LNG Shipping News

AN LNG JOURNAL TITLE ON LNG CARRIERS 29 March 2018

Spot market - a bumpy ride

The long term LNGC charter market looks bright, however this year could see a bumpy ride on the spot market, Paris-based broker and consultant, Barry Rogliano Salles (BRS), said in its Annual Review.

Given the number of projected export projects, coupled with a low number of newbuildings ordered since 2016, this should eventually eat into the number of LNGCs relying on the spot market for their earnings.

In the long run, the nameplate capacity announced should lead to around 170 LNGCs taken up for the shipments needed. As new exporters take their shipping positions, equilibrium between supply and demand should be restored around 2020, BRS said, due to an orderbook of only about 110 vessels.

Flex LNG is using both the spot and timecharter markets.

Problematic

However, this year's spot market could be problematic, as the number of newbuildings, due to be delivered in 2018, will temper any short term upturn. BRS estimated that there were around 64 LNGCs of 150,000 cu m and over earmarked for delivery this year.

There was a dearth of new export projects, which came on stream last year, which resulted in a lack of tendering for tonnage. The only project declaring FID last year was ENI's Coral project in Mozambique, which saw ExxonMobil become a shareholder.

As a result, Mozambique is now set to join the exclusive club of gas exporters once coming on stream, BRS said.

Illustrating the drop in the spot market, on 23rd March, Fearnleys estimated that East of Suez rates were $38,000 per day, West of Suez rates were $60,000 per day, while a 12-month charter was worth an average of $56,000 per day.

Earlier this year, the daily spot rates were around $80,000 - $85,000 per day, depending on the voyage. ■

Another Bangladesh import terminal mooted

Earlier this year, Summit Power International's (SPI) subsidiary Summit signed a memorandum of understanding (MOU) with Mitsubishi and its subsidiary Diamond Gas International to develop an integrated LNG power project at Matarbari, Bangladesh.

At an estimated cost of $3 bill, the MoU will involve the development of an integrated LNG-receiving terminal with a regasification capacity of up to 1,500 mill cu ft per day.

The MoU also includes LNG imports and the development of two 1,200 MW gas turbine combined-cycle power projects.

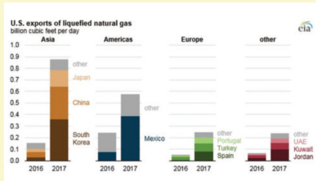
SPI chairman, Muhammed Aziz Khan said: "This MOU will help SPI support Bangladesh's fast-growing energy, power and technology needs. It will be a strategic fit for SPI to leverage Mitsubishi's LNG, and LNG-to-Power expertise, as well as understand Moheskhali and Bangladesh's power needs.

"The two groups are well-positioned to uniquely benefit from opportunities arising from the Bangladesh Government's move to raise LNG imports to meet the country's domestic natural gas shortfall and expand the country's power generation capacity," he said.

Khan said that there will be a demand for about seven mill tonnes of LNG by 2022. ■

SHIPPING NEWS AGENDA

MARKETING



BUSINESS

FINANCE

TECHNOLOGY

LNG ORDERBOOK

US LNG exports quadruple

US exports of LNG reached 1.94 bill cu ft per day last year, up from 0.5 bill cu ft in 2016.

According to the US Energy Information Association's (EIA) monthly natural gas report, all US LNG was exported from Cheniere Energy's Sabine Pass liquefaction terminal and the gas was shipped to 25 countries.

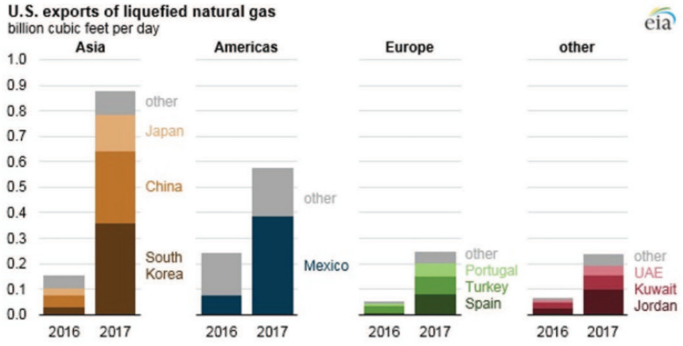
More than half (53%) were exported to three countries - Mexico, South Korea, and China. Mexico accounted for the highest amount at 20% of the 2017 total exports.

The EIA said that this was due to growing Mexican natural gas demand, particularly from the power generation sector, and delays in the construction of domestic pipelines connecting to US export pipelines.

