

LNG Shipping News

AN LNG JOURNAL TITLE ON LNG CARRIERS

8 June 2017

Qatar ban starts to bite

In the aftermath of the diplomatic row between Saudi Arabia and other Gulf states with Qatar, the UAE port of Fujairah has banned all calls by Qatari-flagged ships, plus any vessels arriving or sailing from Qatari ports.

The ban is valid for all ships regardless of the reason for their call and will be in force until further notice, according to a Notice to Mariners from the port authority, warned Inchcape Shipping Services (ISS).

Fujairah port and its huge anchorage usually plays host to around 100 plus ships per day, including LNGCs, either awaiting orders, bunkering, taking on supplies or undertaking crew changes.

Furthermore, ISS advised the Saudi Port Authority (SPA) has confirmed that:

- No vessels will be allowed coming from or going to Qatar, regardless of the vessels' flag or owner's nationality. (However, the inward and outward clearance of all ships in Qatar ports is currently continuing to operate as normal).
- Vessels already in port and destined for Qatar as their next destination will not receive Port clearance.
- No vessel under the Qatar flag will be allowed in Saudi Ports regardless of their destination and last port of call.

In addition:



Fujairah is a major bunkering, waiting, storing and crew change area widely used by LNGCs being located just outside the Strait of Hormuz

- Bahrain has stated that all of its ports and territorial waters will remain suspended for marine navigation from and to Qatar with effect from 6th June.
- The Das Port Authority (UAE) has been instructed that all vessels flying the flag of Qatar, and all vessels arriving from or destined to Qatar irrespective of its flag, are banned from calling into any Abu Dhabi petroleum port.

Further operational information:

- The single land border between Qatar and Saudi Arabia is currently open/operational but

this could close at any time.

- Currently all flights to/from Qatar with Emirates, Etihad, Saudi and Gulf Air are cancelled.
- Suez Canal - The Suez Canal Authority has advised that vessels flying the Qatari flag transiting the Suez Canal will not face restrictions as the canal is an international water passage.

In an initial reaction, some analysts have forecast that LNGC spot rates could double. It is still too early to call and there is always a 'knee-jerk' reaction to political tensions escalating, especially in the Gulf region. ■

'CESI Beihai' delivered

Mitsui OSK Lines (MOL) has confirmed that the delivery of the LNGC 'CESI Beihai' from Hudong-Zhonghua Shipbuilding took place in Shanghai on 1st June.

She was ordered by a joint venture involving MOL, China COSCO Shipping Corp and China Petroleum & Chemical Corp (SINOPEC).

'CESI Beihai' will be the third vessel to serve the China FOB Transportation Project announced in 2013 and will sail under a long-term charter to transport LNG purchased by SINOPEC from the Australia Pacific LNG project.

Six LNGCs are being built at Hudong for the project. The

first, 'CESI Gladstone', was delivered in October, 2016, and the second, 'CESI Qingdao', in January of this year. The remaining three will be delivered by 2018.

In addition, the 174,000 cu m 'Hyundai Princepia' and the similar size 'SM Eagle' have also been delivered. ■

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Delfin LNG receives green light

The US Department of Energy (DoE) has approved a long-term application to export LNG from the first US offshore project - Delfin LNG.

Exports of 1.8 bill cu ft per day were approved from Delfin's proposed offshore Louisiana floating LNG terminal to be located in the Gulf of Mexico.

Development of the Delfin project offshore of Cameron Parish, Louisiana will include the construction of floating liquefaction and storage vessels. Due to its offshore location, the environmental review of Delfin was led by the Maritime Administration (MARAD) and the US Coast Guard, the DoE said.

US Secretary of Energy, Rick Perry, stated, "I am pleased that with this authorisation the Administration can continue to strengthen the US as a dominant energy force with further exports of our abundant amounts of natural gas. Investing in American natural gas not only helps our economy and our jobs, but also helps our allies maintain their energy security.

This represents a true win-win for everyone involved."

With this approval, the DoE has now authorised a total of 21 bill cu ft per day of natural gas exports to non-free trade agreement (non-FTA) countries from planned facilities in Texas, Louisiana, Florida, Georgia, Maryland and now, with Delfin, from the Gulf of Mexico.

Secretary Perry is to visit Japan, and then China for the Clean Energy and Mission Innovation ministerials, where he plans to strengthen the US-China LNG export partnership and continue working together towards a clean and affordable energy future.

The US Energy Information Administration's (EIA) Short Term Energy Outlook projected an average dry natural gas production rate of 74.1 bill cu ft per day this year, the second highest on record.

US Federal law requires ap-



The first US offshore LNG loading terminal has passed a major hurdle

proval of natural gas exports to countries that have an FTA with the US. For countries that do not have an FTA with the US, the Natural Gas Act directs the DoE to grant export authorisations unless it finds that the proposed exports 'will not be consistent with the public interest.'

The DoE said that it had conducted an extensive review of the Delfin LNG application. Among other factors, the department considered the economic, energy

security and environmental impacts, including macroeconomic studies that showed positive benefits to the US economy in scenarios with LNG exports up to 28 bill cu ft per day.

The Department determined that exports from the Delfin LNG terminal, jointly owned by the India and Singapore-based Fairwood Group and the US-based Peninsula group, for a period of 20 years, was not inconsistent with the public interest. ■

Panama Canal LNGC transit tolls to be modified

The Panama Canal Authority (ACP) is to modify its current tolls structure, including fees for LNGC transits.

On 1st June, the ACP signalled the beginning of a 30-day formal consultation period for industry feedback.

During the past few months, Panama Canal Administrator Jorge Quijano and executives met with canal customers and industry representatives in Europe, Asia and North America.

"These meetings with customers in Asia, Europe and North America have been extremely valuable in providing us with a deeper understanding of the industry today, the challenges faced by individual market segments and

the projected demand for the Neopanamax locks," said Quijano.

After a thorough analysis of the feedback obtained during these meetings, and the current usage and productivity of the Neopanamax locks, it was deemed necessary to provide additional incentives to revise the tolls for LPG and LNG carriers, plus changes to other ship types.

The modifications were approved by the ACP's Board on 25th May, 2017.

"The proposed modifications safeguard the competitiveness of the waterway, the value of the

route, and facilitates the canal's goal of providing an efficient and reliable service to the global shipping community," Quijano added.

The proposal to modify the tolls charged to LPG and LNG vessels does not include changes to the units of measurement, as they have proven to be in accordance with industry standards, the ACP said.

The proposal is available at www.pancanal.com/peajes. All interested parties are invited to participate in the consultation process as well as the public hearing to be held in Panama City, Panama, on

5th July, 2017. In accordance with established rules, the ACP will consider all correspondence received by 4:15 pm (local time) on 3rd July, 2017, as well as comments and opinions presented during the public hearing.

After an evaluation and analysis of the comments received, and once any changes are incorporated in the proposal, the Cabinet Council of the Republic of Panama will officially approve the modifications. The date for implementation of the modifications to the tolls structure is planned for 1st October, 2017, the ACP confirmed. ■

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Golar's take on the market

Despite showing some improvement over the previous quarter, the shipping market remained weak in the first quarter of this year, Golar LNG said in its first quarter results presentation.

Fleet TCE increased from an average of \$10,893 per day in 4Q16 to \$14,189 per day in 1Q17. The improvement was partly driven by a number of vessels in the Cool Pool that secured short-term charters in the \$30,000 per day range.

The underlying trend remains positive, as new liquefaction projects continue to deliver. Gorgon and Cheniere Trains 3 have exported their commissioning cargoes and are now in ramp-up mode, while Cheniere T4 remains on track for a 2017 start, Petronas exported the world's first FLNG cargo from its PFLNG Satu facility in early April, Wheatstone has confirmed the mid-year start-up of T1 to be followed six to eight months later by T2, and Yamal LNG remains on track for an early October start-up. In addition, Malaysia's T9 and now Gorgon T2 both continue to ramp up production.

