

LNG Shipping News

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17 September 2020

Global LNG demand to rise

Demand for LNG is to increase steadily for several decades helped by economic growth in Asia, industry leaders told the Gastech Virtual Summit held last week.

The current COVID-19 pandemic was viewed as only a short-term setback.

"While the world continues to grapple with the severe impacts of market demand and the impact of COVID-19, long-term fundamentals remain strong supported by growing population and energy demand," Irtiza Sayyed, ExxonMobil LNG Market Development President, said.

"LNG is and will remain a high-growth industry based on a growing economy worldwide, particularly in Asia, with a desire for secure, affordable and cleaner-burning fuels," Douglas Wharton, Vice President, Cheniere Marketing, added.

LNG trade demand will grow by an average 3.4% a year between 2019 and 2040, with additional supply required to achieve such growth.

Some executives said that coronavirus had reduced investment in new production, resulting in supply not recovering as fast as demand.

Around two thirds of the growth in LNG demand in the next decade will come from China, India, Pakistan and Bangladesh, according to Wood Mackenzie.

Most speakers agreed that China will be the key driving force for LNG demand in the coming decades.

China's gas demand is expected to exceed 600 billion cu m per year by 2040, up from just over 300 billion in 2020, according to Ming Cai, natural gas and LNG consultant at Poten & Partners.

Resilience

The speakers put the spotlight on the importance of gas in the growing demand for energy globally and highlighted the resilience of the industry in the face of price volatility, COVID-19 and the changes to the environmental agenda.

Gas companies are now energy companies, with the shared mandate to drive a low carbon energy future.

Chan Chun Sing, Minister of Trade & Industry for Singapore, who opened the Summit, said; "As the LNG hub of the region, our government and gas industry in Singapore have embarked on many initiatives across the value chain. These serve to promote innovation in the sector and the adoption of more environmentally sustainable energy strategies."



Irtiza Sayyed, President
ExxonMobil LNG Market
Development

Joseph McMonigle, the International Energy Forum's Secretary General said, "The pandemic increases the stakes by pushing the demand gap out further over the next decade. This opens a new window of opportunity that enables the gas industry to play a larger role in achieving climate, clean air, and energy access goals."

Hydrogen is also set to play a key role in a clean, secure and affordable energy future. De La Rey Venter, Executive Vice President, Integrated Gas Ventures at Shell, stressed; "How important is hydrogen really in the context of our climate aspirations? Bluntly put, it is mission critical."

Hydrogen will play an important role in de-carbonising the energy industry. Last week, the Gastech Hydrogen Exhibition and Conference was launched, to be co-located with Gastech in Singapore in September, 2021.

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NEWS NUDGE

STS service provider joins OSRL

Ship-to-ship transfer specialist, STS Marine Solutions (STS), has joined Oil Spill Response Limited (OSRL).

A service provider with over 40 years of experience, STS de-

livers expertise in the transfer of LNG, LPG and oil.

Its decision to join OSRL was driven by a board-level commitment to reduce or remove risk across its operations.

'Prelude' back onstream

Royal Dutch Shell has recently confirmed that operations at 'Prelude' FLNG offshore Western

Australia have resumed.

The giant FLNG has remained offline since February, due to engineering problems.

This suspension of operations followed an order from Australia's upstream regulator to perform additional work following three safety incidents that took place at the facility between September last year and January, 2020.

Supply and demand rises

Asian spot LNG prices were almost stable last week, as several buyers looked for cargoes and the US Sabine Pass export plant resuming production after hurricane 'Laura'.

The average LNG price for October delivery into northeast Asia LNG-AS was estimated at \$4.55 per MMBtu, \$0.05 MMBtu above the previous week's level.

November's delivery price was estimated at \$4.75 per MMBtu.

Prices increased early in the week supported by demand from several buyers in the region but declined later on expectations of higher production.

Elsewhere, US natural gas futures jumped by more than 4% on Monday as LNG exports continued to soar and output fell as Gulf Coast producers shut some production before Hurricane 'Sally' reaches the Louisiana coast.

The LNGC 'Hoegh Gannet' berthed at Cheniere's Sabine Pass facility on 9th September, ship-tracking data from data intelligence firm Kpler, Refinitiv Eikon and ClipperData showed.

Its Corpus Christi LNG export plant in Texas was the first of the four US Gulf Coast-based facilities

to restart cargo liftings, following 'Laura'.

The first Corpus Christi cargo was loaded on 30th August on the 177,200 cu m capacity 'Sohshu Maru', with another cargo shipped on the 140,645 cu m 'Golar Arctic' and a third on 31st August by the 155,000 cu m 'Gaslog Shanghai', according to shipping data.

Renewed cargo liftings helped to boost Gulf Coast LNG cargo futures to their highest levels in 2020.

However, Cameron LNG had not resumed operations by the end of last week. A report from consultancy Energy Aspects said that the facility is expected to return by mid-October, adding that a ramp-up in production from other US plants will offset the halt of operations at Cameron.

Chinese buyers

Several buyers from China entered the market last week seeking cargoes, industry sources reported to the newswires.

These included Guangzhou Gas, which bought an October cargo at \$4.80-4.90 per MMBtu and a November cargo at \$5.20 per MMBtu, a trader said. Buy tenders were circulated by Thai, Mexican, Pakistani, Kuwaiti, Indian and Colombian interests.

In addition, PTT International Trading, the Singapore-based trading arm of Thailand's state energy firm PTT, opened a tender seeking cargoes for delivery from December, 2020 to March, 2022 (see page 3).

Pakistan LNG is seeking two cargoes for delivery in November.

Mexican state power utility CFE opened a tender for a September cargo and for one October cargo, Kuwait Petroleum Corp (KPC) sought a cargo for delivery in October and Colombia's Calamari project was seeking a September cargo.

On the supply side, Angola LNG and Papua New Guinea export projects reportedly offered cargoes for September and October.

In addition, GAIL issued a tender for at least three cargoes to be loaded between May and July, 2021 at Dominion's Cove Point LNG plant in Maryland on an FOB basis.

GAIL had booked 5.8 mill tonnes of US LNG per year on long term deals with Cheniere and Dominion from their respective Sabine Pass and Cove Point natural gas liquefaction and export projects.

Earlier, the company had floated a tender looking to swap LNG cargoes loaded at Sabine Pass facility for delivery into India in 2022.



'Hoegh Gannet' berthed at Sabine Pass last week

NEWS NUDGE

Make it another six

GTT has received an order from Hyundai Heavy Industries (HHI) and Hyundai Samho Heavy Industries (HSHI) for the tank design of another six LNGCs.

Two LNGCs will be built by HSHI on behalf of a European shipowner, while the other four will be built by HHI, two for an Asian shipowner and two for a European shipowner.

Each vessel will have a capacity of 174,000 cu m and their deliveries are planned between second and last quarters of 2023.

They will be fitted with GTT's Mark III Flex membrane containment system.

Gas leak delays Melkoeya restart

Equinor's Melkoeya LNG plant's restart has been delayed until 23rd September following a gas leak.

Local police said emergency services attended the plant, which liquefies natural gas from Norway's Arctic Snoehvit gas field.

