LNG Shipping News

AN LNG JOURNAL TITLE ON LNG CARRIERS 20 December 2018

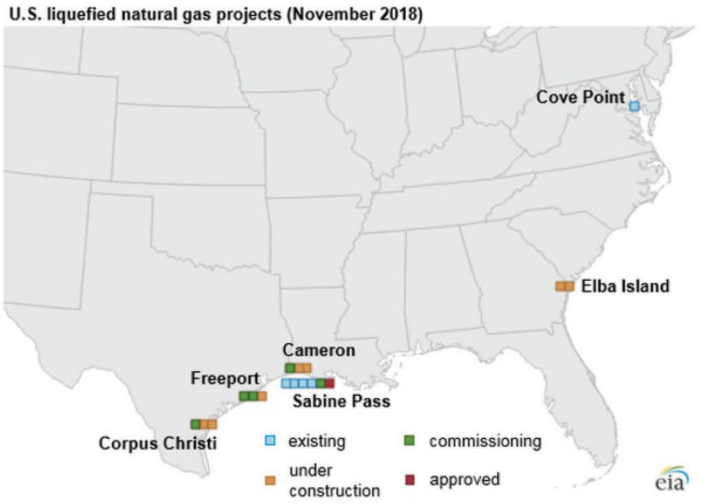
US LNG export capacity to double by end 2019

The US Energy Information Association (EIA) forecasts that US LN export capacity will reach 8.9 bill cu ft per day by the end of 2019.

This will make the US the third largest exporter in the world behind Australia and Qatar. Currently, US LNG export capacity stands at 3.6 bill cu ft per day, and it is expected to end the year at 4.9 bill cu ft per day, as two new liquefaction trains become operational.

The US began exporting LNG from the Lower 48 states in February, 2016, when the Sabine Pass liquefaction terminal in Louisiana shipped its first cargo. Since then, Sabine Pass has expanded from one to four operating liquefaction trains, and the Cove Point LNG export facility began operation in Maryland.

Two more trains—Sabine Pass Train 5 and Corpus Christi LNG Train 1—began LNG production this year, several months ahead of schedule, and are expected to ship their first cargoes within the next few weeks, the EIA said.



Source: EIA, company investor presentations.
Note: Each square represents one LNG train, with the exception of Elba Island, which will deploy 10 small-scale modular liquefaction units sequentially in two phases.

Commissioning

In addition, another two LNG export facilities—Cameron LNG in Louisiana and Freeport LNG in Texas—are currently being commissioned. The first LNG production from these facilities is expected in the first half of next year. The project developers expect all three Cameron LNG trains and two Freeport LNG trains to be come onstream in 2019.

The Elba Island LNG facility near Savannah, Georgia, is also scheduled to become fully operational by the end of next year. Project developers expect LNG production from the first train to begin early next year and from the remaining nine trains to commence sequentially through the rest of 2019.

The second Corpus Christi train is scheduled to be enter service in the second quarter of 2019. The final two trains of the US liquefaction projects currently under construction—Freeport Train 3 and Corpus Christi Train 3—are expected to be operational in the second quarters of 2020 and 2021, respectively.

Four additional export terminals—Magnolia LNG, Delfin LNG, Lake Charles, Golden Pass—and the sixth train at Sabine Pass, have been approved by both the US Federal Regulatory Commission (FERC) and the US Department of Energy (DoE), and they are expected to make final investment decisions (FID) in the coming months.

These proposed projects represent a combined additional LNG export capacity of 7.6 bill cu ft per day.

US LNG exports continue to increase with this growing capacity. EIA's latest 'Short-Term Energy Outlook' forecasts exports to average 2.9 bill cu ft in 2018 and 5.2 bill cu ft per day in 2019.

The latest information on the status of US liquefaction facilities, including expected online dates and capacities, is available in EIA's database of US LNG export facilities, the administration said.

****The LNG market faces a more complex outlook, VesselsValue said.

The global thirst for cleaner fuels has continued to increase and hire rates for ships remain near $200,000 per day.

However, a warm winter in China thus far has depressed some of the immediate demand, and tonne/miles have nudged downward.

The long term prospects are promising, but the market has likely peaked for now, VesselsValue said. ■

SHIPPING NEWS AGENDA

MARKETING

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LNG ORDERBOOK

First Yamal third train cargo shipped

On 11th December, 2018 the Arc7 'Christophe de Margerie', owned and operated by Sovcomflot (SCF), loaded the first LNG cargo produced at Yamal LNG train 3.

The cargo was loaded at Sabetta on the Yamal Peninsula.

Russian Prime Minister, Dmitry Medvedev, initiated the start of cargo operations via a video conference with the vessel's Master, Sergey Zybko.

Medvedev said: "This is a significant milestone for the entire Russian gas industry and, of course, for our international partners, and for international co-operation in the energy sector. For half a century, our country has been successfully co-operating with its European neighbours in the natural gas sector; now we are making forays into Asian markets.

"Yamal LNG is a significant confirmation of the reliability of our partnership with other states - in this case, with France and China. It is also important that Yamal LNG will stimulate the development of transnational infrastructure, initially of the Northern Sea Route - the transport corridor connecting Europe and Asia. I am confident that participation in this project, now completed in the Russian Arctic, and in a number of other major projects, opens up great opportunities for our foreign partners," he said.

'Christophe de Margerie' seen on an earlier visit to Sabetta

Commenting on the Sabetta ceremony, SCF's Senior Executive Vice President, Evgeny Ambrosov, said: "Over many years of successfully operating in the Arctic and sub-Arctic seas, Sovcomflot has trained over 50 highly qualified vessel crews, which is 1,500 seafarers capable of performing challenging work in extreme high latitude environments, to high safety and quality standards. We have a lot of seafaring dynasties amongst our crews, and we work to carefully preserve and carry on the legacy of generations of Russian seafarers, true pioneers of the Arctic."

