

LNG Shipping News

AN LNG JOURNAL TITLE ON LNG CARRIERS

15 March 2018

Ending the LNG drought

Investment in new LNG production projects fell sharply in 2016 and 2017.

Under 10 mill tonnes of annual capacity was sanctioned in the two years - an 80% drop relative to 2011-2015, said Nikos Stafos, senior associate, Energy and National Security Programme at the Centre for Strategic and International Studies in Washington (DC).

Is the industry investing enough to meet future demand, and if not, will that lead prices to spike later? What might the world's energy map look like in 10 or 20 years?

In part, this slowdown is cyclical, which is amplified by a mismatch between prices and costs—prices have fallen by much more than costs, and so, many projects in the development queue are not profitable enough to be sanctioned. Some projects have even been cancelled outright. This is how bad the market has been in recent years, Stafos claimed.

In addition, there were three forces that further hinder investment.

First is price uncertainty. Historically, most of the gas prices were linked to oil. However, there is a slow move away from oil-indexed prices. For example, in 2005, 63% of the gas that crossed a border was priced in relation to oil; in 2016, it was down to 49%.

Second is demand. For example, how much gas will the world use, especially given competition from coal and renewables? Demand is also uncertain at the company level since many markets are opening up.

Third, the market is becoming more liquid (even though, from 2012 to 2016, the spot and short-term market for LNG didn't grow). Companies are becoming more reliant on the short-term market, and there is a growing market for



Governments have helped certain projects come to fruition, such as Yamal LNG

reselling gas on a long-term basis.

Restarting investment

Stafos said that three concurrent forces will lead investment restarting.

First - the cycle will eventually turn. Projects now under construction will come online and there will be a gap between supply and demand. At that point, companies will see an opportunity with the most robust projects moving first—the ones that can leverage existing infrastructure, or economies of scale, or have other political, regulatory, or commercial advantages.

There are signs that the market might be turning, as several projects reached major milestones earlier this year—from securing government approvals (Mozambique), to signing long-term sales contracts (US and Mozambique), to reaching broad agreement to develop a project (Papua New Guinea).

Qatar has also said it might lift its 2005 moratorium on new LNG projects. And Shell released its '2018 LNG outlook' saying it "sees [a] potential LNG supply shortage as global demand surges."

Second - companies are seeking new ways of managing risk.

Many of the now common practices—long-term sales contracts, oil-indexed pricing, destination flexibility in sales contracts—have spread in order to manage risk.

Third - governments are stepping in to try and help projects. Some are offering substantial support, for example -

- * Russia - passed a tax holiday for the Yamal LNG project, paid for the port infrastructure, and supported the project's icebreaking fleet.
- * Canada - British Columbia signed a fiscal stabilisation agreement with the Pacific Northwest project - it was still cancelled.
- * Alaska - the state took over the LNG project when the developers signalled a possible delay.

Governments are also streamlining permitting, easing local content restrictions, or addressing other risks to make investment more attractive.

Success, therefore, will come from the joining of three forces: a change in market fundamentals that makes companies more open to investment; adaptations in business models that make today's risks seem more manageable; and support from sovereign states that help address the challenges that projects face on the ground, Stafos said. ■

SHIPPING NEWS AGENDA

MARKETING

FSRU market	2
Mozambique comes closer	2

BUSINESS

Nakilat/Maran expands	3
Shell expands SPA	3



NSR to get MOL boost	3
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FINANCE

Flex LNG buoyed by deliveries	6
Charter start up aids Höegh	6
Golar in the black	8

TECHNOLOGY



New small scale design	9
Harris Pye expands gas expertise	9
SIGTTO releases guidelines	9

LNG ORDERBOOK

LNG carrier orderbook	11
LNG small scale fleet	13

FSRU market- Höegh 's view

LNG imports through FSRUs rose 3% to 33.5 mill tonnes last year, Höegh LNG said in its results roundup (see page 6).

China, Turkey and Pakistan contributed with a combined 3.6 mill tonnes increase, while FSRU usage fell in the Middle East and North Africa.

As of 31st December, 2017, some 35 countries were importing LNG through regasification plants with a capacity greater than 0.5 mill tonnes per annum, including 14 countries using FSRUs. The number of LNG-importing countries had grown from 11 in 2000, and since 2010, frontier importers have largely preferred FSRUs over land-based regasification plants.

Global liquefaction capacity was around 360 mill tonnes as at 31st December 2017, including around 40 mill tonnes of capacity unused, due to feedstock challenges. About 22 mill tonnes of liquefaction capacity commenced commercial operations in 2017.

Another 100 mill tonnes of liquefaction capacity is under construction, with commercial start-up expected over the next four years. Plans to increase

Qatari production by 30%, or close to 24 mill tonnes annually, adds further to future volume growth potential.

Assuming full usage of export facilities, both existing and under construction, the upside for LNG volumes is as high as around 60%, compared with the 2017 trade figures.

Tendering activity

Overall tendering activity remains high, and new projects continue to come to market with requests for interest to provide FSRUs. These include projects in Australia, Brazil, Colombia, Cote d'Ivoire, Croatia, Cyprus, Hong Kong, Lebanon, Mexico, Pakistan, Turkey, the UAE and the UK.

As at the end of last year, the FSRU fleet stood at 28 units. Of these, five were converted LNGCs built in the 1970s and 1980s. The FSRU order book includes 12 units, with delivery dates from April 2018 through 2021.

