LNGCs, out of the market. ■

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Geelong assesses LNG import terminal

Australian energy provider Viva Energy is looking at a number of development projects, including an LNG import terminal, that could be located alongside its Geelong refinery.

If implemented, these would establish Geelong as a future energy hub for Victoria and Southeast Australia, providing ongoing employment for skilled workers in Geelong, support the transition to lower carbon energies, and enhance energy security for the country.

"Operations are being modernised and the facility is well positioned to expand into new areas of energy supply and production, which will reduce our own operating costs, enhance energy supply to southeast Australia, and support the transition to lower carbon

energies," CEO, Scott Wyatt, explained.

The energy hub will likely involve other commercial partners, but also has the opportunity to involve local research institutions in the application of technology and new energies over time. This will not only help to provide ongoing employment for the 700 existing workers, but potentially support the development of new jobs and skills in a key regional centre.

"Our early focus is on the development of an LNG supply and storage facility to bring natural gas from production fields in other

parts of Australia, or further afield, to where it is needed in Victoria and southeast Australia. Along with any development of local gas fields, this can help fill a looming shortfall in gas supply and help keep gas and power costs down," he said.

Wyatt also said that Viva Energy would consult widely on the vision for the site and work with governments, the community and partners to develop the full potential of an Energy Hub.

The LNG import project is at a pre-front end engineering and design stage (pre-FEED). Viva will

shortly assess interest from potential partners for gas supplies, gas demand, power generation and LNG floating storage management. It will also look at associated projects, such as gas-to-power ventures, LNG for transport, such as shipping and heavy vehicles and gas-to-hydrogen. ■



LNG could be added to the Geelong energy hub

US projects regulatory updates

The US Federal Energy Regulatory Commission (FERC) has allowed Kinder Morgan's Elba Island LNG project to begin adding feed gas into Train 9.

Located outside Savannah, Georgia, the facility will consist of 10 modular units when completed, which should all be operating by the end of this summer.

Six units are already operational with the four other units expected to enter service in the coming months.

Last month, FERC approved the introduction of feed gas to Train 8.

Three trains were temporarily shut down on 11th May following a fire, which broke out in a mixed refrigerant compressor.

Upon its completion, Elba Island will be able to export 2.5 million tonnes per year of LNG. It is backed by a 20-year contract with Shell.

In addition, last week, US energy regulators approved Venture Global LNG's request to proceed with limited site preparation of the proposed Plaquemines LNG export plant in Louisiana.

The company has also announced that Calcasieu Pass LNG has begun installing the first equipment to liquefy natural gas at its export facility under construction in Cameron Parish, Louisiana.

The facility has received and has begun to fit two Chart Industries, brazed aluminum heat exchangers, or cold boxes, which are the first of 18 cold boxes that will form part of the Calcasieu Pass LNG liquefaction process system.

Manufactured in the US, the cold boxes were delivered more than four months ahead of schedule and a only 10 months after the project's final investment decision (FID) was taken.

Installing the process system's first modules is claimed to be an important milestone for the project, which is composed of 18 mid-scale, modular liquefaction trains, factory-fabricated in Italy by Baker Hughes.

Co-CEOs Bob Pender and Mike Sabel jointly said, "We are extremely impressed with the early delivery and execution by Chart Industries and appreciate our collaboration with them." ■

Arctic LNG 2 progresses

PAO NOVATEK held a working meeting last week to look at progress made on the Arctic LNG 2 project.

The meeting, which took place as a video-conference, was attended by the project's partners Leonid Mikhelson (NOVATEK), Patrick Pouyanné (Total), Dai Houliang (CNPC), Wang Dongjin (CNOOC), Tatsuo Yasunaga (Mitsui) and Tetsuhiro Hosono (JOGMEC).

During the meeting, they noted that despite the impact of COVID-19, the project's participants managed to meet the schedule in all areas.

Currently, its overall progress is estimated at 19%, with concrete casting of the first GBS platform estimated to be 37% complete. At the meeting, the partners expressed confidence that the project will commence on time based on the current progress.