In August, 2018, the first cargo from Yamal LNG train 2 was also shipped by an SCF vessel - the LNGC 'Pskov'. ■

MOL to provide FSRU for Indonesian project

Mitsui OSK Lines (MOL) has signed contracts for construction of an FSRU, the unit's services, and financing for the Jawa 1 gas-fired project.

The contracts were signed with PT Jawa Satu Regas (JSR), a joint company involving PT Pertamina, Marubeni Corp and Sojitz Corp.

MOL will be responsible for construction supervision, maintenance, and operational services.

The FSRU will have an LNG storage capacity of 170,000 cu m, a regasification capacity of 300 MMscfd and will be built by Samsung Heavy Industries.

This project entails JSP building, owning and operating a gas-fired power plant with a generating capacity of 1,760 MW in Indonesia's West Java province, while JSR will build, own, and operate an FSRU at sea to storage and regasify LNG to supply fuel to the power plant.

The power plant and the FSRU will be maintained and operated simultaneously and the electricity produced by these facilities will be sold to Indonesian state-owned electricity utility PT PLN (Persero) for over 25 years.

This is Asia's first such gas-to-power project using FSRU, electric generation and gas related facilities, which will be developed together.

The FSRU will feature the optimal tank capacity and regasification capacity tailored to the plant's power generation capacity.

This project is co-financed by the Japan Bank for International Cooperation, Asia Development Bank, Mizuho Bank, MUFG Bank, Oversea Chinese Banking Corp, Crédit Agricole Corporate and Investment Bank, and Societe Generale Bank & Trust. Financing of private financial institutions is insured by Nippon Export and Investment Insurance. ■

Awilco LNG in consolidation talks

Oslo-listed Awilco LNG has confirmed that it is talking with other gas carrier shipowners to establish a joint LNG shipping venture.

The identity of other companies involved in the talks was not disclosed, but were thought to include TMS Cardiff Gas and Golar LNG. The initial idea is to operate a fleet of up to 16 TFDE LNGCs by forming a new company.

It is not thought that the new company will operate as a pooling arrangement, similar to the Cool Pool.

In an statement to the Oslo Bors, Awilco LNG said it was working with other shipowners with the aim of establishing a consolidated LNG shipping structure that may offer scale and create commercial and financial synergies.

No agreement has yet been reached and it is not possible to say whether an agreement will be reached, the company warned, adding that it will revert with further information to the market in due course. ■

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First gas shipped from Corpus Christi

Cheniere Energy's first cargo from its Corpus Christi liquefaction facility in Texas, was shipped on the LNGC 'Maria Energy', chartered by Cheniere Marketing.

'Maria Energy' has loaded the first cargo at Corpus Christi and is believed to be heading for Greece

This also marks the first export of LNG from the state and from a greenfield liquefaction facility in the lower 48 states.

"Exporting the first commissioning cargo of LNG from Texas demonstrates Cheniere's ability to deliver projects safely and ahead of schedule, including the first greenfield LNG export facility in the lower 48 states," said Jack Fusco, Cheniere's President and CEO. "This milestone further reinforces Cheniere's position as the leader in US LNG, with a world-scale liquefaction platform that provides significant competitive advantages as we continue to execute on our growth strategy."

The Corpus Christi facility consists of three large-scale LNG production trains and supporting infrastructure, with an additional seven smaller trains in the pipeline.

The facility's first train produced its first LNG cargo in November and is expected to reach substantial completion in the first quarter of 2019. Train 2 is expected to reach substantial completion in the second half of 2019, and Train 3 in the second half of 2021.

Onshore, Corpus Christi will house three LNG storage tanks with capacity of around 10.1 bill cu ft equivalent and two marine berths. The seven smaller trains currently under development would increase the facility's total expected nominal production capacity to about 23 mill tonnes per annum.

Later it emerged that the 'Maria Energy' was heading for Greece.

A statement from Greece's Ministry of Environment and Energy posted on Twitter by the US Embassy in Athens said the country was expecting its first spot LNG cargo from the US to arrive on 29th December.

While the Greek statement did not specify where in the US the cargo was coming from, Cheniere spokesman Eben Burnham-Snyder confirmed to Platts that the cargo was shipped on 'Maria Energy'.

"LNG from the US will be unloaded before the end of the year in DESFA's new tank at Revithoussa, which was recently launched," the Ministry said in its statement. "This is the first cargo introduced by the US to Greece, stamping the mutual efforts of the two states for closer co-operation in the field of energy security in the Southeast Mediterranean region." ■

Tellurian signs up Vitol

Tellurian subsidiary, Tellurian Trading UK Ltd, has signed a Memorandum of Understanding (MOU) with Vitol to supply 1.5 mill tonnes per annum of LNG from the proposed Driftwood LNG export terminal.

The transaction price is based on the Platts Japan Korea Marker (JKM) and is for a minimum term of 15 years.

Under the MOU, Tellurian and Vitol have agreed to negotiate an LNG Sale and Purchase Agreement (SPA) under which Vitol will purchase LNG free on board (FOB).

The SPA will contain certain conditions, including Tellurian's receipt of regulatory approvals and a final investment decision (FID) to construct the Driftwood LNG export terminal.

In addition, Vitol is evaluating a potential equity investment in the Driftwood Holdings partnership.

Tellurian President and CEO, Meg Gentle, said, "The LNG business is evolving into a true commodity market, which includes LNG purchases and sales based on actual LNG prices rather than indexing to other energy products. JKM has emerged as the most liquid and transparent pricing mechanism for LNG.

"Tellurian is proud to work with Vitol, who has long been known for its innovation and creativity in the energy commodity markets, to lead LNG market transformation with a long-term LNG sale at the market index," Gentle said.

Pablo Galante Escobar, Head of LNG, Vitol added, "We are very pleased to have concluded this agreement with Tellurian, which is at the forefront of LNG in the US. Tellurian's integrated Driftwood project offers a unique value proposition, which we are pleased to participate in as off takers and potential equity investors."

FID for the project is expected during the first half of next year when construction will begin. Operations are expected to go online in 2023, Tellurian said.

