

LNG Shipping News

AN LNG JOURNAL TITLE ON LNG CARRIERS

19 January 2017

Australia raises 2016-17 LNG exports forecast

The Australian Government has raised its LNG exports forecast for fiscal 2016-2017 (July-June) to 52.4 mill tonnes, compared with an earlier figure of 51.5 mill tonnes.

It also gave an estimate for 2017-2018 of 67.3 mill tonnes, the Australian Department of Industry, Innovation and Science said in its Resources and Energy Quarterly report, analysed by Platts.

"The four LNG projects currently under construction are expected to commence production by mid-2018, bringing Australia's LNG export capacity to around 87 mill tonnes.

"However, some uncertainty surrounds the timing of Shell's Prelude project in the Browse Basin, where start up could be complicated by the cyclone season, which runs from November to April," the report said.

Increased exports to Japan, South Korea and China are expected to drive Australia's export volume hike.

"Australian producers are expected to capture an increasing share of these countries' imports with the commencement of a number of long-term contracts over the outlook period [fiscal

2017-2018]," the department said.

Despite the expected rise in Australia's exports to Japan, this country's overall imports are forecast to fall by 2.1% per year to 80 mill tonnes in 2018. "Subdued energy demand, a forecast decline in thermal coal prices, the expansion of renewable capacity, and the restart of nuclear capacity are all expected to weigh on [Japan's] LNG imports," the report said.

Platts Analytics was even more bearish than the Australian Government on Japanese LNG demand, with its 2018 forecast at 72 mill tonnes.

A key uncertainty, the Government report said, remained the timing and scale of nuclear restarts.

South Korea's LNG imports were expected to remain subdued over the outlook period, as LNG continued to face competition from other energy sources, as it expands both its nuclear and coal-fired power capacity, the department said without giving a forecast figure.

Platts Analytics said it expected South Korea's LNG demand to be 33 mill tonnes in 2017 and 32 mill tonnes in 2018.

The Australian government said that China's LNG imports will rise by 34% year on year to 43 mill tonnes in 2018.

"China is aiming to raise the share of gas in its energy mix from 5% to 10% by 2020, with policy efforts directed at the electricity generation and transport sectors," the report said.

However, Platts Analytics expected softer demand from China with 32 mill tonnes of imports forecast for 2018.

The quarterly report expects world LNG imports to rise by 10% per year to 306 mill tonnes in 2018, which compares to Platts Analytics' forecast of 334 mill tonnes.

Global LNG supply capacity is forecast to rise by 11% in 2017 and 8.8% in 2018 to 343 mill tonnes, the Australian Government said, compared to a forecast of 396 mill tonnes by Platts.



Australian exports are expected to boom

SHIPPING NEWS AGENDA

MARKETING

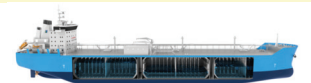
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EIA forecasts increasing US LNG exports

Total US shale gas production is expected to hit 90 bill cu ft per day by 2040, more than twice the current levels, the US Energy Information Administration (EIA) has said.

In its Annual Energy Outlook for 2017, the EIA said that as production outpaces US domestic consumption, LNG exports are expected to rise to 12 bill cu ft per day by the end of the forecast period - or even higher, under favourable price, resource and technology assumptions.

The Center for Liquefied Natural Gas (CLNG) executive director,

Charlie Riedl, said; "As with previous years, EIA's latest Annual Energy Outlook makes a compelling case in favour of continued and expanded US LNG exports.

Supply will meet demand

"The projections in this year's report show that domestic production in the US will continue to provide more than enough natural

gas to meet domestic demand, while also supplying our trading partners around the world.

"The latest outlook offers yet another reason why the US Department of Energy should implement a process that ensures export permits are issued in a timely fashion, strengthening America's position in the global energy market at a time when international competition is growing quickly," he said.

The EIA also said that natural gas production over the 2016-2020 period is forecast to grow at a rapid rate of about 4% per annum, as it has since 2005. Beyond 2020, production is projected to grow at a slower rate, about 1% annual average, as net export growth moderates, domestic natural gas use becomes more efficient, and prices slowly rise.

LNG is forecast to dominate US natural gas exports by the early 2020s. The first LNG export facility in the Lower 48, Sabine Pass,

began operations in 2016, and four more LNG export facilities are scheduled to be completed by 2020, the EIA said.

BW refinances LNGCs

Standard Chartered (SC) has concluded a \$684.5 mill, up to 12-year non-recourse shipping finance facility, for BW Gas JuJu LNG Limited - a joint venture between BW Group and Marubeni.

The bank, as facility co-ordinator, led a syndicate of nine international banks for this facility, which is intended to refinance the existing credit for eight LNGCs on long-term charters to Nigeria LNG.

SC also acted as the mandated lead arranger, agent and security trustee, account bank and hedging bank, which was claimed to be BW Group's largest deal last year.



The EIA forecasts a large increase in US gas exports

'Oak Spirit' delivers first US LNG cargo to Japan

Teekay's 173,000 cu m LNGC 'Oak Spirit' has delivered the first gas cargo from the US for Japan.