About 34 mill tonnes of new LNG is expected to come on line this year, representing 13% growth against 2016 global production. Against this, shipping capacity is expected to grow by around 9%. This mismatch is expected to have a positive impact on shipping over the same time frame, Golar LNG said.

Consensus among shipowners of a sustained recovery from 3Q17 has firmed, aided by a notable increase in inquiries for medium to long-term vessel requirements, particularly for the lifting of open US volumes.

The Golar group has fixed a vessel to a Far Eastern utility. Scheduled to start in 1Q18, the 12-month charter at rates close to cash break-even, comes with a six-month extension option and flexibility to nominate the closest vessel at the time to the required delivery point.

Golar Partners' 'Golar Spirit', which is scheduled to be redelivered by Petrobras in June, is being circulated for charter. The market for smaller low cost FSRUs is quite active, as the cost of significant unused capacity on larger FSRUs can undermine the economics of a switch to gas in certain niche markets. Smaller units like the 'Golar Spirit' are therefore able to provide a more economic solution, Golar claimed.

New charter

During the quarter, Golar Partners secured new business for the LNGC 'Golar Grand'. The vessel was taken out of lay-up on 14th February for repairs and relocated to Singapore for drydocking, which was completed on 14th April. Golar will continue to sub-charter the 'Golar Grand' from the Partnership until 31st October, 2017, when its obligation expires. Between 5th May and

31st October, daily hire from the new charter will accrue to Golar.

The FSRU 'Golar Tundra' remains anchored off the coast of Ghana. Charterer, West Africa Gas Limited, has made no further progress with the construction of supporting land-based infrastructure. Golar has been granted an interim arbitration award of \$23.3 mill, which the company is now actively pursuing. Since 31st December, a further \$22 mill has also become due and this will also be pursued through the arbitration process, in addition to amounts accruing thereafter.

The FLNG 'Hilli Episeyo' conversion is nearing completion. A naming ceremony has been scheduled for 2nd July. The mooring has now been completed and is en-route to Cameroon in advance of hook-up and initiation of commissioning and production at the end of September. Perenco is on track with its work. ■

GTT signs MoU with Zvezda

GTT and Russian-based Zvezda shipyard have signed a Memorandum of Understanding (MoU) to build LNGCs in Russia.

The shipyard has been developed by a consortium involving Rosneftegaz, Rosneft and Gazprombank. The MoU will evaluate the shipyard's capacity to meet GTT construction standards, particularly focused on safety and quality issues.

This new partnership will allow the building of efficient LNGCs in Russia, dedicated to the transport of gas from offshore plants. GTT will provide its expertise in membrane containment system construction and the material supply, as well as personnel training.

During the signing ceremony, Philippe Berterottière, GTT Chairman and CEO, said: "It is a great opportunity for GTT to contribute to the development of the Zvezda Shipbuilding complex."

GTT's membrane technology has already been chosen to be installed on board the icebreaking LNGCs for the Yamal LNG project. In addition, according to analyst's forecasts, Russia will see an increase in LNG production in the coming years, opening way for new LNGC and infrastructure projects. ■



The Russian shipyard has signed an agreement with GTT

Novatek and Fluxys sign MoU

According to the MoU, the parties will pursue strategic co-operation in developing small-scale LNG projects in Europe, in developing LNG marketing in Europe and Latin America, optimising LNG logistics, as well as other potential projects involving LNG.

Novatek's Chairman, Leonid Mikhelson, said: "A mutually beneficial co-operation with such an established partner as large infrastructural company Fluxys will help us to develop new LNG markets and to promote Novatek to these markets. This co-operation will increase the efficiency of our LNG projects, utilising our resource base on the Yamal and Gydan peninsulas."

Fluxys Managing Director and CEO, Pascal De Buck, added: "Small-scale LNG in our view ticks all the boxes to curb the carbon and health impact of heavy duty road transport, shipping and remote industry. We are pleased to broaden our mutually beneficial co-operation with Novatek to make small-scale LNG realise its potential today and in the future." ■

Höegh LNG Partners sees revenue increase

Höegh LNG Partners has reported an increase in total timecharter revenues up to \$35.1 mill for the first quarter of 2017, compared to \$21.7 mill for 1Q16.

The FSRU owner also generated operating income of \$25.7 mill and net income of \$16.2 mill during 1Q17, compared to \$6.2 mill and net loss of \$1 mill for 1Q16. Operating income and net income were impacted by unrealised gains on derivative instruments on the Partnership's share of equity in earnings of joint ventures in 1Q17 compared with unrealised losses during the corresponding quarter of 2016.

Excluding the impact of the unrealised gains and losses on derivative instruments for 1Q17 and 2016 impacting the equity in earnings of joint ventures, operating income for the first three months of this year would have been \$23.2 mill, an increase of \$8 mill from \$15.2 mill for 1Q16.

The company also generated segment EBITDA of \$29.5 mill during 1Q17, compared to \$24.1 mill for 1Q16.

On 3rd January, 2017, Höegh LNG closed the acquisition of 51% interest in Höegh LNG Colombia

Holding, the owner of the entities that own and operate the 'Höegh Grace'. The 'Höegh Grace' results also contributed to the Partnership's earnings for the full first quarter of 2017.

On 15th May, 2017 the company paid a \$0.43 per unit distribution with respect to 1Q17, equivalent to \$1.72 per unit on an annualised basis, an increase of about 4.2% from the distribution with respect to 4Q16.

Richard Tyrrell, CEO and CFO, stated: "In the first quarter of 2017, the Partnership continued to deliver on its strategy of making accretive acquisitions and delivering distribution growth to unitholders. Having closed the acquisition of 51% of the 'Höegh Grace' at the beginning of the quarter, the Partnership has expanded and diversified its fleet to five FSRUs and added Colombia to the growing list of markets utilising floating storage and regasification units to participate in the global LNG trade.

"The acquisition enabled the Partnership to declare a 4.2% distribution increase for the first quarter of 2017, compared to the fourth quarter of 2016, representing an annualised cash distribution of \$1.72 per unit - an increase of more than 27% since the IPO in mid-2014.

"The first quarter of 2017 was also a busy one for operations with the 'Höegh Grace' recording its first full quarter of employment on a minimum 10-year contract, while the 'Neptune' has been deployed as an FSRU to supplement the existing regasification capacity in Turkey. The attractive price of LNG, together with the speed and cost-effectiveness with which FSRU projects can be implemented, continues to be a highly compelling value proposition for a wide range of markets around the world.

"Following the acquisition of 51% of the 'Höegh Grace', the Partnership retains a right-of-first-offer on the remaining 49% and looks forward to be able to execute on this opportunity in the future. The Partnership also believes it is ideally positioned to benefit from the maturing dropdown pipeline of long-term FSRU contracts under development by Höegh LNG Holdings, which the Partnership believes, assuming their execution, will support the further growth of the Partnership's asset base and distributable cash flows," he said. ■



The Partnership is expecting further FSRU dropdowns from Höegh LNG once commissioned

Arc7 naming ceremony held at Bronka

The naming ceremony for the first Yamal LNG Arc7 LNGC 'Christophe de Margerie' was held at Bronka, near St Petersburg, on 3rd June.

Russian President, Vladimir Putin, was in attendance and said: "Christophe de Margerie, the most modern tanker of a high ice class, will become the flagship in a line of 15 similar vessels. They have all been designed for Yamal LNG, a large-scale project being carried out jointly with both our French and Chinese partners. I would like to stress that this project, without exaggeration, is highly important, not only for our country and not only for Europe: but this project, in general also contributes immensely toward the development of the world's power industry. It serves to promote the successful development of global spaces, creates demand for innovative technology in production and transportation of hydrocarbons, and creates jobs, both in our country and abroad.