This follows Vitol's agreement with PETRONAS, reported in LNG SN 6th December, page 2, to sign an SPA for 800,000 tonnes per year of LNG, primarily from the Canada LNG project. ■

Australia becomes world's largest LNG exporter

Australia has overtaken Qatar to become the world's leading LNG exporter.

According to the Australian Bureau of Statistics (ABS), the country exported 6.55 mill tonnes of LNG in November, compared to Qatar's 6.27 mill tonnes.

LNG is Australia's third-largest export commodity behind coal and iron ore.

Coal remained the most valuable export commodity at A$64.6 bill, followed by iron ore at A$61.6 bill and LNG at A$38.8 bill.

ABS said that LNG exports value would rise 57% to A$48 bill in financial year 2018-19 while total export revenues (coal, iron ore, LNG, etc) would grow 11% to a record-high A$252 bill.

Matt Canavan, Australia's Minister for Resources, said that the focus will be to hold onto the number one position.

"Staying on top is a lot harder than getting to the top," he told News Corp Australia recently. "We must continue to work hard to attract investment because this export revenue and the jobs associated with it delivers so much benefit to Australia." ■

NYK orders five LNGCs

Two LNGCs will be built under a long term charter contract with Total Gas & Power Chartering Limited (TGPCL), a subsidiary of French oil major Total.

They are to be constructed by Samsung Heavy Industries and are scheduled for delivery in 2021. Yonhap news agency put the price at Won400 bill (abt $358 mill) for the two vessels.

The two 174,000 cu m LNGCs will be powered with WinGD X-DF dual-fuel slow-speed diesel engines that are claimed to have superior fuel consumption efficiency and can operate on marine gas oil or boil off gas stored in the cargo tank.

They will also feature a re-liquefaction system that can use surplus boil-off gas effectively.

Last September, NYK concluded a long-term charter agreement with Total for another new LNGC. NYK also currently offers shipmanagement services through Gazocean, a French joint venture between NYK and Total, and will continue to deepen collaboration with Total in both LNG transportation and shipmanagement, the company said.

An artist's impression of the NYK LNGCs ordered for Mitsubishi

In addition, NYK has signed long-term contracts with Diamond Gas International (DGI), a wholly owned subsidiary of Singapore-based Mitsubishi Corporation (MC), to charter three 174,000 cu m newbuilding LNGCs ordered at Hyundai Samho.

Previously, NYK had concluded long-term timecharter contracts for three new LNGCs for MC's Cameron LNG project.

NYK will be responsible for shipmanagement for the three LNGCs, one of which is scheduled to be delivered in 2020. This ship will transport LNG from Louisiana for the Cameron LNG project for about 18 years, as well as from other locations worldwide. Both NYK and MC have a stake in this project.

The other two ships are scheduled to be delivered in 2021, and for about 17 years they will transport LNG from the LNG Canada project in British Columbia, Canada, in which MC has a stake.

These three LNGCs will also be equipped with WinGD's X-DF dual-fuel slow-speed diesel engines. ■

Lithuania to buy FSRU?

Lithuanian state-owned Klaipedos Nafta has been given the go ahead to purchase an LNG storage vessel by late 2024.

Klaipedos Nafta is currently leasing the FSRU 'Independence' from Höegh LNG.

"This will keep us able, beyond 2024, to strengthen our energy security and ensure pricing pressure for the Russian gas," Lithuania's Energy Minister, Zygimantas Vaiciunas, said, during a government vote to operate the country's LNG import facility until at least 2044.

Klaipedos Nafta will run an international tender for the FSRU between 2021 and 2024, its CEO Mindaugas Jusius told Reuters. The current 10-year lease on 'Independence' runs out at the end of 2024. One option will be to purchase this vessel.

The state will guarantee a loan to Klaipedos Nafta of up to €160 mill to finance the purchase, the government said in a submission to the parliament.

Lithuania currently pays €66 mill a year to lease and operate 'Independence', and up to another €30 mill euros to support its operation.

Lithuania's state-owned energy company Lietuvos Energija, through subsidiaries, has a contract with Norway's Equinor to import LNG until 2024. ■

Newbuilding orders continue

Daewoo Shipbuilding & Marine Engineering (DSME) has received an order to build two LNGCs for BW Gas.

They are due to be be delivered in the first half of 2021.

The contract is worth Won412.1 bill ($370.1 mill) and includes options for four more LNGCs, which, if exercised, would bring the value of the contract to around $1.1 bill.

DSME will construct the 174,000 cu m units at Okpo and confirmed that the options should be declared next year.

They will be fitted with MEGI engines and full re-liquefaction systems (FRS) to increase fuel efficiency by 30%, compared to conventional LNGCs, the shipbuilder said.

In addition, DSME has received an order to build another 173,400 cu m LNGC for Maran Gas Maritime Inc, the gas shipping unit of Angeliccoussis Shipping Group.

She is due for delivery in the first half of 2021, DSME said.

SHI has also won an order for an LNGC from an undisclosed interest for delivery in March, 2021.

The value of the contract was put at $187 mill.

Another contract involved Hyundai Mipo Dockyard, which recently confirmed that it had signed a $77 mill contract with Knutsen to build a mid-size LNGC.

The 30,000 cu m will be delivered by the first quarter of 2021. The contract includes an option for a sister vessel.

She will be used to supply LNG from the eastern Italy to Sardinia.

The LNGC will be 180 m long and 28.4 m beam and will be fitted with a dual fuel engine. ■

More of these ordered? Photo credit: ABB

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NEWS NUDGE

LNGC sales

Brokers reported that the 1994-built, 126,806 cu m 'Northwest Stormpetrel' and the 2004-built, 137,700 cu m 'Northwest Swan' had been sold to Sinopec for an undisclosed price level.

In addition, MISC's 1981-built, 130,000 cu m LNGC 'Tenaga Lima' was reported sold to Bangaldesh recyclers for $453 per ldt.

She is the last of five of the Tenaga class vessels in the MISC fleet, which were built in France during the early 1980s. ■

Equinor to hold Tanzanian LNG export terminal talks

Norway's oil major Equinor is to start talks with Tanzania on developing an LNG project based on a deepwater offshore discovery.