The LNGC arrived at Chubu Electric Power's Joetsu LNG terminal on 6th January, 2017. She sailed to Japan via the Panama Canal.

Jera, a joint venture involving Japanese electric companies Tepco and Chubu Electric power, and Houston-based LNG supplier Cheniere Marketing International had entered into a sale and purchase agreement for the cargo,

which was loaded onto the ship at Sabine Pass LNG Terminal in Louisiana, operated by Cheniere Energy Partners on 7th December, last year.

Following her delivery, 'Oak Spirit' commenced a five-year fee-based contract with Cheniere Energy, to load gas at Sabine Pass LNG export facility together with her sistership 'Creole Spirit'.



Teekay's LNGC 'Oak Spirit' seen transiting the new Panama Canal locks

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Saga LNG's first keel laying

Haimen-based shipbuilder China Merchants Heavy Industry (Jiangsu) held the keel laying ceremony last week for the first of Saga LNG's two mid-size LNGCs.

Hull No CMHI-188 features the patented LNT A-BOX containment system.

The 45,000 cu m vessel is the first of two ordered in late 2015 by Saga LNG Shipping. Due to be delivered in the first quarter of next year, the vessel will be the first LNGC to feature an IMO Type 'A' LNG containment system

developed by Norway's LNG New Technologies (LNT).

LNT's containment system for LNG and other liquefied gasses, dubbed 'LNT A-BOX', features an IMO independent tank type 'A' as the primary barrier, a conventional cargo tank support system and liquid-tight thermal insulation attached to the hull com-

partment which acts as a full secondary barrier.

Milestone

"Reaching today's milestone commemorates a significant achievement for Saga LNG, CMHI and all of our partners in this endeavour. As production reaches full swing, we are starting to see first-hand the results of many years of hard work and we shift our focus now executing the project with the highest safety and quality standards.

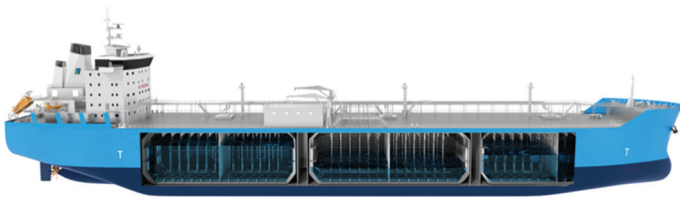
"We continue to believe that when she is delivered, our vessel will give the industry much needed flexibility in vessel size and will present the opportunity

for new business models for LNG transport," said Jonathan Verswijver, Vice President Business Development, Saga LNG Shipping.

Based around the LNT A-BOX technology, Saga LNG shipping aims to build, own and operate a series of tailor-made small and mid-size LNG assets targeted at projects currently in various stages of development.

Types of assets included on Saga LNG's radar are LNGCs, FSUs, FSRUs, and LNG bunker vessels, all within the 1,000 to 100,000 cu m capacity range.

The new LNGCs will have a length of 195.3 m, a beam of 184.8 m and a service speed of 16.5 knots. ■



The first keel of Saga LNG's two newbuildings was recently laid

Höegh LNG confirms further FSRU contracts

Höegh LNG has signed of a contract with Hyundai Heavy Industries for another FSRU, which is due to be delivered in the fourth quarter of 2018 (FSRU #9).

FSRU #9 will have a storage capacity of 170,000 cu m and a maximum regasification capacity of 1,000 MMscf/day and will be built with full trading capabilities.

In a statement, the company also referred back to two stock exchange notices sent last December, where Höegh LNG declared it had signed two 20-year FSRU charters with Quantum Power (QP) for the Tema LNG project in Ghana and Global Energy Infrastructure (GEI) for the LNG import project at Port Qasim, near Karachi, Pakistan.

Both projects have start-up dates in 2Q18.

Höegh LNG explained that it had spent considerable effort to optimise its FSRU portfolio, thus maximising charter revenues from the FSRUs under construction and reducing overall technical risks.

As a result, the company has decided to allocate FSRU #7 (HHI No 2552) to serve the QP charter in Ghana and FSRU #9 (HHI No 2909) to the GEI project in Pakistan. The GEI charter's initial charter period from 2Q18 will be covered by an interim FSRU from Höegh LNG's fleet until the new FSRU is delivered.

The FSRU newbuilding programme entered into with Samsung Heavy Industries on 17th January, 2017 for one firm (FSRU #10), plus three options, is unaffected by the above allocation, as the first delivery from SHI is scheduled for May 2019, the company explained.

Coverage solution

Höegh LNG's President and CEO, Sveinung J S Støhle, said: "First of all I am very pleased that Höegh LNG, through its newbuilding programme and market position, has been able to establish a contract

coverage solution, which is in line with our strategy of building new FSRUs.

"Secondly, I am proud to see that through Höegh LNG's innovative approach and in-house design of our FSRUs coupled with our long-standing relationship with HHI, Höegh LNG has been able to secure a newbuild FSRU in the shortest possible time. With this order, Höegh LNG now has 10 large size newbuild FSRUs in operation or under construction, preserving our position as the market leader in the FSRU segment," he said. ■

Sakhalin Energy and Gazprom in period charter agreement

The contract was signed by Andrey Okhotkin, Sakhalin Energy Commerce director and by the head of Gazprom Global LNG marine traffic commerce department, Ryan McGuckin, on behalf of GMT.