"The alarm was sounded during preparations to restart the plant, and emergency services were notified. The situation is under control," an Equinor spokesman said.

Located near Hammerfest, northern Norway, the plant has a capacity to process 18 mill cu m of gas per day. It had been scheduled to restart recently after a short shutdown due to an outage.

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Thailand to become an Asian LNG hub

Thailand's state oil and gas company PTT plans to become an Asian regional LNG hub.

In a speech at the Gastech Virtual Summit last week, Supawat Tatthong, PTT's Vice President for gas business development, said that the country is strategically located to meet 70% of the global LNG trade.

Through existing and upcoming LNG import infrastructure, as well as expansion in its gas transmission pipeline system, Thailand aims to take advantage of the LNG growth demand in Asia.

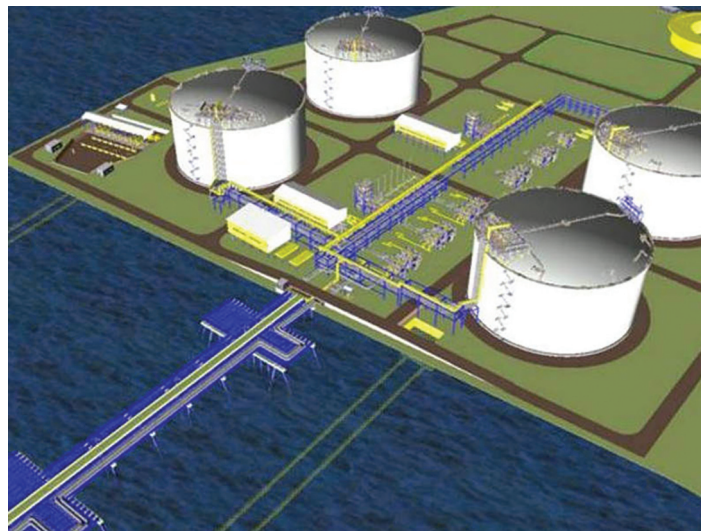
Domestic gas accounted for 72% of the Thai gas supply last year, while 16% of supply came from Myanmar and 12% from LNG. Tatthong said that however, in 2036, domestic gas supply will only account for 29% of the country's needs, while LNG will meet 67% of the demand. Myanmar gas will hold a 4% share in the Thai gas market.

PTT is working closely with the Thai government to enable the regional hub to become a reality, allowing traders to import, store and export LNG out of the country, he said.

Thailand "sits in the middle of demand growth" ready to support the China and India, as well as markets in south and southeast Asia, Japan, South Korea, Taiwan and West Australia, he said, adding, "Thailand is strategically located for regional connectivity within 2,500 nautical miles of 70% of global trade."

LNG import terminal capacity is to grow from the current 11.5 mill tonnes per annum to 29.8 mill tonnes.

The new LNG terminal capacity will come from the building of the 7.5 mill tonnes per annum Terminal 2 (Nong Fab) set to come on-



Nong Fab terminal will be located 5 km west of Mat Ta Phut.

Photo credit - Staray International

line in 2022, and the 8-10.8 mill tonnes Terminal 3 (MTP Phase 3) expected to start operations in 2026.

So far, Thailand has imported

300 LNG cargoes from 18 countries, he said. It holds long-term contracts with suppliers including Qatargas, but also imports under the spot market. ■

Taiwan LNG purchases to grow

Taiwan's LNG demand continues to grow and has not been impacted by COVID-19.

In addition, its energy sector was focused on boosting gas-fired capacity under the region's long-term energy plan, Jane Liao, CEO of the natural gas business at state-run CPC Corp, said at the Gastech Virtual Summit last week.

"Our situation here in Taiwan is that the demand of LNG is still moving up," Liao said, attributing the increase to stable power demand. "There's no major negative impact on the energy market here because of COVID-19," she said, adding that CPC still needs to purchase more spot LNG cargoes and was 'enjoying' low spot prices.

"For the year 2021, there will be more and more cargoes that we need in addition to our long-term or mid-term contracts. There's a possibility that the spot price in the market will still be very low, which is good news for the LNG importers, but we still are looking forward to the [global COVID-19] recovery," Liao said.

She said companies, such as CPC, have been busy with the government's energy policy that calls for gas-fired power generation to account for 50% of the electricity mix by 2025, compared with around 35%-36% today.

"In addition to power generation, all industrial sectors are also not allowed to use fuel oil or coal but natural gas only," she explained. "That's one of the reasons why we've been very busy here, and not affected by the COVID-19."

Adding capacity

To replace its coal and nuclear options, and get to 50% of power from gas, Taiwan is adding around 10 GW of gas-fired capacity to its current 15 GW. This will include state utility Taipower's Taichung power plants, totalling 2.6 GW generating capacity.

Taipower is currently supplied by CPC, Taiwan's only LNG im-

porter, which is building its own LNG receiving terminals and signing long-term LNG purchase contracts.

Liao also raised concerns over whether enough long-term LNG supply can be built at current price levels. For example, the S&P Global Platts JKM for October was assessed at \$4.613 per MMBtu on 8th September at the time of her talk, but the market spent much of the year between \$2 and \$3 per MMBtu, and most price projections remain bearish.

"For the future, we really wonder whether some of the new LNG projects can be smoothly developed. That will affect supply and demand in this market when the price goes down to \$2 per MMBtu for LNG," she said. "For the future as an LNG importer, we are still concerned about where will the long-term suppliers come [from] to the market. We are still looking. Probably this might become an issue in the coming years."

****CTCI Corp has been awarded an NT\$19 bill (\$647 mill) engineering, procurement, construction, and commissioning (EPCC) contract to build an LNG regasification and receiving terminal for the Taichung Power Plant, owned by Taiwan Power Co (Taipower).

This will be the first Taipower owned LNG receiving terminal and regasification facility and Taiwan's first to be owned by a company other than CPC Corp (CPC).

Included in this EPCC contract are detailed design, procurement, and supply of materials, construction, and instalment, pre-commissioning, commissioning, and one-year operation and maintenance services.

Earlier this year, the company was awarded an NT\$18.3 bill (\$623 mill) EPCC contract to build CPC's third LNG receiving terminal at Guantang Industrial Area, Taoyuan. ■

LNG investments disappear

No new LNG export projects could be approved this year for the first time in at least two decades, according to banking and industry sources.

This situation is being driven by energy demand falling on the back of the COVID-19 pandemic, which has sent prices to all-time lows.

Investment banking and energy analysts talking with Reuters, said they expected no final investment decisions (FIDs) this year, while other sources said they expected one to two at the most.

Prior to the coronavirus pandemic, the volume of new export capacity sanctioned in 2020 was expected to be similar to last year's record of over 70 mill tonnes per year.

"We do not expect any major FIDs on LNG export projects this year," Morgan Stanley's lead commodity strategist for natural gas and power, Devin McDermott, told Reuters. "With coronavirus reducing oil demand and prices, majors' capital spending dropped, weighing on their investment and pushing out FIDs."

Giovanni Bruni and Alessandro Agosta, partners at McKinsey & Co, said they expect all pre-FID projects to be delayed by one to two years, due to CAPEX cuts and deferrals,

plus difficulty in securing buyers.