According to a Reuters report, Tanzanian President, John Magufuli had asked the government to proceed with negotiations to set out the commercial and fiscal framework for the LNG project.

In 2014, Tanzania had said that a planned LNG export plant could cost up to $30 bill to bring on stream.

Royal Dutch Shell, which operates deepwater Blocks 1 and 4, adjacent to Equinor's Block 2, previously sought to develop the LNG project in partnership with Equinor and Exxon Mobil.

"Shell continues to work with the government of Tanzania to establish the most cost effective and competitive solution for the LNG project in Tanzania," a company spokeswoman said in an email to Reuters.

"We believe the government is best placed to lead the right way forward to deliver the project," she added. ■

Kiewit wins Calcasieu EPC contract

Venture Global LNG has awarded Kiewit the engineering, procurement, and construction (EPC) contract for the Calcasieu Pass LNG export project under development in Cameron Parish, Louisiana.

Under the terms of the turnkey EPC contract, Kiewit Louisiana Co will design, engineer, construct, commission, test and guarantee the facility, which carries a 10 mill tonnes per annum nameplate. Completion is expected in 2022.

Venture Global Co-CEO, Bob Pender, said, "We are thrilled to partner with one of North America's leading contractors for our Calcasieu Pass project. The Kiewit team brings decades of construction experience, an unparalleled safety record, and on-time, on-budget execution of major infrastructure projects, including the Cove Point LNG export project in Lusby, Maryland. This partnership supports the continued timely execution of our strategy."

Co-CEO, Mike Sabel, added, "Kiewit is equally committed to our strategy of realising the highest quality at the lowest achievable cost. They drive not only to execute but to continually improve and optimise their approach. Finalising this contract, which meets our budget, schedule, and finance requirements, is one of the most important milestones to date for our company and the culmination of our development plans."

"We are very pleased to be partnering with Venture Global LNG on this important EPC project. With outstanding commitment and talent, working together, this project will be a model for supplying low-cost, clean and reliable energy to the global market," said Bruce Grewcock, Kiewit Chairman and CEO. "It's exciting to be asked to bring our extensive industry experience and capabilities to help Venture Global LNG deliver the Calcasieu Pass LNG export project safely, on-schedule and on budget."

The 10 mill tonnes per annum Calcasieu Pass facility will employ a comprehensive process solution from GE Oil & Gas, part of Baker Hughes, a GE company (BHGE) that uses mid-scale, modular, factory-fabricated liquefaction trains as well as a 5x2 711 MW CCGT to support the trains' electric-drive system.

Construction of the facility will commence by early next year following the receipt of all required regulatory approvals, including the 'final order' from the US Federal Energy Regulatory Commission (FERC), which is currently scheduled to be issued no later than 22nd January, 2019.

The Calcasieu Pass project has signed binding 20-year offtake agreements with Shell, BP, Edison, Galp, Repsol and PGNiG.

Global Ventures is also developing the 20 mill tonnes per annum Plaquemines LNG export facility in Plaquemines Parish, Louisiana, which recently agreed its first binding 20-year offtake agreement with PGNiG.

Venture Global LNG said it expected to take formal final investment decisions (FID) on both its Calcasieu Pass and Plaquemines LNG projects in 2019. ■

Trelleborg upgrades SafePilot software

Trelleborg's marine systems operation has boosted its navigation and piloting offering with the launch of SafePilot CAT MAX, the latest addition to its SafePilot range.

This makes use of state-of-the-art software and smart technology to help pilots and ports optimise safety and efficiency in their day-to-day operations.

Replacing its SafePilot CAT III, developed for high positioning accuracy required applications, Trelleborg's new SafePilot CAT MAX has been specifically designed for use in even more demanding applications including the piloting of LNGCs and other large ships in confined waters and offshore operations.

The dual antenna solution, which consists of heading and positioning units, which can communicate with each other and the pilot's display via Wi-Fi, boasts an integrated six-axis gyro/motion sensor, offering precise and independent rate of turn, roll, and pitch. This, coupled with the capability of charging wirelessly, makes the SafePilot CAT MAX an ideal solution for operations where accurate under keel clearance is critical, the company said.

Richard Hepworth, President of Trelleborg's marine systems operation, said: "Piloting requires the safest, most efficient and reliable technology. It demands exceptional performance, ease of operation and high position accuracy to facilitate optimum approach, berthing and departure. The launch of the SafePilot CAT MAX is the latest example of our long-standing commitment to continually exploring ways in which we can further strengthen our navigation and piloting offering to ensure it delivers exactly that, and then some, in even the most demanding applications." ■

LNG Shipping News

Due to the holiday period, the next issue of LNG Shipping News will be published on 10th January, 2019.

We would like to take this opportunity to thank advertisers, subscribers and readers for their support in 2018. ■

Alfa Laval GCU LNGC sales exceed 100

Alfa Laval's Gas Combustion Unit (GCU) has been selected for boil-off gas (BOG) management on more than half of the LNGCs built this year, bringing the total number of GCUs sold to well over 100 units.

Since buying the technology from Snecma in 2013, Alfa Laval claimed it had built up a strong position for the system in the LNGC sector.

This simple and reliable incineration unit for BOG, with few components and a minimal number of interfaces and moving parts, now has a long track record among the largest LNGC shipowners, the company claimed.

"The Alfa Laval GCU has proven a very good solution for our needs," said Miltos Zisis, Innovation and Technology Manager at GasLog. "Between its compactness and simplicity, the GCU is easily integrated into our LNG carriers and provides the high reliability we demand,"

GasLog purchased the 100th GCU from Alfa Laval.

An Alfa Laval CGU seen on the testbed at Aalborg

Core system

Today this GCU unit is central to the Alfa Laval portfolio of systems for LNG, which also includes the Alfa Laval Smit LNG inert gas generators. Alfa Laval has continued to develop the GCU technology, both in partnership with customers and at the Alfa Laval Test & Training Centre in Aalborg, Denmark.