'Ob River' is currently under a short-term charter with Sakhalin Energy.

In 2015, Sakhalin Energy tendered for the

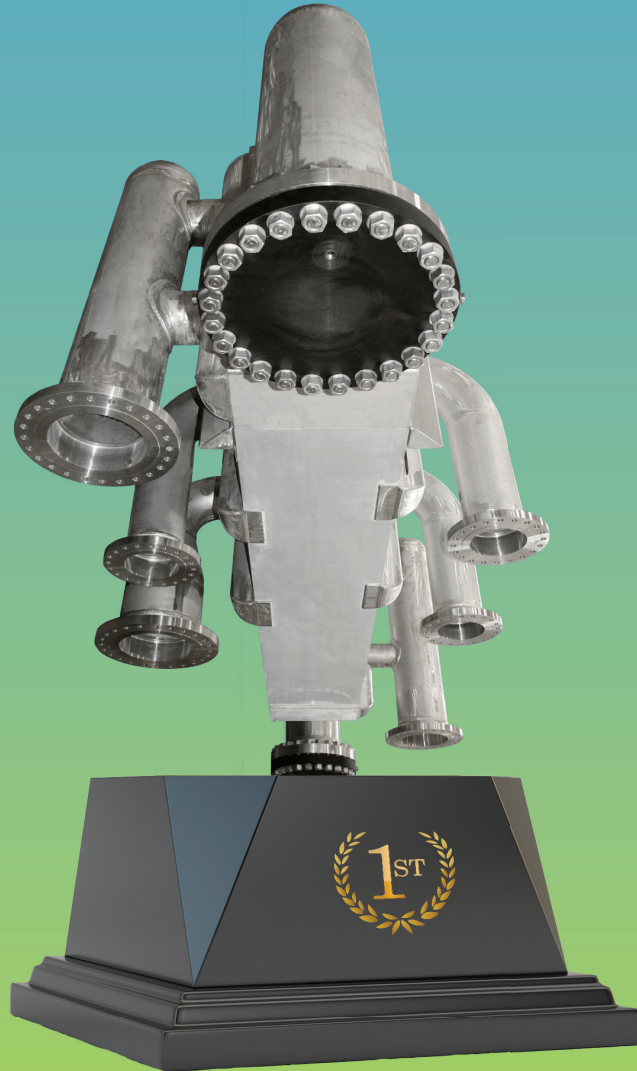
long-term charter of an Ice Class LNGC starting from 2018. It was awarded to GMT.

The LNGC is claimed to be fully able to operate in low temperatures and has a 1A FS Ice Class. This is a key condition for transporting LNG from the Sakhalin-2 project's terminal at Prigorodnoye all year round. ■



Andrey Okhotkin and Ryan McGuckin at the signing agreement

Chart Brazed Aluminum Heat Exchangers



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Reganosa wins Maltese operation and maintenance contract

ElectroGas Malta (EGM) has awarded the operation and maintenance contract for the Delimara regasification plant, including the LNG FSU 'Armada LNG Mediterrana' - to Reganosa.

Last year, EGM, whose shareholders are Siemens PV GmbH, SOCAR and GEM, invited Reganosa to participate in the selection process for the operation of the Delimara regasification plant, located at Marsaxlokk.

The contract between EGM and Reganosa's Maltese subsidiary, Reganosa Malta, was awarded at the end of 2016.

More than 98% of the electricity consumed in Malta comes from fuels derived from petroleum. To this end, the Government put forward an environmental improvement plan for the Maltese energy sector using a more competitive

energy - natural gas.

The project included the Delimara regasification plant, a 125,000 cu m converted LNG FSO, 'Armada LNG Mediterrana,' with a combined cycle plant of 215 MW. The regasification plant will also supply Enemalta, the state-owned electricity generation and distribution company, with natural gas to fuel an eight-engine power plant of around 150 MW.

The new terminal, which received its first LNG shipment on 11th January, 2017, is one of the only two in the world with FSU technology, which consists in stor-

ing fuel on a ship berthed at the terminal, rather than in tanks on land. This is a key project for Malta's energy transformation and its integration into the European gas system, EGM said.

The first cargo was delivered by SOCAR Trading, a marketing arm of Azerbaijan's State Energy major (SOCAR).

Over 14,000 cu m of gas was delivered by the 136,967 cu m 'Galea'. While the cargo size was said to be small, it was thought to be used to commission the FSU 'Armada LNG Mediterrana' and the new power station.

'Armada LNG Mediterrana' arrived at Marsaxlokk on 10th October, 2016 to act as a gas storage facility for the power plant.

Speaking at a press conference marking the arrival of the first gas cargo, Maltese Minister Konrad Mizzi said the power station is expected to be operational in the next few weeks. ■



A maintenance and service contract has been signed for the Armada LNG Mediterrana'

Wärtsilä and CSSC open Chinese engine factory

CSSC Wärtsilä Engine (CWEC), the joint venture company formed between Wärtsilä and China State Shipbuilding Corp (CSSC), formally opened its new production facilities located at Lingang, Shanghai, on 9th January.