Höegh said that three units in

the existing fleet were considered to be uncommitted, while five to six of the FSRUs under construction also appeared to be uncommitted. Of these, three units were not due for delivery until 2021.

The short-term LNGC market firmed up significantly through 2017 on the back of accelerating volume growth. At the end of last year, spot round voyage earnings had increased to \$80,000-85,000 per day from a trough of below \$30,000 per day in 2Q17, driven, among other factors by China's switch from coal to gas.

This increase resulted from higher Asian gas demand and prices, arbitrage opening on volumes and the soaking up a large amount of tonnage.

LNG spot activity has since seasonally slowed, but the underlying balance between supply and demand for LNG shipping should continue to tighten, as more liquefaction capacity commences operation. ■

NEWS NUDGE

MISC takes delivery of fourth LNGC

MISC Group has taken delivery of 'Seri Camar', the fourth in a series of five MOSS-Type Seri C class LNGCs.

The 150,200 cu m LNGC was built by Hyundai Heavy Industries (HHI), and is fitted with an integrated hull structure (IHS) consisting of four spherical tanks shielded by a continuous cover, strengthening the vessel to allow for operations in the harshest marine environments, MISC said.

'Seri Camar' joins her sisterships 'Seri Cenderawasih', 'Seri Camellia' and 'Seri Cempaka' on long-term charter to PETRONAS.



MISC has taken delivery of the fourth in a series of five LNGCs

Mozambique LNG plan receives approval

Anadarko Petroleum Corporation has received official approval from the Mozambique Government for its Golfinho/Atum Field development plan.

The development plan outlines the integrated onshore project from the reservoir to the LNG market and is a culmination of the substantial progress made to date on the technical and commercial aspects of the Anadarko-operated Mozambique LNG development.

"We appreciate the support of the Government of Mozambique and are very pleased to achieve this critical milestone providing a

further indication of the tremendous progress we continue to make on the project, which will position Mozambique as a strategic global LNG supplier," said Mitch Ingram, Anadarko Executive Vice President, International & Deepwater Operations and Project Management. "The approval of the development plan continues advancement toward a final investment decision, as it builds

upon other recent achievements, including the announcement of our long-term sale and purchase agreement (SPA) with EDF, commencement of resettlement, and our ongoing work to secure project financing."

This will be Mozambique's first onshore LNG development project, initially consisting of two LNG trains with total nameplate capacity of 12.88 mill tonnes per

annum to support the development of the Golfinho/Atum fields located entirely within Offshore Area 1.

It also paves the way for significant future expansion of up to 50 mill tonnes per annum from Offshore Area 1 and it will also supply initial volumes of around 100 mill cu ft of natural gas per day (50 MMcf/d per train) for domestic use in Mozambique. ■

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Another two LNGCs join Nakilat/Maran Gas joint venture

Nakilat has expanded its joint venture partnership with Angelicoussis Group company, Maran Ventures.

By adding a further two LNGCs, the number of vessels in the joint venture rises from 13 to 15 vessels.

The two recently added vessels, 'Woodside Rogers' and 'Woodside Goode', were built by Daewoo Shipbuilding & Marine Engineering (DSME). They are under long-term charter and fitted with dual fuel diesel-electric (DFDE) propulsion units and have a capacity of 159,800 cu m each.

Nakilat's CEO Eng Abdullah Al Sulaiti, said, "Nakilat is extremely pleased that our strong partnership with Maran Gas continues to flourish since the first agreement signed in 2005. Strategic alliance with renowned partners has been fundamental to our success, and we are always looking for opportunities to grow our international presence.

"Nakilat now has ownership interest in 69 vessels, affirming our global leadership in energy transportation with the world's largest



The Nakilat/Maran Gas joint venture has added another two LNGCs

LNG fleet. The company's growth is a testament of our robust financial performance and strategic planning which has allowed us to further increase our fleet size and strengthen our international portfolio. This expansion comes as part of our efforts to maximise returns for our shareholders and support Qatar's industry leading position as the world's top LNG exporter."

Maran Gas Chairman, John Angelicoussis, added, "We are immensely proud of our partnership

with Nakilat, one of the global leaders in energy transportation. We are delighted at this opportunity to further strengthen our long-term strategic relationship. We look forward to working closely together in the future, continuing to strive to provide a first-class service to all our LNG customers."

Maran Nakilat was first established in 2005 with four jointly-owned LNGCs, and has been expanded on several occasions since. ■

Shell boosts Calcasieu Pass export project

Venture Global LNG's subsidiary, Venture Global Calcasieu Pass, has agreed with Shell NA LNG to increase their existing sales and purchase agreement (SPA), to 2 mill tonnes per annum of LNG from the Calcasieu Pass' LNG export facility under development in Cameron Parish, Louisiana.

Shell's commitment, together with an SPA previously executed by Venture Global Calcasieu Pass with Edison, brings the facility's total committed capacity, under binding, 20-year FOB contracts, to 3 mill tonnes per annum.

Mike Sabel and Bob Pender, co-CEOs of Venture Global LNG, jointly said; "Shell's additional purchase is a huge milestone, we believe a breakout event, and a significant validation of our best in class approach on our path to commencement of construction later this year.

"We are delighted that we continue to execute and achieve our development targets as we implement our strategy, alongside world-class partners, to become one of the lowest cost producers of LNG to the world's most important energy customers," they said.