In Asia, the widening difference between the Henry Hub natural gas price—to which US LNG contract prices are indexed—and crude oil—to which LNG prices are benchmarked in Asia—helped to drive increases in LNG imports from the US.

South Korean US gas imports accounted for 18% of total, which were part of long-term contracts between Cheniere Energy and Shell and the South Korean natural gas buyers—KOGAS and KEPCO.

Exports to China made up 15% of total US LNG exports. These were mainly sold on a spot basis, with volumes in October, November, and December increasing as record-high LNG demand prompted China to seek additional gas on the global spot market to supplement contracted volumes.



Source: US Energy Information Administration (EIA) - Natural Gas Monthly

Spot basis

Almost 60% of US LNG was sold on a spot basis last year to more than 20 countries in Asia, North and South America, Europe, the Middle East and North Africa, and the Caribbean.

Although liquefaction capacity at Sabine Pass is fully contracted under long-term deals to various buyers, flexibility in those contracts' destination clauses allows the LNG to be shipped worldwide.

European countries accounted for the third-largest share of US LNG exports. Several European countries increased imports, driven by higher demand primarily from the power generation sector. South American LNG imports declined last year, as demand for natural gas in that region is highly variable and is affected by competing lower-cost natural gas supply and hydro generation output.

LNG export increase over the past two years is the result of the continuing expansion of US export capacity. Two LNG projects—Sabine Pass in Louisiana and Cove Point in Maryland—have come online since 2016, increasing the export capacity to 3.6 bill cu ft per day.

Four more projects are scheduled to come online in the next two years - Elba Island LNG in Georgia and Cameron LNG in Louisiana in 2018, then Freeport LNG and Corpus Christi LNG in Texas in 2019.

Once completed, the export capacity is expected to reach 9.6 bill cu ft per day by the end of 2019. As export capacity continues to increase, the US is forecast to become the third-largest LNG exporter in the world by 2020, overtaking Malaysia and behind Australia and Qatar. ■

All US exports have come from Sabine Pass so far

Qatar Petroleum to ramp up LNG production

Qatar Petroleum expects to begin LNG production from its North Field expansion project by the end of 2023, which once on stream, will boost Qatar's exports to 100 mill tonnes per year.

The company has awarded Front End Engineering and Design (FEED) to Japan's Chiyoda Corp.

Once in full production, the field is expected to produce 23 mill tonnes per year.

Qatar Petroleum President and CEO Saad Sherida al-Kaabi said;"The addition of 23 mill tonnes of LNG will not just enhance Qatar Petroleum's as the world's largest producer and exporter, but also its international image as a reliable and trustworthy energy suppler.

"We are continuing discussions with potential international joint venture partners for this strategic project to determine an optimised arrangement," he added.

The FEED will provide the basic design for three 7.8 mill tonnes per annum LNG production trains with the possibility to add a fourth train in the future.

Recently merged Qatargas will execute the project. ■

Qatar Petroleum head Saad Sherida al-Kaabi is ramping up LNG production

LNG Shipping News
1st Floor, 30 Warner Street
London EC1R 5EX
United Kingdom
www.lngjournal.com
Tel: +44 (0)20 7253 2700

Publisher
Stuart Fryer

Editor
Ian Cochran
+44 (0) 7748144265
cochran@tankeroperator.com

Ad sales enquiries
Narges Jodeyri
+44 (0)20 7017 3406
narges@lngjournal.com

Subscriptions
Elena Fuertes
Tel: +44 (0) 20 7253 2700
elena@lngjournal.com

Production
Vivian Chee
Tel: +44 (0) 20 8995 5540
chee@btconnect.com

GasLog Partners wins new charters

GasLog Partners confirmed that it had entered into agreements with a new customer for two new charters, plus options for another two charters.

These agreements include an around three and a half year charter for the 2013-built 155,000 cu m 'GasLog Santiago' commencing in the third quarter of 2018 and a one year charter for a 145,000 cu m steam-powered vessel (either 'Methane Jane Elizabeth' or 'Methane Alison Victoria' to be nominated by the Partnership) commencing in the fourth quarter of 2019.

The charterer has options to extend the 'GasLog Santiago' fixture for up to an additional seven years and the steam vessel charter for up to another four years, both at escalating rates.

'GasLog Santiago' is currently on a multi-year timecharter with a wholly owned subsidiary of Royal Dutch Shell through July, 2018. She will undergo a scheduled drydocking during the second quarter of 2018, at which time the Partnership intends to enhance the vessel's future marketability through the installation of a reliquefaction plant ahead of commencing its new charter.