The new 20,000 sq m production plant is claimed to be the first in China capable of locally producing large-bore, medium speed diesel and dual-fuel (DF) engines. The plant will also manufacture medium-bore, medium speed diesel and DF engines.

Wärtsilä 26, Wärtsilä 32, Wärtsilä 34DF, Wärtsilä 46F and Wärtsilä 46DF engines will be produced at the factory, which has a planned production capacity of 180 engines per year.

CWEC has already booked orders for more than 70 engines and is focused on the LNGC sector among other vessel types, which are strategic growth markets for the Chinese shipbuilding sector.

"Being close to our customers

in order to serve them better is central to Wärtsilä's global strategy. We are, therefore, extremely pleased to officially open this modern production facility, the first in China capable of producing DF engines, which will serve China's shipbuilding industry with high quality, technologically advanced Wärtsilä marine engines.

"It is an honour to be sharing this day with our joint venture partners, CSSC, one of China's most modern industrial corporations. Together, we are supporting China's shipping industry's move into the age of LNG fuel," commented Wärtsilä's President & CEO, Jaakko Eskola at the opening ceremony.

"This is an important day for

China's shipbuilding sector as we now have local availability of both medium and large-bore Wärtsilä diesel and dual-fuel engines. Wärtsilä's extraordinary technological accomplishments and global reputation have been built on its proud history spanning more than 180 years. With our two compa-

nies now standing shoulder to shoulder behind this joint venture, we can anticipate great things for the future," said Wu Qiang, President of CSSC.

The joint venture was established in July, 2014 with CSSC holding 51% of the shares and Wärtsilä the remaining 49%. ■



The opening ceremony

GasLog opts for Mark V technology

GasLog's latest LNGC contract awarded to Samsung last October will be fitted with GTT's new Mark V technology.

The vessel will be built at SHI's shipyard in Goeje Island and delivery is scheduled in 2019.

"Gaslog's choice of our new membrane containment system highlights the confidence of our partners in our innovations," said Philippe Berterottière, GTT Chairman and CEO. "We are constantly striving to enhance the performances of our systems. This first order of Mark V shows our ability to meet market requirements."

Mark V is claimed to offer an unrivalled thermal efficiency. This GTT-designed system reduces significantly the guaranteed daily boil-off rate of LNG to 0.07% of the tank volume per day, thus generating important savings for the charterer. It also optimises the dynamic insulation resistance.

This technology is derived from the GTT Mark range, many of which are fitted on board LNGCs. It can be adapted to all sizes of LNGCs. ■

GasLog to lose CFO

Simon Crowe has advised the Boards of both GasLog Ltd and GasLog Partners that he will step down from his position as CFO on 30th June, 2017.

In order to facilitate a smooth transition, Crowe will remain in his current position, as the search for his replacement proceeds.

Peter Livanos, GasLog Chairman and Director of GasLog Partners, said, "Simon joined GasLog at a critical point as it evolved from a private business into a leading publicly traded LNG transportation company.

"During the years Simon has held the role of CFO at GasLog, he has been instrumental in building a strong finance team and executing a great number of successful capital market transactions, the most significant of which was the IPO of our MLP, GasLog Partners. I would like to wish Simon every success in his continuing career," he said.

Paul Wogan, GasLog CEO, said, "I have thoroughly enjoyed working closely with Simon over the last four years, absorbing his energy and passion for the business. His support and influence on the business will certainly be missed. Simon is committed to ensuring a smooth transition for his replacement and we are hopeful that an

announcement on this will soon be forthcoming. We all wish Simon well as he moves onto other opportunities."

Andy Orekar, GasLog Partners CEO, said, "Simon has been a trusted and valued partner to me since the inception of our MLP. He has developed an outstanding finance and accounting organisation and served as a mentor to our high performing group of professionals. I am confident that Simon will bring his many talents and expertise to his next endeavour."

Crowe commented, "Since joining GasLog, I have been part of something very special, as we have profitably grown from 10 vessels in 2013 to 28 today. It has been very rewarding to help build what is certainly a world class operator of LNG carriers, and develop a first class finance team.

"With the company strategically and financially well positioned, I feel the time is now right for me to seek new challenges outside of GasLog and GasLog Partners. I wish the Company well and look forward to watching it flourish," he said. ■

Excelerate re-finances 'Experience'

Excelerate Energy has signed a long-term sale and leaseback deal involving the FSRU 'Experience' with a wholly owned subsidiary of CMB Financial Leasing.

At the end of the 10-year agreement, Excelerate will re-purchase the FSRU from CMB.

"The transaction demonstrates the market's confidence in FSRUs as financeable and dependable assets and positions Excelerate well for future financings as part of its growth strategy," the company said.

The agreement enables the swap of short-term debt for long-

term debt at the ultimate shareholder level, and leaves Excelerate with a strong balance sheet and a debt-to-book equity ratio of roughly 1:1, the company claimed.

Commissioned in 2014, 'Experience' is currently under long-term charter to Petrobras, providing regasification services to Brazil.