Since the expansion of the Test & Training Centre for gas applications in 2017, a full-size GCU has been the focal point of the 1,350 sq m testing space.

"Numerous GCU advances have been made at the Alfa Laval Test & Training Centre, such as a full free-flow application that enables full-capacity burning at low inlet pressure without the need for gas compressors," said Pieter Borg, Manager Exhaust & Combustion Systems at Alfa Laval. "We have also implemented Alfa Laval Touch Control, which is the same control system used on other Alfa Laval products, such as Aalborg boilers and Smit inert gas generators."

Another GCU development will appear in 2019, when a smaller version is expected to be commercially released. Whereas the current GCU is most suited to large vessels, the new unit will be optimised for 100-1000 kg/h of BOG, Alfa Laval said.

"The smaller GCU will be an excellent fit for small LNG carriers, floating storage and regasification units, LNG bunker vessels and vessels using LNG as fuel, which also need an option for burning boil-off gas," Borg explained. ■

MOL and Uniper to develop FSRU project

Uniper and Mitsui OSK Lines (MOL) have signed an agreement to ramp up their efforts to install an FSRU at Wilhelmshaven, Germany.

Its planned take-off capacity is 10 bill cu m per annum and it will have a LNG storage capacity of 263,000 cu m.

The unit could be in operation as early as the second half of 2022, as it will be moored on an existing site in Wilhelmshaven where the infrastructure is already in place, being closely located to the existing pipeline and gas storage infrastructure.

MOL will own, operate and finance the FSRU, while Uniper, as project developer, will continue to work closely with the relevant authorities to receive the permits for the operation of the facility and to garner interest for regasification capacity from other market participants.

The FSRU will be designed to allow loading of small scale barges to enable the LNG to be used as a marine fuel. Further, onward transportation by truck will be possible.

Keith Martin, Uniper CCO, stated: "We are glad that we were able to get such an experienced partner as Mitsui OSK Lines on board for the development of Germany's first LNG terminal. Our partnership with MOL combined with the FSRU technology, as well as Wilhelmshaven's uniqueness in Germany, provide the fastest and most economical way to realise LNG imports directly into Germany. This will also be to the benefit of the end-customers."

Takeshi Hashimoto, MOL's Senior Managing Executive Officer, added; "We continue to support Uniper through our existing strong relationship and co-operation to secure Germany's first LNG terminal in Wilhelmshaven."

In addition to the FSRU Wilhelmshaven, Uniper and MOL have signed a binding transportation agreement under which MOL will provide Uniper with shipping capacity equivalent to an 180,000 cu m LNGC.

This agreement will commence in December, 2020. Uniper intends to use the additional shipping capacity to optimise LNG volumes sourced from Freeport, Texas and to further leverage its expanding LNG trading activities.

In 2015 Uniper contracted around 0.9 mill tonnes per annum of US LNG Exports for a period of 20 years. ■

NEWS NUDGE

FLNG project off West Africa moves closer

Golar LNG Limited has received a Limited Notice to Proceed (LNTP) from BP Mauritania Investments and BP Senegal Investments to provide an FLNG.

The FLNG will support the development of Phase 1 of the Greater Tortue/Ahmeyim field, located offshore Mauritania and Senegal.

This LNTP is in takes the project further from the Preliminary Agreement and Heads of Terms for a charter agreement with BP, which was announced in April of this year.

The vessel's conversion will take place at Keppel Shipyard, which delivered the FLNG 'Hilli Episeyo', using Black and Veatch Corp's PRICO technology.

Discussions regarding a minority investment in the vessel are also underway. ■

EPIK to develop Australian FSRU

South Korean LNG project development company, EPIK has signed a project development option agreement with Port of Newcastle, NSW to start preliminary works on a proposed LNG FSRU import terminal.

The project, named 'Newcastle LNG,' will be located within the port, to serve the New South Wales gas market where natural gas prices remain higher than Asian LNG prices.

Jee Yoon, EPIK's Founder and Managing Director, said, "Based on our assessment of the New South Wales gas market, particularly along coastal demand regions, such as Newcastle and Sydney, we are confident that by importing LNG via a new, low cost FSRU terminal, we will be able to provide an infrastructure solution that is capable of delivering a cost-efficient source of alternative gas supplies to the region on a long-term basis."

Situated at the end of an existing gas transmission network, Newcastle is one of Australia's largest ports and a major trade and logistics hub.

Yoon continued, "We are very excited to be working with Port of Newcastle and hope to expand our relationship by discussing other potential projects, such as a gas-fired power plant and an LNG bunkering facility."

Port of Newcastle's Executive Manager Customer & Strategic Development, Ian Doherty, said the deepwater port was uniquely placed on Australia's east coast, due to its significant land and channel capacity, making it an attractive location for the Newcastle LNG project.

"This type of development opportunity is consistent with our diversification plans and we're pleased to be supporting EPIK as it conducts preliminary investigation work, especially given its potential benefits for the NSW economy," Doherty said.

The potential investment for the project is estimated to be between $400 mill and $430 mill, which will include a 170,000 cu m newbuilding FSRU and the associated onshore infrastructure.

EPIK said that it expected to place an order for the FSRU as soon as receiving regulatory approvals for the project. ■

GTT hits 50 orders this year

Recently, GTT received orders to fit six newbuilding LNGCs with its containment system.

The latest came from a South Korean shipyard to design the tanks of two new 174,000 cu m LNGC, on behalf of an Asian shipowner.

Delivery of the ships is planned during the first and second semester of 2021, respectively.

The Mark III Flex was chosen for the design of the tanks.

Philippe Berterottière, GTT Chairman and CEO, said: "We are pleased to receive this new notification, which brings up to 50 the number of vessels ordered this year, including 48 LNG carriers and two FSRUs."

Earlier, GTT had reported an order from a South Korean shipyard to design the tank for two new 174,000 cu m LNGCs, on behalf of a European shipowner.

The delivery of the ships is planned for the first half of 2021.

Again, GTT's membrane containment system Mark III Flex has been selected for the tanks' design.