GasLog has announced a further charter for 'Gaslog Santiago'

'Methane Jane Elizabeth' is also currently on a multi-year timecharter with a wholly owned subsidiary of Shell, which concludes in October, 2019 while a similar charter on the 'Methane Alison Victoria' concludes in December, 2019.

Andy Orekar, GasLog Partners CEO, commented, "I am very pleased to announce the signing of these charter agreements with a new, high-quality counterparty. These charters will provide continuous employment for 'GasLog Santiago' and either 'Methane Jane Elizabeth' or 'Methane Alison Victoria', increase the Partnership's contracted revenue visibility, diversify our customer base and support our year-on-year distribution growth guidance of 5% to 7% in 2018." ■

Tokyo Gas to import Petronas LNG

Malaysian energy giant Petronas has signed a contract with Tokyo Gas to supply LNG cargoes for up to 13 years.

The deliveries from Petronas subsidiary, Malaysia LNG, will start next month and will total around 500,000 tonnes per annum for the first six years, with the possibility to increase the volume to 900,000 tonnes per annum for the remaining seven years.

Petronas LNG Marketing Vice President, Ahmad Adly Alias, said that Malaysia has a 35-year LNG supply relationship with Tokyo Gas.

"At Petronas, we value these relationships and the trust placed in our company for a secure and reliable supply of LNG," he said.

The Petronas LNG production plant at Bintulu in Sarawak has nine trains with 30 mill tonnes per annum of output.

The company also operates the world's first FLNG, deployed offshore Sarawak. ■

Bangladesh to receive first LNG from Qatar

Bangladesh is expected to receive its first LNG cargo from Qatar on board the FSRU 'Moheshkhali LNG' on 23rd April, Nazimuddin Chowdhury, secretary in the country's Energy and Mineral Resources Division of the Energy Ministry said.

"The FSRU is now in a drydock in Dubai, from where it will leave for Qatar on 12th- 13th April to load the LNG," another official with the EMRD said, according a report from Platts.

Supply of regasified LNG into the country's national gas grid will start by the end of the month.

The first gas cargo could supply regasified LNG for around 15-20 days, state-owned Rupantarita Prakritik Gas Co's Managing Director, Md Quamruzzaman, said.

Deliveries from Qatar are part of a sales and purchase agreement (SPA) with RasGas totalling 2.5 mill tonnes per year of LNG, priced at 12.5% of the three-month Brent average, plus an additional 0.5%.

Bangladesh is in negotiations with other suppliers and is planning to sign binding LNG SPAs for more than 3 mill tonnes per year shortly, Platts said.

The FSRU, which is owned by Excelerate Energy, has an annual capacity of 3.75 mill tonnes of LNG, and will be moored at Moheshkhali island, near Chittagong.

Bangladesh's second LNG import terminal, another 3.75 mill tonnes per year FSRU, is being developed by the Summit Group and is expected to be commissioned in October.

The country is thought in negotiations with four other suppliers for long-term deals and is also eyeing short-term and spot purchases, Platts said. ■


The 'Moheshkhaki FSRU' could be joined by another soon

LNG Solutions for the Marine Industry

Chart's maritime LNG solutions reduce operating costs while dramatically improving emissions for compliance with today's stringent requirements in the marine industry.

Cryogenic Solutions for:

- **LNG ship fueling systems**
- **FLNG**
- **FSRUs**
- **Bunkering vessels**
- **Bunkering stations**
- **Port power applications**

www.ChartLNG.com
LNG@ChartIndustries.com

CHART®

Innovation. Experience. Performance.®

GasLog Partners to add 'GasLog Gibraltar'

GasLog Partners plans to purchase from GasLog 100% of the shares in the entity that owns and charters the 174,000 cu m 'GasLog Gibraltar' for $207 mill.

The acquisition is expected to close in the second quarter of 2018 and is subject to satisfaction of certain customary closing conditions, the company said.

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

In addition, GasLog Partners has agreed to repay in full its $45 mill unsecured term loan from GasLog. The new sponsor credit facility accrues interest at a rate of 9.125% per annum with an annual 1% commitment fee on the undrawn balance, with scheduled maturity in March, 2022.

GasLog Partners expects to complete the above transactions through a combination of $58 mill in cash on hand, sourced from the proceeds of its recent 8.2% Series B preference units offering, $45 mill of new privately placed common units issued to GasLog and the assumption of $149 mill of existing debt on the LNGC.