Excelerate operates a fleet of nine FSRUs built between 2002 and 2014. ■

NEWS NUDGE

BW names second FSRU

The BW Group held a ship naming ceremony on 12th January at Samsung Heavy Industries Shipyard for the company's second LNG FSRU - 'BW Integrity'.

This follows BW's signing of a 15-year agreement with Pakistan GasPort Limited (PGPL) to provide LNG regasification services using a newbuild FSRU for the second Pakistan LNG terminal.

In attendance was Chairman of Pakistan GasPort Consortium (PGPC) Iqbal Z Ahmed, and his wife; MD of Pakistan LNG Terminal, Azam Soofi and the Chairman of Port Qasim Authority, Agha Jan Akhtar.

BW's first FSRU, 'BW Singapore', is currently serving a five-year contract providing LNG regasification and storage services at Ain Sokhna in Egypt.

Poten unveils LNG business training

Poten & Partners has announced its upcoming 2017 LNG Business Training programme.

This programme is designed to provide participants with a sound understanding of the fundamental economic and commercial aspects of the LNG industry, Poten said.

The course will consist of the following four sessions:

- 1) North America LNG- Houston 13th-15th March, 2017

- 2) LNG Trading - Singapore, 25th-26th May, 2017
- 3) LNG FSRU Developments - Houston, 12th-14th June, 2017
- 4) Joint Venture Management - Perth, 24th-25th August, 2017

MITAGS offers LNG operations seminar

US-based Maritime Institute of Technology and Graduate Studies (MITAGS) has joined together with the Gas Technology Institute to offer a seminar on LNGC familiarisation and terminal operations.

The programme will cover vessel types, design, equipment and operations, as well as the basic elements of a terminal's pumps, hard arms, gas compressors, vaporisers, heat exchangers and shoreside storage tanks.

In addition, the seminar aims to give attendees a basic understanding of the properties and hazards of LNG, the ship-to-shore interface, cargo containment systems, safety precautions and emergency procedures.

Attendees should be able to perform specific tasks and carry out responsibilities related to their duties in connection with LNG cargo and cargo equipment.

The duration of the course is two to four days, depending on the terminal or ship operator's needs. The first seminar will be held at MITAGS' campus in Linthicum Heights, Maryland between 25th-27th January. ■

'CESI Qingdao' joins Sinopec LNG project

The joint venture behind the China FOB Transportation project took delivery of the LNGC 'CESI Qingdao' from Hudong-Zhonghua Shipbuilding on 6th January.

The joint venture involving Japan's Mitsui OSK Lines (MOL), China COSCO Shipping Corp and China Petroleum & Chemical Corp (Sinopec) teamed up to construct and manage six LNGCs in April, 2013.

The 174,100 cu m 'CESI Qingdao' is the second in the series to be delivered and will sail under a long-term charter to transport LNG purchased by Sinopec from the Australia Pacific LNG project.

The first vessel - 'CESI Gladstone' - was delivered at the end

of October, 2016.

The remaining four LNGCs will be delivered by 2018 from the same yard.

MOL controls a 20% stake in China Energy Ship Management, the company that will own and manage the six LNGCs.

The remaining 80% stake in the company is held by China Energy Shipping Investment (CESI), a joint venture involving China COSCO Shipping (51%) and Sinopec (49%).

Other recent deliveries included the 173,400 cu m 'Maran Gas Roxana' built for a Shell (BG) charter at Daewoo and the 170,000 cu m Hyproc-controlled 'Tessala'. ■