"Yamal LNG plays an important role in the development of the Northern Sea Route and in the further study and exploration of the Arctic. I hope that the pace at which the project is being implemented will only grow and that all our joint plans will be, unquestionably implemented. And, of course, I am counting on the successful launch of new, promising, large-scale projects with our French, Chinese and foreign partners, as well as on our growing co-operation in the extremely rich Arctic Region," he concluded. ■

Flex LNG in LNGC ordering spree

Oslo-listed Flex LNG has signed contracts for six new LNGCs, the company's CEO recently told Reuters.

Earlier this year, the company confirmed it was looking to buy six vessels, of around 170,000 cu m each, subject to securing funding for the \$1.2 bill deal.

Geveran Trading, John Fredriksen's private investment vehicle, acquired 52% of Flex LNG earlier this year, enabling the necessary

finance to be put in place.

"All of the contracts have been signed and the initial payments have been processed during the course of this month," said Flex LNG CEO Jonathan Cook, talking with Reuters.

They will be built by Samsung Heavy Industries and Daewoo Ship-

building and Marine Engineering.

"We expect the first two ships (to be delivered) in January (2018), and four more by August 2019," Cook reportedly said.

The company aims to charter out some of the vessels long term and commit others to spot and short-term LNG shipping markets. ■

Golar LNG's losses increase

Golar LNG has reported an operating loss of \$41.4 mill and EBITDA loss of \$16.2 mill in the first quarter of this year, compared with 4Q16 losses of \$32.7 mill and \$15.9 mill, respectively.

During the quarter, the company issued a \$402.5 mill 2.75% five-year unsecured convertible bond with a capped call that gives an effective conversion premium and price of 75% and \$48.86, respectively.

Golar also repaid the balance of the 2012 five-year convertible bond and refinanced the debt facility on the LNGC 'Golar Crystal' and secured a firm two-year contract for 'Golar Grand' commencing 2Q17 and a 12-month contract for another LNGC commencing 1Q18.

Subsequently, OneLNG's Fortuna joint venture executed an umbrella agreement with the Republic of Equatorial Guinea to establish the fiscal and legal framework for the Fortuna FLNG project. The Fortuna midstream EPC construction contracts were awarded and the project was on track for mid-2017 final investment decision (FID).

In addition, the company put an option in respect of FSRU 'Golar Tundra' exercised by Golar Partners and both companies also entered into a purchase option agreement for the partnership to acquire up to a 25% interest in FLNG 'Hilli Episeyo'.

As expected, the observed im-

provements in shipping rates and activity levels during the final weeks of 4Q16 and into January translated into a modest improvement in 1Q17 operating revenues. Contrary to expectations, this additional spot market activity together with reduced payments to Golar Partners in respect of the drydocked 'Golar Grand' did not result in a reduction to reported voyage expenses.

Of the \$16.9 mill 1Q17 voyage expenses, \$9.6 mill represented the cost of chartering the 'Golar Grand' from Golar Partners. This compares to a 4Q16 charge of \$4.9 mill. The execution of a new charterparty for the vessel in February triggered an additional non-cash accounting provision that will be released to voyage expenses between February and 31st October, when the obligation to charter-in the vessel from Golar Partners.

Net loss

In 1Q17, the company generated a net loss of \$65.8 mill, due to -

*Interest expense increase of \$1.6 mill, primarily due to the cost of servicing the February issued \$402.5 mill convertible bond that replaces the balance of a \$250 mill convertible bond



Golar has posted disappointing first quarter results

repaid in early March.

*Other financial items reported 1Q17 income of \$14.5 mill, most of which was derived from mark-to-market gains on the 3 mill Total Return Swap ("TRS") shares following a \$4.99 quarter on quarter increase in the company's share price. Swap rates also continued to increase, albeit at a slower pace, resulting in further non-cash mark-to-market interest rate swap gains.

*Gain on loss of control of Golar Power in 4Q16 pertains to a \$3.7 mill adjustment to the provisional 3Q16 \$12.2 mill non-cash loss recognised on disposal of Golar Power. No further adjust-

ments were recorded in 1Q17.

Golar Partners 1Q17 earnings declined as a result of scheduled off-hire of the FSRU 'Golar Igloo' and drydock off-hire for the 'Golar Grand'. The Golar Partners contribution also includes a non-cash loss on deemed disposal of \$17 mill, being the dilutive impact on our ownership interest due to further issuances of common units by Golar Partners in February, 2017.

Golar LNG later announced that it will be trading ex-dividend of a total dividend of \$0.05 per share on 14th June, 2017. The record date will be 16th June, 2017 and the dividend will be paid on or about 5th July, 2017. ■

P&I Club advises on LNGC bill of lading issues

The UK P&I Club has warned of issues when incorporating charterparties into bills of lading, citing the case of an LNGC.

Claims Executive, Amanda Hastings, said; "The issue of incorporation of charterparties into bills of lading is debated by the English courts on a fairly frequent basis; most recently in the 'Anna Bo' (2015) and the (LNGC) 'Magellan Spirit' (2016) cases. So what's all the fuss about really and how do you avoid getting caught out?

"As with many contracts, an omission of a term will not become apparent (or cause a problem) until something goes wrong - but

when it does, it can be very difficult (and expensive) to rectify.

"This can be seen in the case of the 'Magellan Spirit', when the owners sought to rely on an exclusive jurisdiction clause in the charterparty (and amend the bill of lading), allowing them an anti-suit injunction against cargo interests in Nigeria. The court held that the bill should not be rectified to incorporate the charterparty jurisdiction clause as there was no relevant continuing com-

mon intention capable of supporting a claim for rectification, and the owners were left fighting a \$15.4 mill claim in an unfriendly jurisdiction," she explained.

To avoid being caught out, an owner should -

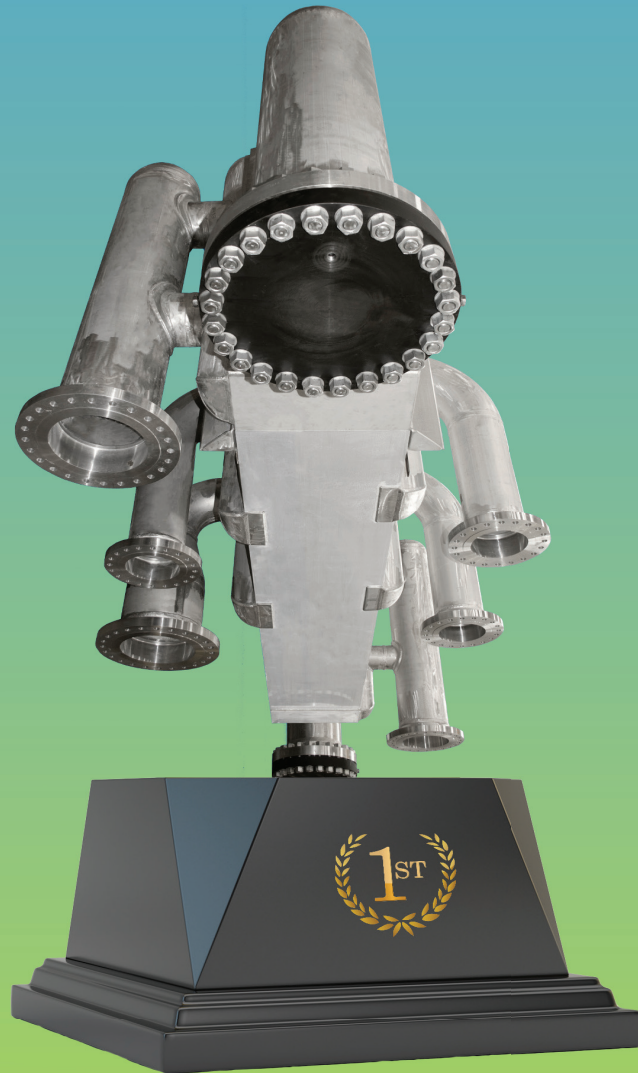
*Clearly identify the charterparty on the bill of lading. Most standard short form bills provide a box where you can identify the charterparty by date - ensure it is completed.