In addition, significant progress had been made in contracting LNG volumes from Arctic LNG 2. The current status of the project's external financing was also discussed with the focus on ensuring its completion on schedule.

"We held the first joint meeting with the CEO's of our partners in Arctic LNG 2 to discuss the current progress in a virtual format," explained Leonid Mikhelson, NOVATEK's Chairman of the Management Board.

"This unique project employs an innovative construction concept using gravity-based structures, or GBS, a logistical scheme with year-round navigation via the Northern Sea Route, as well as extensive localisation of equipment and materials manufacturing in Russia. All shareholders confirmed their best efforts to implement the project according to our time schedule," he said. ■

GasLog raises cash

GasLog Ltd has sold 14.4 mill common shares for \$2.50 per share for total gross proceeds of \$36 mill through a private placement of unregistered common shares.

The net proceeds are expected to be used for general corporate purposes. About 75% of shares issued in the private placement were purchased by GasLog's directors and affiliates, including 6.5 mill common shares purchased by Blenheim Holdings, wholly owned by the Livanos family and 4 mill common shares purchased by a wholly-owned affiliate of the Onassis Foundation.

In addition, members of the Hong Kong-based Tung family purchased common shares.

GasLog has agreed to enter into a registration rights agreement with the purchasers other than Blenheim Holdings, as a result of which, GasLog will agree to file and maintain a registration statement with respect to the resale of the common shares on the terms set forth.

For its part, Blenheim Holdings

has agreed not to sell the shares being purchased for 180 days.

Paul Wogan, GasLog CEO, said "I'm delighted that our two major shareholders have provided this level of support to the company at this time - they have been a constant source of support since the IPO in 2012.

"I'm also pleased to welcome the Tung family, with their long maritime history and roots in Asia, as shareholders. We look forward to working with them to deliver the value inherent in the GasLog fleet and our leading operating and commercial platform," he said.

Clarksons Platou Securities acted as Financial Advisor to GasLog. A special Board committee, comprised entirely of independent members, reviewed the transaction. Evercore served as financial advisor to the special committee. ■

Ichthys in refinancing package

INPEX Corp's Ichthys LNG project has concluded a loan refinancing agreement.

This loan is for part of the project finance loans arranged in 2012 with export credit agencies (ECAs) and commercial banks.

The latest agreement includes loan conversions and improved borrowing conditions. It is the result of a refinancing bid formally issued by INPEX in March this year with the objective of improving borrowing conditions, based on the project achieving financial completion in December, 2019 and continuing to sustain stable production operations.

INPEX received commitments from financial institutions exceeding the amount shown in the refinancing bid. Total project finance loans amounted to about \$15.6

bill, of which the refinancing amount is around \$8.3 bill.

The agreement involved seven ECAs and 28 commercial banks. It is expected to enhance the value of the project by reducing the financial commitment of Ichthys LNG Pty Ltd.

In addition, the agreement is part of INPEX's cost reduction initiatives under the company's basic policy in response to the decline in oil prices and it is expected to contribute to improving the resilience of the INPEX Group's business structure, the company claimed.

Around 70% of the LNG produced is to be supplied to Japanese customers. ■

Awilco amends LNGC sale and leaseback terms

Awilco LNG is to make temporary amendments to financial covenants in the sale/leaseback terms for the LNGCs 'WilForce' and 'WilPride'.

In an agreement with CCB Financial Leasing (CCBFL), the required minimum consolidated cash and cash equivalents financial covenant of \$10 mill will be reduced to \$2 mill and the required consolidated working capital financial covenant will be waived.

Both are effective for six months starting 1st July and ending on 31st December, 2020.

This is a precautionary measure as a result of the current weak market conditions in LNG transportation, due to Covid-19, leading to a temporary reduction in

demand for energy.

Market analysts expect an improvement of the LNG shipping market in the second half of 2020 as the world reopens from lockdowns and economies recover, Awilco said in an Oslo Bors statement.

Jon Skule Storheill, Awilco LNG CEO, said: "We are very pleased with the support CCBFL has shown the company in this extraordinary and temporary situation underlining the excellent co-operation and positive relationship between the parties." ■

OLT publishes auction dates

OLT Offshore LNG Toscana's calendar of annual and multi-year auctions will be held from 1st to 3rd July, 2020.