GTT said it had also received an order from Hyundai Samho Heavy Industries (HSHI) for the tank design of two new 174,000 cu m LNGCs.

These units will be built on behalf of the Greek shipowner Consolidated Marine Management (CMM).

The vessels are scheduled for delivery between the first and the third quarter of 2021.

The tanks will also be equipped with a Mark III Flex containment system. ■

Ship deliveries

At the beginning this month, the Arc 7 LNGC 'Boris Davydov' was reported to have left Daewoo shipyard and was heading for Sabetta, according to Refinitiv shipping data.

'Georgiy Brusilov', another newbuild Arc7 tanker, which left Daewoo last month, was stationary at the mouth of Obskaya Gulf just north of Sabetta for a week.

Yamal needs the ice-breaker tankers to ship LNG out of the Arctic waters especially during the winter months so the new vessels will enable the facility to raise output by increasing the shipping capacity.

Refinitiv data shows the 'Georgiy Brusilov' was due to arrive at Sabetta on 6th December, while 'Boris Davydov' should arrive on 24th December.

Another vessels reported delivered was the 174,000 cu m 'Marvel Hawk' managed by MOL. A sistership, 'Marvel Crane', is due to be delivered in the new year.

In addition, On 11th December, 2018, the world's largest LNG bunker supply vessel, the 7,500 cu m 'Kairos', commenced operations in Northwest Europe.

Chartered by Blue LNG, a joint venture involving Hamburg based LNG supplier 'Nauticor' with a 90% share and the Lithuanian energy infrastructure provider KN with a 10% share, the ship was handed over to Babcock Schulte Energy at Klaipeda.

Her construction started in 2016 when the joint venture signed a timecharter agreement with shipowner Babcock Schulte Energy. In February 2018, steel cutting took place at Hyundai Mipo Dockyard (HMD) in Ulsan, South Korea, and in October, 2018 the vessel was delivered by the shipyard. ■

NEWS NUDGE

FERC issues Annova LNG Brownsville DEIS

The US Federal Energy Regulatory Commission (FERC) has prepared a draft environmental impact statement (EIS) for the Annova LNG Brownsville project.

The Project consists of the following facilities:

- Pipeline meter station;
- Liquefaction facilities;
- Two LNG storage tanks;
- Marine and LNG transfer facilities;
- Control room, administration/ maintenance building;

The draft EIS comment period closes on 4th February, 2019.

Tokyo Gas to help develop Philippine LNG terminal

Tokyo Gas has signed a joint development agreement with First Gen Corp to build and operate an LNG receiving terminal in the Philippines.

This is the first Philippine energy infrastructure development project has participated in.

The project, to be located in Batangas Bay, is aimed at introducing LNG as an alternative source to the indigenous gas field, which is expected to decrease in production and be depleted in the near future. ■

WORLD LNG CARRIER ORDERBOOK

Name	Yard	Containment System	Capacity	Propulsion	Delivery Date	Ordered	Primary Owner
Jmu Tsu 5072	JMU	SPB	165000	TFDE	Mar-19	Feb-14	MOL
Jmu Tsu 5073	JMU	SPB	165000	TFDE	Jul-19	Feb-14	MOL
Jmu Tsu 5071	JMU	SPB	165000	TFDE	Nov-18	Feb-14	NYK
Gaslog Gladstone	Samsung	TZ Mk. III	174000	XDF	Jan-19	May-14	GasLog
Maran Gas Syros	DSME	GT NO 96	173400	MEGI	Apr-19	Jun-14	Maran Gas Maritime
Pan Africa	Hudong-Zhonghua	GT NO 96	174000	TFDE	Jan-19	Jun-14	Teekay LNG
Daewoo 2430	DSME	GT NO 96	172000	TFDE - Azipod	Jul-19	Jul-14	Teekay LNG
Daewoo 2431	DSME	GT NO 96	172000	TFDE - Azipod	Aug-19	Jul-14	Teekay LNG
Daewoo 2433	DSME	GT NO 96	172000	TFDE - Azipod	Oct-19	Jul-14	Teekay LNG
Daewoo 2434	DSME	GT NO 96	172000	TFDE - Azipod	Nov-19	Jul-14	Teekay LNG
Daewoo 2432	DSME	GT NO 96	172410	TFDE - Azipod	Sep-19	Jul-14	MOL
Kawasaki Sakaide 1729	Kawasaki	Moss	155000	TFDE	Aug-19	Sep-14	MOL
Samsung 2150	Samsung	GTT Mark III Flex	174000	XDF	Jan-19	Oct-14	MOL
British Contributor	DSME	GT NO 96	173400	MEGI	Nov-18	Nov-14	BP
British Mentor	DSME	GT NO 96	173400	MEGI	Feb-19	Nov-14	BP
British Sponsor	DSME	GT NO 96	173400	MEGI	Mar-19	Nov-14	BP
Daewoo 2444	DSME	GT NO 96	173400	MEGI	Jan-19	Nov-14	BP
Nikolay Zubov	DSME	GT NO 96	172410	TFDE - Azipod	Dec-18	Dec-14	Dynagas
Mitsubishi Nagasaki 2322	Mitsubishi H.I.	Moss	177000	STaGE	Sep-19	Jan-15	MOL
Marvel Crane	Mitsubishi H.I.	Moss	177000	STaGE	Dec-18	Jan-15	NYK
Mitsubishi Nagasaki 2323	Mitsubishi H.I.	Moss	177000	STaGE	Jan-19	Mar-15	MOL
Maran Gas Chios	DSME	GT NO 96	173400	MEGI	Jan-19	Jun-15	Maran Gas Maritime
Maran Gas Hydra	DSME	GT NO 96	173400	MEGI	Jan-19	Jun-15	Maran Gas Maritime
Hyundai Samho S856	Hyundai Heavy	TZ Mk. III	174000	MEGI	Jan-19	Jun-15	Teekay LNG
Yamal Spirit	Hyundai Heavy	TZ Mk. III	174000	MEGI	Jan-19	Jun-15	Teekay LNG
Daewoo 2489	DSME	GT NO 96	173400	MEGI	Nov-19	Sep-15	BWGas
Shinshu Maru	Kawasaki	Moss	177000	STRH	Feb-19	Sep-15	MOL
Sohshu Maru	Kawasaki	Moss	177000	STRH	Jul-19	Sep-15	MOL
Diamond Gas TBN	Mitsubishi H.I.	Moss	165000	STaGE	May-19	Nov-15	Mitsubishi
Bushu Maru	Mitsubishi H.I.	Moss	180000	STaGE	Jun-19	Nov-15	NYK
Nohshu Maru	Mitsubishi H.I.	Moss	180000	STaGE	Feb-19	Nov-15	NYK
Hyundai Ulsan 2937	Hyundai Heavy	GTT Mark III Flex	180000	XDF	Apr-19	May-16	SK Shipping
Hyundai Ulsan 2938	Hyundai Heavy	GTT Mark III Flex	180000	XDF	Jul-19	May-16	SK Shipping
Daewoo 2466	DSME	GT NO 96	173400	MEGI	Oct-19	Jun-16	Maran Gas Maritime
Daewoo 2467	DSME	GT NO 96	173400	MEGI	Nov-19	Jun-16	Maran Gas Maritime
Samsung 2213	Samsung	GTT Mark III Flex	180000	XDF	Jun-20	Sep-16	GasLog
Daewoo 2469	DSME	GT NO 96	173400	MEGI	Apr-20	Dec-16	Maran Gas Maritime
Hyundai Ulsan 2964	Hyundai Heavy	GTT Mark III Flex	180000	MEGI	May-19	Mar-17	Knutsen
Flex Constellation	DSME	GT NO 96	173400	MEGI	Jun-19	Mar-17	Flex LNG
Flex Courageous	DSME	GT NO 96	173400	MEGI	Aug-19	Mar-17	Flex LNG
Hyundai Ulsan 2963	Hyundai Heavy	GTT Mark III Flex	180000	MEGI	Jun-19	May-17	Knutsen
MOL HUDONG-ZHONGHUA 1/4	Hudong-Zhonghua	GT NO 96	174000	MEGI	Dec-19	Jul-17	MOL
MOL HUDONG-ZHONGHUA 2/4	Hudong-Zhonghua	GT NO 96	174000	MEGI	Mar-20	Jul-17	MOL
MOL HUDONG-ZHONGHUA 3/4	Hudong-Zhonghua	GT NO 96	174000	MEGI	Jul-20	Jul-17	MOL
MOL HUDONG-ZHONGHUA 4/4	Hudong-Zhonghua	GT NO 96	174000	MEGI	Oct-20	Jul-17	MOL
Gaslog Windsor	Samsung	GTT Mark III Flex	180000	XDF	Jul-19	Dec-17	GasLog
Daewoo 2478	DSME	GT NO 96	173400	MEGI	May-20	Dec-17	Maran Gas Maritime
HHI NYK/EDF	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Apr-20	Jan-18	NYK
HHI / Total	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jun-20	Jan-18	Cardiff Marine