*Choose your incorporation

wording wisely. English law has a number of tests in place to protect the receiver from onerous and/or irrelevant charterparty clauses, so be aware that generally only the terms directly relevant to contract of carriage will be incorporated.

*Be aware of conflicts. If there is a discrepancy between your charterparty terms and the bill of lading, then be aware that the clause paramount in the bill will likely override a similar clause in an associated charterparty. ■

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New tank gains DNV GL AiP

DNV GL has awarded Kawasaki Heavy Industries (KHI) an Approval in Principle (AiP) for the newly developed non-spherical (MOSS) tank.

The new tank is a IMO Independent Type B LNG tank which was developed for use in 180,000 cu m LNGCs designed to pass through the new Panama Canal.

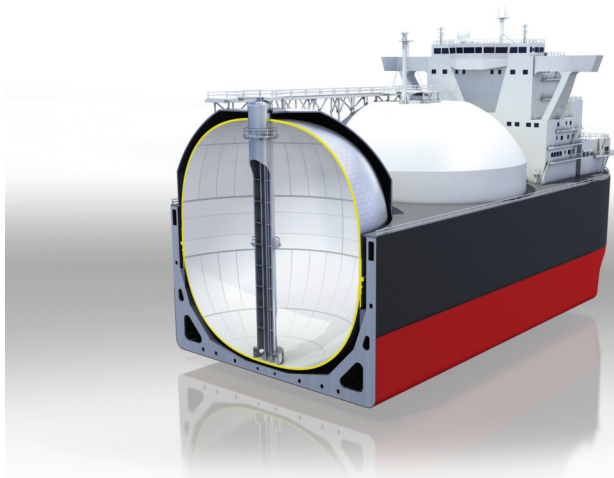
"It is always a great pleasure to work with KHI, to continue what has been such a long and enjoyable cooperation," said Johan Petter Tuttoren, Business Director for Gas

Carriers at DNV GL - Maritime. "We worked with KHI on the delivery of the first Japanese built LNG carrier - 'Golar Spirit' - in 1981 and that co-operation continues to this day, as she remains in DNV GL class after her successful conversion to a FSRU - a world first."

KHI claimed that the new tank has the same reliability as a spher-

ical (MOSS) tank, but has an increased cargo capacity of 15%. It can also be used with the 'Kawasaki Panel System', an advanced heat insulation system developed by KHI. DNV GL carried out comprehensive sloshing and buckling analyses together with KHI, which demonstrated that the new tank provided an equivalent level of safety performance to the well-known spherical (MOSS) tank with no filling restrictions.

"As DNV GL's experience with LNG has grown over the years, so too has our conviction that LNG can make a significant and positive contribution to the efficiency and sustainability of the energy and maritime industries," said Tuttoren. "To keep this momentum for the use of LNG growing, DNV GL will continue to work with innovative partners like KHI to ensure that owners and yards can be confident that this technology will continue to advance, while meeting strict safety and reliability standards."



KHI's new non-spherical (MOSS) tank is a IMO Independent Type B LNG tank that has been developed for use in 180,000 cu m LNGCs. Photo Credit: KHI

Kongsberg passes LNGC milestone

More than 100 Kongsberg Information Management Systems (K-IMS) have been installed in the LNGC sector.

This milestone represents a significant breakthrough for the company and the K-IMS product within the LNG market and demonstrates the growing acceptance of the system's approach to data-sharing for LNG vessel and fleet operations, Kongsberg claimed.

As interest in data-sharing for operational efficiency grows in the LNG sector, Kongsberg has conducted several successful customer trials to show the capabilities and benefits of integrating K-IMS in the past year.

K-IMS is designed to enable continuous access to data both on board and ashore through an interactive web portal solution. The system unites all data logging and communication into a single, se-

cure and maintainable solution, giving the fleet owner complete control of information flow and security.

It features a set of self-service tools for live or post analyses of data, presentation and reporting. These can be expanded further with predefined Kongsberg applications, with for example, focus on LNG cargo and the complex process plant that manages it, as well as vessel performance and hull condition monitoring.

While the K-IMS web portal is available via on board ship networks and at control centres ashore, users can also access the service through mobile devices attached to a network where the K-IMS portal is available, such as

a ship's Wi-Fi and office networks, or via VPN. This flexible approach ensures that the vital data collected and stored by K-IMS is always securely available to those who need it, the company explained.

"The LNG market has taken a lead in using data to secure safer and more efficient operations on board," said Stene Førsund, Executive Vice President, Global Sales and Marketing, Kongsberg Maritime. "K-IMS helps to transform the valuable data generated by sensor and control systems into knowledge, helping shipowners to improve and optimise operations, and make fact based decisions to manage single vessels and entire fleets."

Stolt-Nielsen Gas orders small-scale LNGCs

A Stolt-Nielsen subsidiary, Stolt-Nielsen Gas (SNG), has ordered two 7,500 cu m LNGCs, with options to purchase three more, at Keppel Singmarine.

The contract for the initial two ships is valued at around \$80 mill, including site-team costs and capitalised interest during construction. The ships are to be built at Keppel Singmarine's shipyard in Nantong, China, with deliveries scheduled in the second and third quarter of 2019, respectively, SNG confirmed.

The ships will be capable of operating on either diesel fuel or LNG, with a class notation and technical capability for STS (ship-to-ship) bunkering, thus significantly enhancing their versatility.

Stolt-Nielsen Gas has established a wholly owned subsidiary, Avenir LNG, to focus mainly on the development of small-scale LNG supply chains serving 'stranded demand,' where off-the-grid customers lack access to natural gas.

SNG's current projects include plans to build and operate an LNG terminal and distribution facility at Oristano, Sardinia and a joint venture to provide LNG to areas of Scotland not served by the existing natural-gas grid. The new buildings would be deployed, at least in part, in the supply chains serving these projects.

The company has also negotiated a Heads of Agreement with an oil major to charter the first ship to trade in the Mediterranean. The second ship is expected to trade in Northern Europe. ■

Wärtsilä to maintain MGM's TFDE fleet

Technology group Wärtsilä and Maran Gas Maritime (MGM) have extended their current co-operation with a five-year maintenance agreement.

This agreement covers the maintenance of MGM's 21 TFDE LNGCs equipped with Wärtsilä 50DF engines.

MGM is the LNG shipping unit of the Angelicoussis Shipping Group and currently operates around 33 LNGCs of which 21 are powered by TFDE units.

The new agreement includes dynamic maintenance planning (DMP), condition based maintenance (CBM) services and remote operational support. These come under the digital Wärtsilä Genius services portfolio.

Remote product support in technical and operational issues

and remote monitoring of equipment performance will allow MGM to further enhance the reliability of the Wärtsilä 50DF tri-fuel engines installed on their vessels. The new agreement also includes supply of spare parts for maintenance along with technical expertise and workshop services to undertake overhauls.

The Wärtsilä 50DF tri-fuel engines installed on the MGM vessels can be operated with heavy fuel oil (HFO), marine diesel oil (MDO) or natural gas. With Wärtsilä support in maintaining these technically advanced engines, maintenance planning will be bet-

ter controlled and streamlined to meet the demanding schedule of the vessels. Dynamic maintenance based on the actual condition of the engines will enhance this effort, the company claimed.

"The technically advanced LNG installations require professional maintenance to ensure operational reliability. Wärtsilä will provide this professional maintenance to the MGM fleet through this agreement. It will also further strengthen our long partnership with the whole Angelicoussis Shipping Group," says Yiannis Christopoulos, Managing Director, Wärtsilä Greece.