The dates are:

- **1st July** - Auction for the allocation of the regasification capacity for the Gas Year 2020/2021.
- **2nd July** - Auction for the allocation of the regasification capacity for the Gas Year 2021/2022.
- **3rd July** - Auctions for the allocation of the regasification capacity for each Gas Year from 2022/2023 to 2033/2034.

With reference to the annual

and multi-year allocation with expression of interest, which took place in May, eight slots concerning Gas Year 2021/2022 and eight slots for Gas Year 2022/2023 were allocated, for an overall allocated regasification capacity of 1.24 mill cu m in both years.

This represents a possible increase in the allocation over a longer period in the annual and multi-year auctions, OLT said. ■

NEWS NUDGE

First Japanese joint venture shipment arrives

On the back of an agreement between Hiroshima Gas Co and Tokyo Gas Co, the first LNG shipment by Tokyo LNG Tanker Co has arrived at Hiroshima's Gas' Hatsukaichi LNG terminal.

This is the first joint venture LNG cargo based on an agreement between Hiroshima Gas, Tokyo Gas and Tokyo LNG Tanker

signed in February of this year.

It called for the LNG bought by Hiroshima Gas and Tokyo Gas jointly from Sakhalin, Russia to be transported by an LNGC owned and operated by Tokyo LNG Tanker for eight years to 2027.

The agreement was also made possible with the co-operation of Sakhalin Energy Investment Co, a long term supplier to Hiroshima Gas and Tokyo Gas. ■

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BOG reliquefying system fitted on LNGC

Air Liquide has commissioned a Turbo-Brayton cryogenic unit on an LNGC.

The company's TBF-1225 is boil-off gas (BOG) reliquefaction and LNG sub-cooling plant, which re-liquefies the equivalent of 1.5 tonnes per hour of pure methane.

A system commissioning was performed during gas trials last month on TMS Cardiff Gas' new-building LNGC 'Qogir' built by Samsung Heavy Industries.

The performance test and ramp up of the system was performed in a day. Due to its engineering features, the sub-cooler can be in-

stalled and commissioned in a very short period, Air Liquide claimed.

Air Liquide also said that the Turbo-Brayton solution is the most compact unit available on the market, as it is fitted on a single skid to be ready to be installed and started.

The patented technology also offers specific technical characteristics, such as oil-free and contactless turbo-machinery for the sub-cooling of LNG.

The daily-operation is claimed to be very flexible (including a

turndown mode with high-efficiency), with an unlimited number of starts and stops and an immediate response for reliquefaction.

In addition, daily operation costs and OPEX are reduced as a result of a five-year maintenance-free design.

With around 50 units sold during the past two years, the Turbo-Brayton sub-cooler is today used for LNG reliquefaction offshore, on LNGCs and on bunkering vessels, the company said. ■



A Turbo-Brayton cryogenic unit

Honeywell and KIPIC extend collaboration

Honeywell and Kuwait Integrated Petroleum Industries Co (KIPIC) have signed a five-year, multi-million dollar contract.

Kuwait Integrated Petroleum Industries Co (KIPIC) has signed a multi-million dollar contract for services to protect, maintain and optimise operations at the Al Zour refinery and LNG import terminal in southern Kuwait.

Honeywell will provide its Honeywell Forge software platform with robust cybersecurity capabilities, to simplify, strengthen and scale industrial cybersecurity operations at the facilities for five years.

The contract will boost security at KIPIC's new crude refining plant and 3 trill Btu/d LNG import facility. Honeywell Assurance 360 will also be included on the sites.

"Ensuring the highest levels of cybersecurity and operational excellence remains a top priority

for KIPIC," said Hatem Al-Awadi, KIPIC's Acting CEO. "We are building one of the largest integrated refining facilities in the world and selected Honeywell in view of their world-class cybersecurity credentials and expertise in implementing robust lifecycle management plans for critical infrastructure in the energy sector."

Under the terms of the Assurance 360 service agreement, Honeywell will work with KIPIC to maintain, support and optimise the performance of its facilities while maximising uptime and reducing operating costs.