Venture Global LNG is developing both the 10 mill tonnes per year Calcasieu Pass facility on an 1,000-acre site located at the intersection of the Calcasieu ship channel and the Gulf of Mexico and the 20 mill tonnes per year Plaquemines LNG facility in Plaquemines Parish, Louisiana on a 630-acre site on the Mississippi River, around 30 miles south of New Orleans. ■

MOL to help develop NSR

On 26th February, 2018, Mitsui OSK Lines (MOL) signed a Memorandum of Understanding (MOU) with the Far East Investment and Export Agency (FEIA) to co-operate in the development of the Northern Sea Route (NSR) and the Russian Far East.

FEIA is part of the Ministry of the Russian Federation for the Development of the Far East (MINVR), MOL is a participant in the Yamal LNG project, with its first ice-breaking LNGC due to enter service at the end of this month, following ice trials in Arctic waters.

The Japanese major has also



MOL is helping the Russians to develop the NSR. Picture credit-Teekay

been involved with a feasibility study aimed at establishing an LNG transshipment terminal and marketing complex in the Kamchatka area with Novatek, the main shareholder of Yamal LNG.

With the reduction in Arctic ice and the design of new icebreaking commercial vessels, the transportation of Arctic natural energy resources has become commercially viable, MOL said.

New projects

In the Arctic, new projects are following Yamal LNG. Asian countries, including Japan, who import energy resources, will welcome the access to new energy sources and it is expected that there will be a significant trade growth in energy delivered through the NSR, MOL claimed.

"We hope that MOL will be

effectively using the NSR for transporting cargoes to Japan and other Asia/Pacific countries and jointly we will be able to attract significant investments into the NSR infrastructure development. The agency is ready to help MOL in implementing all its current and future projects," FEIA General Director, Leonid Petukhov, said.

Minister for the Development of the Russian Far East, Alexander Galushka emphasised that the co-operation between FEIA and MOL will help to strengthen Russian/Japanese economic co-operation and the development of the NSR.

"One of our key goals is to create a model for development of the NSR as a global transit corridor between Europe and Asia. It is undoubted that this work helps to reinforce Russian/Japanese economic relations," Galushka said. ■



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Brownsville Ship Channel suitable for LNGCs - USCG

The Texas LNG project came a step closer as the US Coast Guard has deemed that the Brownsville Ship Channel in Texas is suitable for LNGC traffic.

In a recommendation to The US Federal Energy Regulatory Commission (FERC), US Coast Guard Capt Hahn, Captain of the Port, Corpus Christi, Texas, said that the channel was considered as suitable for “accommodating the type and frequency of LNG marine traffic associated with this project.”

A Letter of Recommendation was issued after the USCG reviewed the information in Texas LNG’s Letter of Intent and Waterway Suitability Assessment and completed an evaluation of the waterway in consultation with a variety of state and local port stakeholders.

In its review, the USCG addressed public comments that

raised a number of issues, including safety, security, potential environmental impacts, economics, public outreach, and physical characteristics of the ship channel.

In addition, the USCG considered, not only Texas LNG’s expected LNGC traffic, but also recognised other traffic transiting through the channel, as well as potential traffic from other proposed LNG projects.

As a result, the USCG concluded that the waterway is suitable to handle current and anticipated incremental traffic from the Texas LNG facility.

The Texas LNG facility is being designed to accommodate LNGCs with nominal capacities of up to 180,000 cu m. The Brownsville

Ship Channel has a current depth of 42 ft, but with full US Congressional authorisation to deepen the channel to 52 ft.

The total inbound transit from the Gulf of Mexico sea buoy (pilot boarding area) to the proposed Texas LNG terminal berth is about seven miles. This is a notable advantage over most other projected US LNG projects in Texas, as well those in Louisiana, where transit distances can be significantly longer.

Full FERC approval and Final Investment Decision (FID) for the project’s development at Brownsville are expected in 2019, and first phase production of 2 mill tonnes per annum of LNG is expected to start in 2023. ■

Cheniere exports first cargo for GAIL

Cheniere Energy’s first shipment of LNG for GAIL departed from Sabine Pass on 5th March.

This marked the start of the agreed 20-year LNG supply contract.

The cargo was loaded on board the 2010-built 165,500 cu m ‘Meridian Spirit’, which was chartered by GAIL. She is due to discharge the cargo at GAIL’s Dabhol terminal at the end of this month, the gas utility said.

The supply and purchase agreement (SPA) for the supply of US-sourced LNG to India was signed in December, 2011, and commenced on 1st March, 2018.

Under the terms of the SPA, Cheniere will sell and make available for delivery to GAIL about 3.5 mill tonnes of LNG per year.

“The commencement of this agreement marks the start of a long and productive relationship between Cheniere and GAIL,” Cheniere President and CEO, Jack Fusco, said. “India remains an important market for LNG, and one that we hope will continue to show signs of growth. We look forward to decades of mutually beneficial cooperation between Cheniere and GAIL, the leading natural gas company of India.”

“GAIL is one of the foundation customers of Cheniere having signed the contract in 2011. With supplies commencing from the US, GAIL will have a diversified portfolio both on price indexation and geographical locations,” said GAIL Chairman and Managing Director, BC Tripathi. “This long term agreement would go a long way in strengthening the relationship between GAIL and Cheniere and reinforcing India/US trade ties.” ■

First LNG cargo departs Cove Point

The first cargo of LNG produced for export departed from the Dominion Energy Cove Point (DECP) LNG terminal in Maryland on 1st March.

The newly constructed liquefaction facility is undergoing final commissioning. All major equipment has been operated and is being commissioned following a comprehensive round of testing and quality assurance activities, the company said.