"We acknowledge the technologically advanced maintenance requirements of this type of installations and the equipment involved. After examining all available options, it was concluded that the most efficient and effective way to fulfil these requirements and maintain the fleet reliability at the highest possible level, was to engage with Wärtsilä

on this extended maintenance agreement. Through this five years agreement, positive and valuable experience will be gained," said Andreas Spertos, Technical Director, Maran Gas Maritime. ■



Wärtsilä has signed a five year maintenance deal with Maran Gas

Framo's pumping systems for Höegh LNG

Alfa Laval subsidiary, Framo, has signed a contract with Höegh LNG to deliver pumping systems to a new FSRU.

The contract covers one unit, with options for three more FSRUs, which are currently being built at Samsung Heavy Industries.

The regasification process requires gas to be heated and to accomplish this, large quantities of seawater have to be pumped from the sea.

Framo is to install four pumps in each of the vessels, which are due to be delivered during 2019 through 2021.

"Global demand for energy is on the rise, but in many areas, the necessary infrastructure is not in place. FSRU is a highly versatile alternative as a vessel can be moored at any quay and operate as a terminal. Furthermore, the

investment costs are significantly lower than for onshore developments," said Thorbjørn Vågenes, Director, Oil & Gas Pumping Systems, Framo AS.

The Höegh LNG pumps are based on Framo technology, which has been in use in offshore operations for a number of years. A similar solution was delivered to Shell's floating LNG facility, 'Prelude FLNG'.

These pump systems have improved operating reliability, are lighter and have fewer components to maintain, compared with the conventional pumps most commonly used on board FSRUs. The Framo system will also eliminate the need for a separate



Thorbjørn Vågenes, director, oil & gas pumping systems Framo

pump room on the vessels where space is often limited, the company claimed.

"We are using recognised and well-proven Framo technology in a new market where there has been a significant rise in demand the past few years," Vågenes added. ■

NEWS NUDGE

EXMAR Ship Management signs up ISS

Inchcape Shipping Services (ISS) has won a global contract from LNG and LPG carrier management specialist EXMAR Ship Management (ESM).

Under this new contract, ISS will provide husbandry services for all EXMAR Ship Management port calls worldwide, including crew handling, transportation, CTM, spare parts and launch hire. In 2016, vessels operated and maintained by ESM made 1,091 port calls at 198 ports in 59 different countries.

ESM's CEO, Capt Marc Nuytemans, commented: "EXMAR Ship Management has a proven, highly innovative approach towards maintaining, crewing and improving the business processes related to the assets it takes care of on behalf of the owner. We are confident that partnering with ISS will allow us to further improve our husbandry services in a safe, reliable and cost-efficient manner."

Frank Olsen, ISS Marine Services COO, added: "We are delighted to secure this major new business with EXMAR Ship Management and look forward to building a long-term relationship. This agreement recognises our ability to provide a single point of contact to cover our global network, our expertise at driving cost savings and commitment to service delivery and our strong track record delivering husbandry services to the oil and gas sector."

SHI and DNV GL in new LNGC design tie-up

DNV GL and Samsung Heavy Industries (SHI) have signed a joint development project (JDP) agreement to produce new LNGC designs.

Mun-Keun Ha, SHI Senior Executive Vice President and Tommy Bjørnsen, DNV GL's Regional Manager Maritime Korea & Japan, signed the agreement at the DNV GL Group head office in Høvik, during Nor-Shipping last week.

"The present business environment requires that the shipping industry moves further towards eco-friendly operations due to environmental concerns, recent international regulations, as well as rises in fuel oil prices," said Mun-Keun Ha. "As leaders in reacting to new market trends in their specialised fields, this new joint development project between DNV GL and SHI will improve the business strategies of both parties."

The JDP aims to develop two 30,000 cu m LNGC designs, one with membrane type LNG tanks

and the other with type-C (pressurised) LNG tanks. The JDP's scope covers the design review, safety analysis, market research, various structural and safety evaluations and if successful, will culminate in the award of an Approval in Principle (AiP) from DNV GL.

"We are very pleased that SHI has chosen us to participate in the project, trusting our expertise in the gas carrier sector," said DNV GL's Bjørnsen. "Offering owners and operators more options to manage their operations more efficiently and sustainably is important in today's extremely competitive market. We look forward to the further development of the design and its future success."

The idea for a 30,000 cu m



At the Nor-Shipping signing ceremony (L to R): Tommy Bjørnsen, Regional Manager Korea & Japan, DNV GL – Maritime, Mun-Keun Ha, Senior Executive Vice President, SHI, Remi Eriksen, DNV GL Group President & CEO

LNGC originated from SHI. The builder decided to develop both membrane and type C designs in parallel to give owners more op-

tions and thought that some owners may opt for type-C tanks on smaller tonnage, as is common in LNG bunkering vessels. ■

GasLog Partners acquires another LNGC

GasLog Partners is to purchase 100% of the shares in the entity that owns and charters 'GasLog Geneva' from GasLog Ltd.

The aggregate purchase price will be \$211 mill for the 2016-built 174,000 cu m, tri-fuel LNGC, which includes \$1 mill for positive net working capital balances to be transferred with the vessel.

GasLog Partners said that it expected to finance the acquisition with cash on hand, including proceeds from its recent preference unit offering and the assumption of \$155 mill of 'GasLog Geneva's' existing debt.

This acquisition is expected to close in the third quarter of 2017 and is subject to satisfaction of certain customary closing conditions. The two Boards and the

Conflicts Committee have all approved the purchase.

She is currently on a long-term timecharter with a wholly owned subsidiary of Royal Dutch Shell through September, 2023. Shell has two consecutive extension options which, if exercised, would extend the charter for a period of either five or eight years.

GasLog Partners estimated that 'GasLog Geneva' will add around \$23 mill to EBITDA in the first 12 months after closing. Accordingly, the acquisition purchase price represents a multiple of approximately 9.1 times estimated EBITDA.

Upon closing, the deal will be

supportive of GasLog Partners' guidance to grow unitholder distributions at a 10% to 15% compound annual rate from IPO through 2017. The Partnership intends to recommend a yearly distribution of greater than \$2.09 per unit by the fourth quarter of 2017.

Andy Orekar, GasLog Partners CEO, said, "I am very pleased to continue executing our growth strategy with this accretive drop-down transaction. 'GasLog Geneva' represents the eighth LNGC the Partnership will have acquired from GasLog since our IPO and this strategically attractive vessel plus its charter to Shell provide over six years of stable cash flows. The Acquisition expands the Partnership's fleet to 11 wholly owned LNGCs, extends our average remaining charter duration and significantly increases our revenues and EBITDA."

Paul Wogan, GasLog CEO,

added, "We continue to execute on our strategy of dropping vessels into GasLog Partners and recycling the capital to GasLog. This transaction values 'GasLog Geneva' at a premium to book value, allowing us to strengthen our balance sheet and providing further funding for future profitable growth.

"Through our unit ownership and incentive distribution rights, we will benefit from future increases in GasLog Partners' distributions, which should continue to enhance our cash flow, growth prospects and valuation. Based on the Partnership's distribution growth guidance, GasLog's annualized distributions received from GasLog Partners are expected to equal approximately \$26 mill by the fourth quarter of 2017, an increase of approximately 13% compared to the annualised distributions received in the fourth quarter of 2016." ■

We continue to execute on our strategy of dropping vessels into GasLog Partners and recycling the capital to GasLog

- Paul Wogan, GasLog CEO

Höegh LNG Partners - vessels update

In the second quarter of 2017, 'Höegh Gallant' is due to be offhire for eight days for scheduled maintenance, Höegh LNG Partners said in its first quarter results roundup.