The multi-year agreement will help ensure automation assets are kept secure and reliable, while providing KIPIC with predictive maintenance and performance

insights designed to help meet and exceed production goals and manage total cost of ownership.

"Honeywell has been supplying technologies to support the global oil and gas industry for over 100 years, and we are committed to helping our customers maintain leadership positions in the field through world-class digital tech-

nologies and software solutions," said Que Dallara, President and CEO, Honeywell Connected Enterprise. "We are immensely proud of our long-standing relationship with KIPIC and will work closely with them to reduce unplanned maintenance while increasing the reliability, uptime and safety of their operations." ■

Terminal operators join Indian gas trading platform

Indian LNG terminal owners, state-run GAIL (India) Ltd and Petronet LNG Ltd (PLL), have joined India's first natural gas exchange, that went online on 15th June.

The Indian Gas Exchange was set up to help revive stranded gas fuelled power projects and reduce fertiliser prices and subsidies.

Set up by Indian Energy Exchange (IEX), it will also help towards discovering the gas market price on the exchange. India currently consumes around 145 mill cu m of gas per day.

"We as IEX desire to play in the overall energy basket of the country, which is beyond electricity. So, electricity is one and then gas is the other one and there could be many other similar players of energy baskets," explained IEX Managing Director and CEO, Rajiv Srivastava. ■

LNG rate assessments

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

Region	This week	Change*
East of Suez	\$30,000	-
West of Suez	\$33,000	+\$1,000
12 mos T/C	\$43,000	-

*Since last report (11/06/20)

Source: Fearnleys (24/06/20)

WinGD unveils new engine technology

WinGD has unveiled new engine technology designed to drastically cut methane emissions, increase efficiency and reduce fuel consumption on its X-DF series of large 2-stroke dual-fuel engine designs.

The Swiss-based engine designer has a significant market share in LNGCs main propulsion with its 72-bore X-DF engine design, which is the preferred power unit for many gas carrier newbuildings.

The first development to be marketed later this year on its X-DF range is the X-DF2.0. This is part of an optional ongoing enhancement programme and will initially include the Intelligent Control by Exhaust Recycling (iCER), which will form part of WinGD's DF engine platform.

As shipowners factor greenhouse gas (GHG) reduction targets into their forthcoming newbuilding projects, X-DF2.0 technologies will enable improved engine performance with both LNG and future carbon-neutral fuels, the company claimed.

On test, the iCER system delivered enhanced combustion control through the use of inert gas, resulting in a reduction in methane slip emissions of up to 50% when using LNG as a fuel and a significant fuel consumption reduction - 3% in gas mode and up to 5% in diesel mode.

Building on the successful X-DF platform, which now has a market share of around 60% for 2-stroke engines on all vessel types, this new technology will minimise methane slip in expectation that these emissions will be regulated by IMO to help meet its 2050 GHG targets.

Improved fuel efficiency will also be a key factor in reducing emissions further during the first phase of the transition.

"By adjusting the re-circulation rate of inert gas and controlling parameters like fuel admission and ignition timing, we can increase compression ratios for greater efficiency," Volkmar Galke, WinGD Global Director of Sales, explained. "The result is optimised combustion through closed-loop control regardless of ambient conditions and load."

Similar to all future X-DF2.0 technologies, iCER will be available for all new X-DF engines. The system is currently completing trials at one of WinGD's dedicated test engine centres - the final step in a

two-year testing programme. The company said that it was also finalising plans for a pilot installation.

As well as using fossil LNG, X-DF engines can also burn carbon-neutral synthetic or bio-derived LNG whenever it becomes available. By continuing to develop combustion control and engine efficiency, WinGD is improving the performance of its engines using these fuels and minimising fuel cost for shipowners and operators, the company stressed during a presentation.

Galke added: "Our highly efficient and reliable X-DF engines are already widely used, with more than 500,000 hours operating experience and market leadership in many key vessel segments. Our next-generation X-DF2.0 technologies will prepare our engines for even better performance, both with LNG and with the future fuels to come."