"This 2016-built vessel is highly complementary to our strategy and its charter to Shell provides approximately five and a half years of stable cash flows at attractive fixed charter terms. In addition, the repayment in full of our highest cost debt is immediately accretive to our distributable cash flow per unit and strengthens our balance sheet," CEO Andy Orekar, commented.

"Furthermore, our partial satisfaction of the total consideration payable through the issuance of new privately placed common units to GasLog enables the partnership to retain substantial liquidity to fund future growth," he added.

Paul Wogan, GasLog Ltd CEO, explained."We continue to execute on our strategy of dropping vessels into GasLog Partners at a premium to book value and recycling the capital to GasLog. The receipt of newly issued, privately placed common units as partial consideration for these two transactions highlights the strong alignment of GP and LP interests and increases our ownership in the partnership to approximately 30%.

"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," he said. ■

Sales and newbuilding rumours

There were rumours that Northwest Shelf consortium was looking to sell all or some of the seven LNGCs.

BP Shipping has reportedly sold the British Merchant and a sistership to Sinokor

They are all MOSS type, steam turbine-powered gas carriers of between 127,000 cu m and 138,000 cu m capacity and delivered between 1989 and 2004.

Broking sources reported that Sinokor had purchased two of BP Shipping's older steam turbine-powered units.

They were the 2003-built 135,500 cu m 'British Innovator' and 'British Merchant', which commanded around $44 mill each.

In the newbuilding sector, LNGC newcomer Minerva Marine was said to be behind an order for two 173,400 cu m vessels placed at DSME for $183 mill each.

They were said to be due for delivery in 2021. ■

ExxonMobil in Pakistan's third LNG terminal bid

ExxonMobil is working with Pakistani businesses on a project to build and supply the country's third LNG import terminal, according to the country's Minister for Maritime Affairs, Mir Hasil Khan Bizenjo.

Speaking with Bloomberg, the Minister said that ExxonMobil had partnered with Pakistani consortium Energas to develop the import terminal without providing further details.

According to a presentation that the companies made to the country's regulators recently, a copy of which was obtained by Bloomberg, the group plans to start building a $150 mill offshore terminal at Port Qasim, near Karachi, in May, pending government approvals.

Both ExxonMobil and Qatar would supply LNG to the terminal, which is expected to be completed by the end of 2019, according to the presentation, Bloomberg said.

The terminal will have throughput capacity of about 5.6 mill tonnes of LNG a year. ExxonMobil and Energas already claim customers for about 300 mill cu ft per day including power plants.

Energas is a consortium of large Pakistani businesses looking to secure long-term gas supply. ■

NEWS NUDGE

Golar announces organisational changes

Golar LNG Ltd and Golar LNG Partners senior managers, Brian Tienzo and Graham Robjohns, have effectively switched companies.

With immediate effect Tienzo has stepped down as CFO of Golar and has taken up the position of CEO and CFO of Golar LNG Partners, he will also retain certain responsibilities for Group financing activities.

Meanwhile, Robjohns has quit the post of CEO of Golar Partners to take up the role of CFO and Deputy CEO of Golar LNG.

Both had held their previous positions for about seven years.

Teekay LNG Partners declares distributions

Teekay GP LLC, the general partner of Teekay LNG Partners, has declared cash distributions of $0.5625 per unit on the Partnership's Series A preferred units and $0.5313 per unit on the Partnership's Series B preferred units for the period from 1st January, 2018 to 31st March, 2018.

The cash distributions are payable on 16th April, 2018 to all unit holders of record as at 29th March, 2018.

Enarsa bids for seven LNG cargoes

Argentina's state-run Enarsa has launched a tender seeking seven LNG cargoes mainly for delivery in June.

Reuters said that Enarsa was looking for five half-size cargoes for its Escobar terminal on the Parana River and two standard cargoes for Bahia Blanca, quoting trade sources.

All deliveries are set for June, except one Escobar cargo, which is deliverable in May.

The tender closed on 26th March and the successful suppliers were to be notified by 28th March, the traders said.

Wärtsilä introduces Eniram Mobile

Wärtsilä subsidiary Eniram, has launched Eniram Mobile to offer real-time decision-making support via mobile notifications.

Eniram Mobile, which was co-developed together with Royal Caribbean Cruises, ensures that key personnel receive important information in a timely fashion, both on board and ashore.

It was created to support situational awareness based on collected historical and real-time data coupled with predictive analytics. By making these insights transparent through mobile technology, Masters, fleet managers, and senior executives are able to receive instant access to the information needed for effective and timely decision making.

"Now is the time for the industry to harness the benefits of situational awareness. Eniram Mobile offers an unprecedented level of transparency that not only leads to better decision making, but which also helps our customers develop their ways of working. It enables them to react fast on potential operational issues based on analytical insights," said Johan Backas, Eniram managing director.