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 = 20th November 2018

Name	Yard	Containment System	Capacity	Propulsion	Delivery Date	Ordered	Primary Owner
HHI / Total / Sovc	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jun-20	Jan-18	Sovcomflot
DSME 2490	DSME	GT NO 96	173400	MEGI	Feb-20	Feb-18	BWGas
DSME 2491	DSME	GT NO 96	173400	MEGI	May-20	Feb-18	BWGas
HHI / Cardiff #1	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jun-20	Feb-18	Cardiff Marine
HHI / Cardiff #2	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jun-20	Feb-18	Cardiff Marine
DSME 2479	DSME	GT NO 96	173400	MEGI	Aug-20	Feb-18	John Fredriksen
DSME 2480	DSME	GT NO 96	173400	MEGI	Sep-20	Feb-18	John Fredriksen
Flex America	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Aug-20	Mar-18	Flex LNG
Flex Aurora	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jun-20	Mar-18	Flex LNG
SHI Gaslog #1	Samsung	GTT Mark III Flex	180000	XDF	Jun-20	Mar-18	GasLog
Samsung 2271	Samsung	GTT Mark III Flex	174000	XDF	Apr-20	Mar-18	Cardiff Marine
DSME Minerva #1	DSME	GT NO 96	173400	MEGI	Mar-21	Mar-18	Minerva Marine
DSME Minerva #2	DSME	GT NO 96	173400	MEGI	Jul-21	Mar-18	Minerva Marine
Hyundai Ulsan 3086	Hyundai Heavy	GTT Mark III Flex	180000	MEGI	Jun-20	Mar-18	Knutsen
DSME 2483	DSME	GT NO 96	173400	MEGI	Oct-20	Mar-18	Alpha Gas
DSME 2484	DSME	GT NO 96	173400	MEGI	Dec-20	Mar-18	Alpha Gas
SHI Gaslog #2	Samsung	GTT Mark III Flex	180000	XDF	Sep-20	May-18	GasLog
Maran Gas DSME	DSME	GT NO 96	173400	MEGI	Oct-20	Jun-18	Maran Gas Maritime
DSME 2487	DSME	GT NO 96	173400	TFDE	Apr-21	Jun-18	Maran Gas Maritime
DSME 2485	DSME	GT NO 96	173400	MEGI	Mar-21	Jun-18	Alpha Gas
HHI Thenamaris #1	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Nov-20	Jun-18	Thenamaris
HH 8012	Hyundai Heavy	GTT Mark III Flex	174000		Feb-21	Jun-18	John Fredriksen
HH 8013	Hyundai Heavy	GTT Mark III Flex	174000		May-21	Jun-18	John Fredriksen
HHI Capital Gas #1	Hyundai Heavy	GTT Mark III Flex	174000		Sep-20	Jul-18	Capital Gas
HHI Capital Gas #2	Hyundai Heavy	GTT Mark III Flex	174000		Dec-20	Jul-18	Capital Gas
HHI Capital Gas #3	Hyundai Heavy	GTT Mark III Flex	174000		Mar-21	Jul-18	Capital Gas
HHI Capital Gas #4	Hyundai Heavy	GTT Mark III Flex	174000		Jun-21	Jul-18	Capital Gas
DSME 2492	DSME	GT NO 96	173400	MEGI	Nov-20	Jul-18	John Fredriksen
SHI Celcius #1	Samsung	GTT Mark III Flex	180000	XDF	Oct-20	Aug-18	Celcius Shipping
SHI Celcius #2	Samsung	GTT Mark III Flex	180000	XDF	Jan-21	Aug-18	Celcius Shipping
HHI 3037	Hyundai Heavy	GTT Mark III Flex	174000	XDF	Jul-20	Aug-18	Cardiff Marine
SHI 2300	Samsung	GTT Mark III Flex	174000	XDF	Nov-20	Aug-18	GasLog
SHI 2301	Samsung	GTT Mark III Flex	174000	XDF	Dec-20	Aug-18	GasLog