WinGD told LNG SN that to date the company had received orders for 230 X-DF engines. Thus far, 107 have been delivered, out of which



WinGD's Global Sales Director Volkmar Galke

40 are currently in operation.

Last year, 90% of the LNGC owner and operators had selected the X-DF engine. For a standard 174,000 cu m LNGC, two 5X72DF engines was the configuration chosen, the company said.

Addressing Qatar's impending large order, WinGD said X-DF engines would be a suitable choice for these vessels. WinGD said it worked closely with its engine builders and shipyard partners to support any project discussions. ■

NEWS NUDGE

Teekay declares cash distributions

Teekay GP, the general partner of Teekay LNG Partners, has declared cash distributions of \$0.5625 per unit on the Partnership's Series A preferred units and \$0.5313 per unit on the Partnership's Series B preferred units for the period from 1st April, 2020 to 30th June, 2020.

The cash distributions will be payable on 15th July, 2020 to all unitholders of record as at 30th June.

Vessel deliveries

On 10th June, 2020, Excelerate Energy took delivery of its 10th FSRU.

The 'Excelerate Sequoia' was built by Daewoo Shipbuilding and Marine Engineering (DSME) and

has a storage capacity of 173,400 cu m. She is capable of operating as both an FSRU and a fully trade-able LNGC.

In September last year, Excelerate and Maran Gas Maritime (MGM) signed a five-year bareboat charter agreement for the FSRU. Excelerate will have the option to purchase the 'Excelerate Sequoia' during the five-year charter.

The vessel completed its first gas-up and cool-down operations at POSCO Energy's Gwangyang LNG Terminal in Jeonnam, South Korea on 21st June, 2020.

In other news, China's Hudong-Zhonghua Shipbuilding is due to deliver the fourth LNGC built to serve Novatek's Yamal project in the Russian Arctic.

The conventional 174,000 cu

m 'LNG Megrez' is the final Yamal vessel ordered by Japan's Mitsui OSK Lines (MOL) and China COSCO Shipping at the Chinese yard.

Hudong-Zhonghua said it recently completed the installation and commissioning of the vessel's two WinGD X-DF engines. She is also fitted with a GTT No96 membrane cargo containment system. Flex LNG is to take delivery of the LNGC 'Flex Aurora' by end of July.

The 174,000 cu m LNGC is being built by Hyundai Heavy Industries and she will be ready for charter immediately after delivery, being uncommitted.

She also features twin WinGD X-DF engines and GTT's Mark III Flex containment system.

The next Flex LNG vessels is expected to be delivered in 3Q20.

The company currently has six vessels on the water with another seven under construction at HHI and DSME.

Finally, BW LNG's latest LNGC, the 170,799 cu m 'BW Pavilion Aranthera', underwent gas trials last week.

She is BW LNG's fifth newbuilding out of nine on order from Daewoo. She is fitted with MAN Energy Solutions' ME-GI propulsion unit and reliquefaction system, plus GTT's No96 cargo containment system.

The company claimed that its high-pressure, dual-fuel, 2-stroke ME-GI propulsion vessels have a fuel consumption saving potential of 35% and 50% respectively, compared to tri-fuel diesel-electric (TFDE) and steam vessels. ■

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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	ENGIE 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

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 = 11th May 2020

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	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
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	KLine TBN	7,500	LNG	Korea	Yes	Korea Line
2019	KLine TBN	7,500	LNG	Korea	Yes	Korea Line
2019	Stolt TBN	7,500	LNG	Mediterranean	Yes	Stolt-Nielsen Gas
2019	Stolt TBN	7,500	LNG	Mediterranean	Yes	Stolt-Nielsen Gas
2019	Gas Agility	18,600	LNG	NWE	Yes	MOL
2019	Flexfueller 001	1,480	LNG	Amsterdam	Yes	Titan LNG
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	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2020	FuelLNG TBN	7,500	LNG	Singapore	Yes	FuelLNG
2020	CLS TBN	3,500	LNG	Japan	Yes	CLS
2020	Elenger TBN	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
2021	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2021	Knutsen TBN	30,000	LNG	Mediterranean	Yes	Knutsen OAS
2021	Gazprom Neft TBN	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	PNE TBN	5,400	LNG	USG	Yes	PNE
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