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WORLD LNG CARRIER ORDERBOOK

Name	Vessel	Status	Yard	Design	Prop.	CBM	Year	LT Charterer	Ship Owner	Hull
Maran Gas Ulysses	LNGC	Order	Hyundai Samho	TZ Mk. III	TFDE	174000	Oct-16	Shell (ex.BG)	MaranGas	S735
KAWASAKI SAKAIDE 1718	LNGC	Order	Kawasaki	Moss	TFDE	180000	Oct-16	Ichtyos LNG	K-Line	1718
SERI CENDERAWASIH	LNGC	Order	Hyundai Heavy	Moss	STRH	150000	Nov-16	Petronas	Petronas	2730
MITSUBISHI NAGASAKI 2310	LNGC	Order	Mitsubishi H.I.	Moss	STRH	155300	Nov-16	Inpex	K-Line	2310
ASIA INTEGRITY	LNGC	Order	Samsung	TZ Mk. III	TFDE	160000	Dec-16	Chevron	Chevron	2069
MARAN GAS OLYMPIAS	LNGC	Order	DSME	GT NO 96	MEGI	173400	Dec-16	Shell (ex.BG)	MaranGas	2415
DAEWOO 2451	LNGC	Order	DSME	GT NO 96	TFDE	174000	Jan-17	KOGAS	Hyundai LNG Shipping	2451
Ougarta	LNGC	Order	Hyundai H.I.	TZ Mk. III	TFDE	170000	Feb-17	Hyproc	Hyproc	2814
SERI CEMPAKA	LNGC	Order	Hyundai	Moss	STRH	150000	Feb-17	Petronas	Petronas	2731
TORBEN SPIRIT	LNGC	Order	DSME	GT NO 96	MEGI	173400	Feb-17	Available	Teekay LNG	2411
HUDONG-ZHONGHUA H1718A	LNGC	Order	Hudong	Membrane	TFDE	174000	Mar-17	Sinopec	China Shipping Group / Mitsui OSK	H1718A
DAEWOO 2452	LNGC	Order	DSME	GT NO 96	TFDE	174000	Mar-17	KOGAS	Hyundai LNG Shipping	2452
DAEWOO 2416	LNGC	Order	DSME	GT NO 96	MEGI	173400	Mar-17	Shell	Teekay LNG	2416
Asia Venture	LNGC	Order	Samsung	TZ Mk. III	TFDE	160000	Apr-17	Chevron	Chevron	2070
SM Eagle	LNGC	Order	DSME	GT NO 96	TFDE	174000	Apr-17	KOGAS	Korea Line Corporation	2449
KAWASAKI SAKAIDE 1731	LNGC	Order	Kawasaki H.I.	Moss	TFDE	177000	Apr-17	Kansai Electric	Mitsui OSK	1731
CASTILLO DE MERIDA	LNGC	Order	Imabari	TZ Mk. III	MEGI	178000	May-17	Gas Natural	Elcano	8177
DAEWOO 2450	LNGC	Order	DSME	GT NO 96	TFDE	174000	May-17	KOGAS	Korea Line Corporation	2450
JMU TSU 5070	LNGC	Order	JMU	SPB	TFDE	165000	May-17	Tokyo Gas	Mitsui OSK	5070
HUDONG-ZHONGHUA H1717A	LNGC	Order	Hudong	Membrane	TFDE	174000	Jun-17	Sinopec	China Shipping Group / Mitsui OSK	H1717A
HUDONG-ZHONGHUA H1719A	LNGC	Order	Hudong	Membrane	TFDE	174000	Jun-17	Sinopec	China Shipping Group / Mitsui OSK	H1719A
Castillo De Caldelas	LNGC	Order	Imabari	TZ Mk. III	MEGI	178000	Jun-17	Gas Natural	Elcano	8188
JMU TSU 5071	LNGC	Order	JMU	SPB	TFDE	165000	Jul-17	Tokyo Gas	NYK	5071
Bishu Maru	LNGC	Order	Kawasaki	Moss	TFDE	164700	Aug-17	Chubu Electric	K-Line	1713
DAEWOO 2421	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	Aug-17	Yamal LNG	Dynagas	2421
Seri Camar	LNGC	Order	Hyundai H.I.	Moss	STRH	150000	Aug-17	Petronas	Petronas	2732
DAEWOO 2417	LNGC	Order	DSME	GT NO 96	MEGI	173400	Aug-17	Shell	Teekay LNG	2417
SAMSUNG 2153	LNGC	Order	Samsung	KC-1	TFDE	174000	Sep-17	KOGAS	SK Shipping	2153
SAMSUNG 2154	LNGC	Order	Samsung	KC-1	TFDE	174000	Sep-17	KOGAS	SK Shipping	2154
DAEWOO 2426	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	Sep-17	Yamal LNG	MOL/CSDC	2426
Flex Endeavour	LNGC	Order	DSME	GT NO 96	MEGI	172400	Oct-17	Available	John Fredriksen	2447
Flex Enterprise	LNGC	Order	DSME	GT NO 96	MEGI	172400	Oct-17	Available	John Fredriksen	2448
HUDONG-ZHONGHUA H1720A	LNGC	Order	Hudong	Membrane	TFDE	174000	Oct-17	Sinopec	China Shipping Group / Mitsui OSK	H1720A
JMU TSU 5072	LNGC	Order	JMU	SPB	TFDE	165000	Oct-17	Tokyo Gas	Mitsui OSK	5072
MITSUBISHI NAGASAKI 2316	LNGC	Order	Mitsubishi Nagasaki	Moss	STRH	153000	Oct-17	LMT (TEPCO)	NYK	2316
SK RESOLUTE	LNGC	Order	Samsung	TZ Mk. III	XDF	182000	Oct-17	Total	SK Shipping / Marubeni	2081
DAEWOO 2423	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	Oct-17	Yamal LNG	Teekay/CLNG	2423
DAEWOO 2422	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	Dec-17	Yamal LNG	Dynagas	2422
Seri Cemara	LNGC	Order	Hyundai H.I.	Moss	STRH	150000	Dec-17	Petronas	Petronas	2735
DAEWOO 2453	LNGC	Order	DSME	GT NO 96	MEGI	173400	Dec-17	Shell	Teekay LNG	2453
Teekay NB-5 Shell	LNGC	Order	DSME	GT NO 96	MEGI	173400	Dec-17	Shell	Teekay LNG	
DAEWOO 2425	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	Dec-17	Yamal LNG	Teekay/CLNG	2425
DAEWOO 2424	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	Dec-17	Yamal LNG	MOL/CSDC	2424
DAEWOO 2435	LNGC	Order	DSME	GT NO 96	MEGI	173000	Jan-18	Repsol	BW Gas	2435
DAEWOO 2460	LNGC	Order	DSME	GT NO 96	MEGI	174000	Jan-18	BP	Chandris	2460
SAMSUNG 2107	LNGC	Order	Samsung	TZ Mk. III	MEGI	174000	Jan-18	Available	Flex LNG	2107
Mitsui Cameron SHI NB 1	LNGC	Order	Samsung	Mark III Flex	TFDE	177000	Jan-18	Mitsui & Co	Mitsui OSK	2148
SAMSUNG 2149	LNGC	Order	Samsung	Mark III Flex	TFDE	177000	Jan-18	Mitsui & Co	Mitsui OSK	2149
Mitsui KHI NB 1	LNGC	Order	Kawasaki H.I.	Moss	TFDE	155000	Jan-18	Mitsui & Co	Mitsui OSK	1728
SK AUDACE	LNGC	Order	Samsung	TZ Mk. III	XDF	182000	Jan-18	Total	SK Shipping / Marubeni	2080
HUDONG-ZHONGHUA H1664A	LNGC	Order	Hudong	GT No 96	TFDE	174000	Jan-18	Shell (ex.BG)	Teekay/CETS/CLNG	H1664A
PAN ASIA	LNGC	Order	Hudong	GT No 96	TFDE	174000	Jan-18	Shell (ex.BG)	Teekay/CETS/CLNG	H1663A