Most industry sources and analysts said that the only project with a chance of receiving a FID this year was Semptra's Costa Azul export plant in Mexico.

Over 21 mill tonnes per year of new US LNG capacity came on-stream in 2019 and more than 16 mill tonnes this year, which contributed heavily to the global gas glut.

Large portfolios

This investment delay was claimed to be positive for companies with large LNG portfolios, such as oil majors, analysts said.

Bernstein senior oil & gas analyst, Oswald Clint, said delays could last for another 12 to 18 months, thus helping create higher prices by 2025.

Companies with substantial portfolios are expected to be the first to return with FIDs, with low prices expected to create additional demand. "If you are a big major you are concerned about the commodity price, not its volume. You have to not invest

money in 2020 to protect your balance sheet," Clint said.

Initially intending to take an FID this year on the 16.45 mill tonne per year US Lake Charles project, Shell has exited the venture and written down billions of dollars from its oil-linked LNG projects in Australia.

Another recent example was the Glenfarne Group and Kinder Morgan's request to the US federal regulators for another five years to complete the Magnolia LNG export plant and associated gas pipeline expansions, according to filings this week.

Glenfarne, which acquired the Magnolia project from Australia's LNG Ltd in May, said "unforeseeable developments in the global LNG market have affected Magnolia LNG's ability to enter into long-term LNG offtake contracts ... critical to securing project financing and achieving (FID)."

The group said it expects to decide late next year whether to build the Magnolia plant and the Texas LNG facility also under development. ■

Vitol to supply Bangladesh's spot cargo

Bangladesh' Cabinet Committee on Public Purchase has approved 10 procurement proposals, including one for the import of 3.490 mill MMBtu of LNG from the international spot market.

Finance Minister, AHM Mustafa Kamal, who presided over the meeting, told the media last week that buying LNG from international spot market will cost Tk132.93 crore, saving the government's Tk32 crore, compared to the price of long term suppliers.

"This has been the first time, the government moves to import LNG from international spot market instead of long-term suppliers", he confirmed.

The spot LNG cargo will be supplied by Singapore-based Vital Asia Pte Ltd.

Last month, state-run Rupantarita Prakritik Gas Co (RPGL), invited offers from 14 short-listed companies.

RPGL sought 138,000 cu m of LNG for delivery from 30th September to 8th October.

Bangladesh imported 3.89 mill tonnes of LNG last year - through two long-term contracts with Oman and Qatar and currently has two FSRUs, acting as import terminals. ■

Freeport given more time to build Train 4

US Federal Energy Regulatory Commission (FERC) has granted Freeport LNG's request for a three year extension to complete the planned Train 4 at its Texas LNG export plant.

This would result in Train 4 not coming onstream until May, 2026.

FERC approved its construction May, 2019, on the proviso that Freeport finished the facility by May, 2023.

Freeport delayed making a final investment decision (FID) to build the fourth train earlier this year after gas prices in Europe and Asia collapsed to record lows as energy demand plummeted due to coronavirus.

Freeport has said that it did not expect to take a FID on Train 4 this year due to market conditions resulting from COVID-19, adding that the company could be ready to



Freeport LNG has bought more time to build Train 4

start construction by mid-2021, if

the market conditions improve. ■

NEWS NUDGE

Saudi Aramco withdraws from Texas LNG investment

Saudi Aramco has postponed several large projects, including an LNG initiative, to save cash and preserve its dividend, after this year's energy price crash.

It was thought to be reviewing a decision to buy 25% of Semptra Energy's Texas LNG terminal - which would cost several billion dollars - and has already taken some staff off the project, according to reports from Saudi Arabia. ■

Delta Offshore Energy initiates long term cargo request

Delta Offshore Energy (DOE) has launched a request for proposal (RFP) for 25 years of gas sales agreement for its Vietnam project.

The tender stipulates the delivery of 2.5 - 3.0 mill tonnes per annum of cargoes over a 25 year period, on a delivery ex-ship (DES) or Freight on Board (FOB) basis, to the Offshore LNG regasification facility in Bac Lieu Province.

DOE's 3.2 GW LNG to power project is fully approved by the Vietnamese Government, is included in the national Power Development Plan revision 7 and was issued with an Investment Registration Certificate in January, 2020.

The bidding was due to open

on 9th September, 2020 and will close on 27th September, 2020.

For use on the same project, DOE has also signed a technology license agreement with Stena Power & LNG Solutions to use its jetty-less LNG receiving and regas technology.

DOE will employ Stena's floating jetty-less autonomous transfer system (ATS) and self-installing regas platform (SRP) solutions to provide energy to the power plant to be located in the Mekong Delta.

Svein Hellesmark, Stena Power & LNG Solutions CTO, said: "We

are honoured to play a key part in this important and large-scale energy infrastructure project in Vietnam. This award demonstrates the trust DOE and its partners have in our jetty-less LNG technology."

Bobby Quintos, DOE's Managing Director - Engineering, added: "The metocean and tidal conditions in Bac Lieu are very challenging from a traditional FSRU deployment perspective, so we had to collaborate with Stena to think of 'out of the box solutions' in order to make this work, thus the development of the jetty-less

solution for our project."

Stena's ATS unit is claimed to contain all the required equipment, systems and safety features normally installed on a jetty. It can be adapted for all LNGCs from small distribution/bunker vessels to the largest gas carriers.

Designed to cope with wave conditions,

the semi-submersible unit ensures high operational regularity and requires low operational expenditure as no propulsion, additional large machinery or manpower between loading operations is required.

Stena explained that the SRP solution offers a cost-effective, flexible and robust LNG regasification solution, capable of meeting the increasing demand for small, mid and conventional size LNG receiving terminals.

The company also said that the SRP solution uses robust jack-up platform technology combined with an industry-proven and trusted LNG regasification system. With the legs rooted to the seabed and the platform situated well above the waterline, the SRP is not exposed to wave loads and motions as is common with traditional LNG regasification barges and FSRU's.

This ensures optimum regasification and gas delivery regularity, Stena claimed. ■



Stena's SRP and ATS systems are to be used in the Mekong Delta

NLNG's Train 7 progressing

With a total proven natural gas resource estimated to be about 600 trill cu ft, the opportunities for natural gas in Africa are enormous, an online seminar was told.

Participating on an online ADIPEC Energy Dialogue, Leye Falade, General Manager of production at Nigeria LNG (NLNG) said that natural gas projects in Africa were key to the energy transition and economic development in the region and can be used to power industrialisation while reducing the emissions released into the atmosphere.

"While the quick switch to renewable and other cleaner energy sources are desirable, current data indicate that the transition cannot be achieved on the global scale as quickly as many parties are pushing for," Falade said. "Therefore, we have to find a way to bridge the gap between where

we are today and where we desire to be. This is the role that gas is expected to play in the medium to long term."

Speaking about NLNG's latest expansion project - Train 7 - which will increase the company's production capacity by 35% from a current 22 mill tonnes per annum to 30 mill tonnes, Falade said that it is expected to increase foreign direct investment (FDI) into Nigeria by over \$7 bill over the next five years.