Shell NA LNG provided the natural gas needed for liquefaction during the commissioning process and has taken the commissioning cargo believed to be on board the LNGC ‘Gemmata’.

When commissioning is complete, DECP will produce LNG for ST Cove Point, which is a joint venture between Sumitomo Corp and Tokyo Gas, and for Gail Global (USA) LNG, the US affiliate of GAIL (India), under 20-year contracts.

DECP’s liquefaction facility has a nameplate capacity of 5.25 mill tonnes per annum of LNG.

The Cove Point shipment marks the second US-based LNG exporter to come on stream following Cheniere Energy, whose Sabine Pass

terminal in Louisiana handled its first cargo in February, 2016.

According to Platts, the BP chartered LNGC ‘Patris’ was bound for Maryland, following the diversion of another LNGC.

‘Patris’, which was delivered in February, was built for a partnership between K Line Shipping and Chandris. She is scheduled to arrive at Cove Point on 9th April, Platts data showed.

Cove Point has both import and export capabilities. ■



Shell's LNGC 'Gemmata' shipped the first commissioning cargo from Cove Point. Picture credit- Kotug

Newbuilding deliveries set to boost Flex LNG

Flex LNG reported revenues of \$7.9 mill in the fourth quarter of last year, compared to \$9.8 mill in the previous quarter.

The company also reported net operating income before depreciation of \$1.3 mill, compared to a net operating loss before depreciation of \$4.1 mill in 3Q17.

Profit before tax for 4Q17 was \$1.3 mill and a loss of \$10.4 mill was recorded for the 12 months ending 31st December, 2017.

During the quarter, Flex LNG operated two chartered-in LNGCs to build a market presence and operational track record. The company also signed and executed a \$315 mill secured term loan facility during the period.

On 9th and 11th January, 2018

the company took delivery of the first LNGC newbuildings, 'Flex Endeavour' and 'Flex Enterprise', respectively. The 'Flex Endeavour' has commenced her timecharter to Uniper Global Commodities.

The timecharter is for a firm period of 15 months, plus an option period of three months. 'Flex Enterprise' entered the spot market.

In connection with the delivery of the two vessels, \$210 mill of the company's \$315 mill secured term loan facility was used. The remainder will be used in connection with the scheduled delivery of the 'Flex Ranger' in May, 2018.



Newbuilding deliveries will boost Flex LNG earnings

CEO Jonathan Cook, commented: "We are pleased to deliver profitable results for the fourth quarter as two of our chartered-in vessels were employed in profitable charters throughout the quarter. In January, we successfully took delivery of the first two of

our six newbuildings and secured a 15 to 18 month timecharter for one of the vessels in line with our strategy to secure balanced fleet employment as the market continues to improve due to expected tighter supply/demand dynamics in the LNGC market."

'Höegh Grace' charter boosts Höegh LNG's figures

Höegh LNG reported a record EBITDA of \$43 mill for the fourth quarter of 2017, including \$5.6 mill in higher revenue recognition, following the conclusion of a contractual audit of reimbursable amounts under an existing timecharter.

This compares with \$31.6 mill for the previous quarter.

Adjusted for non-recurring items, Höegh LNG recorded EBITDA of \$37.4 mill for 4Q17, down from \$40.6 mill in the previous quarter, largely due to planned maintenance on 'Höegh Gallant'.

Net profit for 4Q17 was \$20 mill, up from \$1.1 mill in the previous quarter. Operating cash flows reached \$32.2 mill in the quarter, down by \$3.5 mill from 3Q17. Other income sources comprised \$110.9 mill in net proceeds from the perpetual preferred equity issue in Höegh LNG Partners

and \$3.3 mill in net other investing and financing items

At 31st December, 2017, Höegh LNG had \$233.9 mill in current cash and marketable securities (30th September, 2017: \$285 mill) and net interest-bearing debt of \$908.1 mill (30th September 2017: \$961.9 mill).

For the full year, Höegh LNG reported EBITDA of \$148.8 mill and net profit of \$41.1 mill, compared with \$111.3 mill and \$14 mill, respectively for the preceding 12-month period.

This improvement reflected the full-year effect of commencing operations with 'Höegh Grace'

in Colombia starting December, 2016, higher revenue recognition of reimbursed costs, and a reversal of certain sales-tax-related accruals, offset by a provision with regard to performance guarantees on 'Neptune' and 'GDF Suez Cape Ann' for the initial years in which they operated as LNGCs.

All seven FSRUs and two LNGCs in Höegh LNG's fleet operated in accordance with contracts during the quarter.

Subsequently, on 7th February, 2018, 'Höegh Giant' commenced her three year timecharter with Gas Natural Fenosa. The contract includes the option for Gas Natural Fenosa to use the unit as an FSRU at a pre-defined day rate. Until FSRU employment is established, she will trade in Gas Natural Fenosa's fleet and earn an LNGC spot-market-linked day rate.

The GNL Penco FSRU project in Chile continues its revised environmental approval process and the steps undertaken, concluded and documented so far, are considered to be in line with the au-

thorities' requirements. While the process continues in line with the plans, the timeline and commencement of the FSRU contract remain subject to final environmental approval.

Elsewhere, the Quantum Power/Höegh LNG FSRU project in Ghana remains subject to government approval. As the government selection and approval process remains unclear, no assurance can be given on a positive selection or the timeline of the process, the company said.

Since FSRU No 8, which is scheduled for delivery next month, is intended to serve the 20-year contract with GNL Penco, Höegh LNG is currently in discussions for medium-term employment for the unit with planned start-up in the middle of 2018.