In addition, as a result of the omnibus agreement that the Partnership entered into with Höegh LNG at the time of the IPO, the Partnership has, or may in the future have, the opportunity to acquire the following FSRUs:

*On 26th May 2015, Höegh LNG signed a 20-year contract with Penco LNG to provide an FSRU to service the Penco-Lirquén LNG import terminal to be located in Concepción Bay, Chile. The contract is subject to Penco LNG's completing financing and obtaining necessary environmental approvals. In February, 2017, Penco LNG informed Höegh LNG that the environmental approval had been temporarily halted by the legal system in Chile, which is expected to delay completion of the infras-

tructure and the commencement of the FSRU contract.

*On 1st December, 2016, Höegh LNG signed a 20-year FSRU contract, plus a five year extension option with Quantum Power Ghana Gas for the Tema LNG import terminal located close to Accra in Ghana. The Tema LNG Project is supported by Ghana National Petroleum Corp (GNPC), Ghana's national oil and gas company.

The contract is subject to Quantum Power obtaining necessary governmental approvals, financing and both parties' board approval. The infrastructure construction for the project is planned to start mid-2017 and the delivery time for the FSRU is expected around 12 months following commencement of the construction

work. Höegh LNG is expected to service the contract with the 'Höegh Giant' (HHI Hull No. 2552) which was delivered from the shipyard on 27th April, 2017.

*On 15th December, 2016, Höegh LNG signed another 20-year FSRU contract with two five year extension options with Global Energy Infrastructure (GEI) for GEI's LNG import project in Port Qasim near Karachi, Pakistan. GEI has a long-term LNG supply agreement with Qatargas and a consortium agreement that also includes ExxonMobil, Mitsubishi, Total and Höegh LNG. The contract is subject to certain conditions and both parties' board approval. The anticipated start of the FSRU contract is 2H18.

*Höegh LNG has three FSRUs on

order and under the terms of the omnibus agreement, the Partnership will have the right to purchase HHI Hull No. 2865, and HHI Hull No. 2909 and SHI Hull No. 2220, following acceptance by the respective charterer of the related FSRU, subject to reaching an agreement with Höegh LNG regarding the purchase price. There can be no assurance that the Partnership will purchase any of these additional FSRUs, Höegh LNG Partners stressed.

*Finally, although the option to purchase Höegh LNG's interests in the FSRU 'Independence' has expired, the Partnership expects Höegh LNG will offer it the opportunity to purchase its interests upon receiving the consent from the charterer, AB Klapipedòs Nafta (ABKN), which is being pursued. On 5th December, 2014, the 'Independence' began operating under the ABKN timecharter. 'Independence' is located in the port of Klaipeda and provides Lithuania with the ability to diversify its gas supply by giving it access to the world market for LNG. ■

“

Penco LNG informed Höegh LNG that the environmental approval had been temporarily halted by the legal system in Chile, which is expected to delay completion of the infrastructure and the commencement of the FSRU contract.

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NEWS NUDGE

Tug designed to escort LNGCs

A Norwegian-owned dual fuel tug will provide towage and escort services from Melkøya's north terminal, following successful completion of her sea trials.

Built for extreme weather conditions, the 'Dux' will operate for Statoil and will escort around 300 LNGCs annually.

It will also assist with berthing operations and emergency services, such as long line towing, firefighting and oil spill response.

Designed by Canadian company, Robert Allan and built by Spanish shipbuilder Gondan, the

40.2 m and 16 m beam vessel, owned by Østensjø Rederi, has been designed specifically to operate at temperatures down to -20 deg C.

'Dux' will be mostly powered by LNG but with the flexibility of switching to diesel power to ensure a high level of operational security.

She has a free running speed of 15 knots and is capable of direct and indirect towing performance with a 107 tonne bollard pull and 167 tonne steering force.

The vessel, registered in Hammerfest, is the first of three built to operate in severe weather conditions.

LNG tender from Gorgon signals early restart

ExxonMobil is seeking to sell a liquefied natural gas cargo from Australia's Gorgon export facility this month.

This raises the possibility of an early restart to the partly-idled plant, trade sources told Reuters.

The oil and gas major was offering to deliver the cargo in the second-half of June and bids were due recently, sources said.

Gorgon operator Chevron previously advised that Train 1 would remain offline until about 15th June.

Nakilat takes another LNGC in-house

Nakilat assumed full shipmanagement and operations of another Q-Flex LNGC - 'Al Ghashamiya' - from STASCo on 24th May, 2017.

With a cargo carrying capacity of 217,591 cu m, the 2009-built 'Al Ghashamiya' is wholly-owned by Nakilat and chartered by Qatargas.

She is the eighth wholly-owned LNGC to come under the management of Nakilat Shipping Qatar. (NSQL), bringing the total number of vessels managed in-house to 16, comprising of 12 LNGCs and four LPG carriers.