With the addition of Train 7 and the increase in production capacity, NLNG will probably maintain its position as the world's sixth major LNG supplier.

Falade believed that while COVID-19 had the potential to limit some of the project activities, he did not expect this to affect the overall cost of the project significantly. He also said that the project's engineering, procurement, and construction (EPC) contract was progressing well under the approved COVID-19 restricted contractor's decision strategy.

In addition, various stakeholder talks have started to ensure that any possible unforeseen risks are mitigated.

Falade also said that he believed that with lower oil prices, there are also opportunities. "As 2020 has become a year of survival

and companies started operating in crisis mode, this has enabled us to have more control of our costs and make prudent calls to keep the business afloat," he explained.

"Ultimately, no-one in the industry can run away from the impact of COVID-19. Now is the time for companies to showcase whether they have the ability to stay in the game during the 'lower-for-longer' cycle in the industry by remaining profitable while not compromising their ability for sustained existence," he added.

The ADIPEC Energy Dialogue is a series of weekly online thought leadership events created by DMG events. ■

Contracts for 15 Arc7s confirmed

Sovcomflot (SCF) and NOVATEK have confirmed an order for another 10 Arc7s from Zvezda Shipyard to be financed by VEB.RF.

The two companies joint venture, SMART LNG, has also agreed with VEB.RF and Zvezda to construct and lease the 10 Arc7s.

In total, contracts for 15 LNGCs have now been signed, which includes the building, financing, lease, and timecharter agreements for the vessels.

The contract for the lead ship in the series - a pilot project - was signed by SCF in October, 2019, while the other four were signed by SMART LNG in January, 2020.

With 10 long-term timecharters added to this portfolio, SCF Group has \$20 bill in contracted future earning and receivables, the company explained.

The vessels will be operated under the Russian flag, while the Russian Maritime Register of Shipping (RS) will provide supervision during their construction.

At the same time, NOVATEK confirmed that its joint venture, Arctic LNG 2, had agreed long-term charter agreements for 14 Arc7s with SMART LNG.

Earlier, the Arctic LNG 2 partners - NOVATEK, TOTAL, CNPC, CNOOC, and a consortium involving Mitsui and JOGMEC - had approved the construction of the 15

Arc7s at Zvezda.

They will be the prime vessels of the project's Arctic fleet that will allow the year round LNG shipments along the Northern Sea Route to the Asia/Pacific region, and will provide an important stimulus to develop the Russian shipbuilding industry, NOVATEK said.

Igor Tonkovidov, SCF President and CEO, commented: "Shipbuilding and timecharter contracts for 15 Arc7 LNGCs, signed between 2019/2020, enable the Russian shipping community to play a role in transporting cargoes of strategic importance for the Russian economy, which are generated by large-scale energy projects in the Russian Arctic.

"These contracts will also help to further develop our national expertise in ice navigation and create over 850 new jobs for Russian seafarers, as all the 15 vessels will have Russian crews.

"We are pleased to see that this new generation of Arctic LNGCs, which will contribute significantly to growing the cargo traffic along the Northern Sea Route, was designed based on SCF's long-standing experience



As well as ordering 10 Arc7s, SCF has taken delivery of the Atlanticmax 'SCF Barents'

of safely operating vessels in ice conditions.

"Equally significant is the fact that the co-operation between SCF, NOVATEK, VEB.RF Group and Russian shipbuilders paves the way for establishing the domestic production of LNGCs, which entails adopting advanced technologies and engineering solutions," he concluded.

Atlanticmax

In addition, on 14th September, SCF took delivery of 'SCF Barents'. The following day, the vessel embarked upon her maiden voyage under a long-term timecharter agreement with a Shell subsidiary.

'SCF Barents' is the second of three 174,000 cu m Atlanticmax

LNGCs ordered by SCF Group in 2018 at Hyundai. The first, 'SCF La Perouse', was delivered in February, 2020.

The third and final vessel, 'SCF Timmerman', is due to be delivered early next year.

Each Atlanticmax is equipped with a GTT Mark III Flex cargo containment system, slow-speed dual-fuel X-DF engine, and a system that reduces nitrogen oxide emissions while the vessel sails in liquid fuel mode.

In addition, all vessels of the series are among the first globally to feature a boil-off gas partial reliquefaction system, which significantly reduces cargo losses while on long voyages or awaiting cargo operations. ■

NEWS NUDGE

Ship deliveries and charters

Alpha Gas has taken delivery of the first of four newbuilding LNGCs.

The 173,400 cu m 'Energy Pacific' was delivered by Daewoo Shipbuilding and Marine Engineering (DSME), following the completion of gas trials.

She is the second to join Alpha Gas' fleet, following the 160,000 cu m 'Energy Atlantic' delivered in 2015.

Alpha Gas is also due to take delivery of the 173,400 cu m 'Energy Endeavour' in the fourth

quarter of this year and the sisterships 'Energy Intelligence' and 'Energy Integrity' in the second quarter of 2021.

Flex LNG has taken delivery of the 173,400 cu m 'Flex Resolute', also from DSME.

She features ME-GI engines and is Flex LNG's second vessel fitted with a full reliquefaction system (FRS) bringing boil-off rate down to 0.035% per day.

'Flex Resolute' is to enter into an 11 month timecharter, plus an option to extend by an additional three months, to an undisclosed operator.

GasLog's latest LNGC, 'GasLog Georgetown', has commenced sea trials off South Korea.

Built by Samsung Heavy Industries, she is a 174,000 cu m capacity X-DF LNGC fitted with a GTT Mk III Flex Plus cargo containment system giving a low boil off rate of 0.07%, combined with a sub cooler.

Upon her delivery, 'GasLog Georgetown' will be operated under a seven-year charterer to Cheniere.

India's IOC is offering the 160,000 cu m 'Wilpride' for a sub-charter on a prompt basis, after securing the vessel under short-term charter to load a 25th-29th September cargo from the still closed Cameron LNG terminal at Hackberry, Louisiana.

IOC has specified redelivery of

the vessel in the USGC by the end of November. 'Wilpride' is under charter to IOC for around 100-120 days from the end of September, according to shipbrokers.

IOC also issued a tender at the beginning of September to sub-let the 174,000 cu m 'Bonito' that was due to load a cargo from Cameron between 23rd-27th August.

Gunvor's trading arm Clearlake has reportedly chartered Celsius' newbuilding 180,000 cu m 'Celsius Copenhagen'.

The first of four sisters, she is due to be delivered from Samsung at the end of next month and is fitted with X-DF engines and a GTT Mk III Flex containment system. ■

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Voyage revenues boosts Dynagas results

Dynagas LNG Partners reported a second quarter 2020 net income of \$6.4 mill, compared to \$0.9 mill in the corresponding period of 2019.

This represents an increase of \$5.5 mill, or 611.1%.

This increase was mainly due to a rise in voyage revenues, as well as a decrease in interest and finance costs, compared to the same period of 2019. This was partially offset by a \$3.4 mill unrealised loss on the Partnership's interest rate swap transaction recognised in this quarter.

Adjusted net income, which excluded non-cash flow items for 2Q20 was \$9.9 mill, compared to \$0.8 mill in the 2019 corresponding period, representing a net increase of \$9.1 mill or 1,137.5%.