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 = 5 January 2017

Name	Vessel Status Yard			Design	Prop.	CBM	Year	LT Charterer	Ship Owner	Hull
DAEWOO 2443	LNGC	Order	DSME	GT NO 96	MEGI	173400	Feb-18	BP	BP	2443
HYUNDAI ULSAN 2800	LNGC	Order	Hyundai H.I.	TZ Mk. III	XDF	174000	Feb-18	Shell (ex.BG)	GasLog	2800
JMU TSU 5073	LNGC	Order	JMU	SPB	TFDE	165000	Feb-18	Tokyo Gas	Mitsui OSK	5073
mitsubishi NAGASAKI 2324	LNGC	Order	Mitsubishi H.I.	Moss	STaGE	165000	Feb-18	Mitsubishi Corp	NYK	2324
Teekay NB-6	LNGC	Order	DSME	GT NO 96	MEGI	173400	Feb-18	Shell	Teekay LNG	2454
DAEWOO 2442	LNGC	Order	DSME	GT NO 96	MEGI	173400	Mar-18	BP	BP	2442
DAEWOO 2436	LNGC	Order	DSME	GT NO 96	MEGI	173000	Mar-18	REPSOL	BW Gas	2436
HYUNDAI ULSAN 2801	LNGC	Order	Hyundai H.I.	TZ Mk. III	XDF	174000	Mar-18	Total	GasLog	2801
SAMSUNG 2130	LNGC	Order	Samsung	TZ Mk. III	XDF	174000	Mar-18	Shell (ex.BG)	GasLog	2130
SAMSUNG 2150	LNGC	Order	Samsung	Mark III Flex	TFDE	177000	Mar-18	Mitsui & Co	Mitsui OSK	2150
SAMSUNG 2108	LNGC	Order	Samsung	TZ Mk. III	MEGI	174000	Mar-18	Available	Flex LNG	2108
KAWASAKI SAKAIDE 1720	LNGC	Order	Kawasaki	Moss	TFDE	164000	Apr-18	Chubu Electric	K-line	1720
DAEWOO 2441	LNGC	Order	DSME	GT NO 96	MEGI	173400	Apr-18	BP	BP	2441
Mitsui NB 2 Cameron	LNGC	Order	Kawasaki H.I.	Moss	TFDE	155000	Apr-18	Mitsui & Co	Mitsui OSK	1729
MOL E.On.	LNGC	Order	DSME	GT NO 96	TFDE	179900	Apr-18	Junipher (E.On)	Mitsui OSK	TBN
DAEWOO 2464	LNGC	Order	DSME	GT No 96	MEGI	173400	May-18	BP	Chandris	2464
DAEWOO 2432	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	May-18	Yamal LNG	MOL/CSDC	2432
DAEWOO 2455	LNGC	Order	DSME	GT NO 96	MEGI	173400	May-18	Available	Teekay LNG	2455
DAEWOO 2430	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	May-18	Yamal LNG	Teekay/CLNG	2430
DAEWOO 2444	LNGC	Order	DSME	GT NO 96	MEGI	173400	Jun-18	BP	BP	2444
DAEWOO 2427	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	Jun-18	Yamal LNG	Dynagas	2427
DAEWOO 2458	LNGC	Order	DSME	GT NO 96	MEGI	173400	Jun-18	Shell (ex.BG)	MaranGas	2458
mitsubishi NAGASAKI 2325	LNGC	Order	Mitsubishi H.I.	Moss	StaGE	165000	Jun-18	Mitsubishi Corp	NYK	2325
HUDONG-ZHONGHUA H1665A	LNGC	Order	Hudong	GT No 96	TFDE	174000	Jun-18	Shell (ex.BG)	Teekay/CETS/CLNG/BW	H1665A
DAEWOO 2445	LNGC	Order	DSME	GT NO 96	MEGI	173400	Jul-18	BP	BP	2445
DAEWOO 2446	LNGC	Order	DSME	GT NO 96	MEGI	173400	Aug-18	BP	BP	2446
mitsubishi NAGASAKI 2323	LNGC	Order	Mitsubishi H.I.	Moss	STaGE	180000	Aug-18	Osaka Gas	Mitsui OSK	2323
DAEWOO 2431	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	Sep-18	Yamal LNG	Teekay/CLNG	2431
MOL NB 2 Freeport	LNGC	Order	Kawasaki H.I.	Moss	TFDE	177000	Oct-18	Chubu Electric FP 2	Mitsui OSK	1734
mitsubishi NAGASAKI 2326	LNGC	Order	Mitsubishi H.I.	Moss	STaGE	180000	Oct-18	Chubu Electric FP 3	NYK	2326
DAEWOO 2428	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	Nov-18	Yamal LNG	Dynagas	2428
DAEWOO 2429	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	Dec-18	Yamal LNG	Dynagas	2429
NYK NB 2 Freeport	LNGC	Order	Kawasaki H.I.	Moss	TFDE	177000	Dec-18	Chubu Electric FP 4	Mitsui OSK	1735