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

** = project shelved † =Data to be verified Data last updated = 11th May 2020

WORLD LNG CARRIER ORDERBOOK

Name	Containment system	Yard	Propulsion	Capacity	Delivery date	Primary Owner
Amberjack Lng	GTT Mark III Flex	Hyundai	XDF	174000	01/04/2020	Cardiff Marine
Gaslog Wales	GTT Mark III Flex	Samsung	XDF	180000	01/04/2020	GasLog
Qogir	GTT Mark III Flex	Samsung	XDF	174000	01/04/2020	Cardiff Marine
Elisa Larus	GTT Mark III Flex	Hyundai	XDF	174000	01/04/2020	NYK
Bonito Lng	GTT Mark III Flex	Hyundai	XDF	174000	01/04/2020	Cardiff Marine
Maran Gas Psara	GT NO 96	DSME	MEGI	173400	01/04/2020	Maran Gas Maritime
Gaslog Windsor	GTT Mark III Flex	Samsung	XDF	180000	15/04/2020	GasLog
Global Energy	GT NO 96	DSME	MEGI	173400	01/05/2020	Nakilat
Traiano Knutsen	GTT Mark III Flex	Hyundai	MEGI	180000	01/06/2020	Knutsen
Flex Aurora	GTT Mark III Flex	Hyundai	XDF	174000	01/06/2020	Flex LNG
Bw Pavilion Aramhera	GT NO 96	DSME	MEGI	173400	01/06/2020	BWGas
Flex Amber	GTT Mark III Flex	Hyundai	XDF	174000	01/07/2020	Flex LNG
Lng Phecda	GT NO 96	Hudong-Zhonghua	MEGI	174000	01/07/2020	MOL
SHI Gaslog #2	GTT Mark III Flex	Samsung	XDF	180000	15/07/2020	GasLog
SHI #1	GTT Mark III Flex	Samsung	XDF	174000	15/07/2020	Cardiff Marine
Scf Barents	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2020	Sovcomflot
Energy Pacific	GT NO 96	DSME	MEGI	173400	01/08/2020	Alpha Gas
Flex Artemis	GT NO 96	DSME	MEGI	173400	01/08/2020	Flex LNG
Flex Resolute	GT NO 96	DSME	MEGI	173400	01/08/2020	Flex LNG
Vivit Americas Lng	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2020	Cardiff Marine
Diamond Gas Metropolis	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2020	NYK
Flex Freedom	GT NO 96	DSME	MEGI	173400	01/09/2020	Flex LNG
Cool Discoverer	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2020	Thenamaris
Samsung 2297	GTT Mark III Flex	Samsung	XDF	180000	01/10/2020	Celcius Shipping
Samsung 2300	GTT Mark III Flex	Samsung	XDF	174000	01/10/2020	GasLog
Aristos I	GTT Mark III Flex	Hyundai	XDF	174000	01/10/2020	Capital Gas
Yiannis	GT NO 96	DSME	MEGI	173400	01/10/2020	Maran Gas Maritime
Samsung 2276	GTT Mark III Flex	Samsung	XDF	174000	01/10/2020	Cardiff Marine
LNG Megnez	GT NO 96	Hudong-Zhonghua	MEGI	174000	01/10/2020	MOL
Aristidis I	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2020	Capital Gas
Global Star	GT NO 96	DSME	MEGI	173400	01/11/2020	Nakilat
Flex Volunteer	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2020	Flex LNG
Daewoo 2498	GT NO 96	DSME	MEGI	180000	01/12/2020	MOL
Hyundai Samho 8008	GTT Mark III Flex	Hyundai	XDF	174000	01/12/2020	Sovcomflot
Samsung 2301	GTT Mark III Flex	Samsung	XDF	174000	01/12/2020	GasLog
Energy Endeavour	GT NO 96	DSME	MEGI	173400	01/12/2020	Alpha Gas
Daewoo 2481	GT NO 96	DSME	MEGI	173400	01/12/2020	Minerva Marine
Celcius #2	GTT Mark III Flex	Samsung	XDF	180000	15/12/2020	Celcius Shipping
Lngships Athena	GTT Mark III Flex	Hyundai	XDF	174000	01/01/2021	Cardiff Marine
Cool Racer	GTT Mark III Flex	Hyundai	XDF	174000	01/01/2021	Thenamaris
Samsung 2304	GTT Mark III Flex	Samsung	XDF	174000	01/01/2021	Minerva Marine
Samsung 2313	GTT Mark III Flex	Samsung	XDF	180000	01/02/2021	Celcius Shipping