WORLD LNG CARRIER ORDERBOOK

Name	Segment	Status	Yard	Design	Prop	Capacity	Delivery Date	Ordered	Imo	Hull No	Primary Owner
Asia Venture	LNGC	Order	Samsung	TZ Mk. III	TFDE	160000	01/04/2017	2012	9680190	2070	Chevron
Kawasaki Sakaide 1718	LNGC	Order	Kawasaki	Moss	TFDE	180000	01/04/2017	2013	9698123	1718	K-Line
Hyundai Peacepia	LNGC	Order	DSME	GT NO 96	TFDE	174000	01/05/2017	2014	9761853	2452	Hyundai LNG Shipping
Daewoo 2450	LNGC	Order	DSME	GT NO 96	TFDE	174000	01/05/2017	2014	9761839	2450	Korea Line
Jmu Tsu 5070	LNGC	Order	Japan Marine United Corp (Jmu)	SPB	TFDE	165000	01/05/2017	2014	9736092	5070	MOL
Hudong-Zhonghua H1717a	LNGC	Order	Hudong-Zhonghua	Membrane	TFDE	174000	01/06/2017	2012	9672844	H1717A	China LNG Shipping Holdings
Hudong-Zhonghua H1719a	LNGC	Order	Hudong-Zhonghua	Membrane	TFDE	174000	01/06/2017	2013	9694751	H1719A	China LNG Shipping Holdings
Oceanic Breeze	LNGC	Order	Mitsubishi H.I.	Moss	STRH	155300	01/07/2017	2013	9698111	2310	K-Line
Seri Cempaka	LNGC	Order	Hyundai Heavy	Moss	STRH	150000	01/07/2017	2013	9714290	2731	Petronas
Murex	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/07/2017	2013	9705641	2416	Teekay LNG
Daewoo 2462	LNGC	Order	DSME	GT NO 96	TFDE	180000	01/07/2017	2015	9771913	2462	MOL
Bishu Maru	LNGC	Order	Kawasaki	Moss	TFDE	164700	01/08/2017	2013	9691137	1713	K-Line
Seri Camar	LNGC	Order	Hyundai Heavy	Moss	STRH	150000	01/08/2017	2013	9714305	2732	Petronas
Jmu Tsu 5071	LNGC	Order	Japan Marine United Corp (Jmu)	SPB	TFDE	165000	01/08/2017	2014	9752565	5071	NYK
Daewoo 2417	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/08/2017	2013	9705653	2417	Teekay LNG
Daewoo 2421	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	01/08/2017	2014	9768368	2421	Dynagas
Hudong-Zhonghua H1718a Holdings	LNGC	Order	Hudong-Zhonghua	Membrane	TFDE	174000	01/09/2017	2013	9694749	H1718A	China LNG Shipping
Samsung 2153	LNGC	Order	Samsung	KC-1	TFDE	174000	01/09/2017	2014	9761803	2153	SK Shipping
Samsung 2154	LNGC	Order	Samsung	KC-1	TFDE	174000	01/09/2017	2014	9761815	2154	SK Shipping
Daewoo 2426	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	30/09/2017	2014	9750658	2426	MOL
Castillo De Caldas	LNGC	Order	Imabari	TZ Mk. III	MEGI	178000	01/10/2017	2014	9742819	8188	Elcano
Mitsubishi Nagasaki 2316	LNGC	Order	Mitsubishi H.I.	Moss	STRH	153000	01/10/2017	2014	9743875	2316	NYK
SK Resolute	LNGC	Order	Samsung	TZ Mk. III	XDF	182000	01/10/2017	2013	9693173	2081	SK Shipping
Hudong-Zhonghua H1720a	LNGC	Order	Hudong-Zhonghua	Membrane	TFDE	174000	01/10/2017	2012	9672818	H1720A	China LNG S Holdings
Jmu Tsu 5072	LNGC	Order	Japan Marine United Corp (Jmu)	SPB	TFDE	165000	01/10/2017	2014	9758832	5072	MOL
Eduard Toll	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	31/10/2017	2014	9750696	2423	Teekay LNG
Castillo De Merida	LNGC	Order	Imabari	TZ Mk. III	MEGI	178000	01/11/2017	2014	9742807	8177	Elcano
Seri Cemara	LNGC	Order	Hyundai Heavy	Moss	STRH	150000	01/12/2017	2014	9756389	2735	Petronas
Kawasaki Sakaide 1731	LNGC	Order	Kawasaki	Moss	TFDE	177000	01/12/2017	2015	9774135	1731	MOL
Daewoo 2453	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/12/2017	2014	9770921	2453	Teekay LNG
Rudolf Samoylovich	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	01/12/2017	2014	9750713	2425	Teekay LNG
Daewoo 2422	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	01/12/2017	2014	9768370	2422	Dynagas
Daewoo 2424	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	31/12/2017	2014	9750701	2424	MOL
Flex Endeavour	LNGC	Order	DSME	GT NO 96	MEGI	172400	01/01/2018	2014	9762261	2447	John Fredriksen
Flex Enterprise	LNGC	Order	DSME	GT NO 96	MEGI	172400	01/01/2018	2014	9762273	2448	John Fredriksen
SK Audace	LNGC	Order	Samsung	TZ Mk. III	XDF	182000	01/01/2018	2013	9693161	2080	SK Shipping
Hudong-Zhonghua H1664a	LNGC	Order	Hudong-Zhonghua	GT NO 96	TFDE	174000	01/01/2018	2014	9750232	H1664A	Teekay LNG
Pan Asia	LNGC	Order	Hudong-Zhonghua	GT NO 96	TFDE	174000	01/01/2018	2014	9750220	H1663A	Teekay LNG
BW Tulip	LNGC	Order	DSME	GT NO 96	MEGI	173000	01/01/2018	2014	9758064	2435	BWGas
Daewoo 2460	LNGC	Order	DSME	GT NO 96	MEGI	174000	01/01/2018	2014	9766889	2460	Chandris
Teekay NB-6	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/02/2018	2014	9770933	2454	Teekay LNG
Hyundai Ulsan 2800	LNGC	Order	Hyundai Heavy	TZ Mk. III	XDF	174000	01/02/2018	2014	9748899	2800	GasLog
Daewoo 2443	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/02/2018	2014	9766554	2443	BP
Jmu Tsu 5073	LNGC	Order	Japan Marine United Corp (Jmu)	SPB	TFDE	165000	01/02/2018	2014	9758844	5073	MOL
Samsung 2130	LNGC	Order	Samsung	TZ Mk. III	XDF	174000	01/03/2018	2014	9744013	2130	GasLog
Daewoo 2442	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/03/2018	2014	9766542	2442	BP
Hyundai Ulsan 2801	LNGC	Order	Hyundai Heavy	TZ Mk. III	XDF	174000	01/03/2018	2014	9748904	2801	GasLog
MOL E.On.	LNGC	Order	DSME	GT NO 96	TFDE	179900	01/04/2018			TBN	MOL

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 = 26 April 2017

Name	Segment	Status	Yard	Design	Prop	Capacity	Delivery Date	Ordered	Imo	Hull No	Primary Owner
Kawasaki Sakaide 1720	LNGC	Order	Kawasaki	Moss	TFDE	164000	01/04/2018	2014	9749609	1720	K-Line
Mitsui NB 2 Cameron	LNGC	Order	Kawasaki	Moss	STRH	155000	01/04/2018	2014	9759252	1729	MOL
Daewoo 2441	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/04/2018	2014	9766530	2441	BP
Mitsui Cameron Shi NB 1	LNGC	Order	Samsung	Mark III Flex	TFDE	177000	01/05/2018	2014	9760768	2148	MOL
Samsung 2149	LNGC	Order	Samsung	Mark III Flex	TFDE	177000	01/05/2018	2014	9760770	2149	MOL
Mitsui KHI NB 1	LNGC	Order	Kawasaki	Moss	STRH	155000	01/05/2018	2014	9759240	1728	MOL
Daewoo 2432	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	01/05/2018	2014	9750660	2432	MOL
Daewoo 2430	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	01/05/2018	2014	9750725	2430	Teekay LNG
Daewoo 2455	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/05/2018	2014	9770945	2455	Teekay LNG
Daewoo 2464	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/05/2018	2015	9785158	2464	Chandris
Mitsubishi Nagasaki 2324	LNGC	Order	Mitsubishi H.I.	Moss	STaGE	165000	01/06/2018	2015	9779226	2324	NYK
Daewoo 2458	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/06/2018	2015	9767950	2458	Maran Gas Maritime
Daewoo 2444	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/06/2018	2014	9766566	2444	BP
Daewoo 2427	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	01/06/2018	2014	9768382	2427	Dynagas
Hudong-Zhonghua H1665a	LNGC	Order	Hudong-Zhonghua	GT NO 96	TFDE	174000	01/06/2018	2014	9750244	H1665A	Teekay LNG
Samsung 2107	LNGC	Order	Samsung	TZ Mk. III	MEGI	174000	01/07/2018	2013	9709025	2107	Flex LNG
BW Lilac	LNGC	Order	DSME	GT NO 96	MEGI	173000	01/07/2018	2014	9758076	2436	BWGas
Daewoo 2445	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/07/2018	2014	9766578	2445	BP
Samsung 2150	LNGC	Order	Samsung	Mark III Flex	TFDE	177000	10/07/2018	2014	9760782	2150	MOL
Daewoo 2446	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/08/2018	2014	9766580	2446	BP
Mitsubishi Nagasaki 2323	LNGC	Order	Mitsubishi H.I.	Moss	STaGE	180000	01/08/2018	2015	9774628	2323	MOL
Daewoo 2431	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	01/09/2018	2014	9750737	2431	Teekay LNG
MOL NB 2 Freeport	LNGC	Order	Kawasaki	Moss	STaGE	177000	01/10/2018	2015	9791200	1734	MOL
Mitsubishi Nagasaki 2325	LNGC	Order	Mitsubishi H.I.	Moss	STaGE	165000	01/10/2018	2015	9779238	2325	NYK
Mitsubishi Nagasaki 2326	LNGC	Order	Mitsubishi H.I.	Moss	STaGE	180000	01/10/2018	2015	9796781	2326	NYK
Samsung 2108	LNGC	Order	Samsung	TZ Mk. III	MEGI	174000	31/10/2018	2013	9709037	2108	Flex LNG
Daewoo 2428	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	01/11/2018	2014	9768394	2428	Dynagas
NYK NB 2 Freeport	LNGC	Order	Kawasaki	Moss	STaGE	177000	01/12/2018	2015	9791212	1735	MOL
Mitsubishi Nagasaki 2327	LNGC	Order	Mitsubishi H.I.	Moss	STRH	180000	01/12/2018	2015	9796793	2327	NYK
Daewoo 2429	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	01/12/2018	2014	9768526	2429	Dynagas
Daewoo 2456	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/01/2019	2015	9753014	2456	Maran Gas Maritime
Pan Africa	LNGC	Order	Hudong-Zhonghua	GT NO 96	TFDE	174000	01/01/2019	2014	9750256	H1666A	Teekay LNG
Daewoo 2433	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	01/01/2019	2014	9750749	2433	Teekay LNG
Daewoo 2459	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/01/2019	2015	9767962	2459	Maran Gas Maritime
SK Shipping SK E&S NB1	LNGC	Order	Hyundai Heavy	TZ Mk. III Flex	XDF	180000	01/02/2019	2016	9810549	2937	SK Shipping
Hyundai Samho S856	LNGC	Order	Hyundai Samho	TZ Mk. III	MEGI	174000	01/02/2019	2015	9781918	S856	Teekay LNG
Mitsubishi Nagasaki 2332	LNGC	Order	Mitsubishi H.I.		STaGE	165000	01/02/2019	2015	9810020	2332	Mitsubishi
Samsung 2131	LNGC	Order	Samsung	TZ Mk. III	XDF	174000	01/03/2019	2014	9744025	2131	GasLog
Hyundai Samho S857	LNGC	Order	Hyundai Samho	TZ Mk. III	MEGI	174000	01/03/2019	2015	9781920	S857	Teekay LNG
Mitsubishi Nagasaki 2321	LNGC	Order	Mitsubishi H.I.	Moss	STaGE	177000	01/04/2019	2015	9770438	2321	NYK
Daewoo 2457	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/04/2019	2014	9753026	2457	Maran Gas Maritime
SK Shipping SK E&S NB2	LNGC	Order	Hyundai Heavy	TZ Mk. III Flex	XDF	180000	01/05/2019	2016	9810551	2938	SK Shipping
Mitsubishi Nagasaki 2322	LNGC	Order	Mitsubishi H.I.	Moss	STaGE	177000	01/06/2019	2015	9770440	2322	MOL
Flex Constellation	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/06/2019	2017	9825427	2470	John Fredriksen
Nb Gaslog - Centrica Samsung 2212	LNGC	Order	Samsung	GTT Mark V	XDF	180000	01/07/2019	2016	9816763	2212	GasLog
Flex Courageous	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/08/2019	2017	9825439	2471	John Fredriksen
Hyundai Ulsan 2964	LNGC	Order	Hyundai Heavy	TZ Mk. III Flex	MEGI	180000	01/08/2019	2017	9825568	2964	Knutsen
Samsung 2213	LNGC	Order	Samsung	GTT Mark V	XDF	180000	01/09/2019	2016	9819650	2213	GasLog
Daewoo 2489	LNGC	Order	DSME	GT NO 96	MEGI	173400	01/11/2019	2015	9792606	2489	BWGas
Daewoo 2434	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	01/11/2019	2014	9750672	2434	Teekay LNG
Maran Gas NB1	LNGC	Order	DSME	GT NO 96	MEGI	173400	19/11/2019	2016	9810379	2467	Maran Gas Maritime
Maran Gas NB2	LNGC	Order	DSME	GT NO 96	MEGI	173400	19/11/2019	2016	9810367	2466	Maran Gas Maritime
Trinity J/V (Mitsui & Co.)	LNGC	Order	Imabari	GTT Mark III Flex	MEGI	178000	01/01/2020			TBN	K-Line
Imabari Saijo 8200	LNGC	Order	Imabari		MEGI	178000	01/10/2021	2015	9778923	8200	Trinity LNG Transport SA