As for FSRUs Nos 9 and 10, with scheduled delivery dates in December, 2018 and May, 2019, respectively, Höegh LNG said that it is currently involved in several advanced tendering processes for long-term FSRU contracts.



'Höegh Giant' has started her three year charter to Gas Natural Fenosa

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Golar LNG turns the corner

Golar LNG Limited has reported operating income and EBITDA in the fourth quarter of 2017 of \$2.8 mill and \$19.4 mill, respectively, compared to 3Q17 losses of \$22.9 mill and \$5.5 mill, respectively.

Further improvements in vessel utilisation, hire rates, improving round-trip economics and the 1st November expiry of the obligation to charter in the 'Golar Grand' from Golar Partners, all contributed to an \$18.8 mill increase in total revenue net of voyage expenses, from \$19.3 mill in 3Q17 to \$38.1 mill in 4Q17.

Vessel operating expenses increased \$3.2 mill to \$17.1 mill in 4Q17. Most of the increase is due to repairs, maintenance and crew expenses together with costs associated with reactivating the 'Golar Gandria' from layup.

In 4Q17, the company generated net income of \$3.8 mill, a \$47.7 mill increase on 3Q17.

Golar's \$7.4 mill 4Q17 share of net earnings in the Partnership is offset by amortisation, principally of the fair value gain on de-consolidation of Golar Partners, currently equivalent to \$4.9 mill. Cash distributions received from the Partnership were in line with the previous quarters.

Golar's unrestricted cash position as at 31st December, 2017 was \$214.9 mill. An early debt repayment in respect of the 'Golar Tundra' and an equity contribution to Golar Power collectively resulted in a cash outflow of \$54.5 mill during the quarter.



The 'FLNG Hilli Episeyo' is now producing gas offshore Cameroon

Offsetting this was \$57.2 mill released from short-term restricted cash during 4Q17, following a 3Q17 agreement between Golar and the charterers of FLNG 'Hilli Episeyo' to reduce the LC from \$400 to \$300 mill.

Subsequently, on 19th January, 2018, the Partnership announced a 15-year agreement with an energy and logistics company to provide an FSRU in the Atlantic Basin. The Partnership can nominate either of its two available FSRUs to service the contract provided that the nominated unit satisfies certain technical specifications ahead of project start-up, expected in 4Q18.

The charter includes an option for the charterer to terminate the contract after three years and seek an alternative regasification solution, but only in the event that certain throughput targets have not

been met. Golar Partners will have the right to provide an alternative solution. The charter also includes a five-year extension option.

First FLNG

FLNG 'Hilli Episeyo' arrived in Cameroon in late November, 2017. In early December, 2017, a Notice of Readiness was tendered to Perenco and SNH. A ship-to-ship transfer of cool down LNG with the 'Golar Bear' was completed in mid-December 2017, followed by the introduction of feed gas from the onshore processing plant. Commissioning hire at a reduced toll rate began to accrue from 4th January, 2018.

In March, Golar LNG Limited confirmed that first LNG production had commenced from 'Hilli Episeyo' offshore Cameroon and that the 'Golar Gandria' had arrived at Keppel Shipyard in Singapore. ■

Newbuilding orders and rumours abound

There have been a trickle of LNGC newbuilding orders rumoured and confirmed recently.

These include GasLog, which has confirmed a second order this year at Samsung for a 180,000 cu m Flex Plus newbuilding with XDF propulsion.

She is scheduled for delivery in the second quarter of 2020 and is as yet unfixed.

GasLog said it has also agreed options with Samsung for further newbuildings.

"Given that the outlook for

LNG shipping demand remains robust, and with increasing evidence that newbuild prices are starting to rise, we have moved to lock in a very attractive price for our second newbuild order in 2018," Paul Wogan, CEO, commented.

In February, the company ordered a 180,000 cu m LNGC, which will be chartered to Pioneer Shipping, a wholly owned subsidiary of Centrica, for an initial period of seven years.

In late 2017, GasLog placed an order for an LNGC of the same

size at Samsung.

Flex LNG was thought to be close to ordering two, option two 174,000 cu m LNGCs at HHI for \$183 mill each and for delivery in 2020 onwards.

Daewoo has said in a filing that it had signed a \$384 mill deal for two 170,000 cu m LNGCs to be built for an Oceania based company.

Finally there were rumours that TMS Cardiff Gas had ordered one, plus one optional 174,000 cu m LNGCs for around \$184 mill per ship. ■

NEWS NUDGE

Third Sabine jetty approved

The US Federal Energy Regulatory Commission (FERC) has approved Cheniere Energy's request to begin the permit process for a third loading jetty at Sabine Pass.

Cheniere said it would formally apply for the jetty permit in September, 2018 to enable the additional facility, designed to handle vessels with capacity of between 125,000 185,000 cu m, to be ready when the final two of the six planned liquefaction trains come on stream.

GTT wins more orders

GTT has received an order from a South Korean shipyard for the design of the LNG tanks of a new LNGC and a new FSRU.

These vessels will be built for a European shipowner and their delivery is expected for the first half of 2020.

GTT will design the LNG tanks of both units, each having a capacity of 173,400 cu m.

The insulation solutions selected are NO96 GW for the LNGC and NO96 for the FSRU.

The shipowner and shipyard's names remain confidential, GTT said.

Yamal LNG passes milestone

Yamal LNG has shipped a million tons of LNG from its first liquefaction train.

The project reached this milestone on the 14th cargo loaded onto an 170,000 cu m Arc7 Ice Class LNGC, which called at Sabetta.