Higher revenues

Voyage revenues for 2Q20 were \$33.9 mill, compared to \$30.8 mill for the corresponding period of

2019, which represents an increase of \$3.1 mill. This increase was mainly down to the higher revenues earned on the 'Lena River' following her delivery to a multi-year contract with Yamal Trade Pte in July, 2019.

Dynagas reported average daily hire gross of commissions of about \$62,200 per day per vessel in 2Q20, compared to around \$55,100 per day per vessel in 2Q19, compared with a daily opex of \$12,630 per vessel.

Adjusted EBITDA for 2Q20 was \$24.1 mill, compared to \$20.9 mill for the corresponding period of 2019.

CEO Tony Lauritzen, said; "All six LNGCs in our fleet are operating under their respective long-term charters with international gas producers with an average

remaining contract term of 8.1 years.

"The earliest contracted re-delivery date for our six LNGCs is in the third quarter of 2021 ('Arctic Aurora'), with the next carrier ('Clean Energy') becoming available for re-chartering in the first quarter of 2026 at the earliest.

"Despite the ongoing operational challenges the industry is facing as a result of the COVID-19 outbreak, we are pleased to report 100% utilisation for our fleet for the second quarter of 2020.

"Pursuant to our general objective to manage the cost of debt, we made use of the historically low interest rate environment and entered into a floating to fixed interest rate swap transaction effective from 29th June, 2020 until the existing \$675 mill

credit facility expires in 2024.

"The swap provides for a fixed three-month LIBOR rate of 0.41% and an effective interest rate cost of 3.41% (including margin) applicable for notional amounts matching the full amount and period of our outstanding debt.

"Additionally, in August 2020, we entered into an 'at the market' offering programme, pursuant to which the Partnership may offer and sell up to \$30 mill of its common units. Going forward, we intend to continue our strategy of using our cash flow generation to deleverage our balance sheet, reinforce our liquidity and generate cash so as to build equity over time. This, we believe, will enhance our ability to pursue future growth initiatives," he concluded. ■

EXMAR makes provision for 'TANGO' dispute

LNG and LPG owner, EXMAR has reported an EBIT of \$19.2 mill for the first half of this year, compared with \$16.4 mill for 1H19.

This included a provision for the uncollected revenue from YPF on 'TANGO' FLNG valued at \$17.7 mill.

EXMAR had received written notification of *force majeure* from YPF under the charter and services for the FLNG.

In the LNG sector, EXMAR has

one LNGC, 'Excalibur', in its fleet, which is on charter to Excelerate until end 2021/beginning 2022 at rewarding levels.

The EBIT for EXMAR's Business Unit Infrastructure was \$6.1 mill in 1H20, compared to a negative \$9.2 mill for the first half of 2019.

This increase was due to the

YPF contract for 'TANGO' FLNG kicking in during the last quarter of 2019.

The FLNG has delivered five shipments or 624,000 cu m of LNG to date with an availability of 99%.

However, liquefaction activities were stopped on 11th May as per the customer's instruction. EXMAR had received a notice of *force majeure*, which it considers is unlawful, has reserved its rights and is considering its best option to defend its interests.

Since the last payment received in June, 2020, in respect of the production in March, 2020, further payments have been suspended on the ground of the alleged *force majeure*.

FSRU S188 continues under charter to Gunvor. Arbitration with respect to a dispute under the contract is ongoing.

During the first months of this year, EXMAR's liquidity position

evolved positively mainly due to the release on 26th February, 2020 by the Bank of China of \$40 mill from the debt service reserve account in respect of the financing of 'TANGO' FLNG.

Due to the situation with YPF, at the end of June, the amounts outstanding were \$30.3 mill of which \$24.1 mill are overdue.

As a consequence, part of the revolving credit facility of €18 mill granted by KBC, BNPP Fortis and Belfius (and guaranteed by GIGARANT for 50%) has been temporarily suspended.

In September 2019, GUNVOR had given notice of a dispute under the FSRU charter and has commenced arbitration proceedings. Meanwhile, the hire continues to be paid by GUNVOR and management assumes that the charter remains in full force and effect and is of the opinion that the hire paid is effectively earned. ■



EXMAR has been hit with a *force majeure* for 'Tango'

Kongsberg signs up to JAWS

Kongsberg Maritime has signed an agreement with Shell International Trading and Shipping Co (STASCO), to market its patented draft and trim optimisation software - Just Add Water System (JAWS).

Kongsberg will offer the JAWS software through its digital solution, as an application in the K-IMS suite; a portfolio of specialised applications to support complex operations.

This will enable JAWS to be immediately available to LNG customers, as well as to new clients.

The technology has been developed by STASCO, working with the University of Southampton and has been deployed on more than 50 ships so far. STASCO is increasing deployment of the software on its LNGC fleet, starting with a further 20 vessels this year.

"We are looking forward to seeing JAWS and K-IMS contributing significantly to the reduction of greenhouse gas emissions and fuel costs for both vessel owners and charterers," said Egil Haugsdal, Kongsberg Maritime President. "The agreement between our companies sets an encouraging

example to the industry, showing how shipping can become greener through close collaboration between different actors in the market, contributing to the creation of sustainable, value solutions which benefit everyone."

JAWS uses historic, high-frequency data from the vessel to determine the optimal conditions on previous voyages, which enables the system to advise on how best to enhance a vessel's draft and trim at any given speed to reduce fuel consumption and lower emissions.

The software also monitors and reports live fuel and emissions savings back to the management, to give real-time insight into the benefits of deploying this technology across a fleet.

Invaluable source

Software testing has demonstrated

that it is an invaluable source of situational awareness, lending new insights to vessel handling and decision making, the company claimed.

DNV GL has assisted JAWS' development by assessing the methodologies employed and ensuring that the calculations provided by the software are based on the accurate and reliable use of data.

Grahaeme Henderson, Shell Shipping & Maritime head, said: "Regardless of the different pathways to de-carbonisation, efficiency technologies will be the foundation for a de-carbonised shipping industry.

"JAWS is a low cost, quick to deploy software that can deliver fuel savings and emissions reductions today. We have achieved up to a 7% reduction in emissions on our own ships using the software

and, working with Kongsberg Maritime, we hope to see JAWS implemented across the industry."

"It is clear that de-carbonisation is going to be a generational challenge for the shipping industry," said Knut Ørbeck-Nilssen, Maritime CEO, DNV GL. "This will require that the industry looks to unlock every efficiency to reduce fuel use, especially by taking advantage of the opportunities created by greater connectivity and digitalisation.

"At DNV GL we are proud to be able to help forward-looking companies like Shell and Kongsberg realise these gains by ensuring that new technologies like JAWS can be deployed with confidence in their safety and reliability," he said.

To date, more than 200 K-IMS installations have been made within the LNG sector. ■

Wilhelmshaven - the next phase begins

Uniper's LNG Terminal Wilhelmshaven (LTew) has invited expressions of binding interest in throughput capacities for the planned LNG terminal.

This move follows the non-binding phase of the open season process, which started in May, 2019.

After continued development, the project has now reached a level of maturity that, according to current planning, allows the entering into the next phase on 14th September, 2020, aimed at binding booking requests.