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 = 1st April 2020

Name	Containment system	Yard	Propulsion	Capacity	Delivery date	Primary Owner
Bw Lesmes	GT NO 96	DSME	MEGI	174000	01/02/2021	BWGas
Daewoo 2499	GT NO 96	DSME	MEGI	180000	01/02/2021	MOL
Cobia Lng	GTT Mark III Flex	Hyundai	XDF	174000	15/02/2021	Cardiff Marine
DSME Minerva #2	GT NO 96	DSME	MEGI	173400	15/02/2021	Minerva Marine
Marvel Swan	GTT Mark III Flex	Samsung	XDF	173400	01/03/2021	Navigare
Bw Helios	GT NO 96	DSME	MEGI	174000	01/03/2021	BWGas
Hyundai Samho 8039	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2021	Latsco Shipping
Hyundai Ulsan 3039	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2021	Cardiff Marine
Flex Vigilant	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2021	Flex LNG
SHI #18	GTT Mark III Flex	Samsung	XDF	174000	15/03/2021	Cardiff Marine
Aristarchos	GTT Mark III Flex	Hyundai	XDF	174000	15/03/2021	Capital Gas
Samsung 2302	GTT Mark III Flex	Samsung	XDF	174000	01/04/2021	NYK
Celcius #4	GTT Mark III Flex	Samsung	XDF	180000	15/04/2021	Celcius Shipping
DSME 2485	GT NO 96	DSME	MEGI	173400	15/04/2021	Alpha Gas
Hyundai Samho S971	GTT Mark III Flex	Hyundai	XDF	174000	01/05/2021	NYK
Diamond Gas Crystal	GTT Mark III Flex	Hyundai	XDF	174000	01/05/2021	NYK
Daewoo 2501	GTT Mark III Flex	DSME	MEGI	174000	01/06/2021	Maran Gas Maritime
Hudong-zhonghua H1827a	GT NO 96	Hudong-Zhonghua	XDF	174000	01/06/2021	CSSC
Daewoo 2495	GT NO 96	DSME	XDF	174000	01/06/2021	Maran Gas Maritime
Daewoo 2500	GT NO 96	DSME	MEGI	174000	01/06/2021	Alpha Gas
SHI Gaslog CE #1	GTT Mark III Flex	Samsung	XDF	180000	15/06/2021	GasLog
Attalos	GTT Mark III Flex	Hyundai	XDF	174000	15/06/2021	Capital Gas
Adamastos	GTT Mark III Flex	Hyundai	XDF	174000	01/07/2021	Capital Gas
DSME MOL #3	GT NO 96	DSME	MEGI	173400	15/07/2021	MOL
Asterix 1	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2021	Capital Gas
SHI Gaslog CE #2	GTT Mark III Flex	Samsung	XDF	180000	15/08/2021	GasLog
Hyundai Ulsan 2939	GTT Mark III Flex	Hyundai	XDF	180000	01/09/2021	SK Shipping
Daewoo 2504	GT NO 96	DSME	XDF	174000	01/09/2021	Maran Gas Maritime
Daewoo 2502	GTT Mark III Flex	DSME	XDF	173400	01/09/2021	Nakilat
Samsung 2305	GTT Mark III Flex	Samsung	XDF	174000	01/09/2021	Minerva Marine
Diamond Gas Victoria	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2021	NYK
Hyundai Samho 8040	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2021	Latsco Shipping
Samsung 2355	GTT Mark III Flex	Samsung	XDF	174000	01/10/2021	NYK
Daewoo 2507	GT NO 96	DSME	XDF	174000	01/10/2021	Maran Gas Maritime
Hyundai Ulsan 3111	GTT Mark III Flex	Hyundai	XDF	174000	01/10/2021	Capital Gas
Samsung 2306	GTT Mark III Flex	Samsung	XDF	174000	01/10/2021	NYK
Hyundai Ulsan 3157	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2021	Tsakos Energy Navigation
Samsung 2315		Samsung	XDF	174000	01/12/2021	
Hyundai Samho 8025	GTT Mark III Flex	Hyundai	XDF	174000	01/12/2021	Hanjin Shipping
Daewoo 2503	GTT Mark III Flex	DSME	XDF	173400	01/12/2021	Nakilat
Samsung 2307	GTT Mark III Flex	Samsung	XDF	174000	01/12/2021	NYK
Daewoo 2508	GT NO 96	DSME	XDF	174000	01/01/2022	Maran Gas Maritime
Hyundai Samho 8032	GTT Mark III Flex	Hyundai	XDF	174000	01/01/2022	NYK