Its first LNG train of 5.5 mill tonnes per annum started LNG production in the fourth quarter of 2017 with the loading of the first LNGC, 'Christophe de Margerie', on 8th December 2017. ■

Gas carrier engineering expert joins Harris Pye

Richard Price has been appointed General Manager for Offshore & Marine within the Power Services Division of Harris Pye, a Joulon company.

A Chartered Engineer and Chartered Marine Engineer with IMarEST, Price gained a Master's degree in mechanical engineering from Southampton University in the UK in 1993, and then worked within the oil and gas industry in a wide range of roles over the years.

"With over 25 years' global experience in marine, offshore and power generation markets, and a respected specialist in the application of steam boilers and bespoke combustion systems for FPSO/FSO, FLNG and LNG carrier/FSRU applications he is very much the right man for this key role,"

explained Harris Pye Group's CEO, Mark Prendergast.

"With a long track record in upgrades and modifications of vessels for offshore deployment, such as FLNG facilities, and boiler modules weighing up to 1,600 tonnes; Richard will be combining this knowledge and experience with Harris Pye's total solution capabilities, that include equipment such as HRSGs and control systems, and services such as shipyard installation works and offshore riding crews, so as to provide real value for clients and end-users," he added. ■

“

With a long track record in upgrades and modifications of vessels for offshore deployment, ...Richard will be combining this knowledge and experience with Harris Pye's total solution capabilities”

- Mark Prendergast, CEO, Harris Pye Group

OLT Offshore LNG Toscana in award changes

Starting from April 2018, the regasification capacity of OLT Offshore LNG Toscana will be awarded via auctions on GME's (Gestore Mercati Energetici) Platform for the Allocation of Regasification Capacity (PAR).

On 1st March, 2018, the Italian Authority for Energy, Grids and Environment (ARERA) approved the regasification code to introduce an auction-based mechanism for the allocation of regasification capacity.

Access to the PAR computer system will be made through a personal identification involving the parties designated by each participant to access it, through the User ID and Password pro-

vided by GME upon successful conclusion of the PAR application procedure.

Participants classed as authorised users may submit offers within each PAR segment at the corresponding regasification terminal at which they wish to acquire regasification capacity.

This check is carried out by GME based on the information provided by each regasification company. ■

ICE unveils small LNGC design

UK-based ship design consultancy, International Contract Engineering (ICE), has presented what it calls a 'milk run' LNG distribution vessel design.

It features a cargo capacity of 20,000 cu m.

The gas is contained in two type C semi-pressurised and fully refrigerated bi-lobe cargo tanks.

ICE said it had worked closely with a major gas ship operator to design the vessel.

The vessel's dual-fuel propulsion system is designed to operate on boil-off gas (BOG), whilst having the ability to also run on

distillate fuel. This solution allows the vessel to comply with sulfur emission control area (SECA) restrictions and to manage the amount of BOG during fully laden trips.

ICE claimed that the LNGC's low draft and high manoeuvrability would allow it to supply LNG to terminals and end users in locations that have not been serviced by deepsea LNGCs. ■



UK-based consultancy ICE has unveiled a 20,000 cu m LNGC design

SIGTTO updates LNGC manifold recommendations

The Society of International Gas Tanker and Terminal Operators (SIGTTO) is publishing 'Recommendations for Liquefied Gas Carrier Manifolds'.

This document provides recommendations on the layout, strength and fittings for gas carrier manifolds.

It is an update to the previous edition of 'Manifold Recommendations for Liquefied Gas Carriers (2011)' and is jointly published by SIGTTO and OCIMF.

The Key changes include:

- ♦ New categories created for small scale LNG.
- ♦ Bunkering manifold extended to include LNG Bunkering as an option.
- ♦ New approach to recommendations on manifold design - achieved by specifying -
 - * Pipe schedule.
 - * Allowable loads on manifold support.
 - * Minimum mechanical properties of material used.

- * Pressure rating of flanges reducers and spool pieces.

- ♦ Clarified Presentation flange dimensions and face finish to conform to ASME B 16.5.

The decision to revise the Manifold guidelines was taken at GPC 72 in September, 2015. The working group has since met four times and obtained approval from the SIGTTO and OCIMF committees in October, 2017.

The next General Purposes Committee (GPC) meeting is planned for the 10th April, 2018 at which the following publications - 'Ship/Shore Interface for LPG/Chemical Gas Carriers' and Terminals LPG Ship/Shore interface' and 'Guidelines for the Alleviation of Excessive Surge Pressures on ESD for Liquefied Gas Transfer Systems' will be submitted for approval. ■