In addition to the open season process, a further important step was the start of the so-called scoping process for co-ordinating and determining the scope of the examination in accordance with the German law on environmental impact assessment with the responsible authorities.

The revised design of the terminal envisages bypassing the biotope 'Species-rich gravel, coarse sand and shellgrounds' pro-

tected under the Federal Nature Conservation Act, via a sub-sea gas pipeline.

Within the next five years, LTew plans to further develop, construct and commission a terminal to land, store and regasify LNG at Wilhelmshaven.

The terminal will be on an FSRU, a technology that can be realised more economically faster than onshore LNG terminals and is also more environmentally friendly, Uniper said.

The terminal's nominal send-out capacity will be 9.78 bill cu m per year.

Wilhelmshaven offers ideal conditions from both a marine and a logistics perspective. LNGCs of all sizes will be able to access the facility independently of tides and in accordance with highest inter-



Uniper has requested expressions of binding interest for the proposed Wilhelmshaven FSRU terminal

national security standards.

Alongside regasification, the FSRU will also offer the possibility for loading LNG onto other gas ships and LNG bunker barges. In addition, connecting it to the existing natural gas transmission system requires a pipeline of only roughly 30 km.

The final investment decision (FID on the construction of the terminal will be taken based on sufficient demand from the market and its economic viability - provided that all the necessary public approval and permitting processes are concluded successfully, Uniper said. ■

HHI wins AiP for FLNG power plant

Hyundai Heavy Industries (HHI) has been granted Approval in Principle (AIP) from Bureau Veritas (BV) for its Hi-FL2P (Hyundai innovative Floating LNG to Power solution).

'Hi-FL2P' is claimed to be an 'All-in-One Type' FLNG power plant where all the equipment and systems that are required for power generation and transmission, in-

cluding LNG containment, gas supply system and power plant, are installed in one unit to function as a stand-alone power plant.

It was developed in a joint de-

velopment project with BV and was formally completed with the award of the AIP certificate.

HHI's Jae-Eul Kim said, "HHI strategically selected the 'All-in-One, barge shaped power plant, with dual fuel engines', which provides significantly lower CAPEX than land-based infrastructure and also supports the global demand for environmentally friendly power generation, with the collaboration of Bureau Veritas and the Engine Machinery Division and Off-shore Divisions in HHI."

BV's Regional Manager, Christophe Capitant, said, "Bureau

Veritas is very proud to have been actively involved in the development of this innovative concept of an 'All-in-One' floating LNG power plant.

"The technical collaboration between Hyundai Heavy Industries and Bureau Veritas has been extremely fruitful and we are delighted it has led to such a positive outcome. The Approval in Principle granted to Hyundai Heavy Industries is the first milestone which hopefully paves the way for coming successes in the promising field of floating energy generation," he said. ■



The signing ceremony. BV's Christophe Capitant can be seen in the centre

NEWS NUDGE

FSRU heads for Cove Point

Bahrain's FSRU, the 173,400 cu m 'Bahrain Spirit', has sailed for Cove Point where she is due this week.

The vessel departed Bahrain on 8th August and declared Cove Point as her destination. She sailed via the Cape of Good Hope, according to shipping data.

Her only cargo received - delivered in March, 2019 - was transferred onto an onshore facility at the terminal, following its completion in January this year, thus allowing the FSRU to be made available for short-term charters.

Appointments

Neil Glass has been appointed as a Class I Director of Golar LNG Partners.

This appointment fills the Class I vacancy on the Board, created by the resignation of Alf Thorkildsen in August, 2020.

Glass replaced Thorkildsen who will serve out the remaining portion of his term of office, which will expire at the 2022

Annual Meeting of Limited Partners.

****Reed Smith has announced that Kevin Keenan, a Houston-based lawyer, has joined the firm's Houston office as a partner.

A former partner with Hogan Lovells, Keenan advises clients across the energy sector, with a focus on LNG, project development and shipping.

"Kevin is a key addition to our team," said Rob Wilkins, co-chair of the Transportation Industry Group. "His arrival expands our transactional shipping capabilities, LNG experience and infrastructure project work in Houston and in the US, while providing additional bench strength to our well-known energy and commodities practices."

His experience in the LNG sector includes projects, ranging

from Papua New Guinea to Qatar to the US Gulf Coast. During his 24-year career, he has negotiated more than 75 charters of conventional LNGCs, FSUs, FSRUs, FSRBs, FPSOs and MCVs and more than 60 LNGC shipbuilding and conversion contracts, including three FSRUs and two MCVs, under bespoke terms with South Korean, Japanese, Chinese, and European shipyards.

****Venture Global LNG has announced that Brian Cothran has joined the company as COO.

Cothran has over two decades of operational and strategic experience in the oil & gas and power generation industries.

Prior to joining Venture Global, he served for more than 20 years with General Electric and Baker Hughes, after its merger with GE Oil & Gas. ■

LNGC opens Subic crew change hub

Five Filipinos disembarked from the LNGC 'Dapeng Star' at Subic on 10th September.

They had finally left the ship after being stranded on board for several months, due to port restrictions brought about by the COVID-19 pandemic.

Subic Bay Metropolitan Authority (SBMA) Chairman and Administrator, Wilma Eisma, confirmed that they were the first crew members to arrive after Subic was designated by the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF) as a hub for international crew change.

"The operation went without a hitch and was over in just a matter of three hours," Eisma said.

The 'Dapeng Star' had anchored near Grande Island at the mouth of Subic Bay.

A tug carried personnel from the Maritime Industry Authority (MARINA) and the coast guard, who conducted the initial health check of the seafarers. They wore personal protective equipment (PPE) before disembarking. ■

LNG rate assessments

Spot market (155,000-165,000 cu m)

Region	This week	Change*
East of Suez	\$50,000	-
West of Suez	\$52,500	-\$1,500
12 mos T/C	\$47,000	-

*Since last report (03/09/20)

Source: Fearnleys (16/09/20)