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 = 26 April 2017

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 / Lucia Ambition	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	Aman Hakata	18,800	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
2000	Tripura (ex Surya Satsuma)	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	Norgas Creation	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2010	Norgas Innovation	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Akebono Maru	3,556	LNG	Japan	Yes	Chuo Kaiun
2011	Norgas Bahrain Vision	12,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Norgas Conception	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Norgas Invention	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Norgas Unikum	12,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2012	Coral Energy	15,600	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2013	Coral Anthelia	6,500	LNG/Ethylene			Anthony Veder
2013	JX Energy TBN	2,500	LNG	Japan	Yes	JX Energy
2013	Kakuyu Maru	2,500	LNG	Japan	Yes	Tsurumi Sunmarine
2014	LNG-Oil combi**	2,000	LNG	Germany	Yes	Veka
2014	Short Sea LNG Tanker **	4,000	LNG	Germany	Yes	Veka
2015	10 small carriers TBN**	5,000	LNG			Bimantara Group
2015	Jahre TBN**	6,200	LNG	Norway	Yes	Donsotank/Jahre Marine
2015	JS Ineos Ingenuity	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	JS Ineos Insight	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	JS Ineos Intrepid	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2015	LNG Barge TBN	3,000	LNG	US Coast	Yes	LNG America
2015	LNG bunker barge 1†	2,250	LNG	China	Yes	Anhui Huaqiang Natural Gas
2015	LNG bunker barge 2†	2,250	LNG	China	Yes	Anhui Huaqiang Natural Gas
2015	LNG bunker barge 3†	2,250	LNG	China	Yes	Anhui Huaqiang Natural Gas
2015	LNG Inland bunker**	800	LNG	Germany	Yes	Veka
2015	Norgas TBN**	17,000	LNG/LPG/Ethylene	Worldwide		Norgas Carriers
2015	Norgas TBN**	17,000	LNG/LPG/Ethylene	Worldwide		Norgas Carriers
2015	PetroChina TBN	30,000	LNG	China		PetroChina
2015	TBN	14,000	LNG	China	Yes	Zhejiang Huaxiang
2015	TBN 1	27,500	LNG	China?		Danyang?
2015	TBN 2	27,500	LNG	China?		Danyang?
2015	TBN 3	27,500	LNG	China?		Danyang?
2016	Clean Jacksonville	2,200	LNG	US Coast	Yes	CME
2016	Dalian TBN	28,000	LNG	China	Yes	Dalian Inteh Group
2016	Hai Yang Shi You 301	30,000	LNG	Bali FSU	Yes	CETS (CNOOC)
2016	JS Ineos Indepence	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Innvation	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Inspiration	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	LNG Prime	2,250	LNG	Northwest Europe	Yes	Veka Deen LNG
2016	Navigator Aurora	35,000	Ethane/Ethylene	Markus Hood - Stenungsund	Ethane, for Borealis	Navigator
2016	Gaschem Beluga	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
2016	Gaschem Orca	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services

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 = 24th May 2017

Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
2016	Ocean Yield TBN**	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
2016	Shell Bunker Barge TBN 1	6,500	LNG	Northwest Europe	Yes	Shell
2016	Shell Bunker Barge TBN 2	6,500	LNG	Northwest Europe	Yes	Shell
2016	Shell Bunker Barge TBN 3	6,500	LNG	Northwest Europe	Yes	Shell
2016	Shell Bunker Barge TBN 4	3,000	LNG	Northwest Europe	Yes	Shell
2017	Yuan He 1	30,000	LNG	China	Yes	CSR
2017	ENGIE Zeebrugge	5,000	LNG	Northwest Europe	Yes	NYK
2017	CME TBN†	2,200	LNG	US Coast	Yes	CME
2017	CME TBN†	2,200	LNG	US Coast	Yes	CME
2017	Coral EnergICE	18,000	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2017	Coralius	5,800	LNG	Northwest Europe/Baltics	Yes, for Skangas	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	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	Navigator Eclipse	35,000	Ethane/Ethylene	US	Ethane	Navigator
2017	Navigator Nova	35,000	Ethane/Ethylene	US	Ethane	Navigator
2017	Navigator Prominence	35,000	Ethane/Ethylene	US	Ethane	Navigator
2018	Bernhard Schulte TBN	7,500	LNG	Baltic	Yes	Bernhard Schulte
2018	CME TBN†	2,200	LNG	US Coast	Yes	CME
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2018	Evergas TBN	32,000	Ethane/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
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
2020	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2020	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2021	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas

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