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WORLD LNG CARRIER ORDERBOOK

Name	Containment System	Propulsion	Yard	Ordered	Delivery Date	Capacity	Primary Owner
Seri Camar	Moss	STRH	Hyundai Heavy	2013	01/02/2018	150000	MISC
Sk Serenity	KC-1	TFDE	Samsung	2014	01/02/2018	174000	SK Shipping
Magdala	GT NO 96	MEGI	DSME	2014	01/02/2018	173400	Teekay LNG
Gaslog Hong Kong	TZ Mk. III	XDF	Hyundai Heavy	2014	01/02/2018	174000	GasLog
Sk Spica	KC-1	TFDE	Samsung	2014	01/03/2018	174000	SK Shipping
Gaslog Genoa	TZ Mk. III	XDF	Samsung	2014	01/03/2018	174000	GasLog
Bw Lilac	GT NO 96	MEGI	DSME	2014	01/03/2018	173400	BWGas
Oceanic Breeze	Moss	STRH	Mitsubishi H.I.	2013	31/03/2018	155300	K-Line
LNG Sakura	Moss	TFDE	Kawasaki	2015	31/03/2018	177000	MOL
Myrina	GT NO 96	MEGI	DSME	2014	01/04/2018	173400	Teekay LNG
Seri Cemara	Moss	STRH	Hyundai Heavy	2014	01/04/2018	150000	MISC
British Partner	GT NO 96	MEGI	DSME	2014	01/04/2018	173400	BP
Marvel Falcon	GTT Mark III Flex	XDF	Samsung	2014	15/04/2018	174000	MOL
Castillo De Merida	TZ Mk. III	MEGI	Imabari	2014	01/05/2018	178000	Elcano
CESI Lianyungang	Membrane	TFDE	Hudong-Zhonghua	2012	01/05/2018	174000	China LNG Shipping Holdings
Flex Ranger	TZ Mk. III	MEGI	Samsung	2013	01/05/2018	174000	Flex LNG
Pacific Breeze	Moss	TFDE	Kawasaki	2013	01/06/2018	180000	K-Line
Mitsubishi Nagasaki 2316	Moss	STRH	Mitsubishi H.I.	2014	01/06/2018	153000	NYK
Diamond Gas Orchid	Moss	STaGE	Mitsubishi H.I.	2015	01/06/2018	165000	NYK
Pan Europe	GT NO 96	TFDE	Hudong-Zhonghua	2014	01/06/2018	174000	Teekay LNG
Megara	GT NO 96	MEGI	DSME	2014	01/07/2018	173400	Teekay LNG
Flex Rainbow	TZ Mk. III	MEGI	Samsung	2013	25/07/2018	174000	Flex LNG
Energy Liberty	SPB	TFDE	Japan Marine United Corp (Jmu)	2014	01/08/2018	165000	MOL
Rudolf Samoylovich	GT NO 96	TFDE - Azipod	DSME	2014	01/08/2018	172410	Teekay LNG
Diamond Gas Rose	Moss	STaGE	Mitsubishi H.I.	2015	01/08/2018	165000	NYK
Enshu Maru	Moss	STRH	Kawasaki	2014	30/08/2018	164000	K-Line
Castillo De Caldelas	TZ Mk. III	MEGI	Imabari	2014	01/09/2018	178000	Elcano
Daewoo 2462 MOL E.On	GT NO 96	TFDE	DSME	2015	01/09/2018	180000	MOL
Vladimir Vize	GT NO 96	TFDE - Azipod	DSME	2014	01/09/2018	172410	MOL
Kinisis	GT NO 96	MEGI	DSME	2015	15/09/2018	173400	Chandris
Daewoo 2442	GT NO 96	MEGI	DSME	2014	01/10/2018	173400	BP
Daewoo 2427	GT NO 96	TFDE - Azipod	DSME	2014	01/10/2018	172410	Dynagas
Marvel Eagle	Moss	TFDE	Kawasaki	2014	15/10/2018	155000	MOL
Daewoo 2443	GT NO 96	MEGI	DSME	2014	01/11/2018	173400	BP
Boris Davydov	GT NO 96	TFDE - Azipod	DSME	2014	01/11/2018	172410	Dynagas
Marvel Hawk	GTT Mark III Flex	XDF	Samsung	2014	01/12/2018	174000	MOL
Mitsubishi Nagasaki 2321	Moss	STaGE	Mitsubishi H.I.	2015	01/12/2018	177000	NYK
Nikolay Zubov	GT NO 96	TFDE - Azipod	DSME	2014	01/12/2018	172410	Dynagas
Jmu Tsu 5071	SPB	TFDE	Japan Marine United Corp (Jmu)	2014	01/01/2019	165000	NYK
Samsung 2150	GTT Mark III Flex	XDF	Samsung	2014	01/01/2019	174000	MOL
Maran Gas Spetses	GT NO 96	MEGI	DSME	2015	01/01/2019	173400	Maran Gas Maritime
Daewoo 2444	GT NO 96	MEGI	DSME	2014	01/01/2019	173400	BP
Mitsubishi Nagasaki 2323	Moss	STaGE	Mitsubishi H.I.	2015	01/01/2019	177000	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 = 15th February 2018