mitsubishi NAGASAKI 2327	LNGC	Order	Mitsubishi H.I.	Moss	STRH	180000	Dec-18	Chubu Electric FP 5	NYK	2327
mitsubishi NAGASAKI 2321	LNGC	Order	Mitsubishi H.I.	Moss	StaGE	177000	Dec-18	Mitsui & Co Cameron 3	NYK	2321
DAEWOO 2456	LNGC	Order	DSME	GT NO 96	MEGI	173400	Jan-19	Shell (ex.BG)	MaranGas	2456
DAEWOO 2459	LNGC	Order	DSME	GT NO 96	MEGI	173400	Jan-19	Available	MaranGas	2459
HUDONG-ZHONGHUA H1666A	LNGC	Order	Hudong	GT No 96	TFDE	174000	Jan-19	Shell (ex.BG)	Teekay/CETS/CLNG/BW	H1666A
DAEWOO 2433	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	Jan-19	Yamal LNG	Teekay/CLNG	2433
SK Shipping SK E&S NB1	LNGC	Order	HHI	GTT Mark III Flex	XDF	180000	Feb-19	SK E&S	SK Shipping	
HYUNDAI SAMHO S856	LNGC	Order	Hyundai Samho	TZ Mk. III	MEGI	174000	Feb-19	BP	Teekay	S856
SAMSUNG 2131	LNGC	Order	Samsung	TZ Mk. III	XDF	174000	Mar-19	Shell (ex. BG)	GasLog	2131
HYUNDAI SAMHO S857	LNGC	Order	Hyundai Samho	TZ Mk. III	MEGI	174000	Mar-19	Available	Teekay	S857
DAEWOO 2457	LNGC	Order	DSME	GT NO 96	MEGI	173400	Apr-19	Shell (ex.BG)	MaranGas	2457
SK Shipping SK E&S NB2	LNGC	Order	HHI	GTT Mark III Flex	XDF	180000	May-19	SK E&S	SK Shipping	
mitsubishi NAGASAKI 2322	LNGC	Order	Mitsubishi H.I.	Moss	StaGE	177000	Jun-19	Mitsui & Co Cameron 4	Mitsui OSK	2322
DAEWOO 2489	LNGC	Order	DSME	GT NO 96	DFDE	173400	Nov-19	Available	BW Gas	2489
DAEWOO 2434	LNGC	Order	DSME	GT NO 96	TFDE - Azipod	172410	Nov-19	Yamal LNG	Teekay/CLNG	2434
Maran Gas NB1	LNGC	Order	DSME	GT NO 96	MEGI	173400	Nov-19	Available	MaranGas	2466
Maran Gas NB2	LNGC	Order	DSME	GT NO 96	MEGI	173400	Nov-19	Available	MaranGas	2467
Trinity J/V (Mitsui & Co.)	LNGC	Order	Imabari	GTT Mark III Flex	MEGI	178000	Jan-20	Mitsui & Co Cameron 5	K-Line	TBN
IMABARI SAJO 8200	LNGC	Order	Imabari		MEGI?	178000	Oct-21		Trinity LNG Transport SA	8200

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
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WORLD SMALL SCALE LNG FLEET*

Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
1974	Seagas	187	LNG	Sweden	Yes	AGA
1988	Kayoh Maru	1,517	LNG	Japan	Yes	Daiichi
1993	Aman Bintulu	18,928	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
1996	Surya Aki	19,475	LNG	Indonesia - Japan	Yes	MCGC
1997	Aman Sendai	18,928	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
1998	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?
2015	Yuan He 1	30,000	LNG	China	Yes	CSR
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 Innovation	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	NYK Bunker barge TBN	5,100	LNG	Northwest Europe	Yes	NYK
2016	Ocean Yield TBN	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
2016	Ocean Yield TBN	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
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	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	Coralus	5,800	LNG	Northwest Europe/Baltics	Yes, for Skargas	Anthony Veder
2017	Evergas TBN	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2017	Evergas TBN	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

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 = 10 January 2017