WORLD LNG CARRIER ORDERBOOK

Name	Containment system	Yard	Propulsion	Capacity	Delivery date	Primary Owner
Flex Artemis	GT NO 96	DSME	MEGI	173400	01/07/2020	Flex LNG
Lng Pheceda	GT NO 96	Hudong-Zhonghua	MEGI	174000	01/07/2020	MOL
Cool Discoverer	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2020	Thenamaris
Energy Pacific	GT NO 96	DSME	MEGI	173400	01/08/2020	Alpha Gas
Flex Aurora	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2020	Flex LNG
Pearl Lng	GTT Mark III Flex	Samsung	XDF	174000	01/08/2020	TMS Cardiff Gas
Vivit Americas Lng	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2020	TMS Cardiff Gas
Scf Barents	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2020	Sovcomflot
Flex Resolute	GT NO 96	DSME	MEGI	173400	01/09/2020	Flex LNG
Gaslog Galveston	GTT Mark III Flex	Samsung	XDF	174000	01/10/2020	GasLog
Gaslog Georgetown	GTT Mark III Flex	Samsung	XDF	174000	01/10/2020	GasLog
Aristos I	GTT Mark III Flex	Hyundai	XDF	174000	01/10/2020	Capital Gas
Yiannis	GT NO 96	DSME	MEGI	173400	01/10/2020	Maran Gas Maritime
Dorado LNG	GTT Mark III Flex	Samsung	XDF	174000	01/10/2020	TMS Cardiff Gas
Lng Megrez	GT NO 96	Hudong-Zhonghua	MEGI	174000	01/10/2020	MOL
Cobia Lng	GTT Mark III Flex	Hyundai	XDF	174000	31/10/2020	TMS Cardiff Gas
Celsius Copenhagen	GTT Mark III Flex	Samsung	XDF	180000	31/10/2020	Celcius Shipping
Aristidis I	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2020	Capital Gas
Diamond Gas Metropolis	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2020	NYK
Flex Freedom	GT NO 96	DSME	MEGI	173400	01/11/2020	Flex LNG
Flex Amber	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2020	Flex LNG
Celsius Canberra	GTT Mark III Flex	Samsung	XDF	180000	01/12/2020	Celcius Shipping
Global Star	GT NO 96	DSME	MEGI	173400	01/12/2020	Nakilat
Energy Endeavour	GT NO 96	DSME	MEGI	173400	01/12/2020	Alpha Gas
Lng Rosenrot	GT NO 96	DSME	MEGI	180000	01/01/2021	MOL
Samsung 2304	GTT Mark III Flex	Samsung	XDF	174000	01/01/2021	Minerva Marine
Daewoo 2481	GT NO 96	DSME	MEGI	173400	01/01/2021	Minerva Marine
Samsung 2313	GTT Mark III Flex	Samsung	XDF	180000	01/02/2021	Celcius Shipping
Bw Lesmes	GT NO 96	DSME	MEGI	174000	01/02/2021	BWGas
Gail Bhuwan	GT NO 96	DSME	MEGI	180000	01/02/2021	MOL
Cool Racer	GTT Mark III Flex	Hyundai	XDF	174000	01/02/2021	Thenamaris
Scf Timmerman	GTT Mark III Flex	Hyundai	XDF	174000	01/02/2021	Sovcomflot
Flex Volunteer	GTT Mark III Flex	Hyundai	XDF	174000	01/02/2021	Flex LNG
Minerva Limnos	GT NO 96	DSME	MEGI	173400	01/02/2021	Minerva Marine
Marvel Swan	GTT Mark III Flex	Samsung	XDF	173400	01/03/2021	Navigare
Bw Helios	GT NO 96	DSME	MEGI	174000	01/03/2021	BWGas
LNG Ships Express	GTT Mark III Flex	Samsung	XDF	174000	01/03/2021	TMS Cardiff Gas
Hellas Diana	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2021	Latsco Shipping
Lngships Athena	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2021	TMS Cardiff Gas
Lngship Manhattan	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2021	TMS Cardiff Gas
Aristarchos	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2021	Capital Gas
Samsung 2302	GTT Mark III Flex	Samsung	XDF	174000	01/04/2021	NYK

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 = 28th July 2020

Name	Containment system	Yard	Propulsion	Capacity	Delivery date	Primary Owner
Celcius #4	GTT Mark III Flex	Samsung	XDF	180000	15/04/2021	Celcius Shipping
DSME 2485	GT NO 96	DSME	MEGI	173400	15/04/2021	Alpha Gas
Diamond Gas Crystal	GTT Mark III Flex	Hyundai	XDF	174000	01/05/2021	NYK
Flex Vigilant	GTT Mark III Flex	Hyundai	XDF	174000	01/05/2021	Flex LNG
Daewoo 2501	GTT Mark III Flex	DSME	MEGI	174000	01/06/2021	Maran Gas Maritime
Hudong-zhonghua H1827a	GT NO 96	Hudong-Zhonghua	XDF	174000	01/06/2021	CSSC
Daewoo 2495	GT NO 96	DSME	XDF	174000	01/06/2021	Maran Gas Maritime
Daewoo 2500	GT NO 96	DSME	MEGI	174000	01/06/2021	Alpha Gas
Attalos	GTT Mark III Flex	Hyundai	XDF	174000	01/06/2021	Capital Gas
SHI Gaslog CE #1	GTT Mark III Flex	Samsung	XDF	180000	15/06/2021	GasLog
Daewoo 2505	GT NO 96	DSME	MEGI	173400	01/07/2021	MOL
Asterix 1	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2021	Capital Gas
Adamastos	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2021	Capital Gas
SHI Gaslog CE #2	GTT Mark III Flex	Samsung	XDF	180000	15/08/2021	GasLog
Daewoo 2504	GT NO 96	DSME	XDF	174000	01/09/2021	Maran Gas Maritime
Daewoo 2502	GTT Mark III Flex	DSME	XDF	173400	01/09/2021	Nakilat
Samsung 2305	GTT Mark III Flex	Samsung	XDF	174000	01/09/2021	Minerva Marine
Diamond Gas Victoria	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2021	NYK
Hellas Athina	GTT Mark III Flex	Hyundai	XDF	174000	01/09/2021	Latsco Shipping
Askipios	GTT Mark III Flex	Hyundai	XDF	174000	15/09/2021	Capital Gas
Samsung 2355	GTT Mark III Flex	Samsung	XDF	174000	01/10/2021	NYK
Daewoo 2507	GT NO 96	DSME	XDF	174000	01/10/2021	Maran Gas Maritime
Hyundai Ulsan 2939	GTT Mark III Flex	Hyundai	XDF	180000	01/10/2021	SK Shipping
Samsung 2306	GTT Mark III Flex	Samsung	XDF	174000	01/10/2021	NYK
Hyundai Samho 8025	GTT Mark III Flex	Hyundai	XDF	174000	01/12/2021	H-Line
Hyundai Ulsan 3157	GTT Mark III Flex	Hyundai	XDF	174000	01/12/2021	Tsakos Energy Navigation
Samsung 2336	GTT Mark III Flex	Samsung	XDF	174000	01/12/2021	JP Morgan
Daewoo 2503	GTT Mark III Flex	DSME	XDF	173400	01/12/2021	Nakilat
Samsung 2307	GTT Mark III Flex	Samsung	XDF	174000	01/12/2021	NYK
Daewoo 2508	GT NO 96	DSME	XDF	174000	01/01/2022	Maran Gas Maritime
Hyundai Samho 8032	GTT Mark III Flex	Hyundai	XDF	174000	01/01/2022	NYK
Hudong-zhonghua H1828a	GT NO 96	Hudong-Zhonghua	XDF	174000	01/01/2022	CSSC
Samsung 2315	GTT Mark III Flex	Samsung	XDF	173400	01/03/2022	SinoKor
Samsung 2319	GTT Mark III Flex	Samsung	XDF	174000	01/03/2022	JP Morgan
Elisa Aquila	GTT Mark III Flex	Hyundai	XDF	174000	01/03/2022	NYK
Samsung 2332	GTT Mark III Flex	Samsung	XDF	174000	01/03/2022	Minerva Marine
Hudong-zhonghua H1788a	GT NO 96	Hudong-Zhonghua	XDF	80000	01/04/2022	K-Line
Hyundai Ulsan 3137	GTT Mark III Flex	Hyundai	XDF	178000	01/04/2022	Dynagas
Hudong-zhonghua H1789a	GT NO 96	Hudong-Zhonghua	XDF	80000	01/05/2022	K-Line
Samsung 2316	GTT Mark III Flex	Samsung	XDF	173400	01/05/2022	SinoKor
DSME May19	GT NO 96	DSME	MEGI	174000	15/05/2022	Maran Gas Maritime
Hyundai Samho 8033		Hyundai	XDF	173000	01/06/2022	NYK
Hyundai Samho 8026	GTT Mark III Flex	Hyundai	XDF	174000	01/06/2022	H-Line