Name	Yard	Containment System	Capacity	Propulsion	Delivery Date	Ordered	Primary Owner
Maran Gas Chios	GT NO 96	MEGI	DSME	2015	01/01/2019	173400	Maran Gas Maritime
Pan Africa	GT NO 96	TFDE	Hudong-Zhonghua	2014	01/01/2019	174000	Teekay LNG
Maran Gas Hydra	GT NO 96	MEGI	DSME	2015	01/01/2019	173400	Maran Gas Maritime
Hyundai Samho S856	TZ Mk. III	MEGI	Hyundai Heavy	2015	01/01/2019	174000	Teekay LNG
Gaslog Gladstone	TZ Mk. III	XDF	Samsung	2014	01/01/2019	174000	GasLog
Hyundai Samho S857	TZ Mk. III	MEGI	Hyundai Heavy	2015	01/01/2019	174000	Teekay LNG
Daewoo 2445	GT NO 96	MEGI	DSME	2014	01/02/2019	173400	BP
Kawasaki Sakaide 1734	Moss	STRH	Kawasaki	2015	01/03/2019	177000	MOL
Kawasaki Sakaide 1735	Moss	STaGE	Kawasaki	2015	01/03/2019	177000	MOL
Daewoo 2446	GT NO 96	MEGI	DSME	2014	01/03/2019	173400	BP
Mitsubishi Nagasaki 2326	Moss	STaGE	Mitsubishi H.I.	2015	01/03/2019	180000	NYK
Mitsubishi Nagasaki 2327	Moss	STRH	Mitsubishi H.I.	2015	01/03/2019	180000	NYK
Hyundai Ulsan 2937	GTT Mark III Flex	XDF	Hyundai Heavy	2016	01/04/2019	180000	SK Shipping
Jmu Tsu 5073	SPB	TFDE	Japan Marine United Corp (Jmu)	2014	01/05/2019	165000	MOL
Diamond Gas TBN		STaGE	Mitsubishi H.I.	2015	01/05/2019	165000	Mitsubishi
Hyundai Ulsan 2964	GTT Mark III Flex	MEGI	Hyundai Heavy	2017	01/05/2019	180000	Knutzen
Flex Constellation	GT NO 96	MEGI	DSME	2017	01/06/2019	173400	John Fredriksen
Hyundai Ulsan 2963	GTT Mark III Flex	MEGI	Hyundai Heavy	2017	01/06/2019	180000	Knutzen
Hyundai Ulsan 2938	GTT Mark III Flex	XDF	Hyundai Heavy	2016	01/07/2019	180000	SK Shipping
Daewoo 2430	GT NO 96	TFDE - Azipod	DSME	2014	01/07/2019	172000	Teekay LNG
Maran Gas Syros	GT NO 96	MEGI	DSME	2014	01/07/2019	173400	Maran Gas Maritime
Gaslog Windsor	GTT Mark V	XDF	Samsung	2016	01/07/2019	180000	GasLog
MOL HUDONG-ZHONGHUA 1/4	GT NO 96	MEGI	Hudong-Zhonghua	2017	01/07/2019	174000	MOL
Kawasaki Sakaide 1729	Moss	TFDE	Kawasaki	2014	01/08/2019	155000	MOL
Daewoo 2431	GT NO 96	TFDE - Azipod	DSME	2014	01/08/2019	172000	Teekay LNG
Flex Courageous	GT NO 96	MEGI	DSME	2017	01/08/2019	173400	John Fredriksen
Jmu Tsu 5072	SPB	TFDE	Japan Marine United Corp (Jmu)	2014	01/09/2019	165000	MOL
Daewoo 2432	GT NO 96	TFDE - Azipod	DSME	2014	01/09/2019	172410	MOL
Mitsubishi Nagasaki 2322	Moss	STaGE	Mitsubishi H.I.	2015	01/09/2019	177000	MOL
Daewoo 2466	GT NO 96	MEGI	DSME	2016	01/10/2019	173400	Maran Gas Maritime
Daewoo 2433	GT NO 96	TFDE - Azipod	DSME	2014	01/10/2019	172000	Teekay LNG
MOL HUDONG-ZHONGHUA 2/4	GT NO 96	MEGI	Hudong-Zhonghua	2017	01/10/2019	174000	MOL
Daewoo 2467	GT NO 96	MEGI	DSME	2016	01/11/2019	173400	Maran Gas Maritime
Daewoo 2489	GT NO 96	MEGI	DSME	2015	01/11/2019	173400	BWGas
Daewoo 2434	GT NO 96	TFDE - Azipod	DSME	2014	01/11/2019	172000	Teekay LNG
Marvel Swan	GTT Mark III Flex	MEGI	Imabari	2015	01/01/2020	178000	K-Line
MOL HUDONG-ZHONGHUA 3/4	GT NO 96	MEGI	Hudong-Zhonghua	2017	01/01/2020	174000	MOL
MOL HUDONG-ZHONGHUA 4/4	GT NO 96	MEGI	Hudong-Zhonghua	2017	01/04/2020	174000	MOL
HHI NYK/EDF	GTT Mark III Flex	XDF	Hyundai Heavy	2018	30/04/2020	174000	NYK
Daewoo 2478	GT NO 96	MEGI	DSME	2017	31/05/2020	173400	Maran Gas Maritime
Samsung 2213	GTT Mark V	XDF	Samsung	2017	01/06/2020	180000	GasLog
HHI Cardiff		XDF	Hyundai Heavy	2018	01/06/2020	174000	Cardiff Marine
HHI Sovcomflot		XDF	Hyundai Heavy	2018	01/06/2020	174000	Sovcomflot
Daewoo 2469	GT NO 96	MEGI	DSME	2016	30/06/2020	173400	Maran Gas Maritime

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Data last updated = 15th February 2018

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	Teekay
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	Teekay
2012	Coral Energy	15,600	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2013	Coral Anthelia	6,500	LNG/Ethylene			Anthony Veder
2013	JX Energy TBN	2,500	LNG	Japan	Yes	JX Energy
2013	Kakuyu Maru	2,500	LNG	Japan	Yes	Tsurumi Sunmarine
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 = 12th February 2018

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
2017	Cardissa	6,500	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 Skargas	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
2017	Oizmendi	600	LNG	Bilbao	Yes	Itsas Gas
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	Shell Bunker Barge TBN 4	3,000	LNG	Northwest Europe	Yes	Shell
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
2020	Shell Bunker Barge	4,000	LNG	US Coast	Yes	Q-LNG Transport / Harvey Gulf
2020	Total TBN	18,600	LNG	NWE	Yes	MOL
2021	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas

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

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** = project shelved † = Data to be verified Data last updated = 12th February 2018

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