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 = 20th November 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 Conception	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Norgas Invention	10,000	LNG/LPG/Ethylene	Worldwide	No	Norgas Carriers
2011	Vision Spirit	12,000	LNG/LPG/Ethylene	Worldwide	No	Teekay
2011	Unikum Spirit	12,000	LNG/LPG/Ethylene	Worldwide	No	Teekay
2012	Coral Energy	15,600	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2013	JX Energy TBN	2,500	LNG	Japan	Yes	JX Energy
2013	Kakuyu Maru	2,500	LNG	Japan	Yes	Tsurumi Sunmarine
2013	Coral Anthelia	6,500	LNG/Ethylene			Anthony Veder
2014	LNG-Oil combi**	2,000	LNG	Germany	Yes	Veka
2014	Short Sea LNG Tanker **	4,000	LNG	Germany	Yes	Veka
2015	LNG Inland bunker**	800	LNG	Germany	Yes	Veka
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 Barge TBN	3,000	LNG	US Coast	Yes	LNG America
2015	10 small carriers TBN**	5,000	LNG			Bimantara Group
2015	Jahre TBN**	6,200	LNG	Norway	Yes	Donsotank/Jahre Marine
2015	Norgas TBN**	17,000	LNG/LPG/Ethylene	Worldwide		Norgas Carriers
2015	Norgas TBN**	17,000	LNG/LPG/Ethylene	Worldwide		Norgas Carriers
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	TBN 1	27,500	LNG	China?		Danyang?
2015	TBN 2	27,500	LNG	China?		Danyang?
2015	TBN 3	27,500	LNG	China?		Danyang?
2015	PetroChina TBN	30,000	LNG	China		PetroChina
2016	Clean Jacksonville	2,200	LNG	US Coast	Yes	CME
2016	LNG Prime	2,250	LNG	Northwest Europe	Yes	Veka Deen LNG
2016	JS Ineos Indepence	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos 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

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 = 6th December 2018

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Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
2016	Hai Yang Shi You 301	30,000	LNG	Bali FSU	Yes	CETS (CNOOC)
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
2016	Ocean Yield TBN**	36,000	Ethane/Ethylene	US - Teeside	Ethane, for Sabic	Gaschem Services
2017	Oizmendi	600	LNG	Bilbao	Yes	Itsas Gas
2017	CME TBN†	2,200	LNG	US Coast	Yes	CME
2017	CME TBN†	2,200	LNG	US Coast	Yes	CME
2017	ENGIE Zeebrugge	5,000	LNG	Northwest Europe	Yes	NYK
2017	Coralius	5,800	LNG	Northwest Europe/Baltics	Yes, for Skangas	Anthony Veder
2017	Cardissa	6,500	LNG	Northwest Europe	Yes	Shell
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	LNG-Gorskaya TBN	7,300	LNG	Russia	Yes	LNG-Gorskaya
2017	Coral EnergICE	18,000	LNG	Northwest Europe/Baltics	Yes	Anthony Veder
2017	JS Ineos Invention	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2017	JS Ineos Intuition	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2017	Yuan He 1	30,000	LNG	China	Yes	CSR
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	HUA XIANG 8	13,720	LNG	China	Yes	Zhejiang Huaxiang
2018	CME TBN†	2,200	LNG	US Coast	Yes	CME
2018	Shell Bunker Barge TBN 4	3,000	LNG	Northwest Europe	Yes	Shell
2018	Shell Bunker Barge TBN 2	6,500	LNG	Northwest Europe	Yes	Shell
2018	Shell Bunker Barge TBN 3	6,500	LNG	Northwest Europe	Yes	Shell
2018	Kairos	7,500	LNG	Baltic	Yes	Bernhard Schulte
2018	Qi Yuan	28,000	LNG	China	Yes	Dalian Inteh Group
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
2018	Bunker Breeze	0	LNG	Barcelona	Yes	Suardiaz Energy Shipping
2019	KLine TBN	7,500	LNG	Korea	Yes	Korea Line
2019	KLine TBN	7,500	LNG	Korea	Yes	Korea Line
2019	Stolt TBN	7,500	LNG	Mediterranean	Yes	Stolt-Nielsen Gas
2019	Stolt TBN	7,500	LNG	Mediterranean	Yes	Stolt-Nielsen Gas
2020	Shell Bunker Barge	4,000	LNG	US Coast	Yes	Q-LNG Transport / Harvey Gulf
2020	Stolt TBN (option) **	7,500	LNG		Yes	Stolt-Nielsen Gas
2020	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2020	Total TBN	18,600	LNG	NWE	Yes	MOL
2020	FuelLNG TBN	7,500	LNG	Singapore	Yes	FuelLNG
2020	CLS TBN	3,500	LNG	Japan	Yes	CLS
2020	Eesti Gaas TBN	6,000	LNG	NWE	Yes	Eesti Gaas
2020	ENN TBN	8,500	LNG	China	Yes	ENN
2021	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2021	Knutsen TBN	30,000	LNG	Mediterranean	Yes	Knutsen OAS

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