Name	Containment system	Yard	Propulsion	Capacity	Delivery date	Primary Owner
Samsung 2337	GTT Mark III Flex	Samsung	XDF	174000	01/07/2022	JP Morgan
Hyundai Ulsan 3138	GTT Mark III Flex	Hyundai	XDF	178000	01/07/2022	Dynagas
Hyundai Samho 8091	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2022	Knutzen
Hyundai Ulsan 3185	GTT Mark III Flex	Hyundai	XDF	174000	01/08/2022	Korea Line
Samsung 2317	GTT Mark III Flex	Samsung	XDF	173400	01/08/2022	SinoKor
Daewoo 2509	GT NO 96	DSME	MEGI	174000	01/08/2022	BWGas
Samsung 2318	GTT Mark III Flex	Samsung	XDF	173400	01/09/2022	SinoKor
Daewoo 2510	GT NO 96	DSME	MEGI	174000	01/09/2022	BWGas
Hyundai Ulsan 3145	GTT Mark III Flex	Hyundai	XDF	180000	01/09/2022	SK Shipping
Hyundai Samho 8092	GTT Mark III Flex	Hyundai	XDF	174000	01/10/2022	Knutzen
Hyundai Ulsan 3186	GTT Mark III Flex	Hyundai	XDF	174000	01/10/2022	Korea Line
Hyundai Ulsan 3187	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2022	JP Morgan
Hyundai Samho 8093	GTT Mark III Flex	Hyundai	XDF	174000	01/11/2022	Knutzen
Cosco PCI #1	GT NO 96	Hudong-Zhonghua	XDF	174000	15/11/2022	China LNG Shipping
Hyundai Ulsan 3188	GTT Mark III Flex	Hyundai	XDF	174000	01/12/2022	JP Morgan
Hyundai Samho 8094	GTT Mark III Flex	Hyundai	XDF	174000	01/12/2022	Knutzen
Samsung 2364	GTT Mark III Flex	Samsung	XDF	174000	01/01/2023	MISC
Cosco PCI #2	GT NO 96	Hudong-Zhonghua	XDF	174000	15/01/2023	China LNG Shipping
Samsung 2365	GTT Mark III Flex	Samsung	XDF	174000	01/02/2023	MISC
Zvezda 041	GTT Mark III Flex	Zvezda SSK	TFDE-Azipod	172600	01/03/2023	Novatek
Cosco PCI #3	GT NO 96	Hudong-Zhonghua	XDF	174000	15/03/2023	China LNG Shipping
Zvezda 042	GTT Mark III Flex	Zvezda SSK	TFDE-Azipod	172600	01/09/2023	Novatek
Zvezda 043	GTT Mark III Flex	Zvezda SSK	TFDE-Azipod	172600	01/10/2023	Novatek
Zvezda 044	GTT Mark III Flex	Zvezda SSK	TFDE-Azipod	172600	01/11/2023	Novatek
Zvezda 045	GTT Mark III Flex	Zvezda SSK	TFDE-Azipod	172600	01/12/2023	Novatek

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 = Data last updated = 28th July 2020



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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	Pelita Energy	18,800	LNG	Malaysia - Japan	Yes	Perbadanan/NYK
2000	Triputra	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	Coral Favia	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
2010	Coral Fraseri	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
2011	Akebono Maru	3,556	LNG	Japan	Yes	Chuo Kaiun
2011	Coral Furcata	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
2011	Coral Fungia	10,000	LNG/LPG/Ethylene	Worldwide	No	Anthony Veder
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 Antheia	6,500	LNG/Ethylene			Anthony Veder
2015	LNG Barge TBN	3,000	LNG	US Coast	Yes	LNG America
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	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 Innvation	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	JS Ineos Inspiration	27,500	LNG/Ethylene	Markus Hook - Rafnes	Ethane, for Ineos	Evergas
2016	Hai Yang Shi You 301	30,000	LNG	Bali FSU	Yes	CETS (CNOOC)
2017	Oizmendi	600	LNG	Bilbao	Yes	Itsas Gas
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

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Built	Name	CBM	Cargo Type	Trading area	Trading in LNG?	Ship Owner / Operator
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	Coral Encanto	30,000	LNG	China	Yes	Anthony Veder
2018	HUA XIANG 8	13,720	LNG	China	Yes	Zhejiang Huaxiang
2018	LNG London	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	Bunker Breeze	0	LNG	Barcelona	Yes	Suardiaz Energy Shipping
2019	SM Jeju LNG1	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
2019	Gas Agility	18,600	LNG	NWE	Yes	MOL
2019	Flexfueller 001	1,480	LNG	Amsterdam	Yes	Titan LNG
2020	SM Jeju LNG2	7,500	LNG	Korea	Yes	Korea Line
2020	CNTIC VPOWER Global	28,000	LNG	Myanmar	Yes	Dalian Inteh Group
2020	Q-LNG 4000	4,000	LNG	US Coast	Yes	Q-LNG Transport/Harvey Gulf
2020	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2020	FuelLNG TBN	7,500	LNG	Singapore	Yes	FuelLNG
2020	CLS TBN	3,500	LNG	Japan	Yes	CLS
2020	Elenger TBN	6,000	LNG	NWE	Yes	Elenger
2020	ENN TBN	8,500	LNG	China	Yes	ENN
2020	Flexfueller 002	1,480	LNG	Antwerp	Yes	Titan LNG
2020	Ecobunker Tokyo Bay	2,500	LMG	Japan	Yes	Ecobunkers
2021	Stolt TBN (option)	7,500	LNG		Yes	Stolt-Nielsen Gas
2021	Knutsen TBN	30,000	LNG	Mediterranean	Yes	Knutsen OAS
2021	Gazprom Neft TBN	5,800	LNG	Russia	Yes	Gazprom Neft
2021	PE TBN	12,000	LNG	Singapore	Yes	MOL
2021	JMU TBN	2,500	LNG	Japan	Yes	JMU
2021	TBN	18,600	LNG	Mediterranean	Yes	MOL
2021	TG TBN	500	LNG	Korea	Yes	Trans Gas
2022	Stolt TBN	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2022	Stolt TBN	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2022	Clean Cañaveral	5,400	LNG	USG	Yes	PNE
2023	Cryopeak TBA	4,000	LNG	West Canada	Yes	Cryopeak
2024	Stolt TBN (option)	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2024	Stolt TBN (option)	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2026	Stolt TBN (option)	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas
2026	Stolt TBN (option)	20,000	LNG	Worldwide	Yes	Stolt-Nielsen Gas

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