Name	Containment system	Yard	Propulsion	Capacity	Delivery date	Primary Owner
Samsung 2336	GTT Mark III Flex	Samsung	XDF	174000	01/01/2022	JP Morgan
Hyundai Ulsan 3137	GTT Mark III Flex	Hyundai	XDF	200000	01/01/2022	Dynagas
Hudong-zhonghua H1828a	GT NO 96	Hudong-Zhonghua	XDF	174000	01/01/2022	CSSC
Samsung 2332	GTT Mark III Flex	Samsung	XDF	174000	01/01/2022	Minerva Marine
Hyundai Samho 8026	GTT Mark III Flex	Hyundai	XDF	174000	01/02/2022	Hanjin Shipping
Hyundai Samho 8033		Hyundai	XDF	173000	01/03/2022	NYK
Samsung 2316		Samsung	XDF	174000	01/03/2022	
Samsung 2319	GTT Mark III Flex	Samsung	XDF	174000	01/03/2022	Nisshin Shipping
Hudong-zhonghua #1	GT NO 96	Hudong-Zhonghua	XDF	80000	01/04/2022	K-Line
Hyundai Ulsan 3138	GTT Mark III Flex	Hyundai	XDF	200000	01/04/2022	Dynagas
DSME May19	GT NO 96	DSME	MEGI	174000	15/05/2022	Maran Gas Maritime
Hudong-zhonghua #2	GT NO 96	Hudong-Zhonghua	XDF	80000	01/06/2022	K-Line
Samsung 2317		Samsung	XDF	174000	01/06/2022	
Hyundai Ulsan 3145	GTT Mark III Flex	Hyundai	XDF	180000	01/07/2022	SK Shipping
Samsung 2337	GTT Mark III Flex	Samsung	XDF	174000	01/07/2022	JP Morgan
Hyundai Samho 8091	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2022	Knutsen
Hyundai Ulsan 3185	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2022	Korea Line
Daewoo 2509	GT NO 96	DSME	MEGI	174000	01/08/2022	BWGas
Samsung 2318		Samsung	XDF	174000	01/09/2022	
Daewoo 2510	GT NO 96	DSME	MEGI	174000	01/09/2022	BWGas
Hyundai Ulsan 3187	GTT Mark III Flex	Hyundai	XDF	174000	01/10/2022	JP Morgan
Hyundai Samho 8092	GTT Mark III Flex	Hyundai	XDF	174000	01/10/2022	Knutsen
Hyundai Ulsan 3186	GTT Mark III Flex	Hyundai	XDF	174000	01/10/2022	Korea Line
Hyundai Ulsan 3188	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2022	JP Morgan
Hyundai Samho 8093	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2022	Knutsen
Hyundai Samho 8094	GTT Mark III Flex	Hyundai	XDF	174000	01/12/2022	Knutsen
Samsung 2364	GTT Mark III Flex	Samsung	XDF	174000	01/01/2023	MISC
Samsung 2365	GTT Mark III Flex	Samsung	XDF	174000	01/02/2023	MISC

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 = 1st April 2020



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