The mobile notifications cover various operational aspects including safety, energy management and security, for example, the latest information for speed over ground, trim, list, high wind and weather forecasts. The insights delivered via the mobile notifications are based on available vessel data and the analytical capabilities of the Eniram Insight Factory, which is at the centre of Eniram's solutions.

Despite being developed for Royal Caribbean, Eniram Mobile is now being offered to all customer segments – including LNG – as part of other Eniram solutions. ■

Novatek ships first Yamal LNG cargo to India

Novatek Gas and Power Asia Pte Ltd, has shipped the first LNG cargo from Yamal to India, parent company, PAO Novatek has confirmed.

Novatek's First Deputy Chairman of the Management Board, Lev Feodosyev, said: "One of our core priorities enumerated in the company's corporate strategy up to 2030, is the expansion of the supply geography and the growth of our presence in the key Asian markets.

"The first cargo delivered to the growing Indian market is an important development step in this direction," he said.

COSCO and MOL recently took delivery of the Arc7 'Vladimir Rusanov'

In another move, Novatek has agreed to expand its co-operation with China COSCO Shipping Corp on the Yamal LNG project.

The Chairmen of the two companies met in Shanghai this week to review the project and decided to boost ties, with a special focus on Arctic transportation collaboration.

Earlier this month, China COSCO Shipping took delivery of the first of three Arc7s - 'Vladimir Rusanov' ordered in a joint venture with Mitsui OSK Lines (MOL) from Daewoo in 2014. ■

Latest deliveries

SK Shipping has taken delivery of the 174,000 cu m sisterships 'SK Serenity' and 'SK Spica' from Samsung.

The two vessels were believed to be fitted with the first South Korean-designed LNG tank, KC1, jointly developed by Korea Gas Corp (KOGAS) and Samsung, Hyundai Heavy Industries and Daewoo Shipbuilding & Marine Engineering.

Samsung contributed the cargo handling, fuel gas supply and self re-liquefaction systems.

Last month, Teekay LNG took delivery of the third out of five 173,400 cu m LNGCCs chartered by Shell.

The MEGI 'Magdala', will be operated by STASCO for up to eight years, plus options to extend the charter.

She follows her sisters, 'Macoma' and 'Murex', delivered in the fourth quarter of last year.

Finally, BW LNG took delivery of 'BW Lilac', a 173,400 cu m LNGC built by Daewoo Shipbuilding and Marine Engineering (DSME) on 17th March.

She is the second in BW's newbuilding programme to feature MEGI type propulsion systems. The first of which was the 'BW Tulip' handed over late last year.

There are another four still to come. ■

'BW Lilac' was delivered to BW Gas earlier this month

GTT wins orders from Hyundai Samho and Samsung

GTT has received an order from Hyundai Samho Heavy Industries (HSHI) to design the LNG tanks for two new 174,000 cu m LNGCs and from Samsung for an 180,000 cu m unit.

The three vessels will be built for European shipowners.

The HSHI vessels will each be fitted with the Mark III Flex containment system, while the Samsung LNGC will have the new Mark III Flex+ system installed.

All of the vessels are scheduled to be delivered in 2020.

The Mark III Flex+ solution enables a daily Boil-Off Rate of 0.07%V, thanks to an increased insulation thickness and a reinforced arrangement of the secondary barrier, GTT said.

This will be the second LNGC equipped with the latest Mark III technology.

Philippe Berterottière, GTT Chairman and CEO, said: "We are very pleased with this second order for our all new Mark III Flex+ technology from our partner in excellence, Samsung Heavy Industries, with whom we have launched this technology. We can now offer an unequalled daily boil-off rate of 0.07%." ■

WORLD LNG CARRIER ORDERBOOK

Name	Containment System	Propulsion	Yard	Ordered	Delivery Date	Capacity	Primary Owner
Gaslog Hong Kong	TZ Mk. III	XDF	Hyundai Heavy	2014	01/02/2018	174000	GasLog
Gaslog Genoa	TZ Mk. III	XDF	Samsung	2014	01/03/2018	174000	GasLog
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
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

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 = 29th March 2018

Fearnley LNG

Name	Yard	Containment System	Capacity	Propulsion	Delivery Date	Ordered	Primary Owner
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	Knutsen
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	Knutsen
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

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 = 29th March 2018

Fearnley LNG

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	Triputra (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 Innvovation	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

Small-LNG.com

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 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
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

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

Small-LNG.com